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Israel's open-secret trade*

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December 23, 2016

Abstract

This paper uncovers and quantifies Israel's exports to countries that ban trade with Israel. Israel exported a total of \$6.4 billion worth of merchandise to boycott countries between 1962 and 2012, and most of this trade is *illicit*, i.e. not recorded by the importers. We find that electronic exports to Malaysia account for the lion's share of this trade but it also includes a wide array of products from footwear to fruit and vegetables. Our estimates suggest Israel's exports to these countries would be 10 times larger without the boycott. On top of providing further evidence on the unintended consequences of unilateral trade bans, this paper provides a case study on the role of politics in international trade.

JEL CODES: F13, O17

Key Words: trade policy, Israel, illegal trade.

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1 INTRODUCTION

Economists have recently paid much attention to the role of politics in international trade. [Umana Dajud \(2013\)](#) showed that political distance, i.e. the correlation between countries' voting behavior at the United Nations' General Assembly, has a negative impact on bilateral trade; [Michaels and Zhi \(2010\)](#) showed that when France and the US disagreed over war in Iraq at the UN, their bilateral trade fell; [Fuchs and Klann \(2013\)](#) showed that countries officially receiving the Dalai Lama at the highest political level see their exports to China fall; and [Fisman et al. \(2014\)](#) that the stock prices of Japanese companies with high China exposure suffer when Sino-Japanese relations suddenly deteriorate, as during the Senkaku Island dispute. [Heilmann \(2016\)](#) showed that consumer boycotts resulting from political events, such as the boycott of Danish goods by Muslim countries following the publication of a Muhammad comic in 2005, have strong negative effects on bilateral trade.

One country whose trade is particularly affected by international politics is Israel. According to the [Israel Ministry of Foreign Affairs](#), it has diplomatic ties only with 158 out of 192 UN member states. The Arab League, i.e. 22 Middle Eastern and African countries, has maintained a boycott of Israeli companies and goods since the founding of Israel in 1948.¹ The boycott prohibits citizens from buying from, selling to, or entering into a business contract with either the Israeli government or an Israeli citizen. It is not limited to the

¹The Arab League Boycott can be traced back to the Intercommunal conflict in Mandatory Palestine when Arab leaders sought to ban products of Jewish industry in Palestine to deter Jewish immigration to the region. The first formal declaration of boycott was issued in 1945. It stated that “*Products of Palestinian Jews are to be considered undesirable in Arab countries. They should be prohibited and refused as long as their production in Palestine might lead to the realization of Zionist political aim*” ([Losman, 1972](#)).

Arab League since four Latin-American countries have cut trade ties with Israel due to governments' political leaning or after conflicts such as the June 2010 Gaza flotilla raid.^{2,3}

In theory, the boycott should make trade between Israel and boycott countries nonexistent. Unlike the consumer boycotts examined by Heilmann (2016), the Arab League Boycott is an official government policy. According to Adelman (2008) the boycott has been enforced through instruments such as customs legislation requiring strict certificates of origin, ship regulations, a blacklist of companies, as well as prison sentences for offending businessmen. According to the Jerusalem Post (2006) the Office of the Arab Boycott, based in Damascus, had a blacklist of 8,500 companies that were dealing with Israeli companies or trading at the Haifa port. Yet its asymmetry, i.e. Israel being open to trade with boycott countries⁴, and its geography, i.e. Israel being nearby many boycott countries, make it hard to enforce it completely. Moreover enthusiasm for the boycott and its enforcement have varied over the years. While support decreased with the Oslo peace process in the 1990s, it regained strength during the Second Intifada in the early 2000s after the failure of the Camp David

²In 1973 during the Yom Kippur War Cuba was the first Latin American country to cut ties with Israel. Venezuela and Bolivia cut ties in 2009 after an Israeli ground invasion of the Gaza Strip, while Nicaragua cut ties in 2010 after the Mavi Marmara flotilla raid. According to Senkman (2014), the cutting of ties is more of “*an integral part of international struggle to develop political, social and economic alternatives that enhance justice, equality and sovereignty of the peoples*” than a political strategy against imperialism and of non-alignment with American foreign policy.

³The countries that boycotted Israel during our period of study (1962-2012) are (periods of non-boycott are in parenthesis): Afghanistan, Algeria, Bahrain (1996-2000), Bangladesh, Bhutan, Bolivia (until 2010), Brunei, Chad (until 1973), Comoros, Cuba (until 1973), Djibouti, Guinea (until 1969), Indonesia, Iran (until 1979), Iraq, North Korea, Kuwait, Lebanon, Libya, Malaysia, Mali (until 1973), Mauritania (2000-2009), Morocco (1993-2000), Nicaragua (until 1982, 1992-2010), Niger (until 1973, 1996-2002), Oman (1996-2000), Pakistan, Qatar (1996-2009), Saudi Arabia, Somalia, Sudan, Syria, Tunisia (1996-2000), United Arab Emirates, Venezuela (until 2009), and Yemen.

⁴Israel prohibits trade with only three enemy countries, Iran, Lebanon and Syria as per the Trading with the Enemy Ordinance of 1939.

negotiations ([Adelman, 2008](#)).

Anecdotal evidence suggests that some trade has been taking place. In a 2005 interview, Gil Feiler, director of a Tel Aviv consultancy specializing in Arab markets and economics professor at Bar Ilan University, suggested that the trade was worth around US\$400 million a year and that it consisted mostly of agricultural equipment, animal vaccines and technological components ([Mortimer, 2005](#)). More recently [Haaretz \(2012\)](#) reported that Israel had exported Internet surveillance and monitoring equipment to Iran over five years through a Danish distributor, electricity to Indonesia using Singapore as a business base, shingles to Dubai for its Palm Islands through an Italian roofing tile company, and plastic products such as disposable utensils and food packaging to Saudi Arabia through US-registered subsidiaries ([Sadeh, 2012](#)). The [Associated Press \(2005\)](#) suggested that exports may be transhipped via Cyprus or the Netherlands, for example, which list the shipments as local exports. It also cites Gil Feiler saying that “*Arabs of Lebanese origin in Israel sell counterfeit Lebanese certificates of origin complete with forged government stamps. Some Israeli factories have departments of so-called quality control - where any Hebrew writing or Made in Israel marks are removed from product components.*” The [Jerusalem Post \(2006\)](#) suggested that a company provides customers with US mailing addresses where Israeli products can be sent. It then exchanges the Israeli postal stamped packaging for a US-stamped package and sends it on to its Arab destination. Finally, [Kleiman \(1998\)](#) looked into the trade data and concluded that the existence of a substantial clandestine trade by Israel with the Arab countries was doubtful, despite rumors of rerouting via Cyprus, Egypt, and Turkey.

In this paper we dig into official trade statistics from UN Comtrade to investigate trade between Israel and its boycott countries. Israel's export statistics suggest that Israel exported more than \$6.4 billion worth of merchandise to boycott countries between 1962 and 2012, or 0.74% of total Israeli exports. The illicit, or boycott-avoiding, nature of the trade is confirmed by the fact that most boycott countries do not to report imports from Israel, creating a gap between the two countries' trade statistics. We find that electronic exports to Malaysia account for the lion's share of this gap and can be matched with Malaysia's official statistics on imports from *Unspecified* countries, thus highlighting one way by which this trade is kept below the radar. Using data on world input-output production linkages (TiVA), we also show that boycott countries imported Israeli value-added embedded in other countries' exports at a rate that is no different from that of non-boycott countries, suggesting that international supply chains may render boycotts ineffective. Nonetheless, our estimates suggest that Israeli exports to boycott countries are still about 90% lower than they would be absent the boycott. If Israel had exported to boycott countries proportionally to their GDP in 2012, for example, total Israeli exports would have been \$59.8 billion rather than \$59 billion, which is an increase worth around 0.3% of GDP.

Our paper contributes to the empirical literature on the effectiveness of sanctions in reducing trade. [Hufbauer et al. \(2007\)](#) looked at more than 200 sanction episodes up to 2000 and found that sanctions are less likely to succeed when they are applied by less-important or antagonistic countries. Other studies include [Caruso \(2003\)](#), who showed that comprehensive US sanctions have a negative impact on trade with target countries, [Levy \(1999\)](#) who showed

that the sanctions applied in the 1980s to push for the end of apartheid had little impact on South Africa's trade, and [Haidar et al. \(2015\)](#) who showed that Iranian exporters have diverted trade from the US and EU to other destinations after sanctions were imposed to deter Iran's nuclear ambitions. It also contributes to the literature on illicit trade pioneered by [Fisman and Wei \(2004\)](#) who showed that asymmetric trade barriers such as high import tariffs often create a trade gap between imports and exports, as exporters hide or under-invoice their shipments to avoid import tariffs. Other studies have shown that corruption in the trade-barrier country makes illicit trade even more prevalent (e.g. [Fisman and Wei \(2009\)](#)), and it's also possible to find traces of illicit trade in stock-market reactions to news ([DellaVigna and Ferrara, 2010](#)). Our paper follows this line of work to uncover and quantify exports from Israel to boycott countries. In doing so it also provides a case study to complement our understanding of the role of politics and foreign policy in international trade.

The rest of the paper proceeds as follows. In the next section we describe the data and present descriptive statistics on the boycott-avoiding trade. In Section 3 we discuss estimates of the effect of the boycott on Israel's exports and Section 4 concludes.

2 DESCRIPTIVE STATISTICS

In order to look into Israel's trade with boycott countries we use trade data from UN Comtrade, and information on Israel's international relations retrieved from the [Israel Ministry](#)

of [Foreign Affairs](#) and [Wikipedia](#). We define boycott countries as those that ban trade with Israel. This includes countries that do not recognize the existence of Israel or that have no diplomatic relations. Some countries had formal economic ties in some years despite no diplomatic relations, i.e. Bahrain, Morocco, Oman, Qatar and Tunisia. These are not considered boycott countries in years where trade was not banned. Boycott status may thus change over time. The list of countries that boycotted Israel during our period of study (1962-2012) can be found in footnote 3.

A first look at the data suggests that Israel does report exports to boycott countries. Israel's exports statistics suggest \$6.4 billion of exports have gone to boycott countries between 1962 and 2012. That represents around 0.74% of total Israeli exports. Figure 1 and Table 1 provide the country and product distribution of these exports, while Figure 2 shows the evolution of this trade over time. It shows large export flows in 2000 and 2010. A closer look at the data reveals that Israel exported \$714,268,000 to Malaysia as "Special transact. Not class. Accord. To kind" in 2000. In 2010, Israel exported \$778,418,000 to Malaysia as "Electrical machinery, apparatus and appliances". The Times of Israel (2014) suggests that most of these exports to Malaysia were from Israel's Intel computer-chip factory in Kiryat Gat ([Atkins, 2014](#)). Figure 1 and Table 1 suggest that these exports to Malaysia account for most of this gap. Yet, Israeli exports also include a wide array of products from plastics to fruit and vegetables.

A second look at the data suggests that many boycott countries do not report most of this trade, giving rise to a large trade gap. Yet, as shown in Figure 1, not all trade goes

unreported at import customs, suggesting that the boycott has not been enforced constantly over the years. When we look at the evolution of the trade gap, i.e. the log difference between reported Israeli exports and reported imports, the usual measure of missing trade in the literature (Fisman and Wei, 2004), we note there is a large positive and significant trade gap between Israel and boycott countries from 2001 onwards (Figure 3). This gap does not appear in non-boycott countries nor in previous years. This can be explained by a change of boycott stance during the Second Intifada and increased violence within the Israeli-Palestinian conflict.⁵

To examine further how Israel's exports circumvent the boycott and create a trade gap we start with the case of Malaysia, as it accounts for most of this trade. As seen in Figure 4, Malaysia's imports from *Unspecified* countries seem to match Israel's exports to Malaysia, except for a couple of years in the late 2000s. A closer look at the industry-level data, shown in Table 2, reveals that in 2000 and 2010, the two years in which Israel's export to Malaysia peaked, Israel's report of Special transactions closely matched Malaysia's imports of *Electric machinery and apparatus* from *Unspecified* countries. This is in line with the anecdotal evidence of Intel chips exports and it suggests that one way in which the boycott is circumvented is simply by hiding the provenance of the goods by declaring them from Unspecified countries. We looked for other such cases in other boycott countries but find none as clear cut.⁶

⁵Calls for a stronger enforcement of the boycott in 2001 led to the first meeting the Central Boycott Office in Damascus since April 1993 (USTR, 2003).

⁶We also looked for traces of fake certificates of origin, from Cyprus, Lebanon or Turkey in industry level data but found no such evidence. This type of practice may be hard to detect as often the volume of imports from such third countries drowns Israel export reports. For example Oman's imports from Lebanon are

To investigate boycott-avoiding behavior further we use another source of data to see whether boycott countries import Israeli goods and services embedded in other countries' exports via global value chains. Specifically, we quantify the Israeli value-added embedded in other countries' exports to boycott countries using data from TiVA, a dataset on Trade in Value-Added compiled by the OECD (see [Koopman et al. \(2014\)](#) for the decomposition of gross trade flows in value-added flows). This is relevant specifically as the boycott not only banned direct trade with Israel but also trade with any company doing business with Israel, indeed maintaining a blacklist of more than 8,000 companies as discussed in the introduction. TiVA includes data for the years 1995, 2005, and 2011 for 61 economies covering the OECD, EU, and G20 but only 5 boycott countries are included, namely Brunei, Indonesia, Malaysia, Tunisia, and Saudi Arabia.

We find that these boycott countries imported Israeli value-added embedded in other countries' exports at a rate that is no different from that of non-boycott countries. In 2011 for example, Saudi Arabia imported \$22 million of Israeli value added only via US imports. This is much larger than the \$144,000 worth of exports to Saudi Arabia that Israel declares. If we compute the Israeli share of imported embedded value added, we find it no lower on average in boycott countries than in non-boycott countries, at around 0.37% (Figure 5), suggesting that international supply chains may make boycotts ineffective.

worth 100 times more than Israel's export to Oman, or Saudi Arabia imports from Turkey are 2000 times larger than Israel's exports to Saudi Arabia.

3 BOYCOTT EFFECTS ON ISRAELI EXPORTS

The descriptive evidence above suggests there are indeed substantial exports from Israel to boycott countries. In order to illustrate how much larger Israeli export flows could be absent the boycott we plot Israel's exports against destination GDPs in Figure 6. A vast body of theoretical and empirical work on the gravity of trade flows shows that exports rise proportionately with the economic size of destination countries. Israel's exports fit this pattern. As Figure 6 shows, 2012 Israeli exports are well predicted by destination GDPs, with an average elasticity of 1.22, except in the case of boycott countries for which exports fall below the GDP prediction in most cases.⁷ The case of boycott countries in the Middle East such as Lebanon, Yemen or Oman is particularly illustrative. Being geographically close to Israel, they should, if anything, be above the GDP prediction line as proximity makes those markets more accessible for Israeli products than other markets with similar economic size. What we observe instead is that the boycott policy decreases Israeli exports dramatically and these destination markets appear way below the prediction line. An approximative back-of-the-envelope calculation suggests that if Israeli exports to boycott countries moved on the GDP prediction line, total Israeli exports would increase from \$59 billion to \$59.8 billion, or by around 0.3% of GDP.⁸

To see the evolution of this pattern over time we estimated counterfactual exports for all

⁷Head and Mayer (2014) suggest that the destination-GDP elasticity of exports is 0.84 on average. However, trade costs such as long distances, different languages and trade barriers can affect the correlation between exports and destinations' GDPs.

⁸Note that our predicted flows incorporate only partial equilibrium effects.

years from 1962 to 2012 using only the yearly GDP elasticity of Israel's exports, i.e. the slope of the linear fit as in Figure 6 for each individual year. In other words, this counterfactual shows how large Israeli exports would be if only destination GDPs mattered. These are graphed in Figure 2. It suggests that Israeli exports to boycott countries were well below potential in most years except for brief periods in the late 1960s and 1990s.

We can also take advantage of the panel dimension of the data to estimate what happens to Israeli exports when countries break ties or make amends. Examples of such policy change include Iran (ties until 1979), Nicaragua (ties until 1982 and during 1992-2010), and Oman (ties during 1996-2000) (the full list of country-years is given in footnote 3). These three examples are depicted in Figure 7. The Oman case is particularly interesting as Israel and Oman started reporting exports only after 1996 when the Gulf Cooperation Council announced the end of the boycott enforcement and yet Oman's breaking of ties in 2001 did not affect Israeli exports to Oman while it put an end to Oman's imports from Israel. Trade with Iran on the other hand completely stopped being recorded by both partners after the 1979 Iranian Revolution, as both countries outlawed the trade. As for Nicaragua, after its latest policy change in 2010 it started reporting more imports from Israel than Israel reported exports, suggesting no boycott effect.

To estimate by how much such boycott-policy changes within a country affect Israeli exports we estimate the following equation:

$$\ln(EX_{it}) = \alpha_i + \sigma_t + \beta_1 \text{Boycott}_{it} + \beta_2 \text{Controls}_{it} + \epsilon_{it}$$

where where α_i and σ_t are importer and year fixed effects, EX_{it} are exports from Israel to country i in year t , Boycott_{it} is a dummy equal to one if the country-year bans trade with Israel, and Controls_{it} are control variables, namely the logs of GDP and GDP per capita. The coefficient on Boycott_{it} , β_1 , gives us the effect of the boycott on Israeli exports controlling for time-invariant characteristics of the destination market (e.g. cross-country variation in consumer price indexes), global shocks to Israeli exports, time-varying changes in market sizes (GDP), and in the level of economic development and factor costs (GDP per capita).

In total there are 188 destination countries and 50 years of data, but many observations are missing. To include as many country-years with unreported trade as possible, we replaced missing values with zeros, but only for country-years that did report imports from any country. (As some country-years do not report imports at all and we cannot be sure these are cases of zero imports from Israel.) We then added \$1 before taking logs (taking the inverse hyperbolic sine instead does not alter the results, and neither does using a Poisson Pseudo Maximum Likelihood estimator).

Results are in columns 1-3 of Table 3. The coefficient on Boycott_{it} is estimated around

-2.4, which suggests that cutting ties decreased exports by 90% on average during 1962-2012. To verify the robustness of our estimate we run the specifications of columns 1-3 but instead of adding \$1 before taking the log of exports we take the inverse hyperbolic sine, the log of exports without adding \$1, i.e. dropping zeros, or estimate a Poisson Pseudo Maximum Likelihood estimator with exports on the left-hand side. Results in Table 4 confirm the size and significance of our estimate and show the potential bias of omitting zeros.

To check whether changes in policy lead to illicit, or boycott-avoiding, exports, we estimate the same equation but replacing exports on the left-hand side with a dummy indicating Israeli missing exports. More precisely, “Israeli missing exports” is a dummy equal to 1 if imports from Israel=0 and Israeli exports>0, and equal to zero otherwise. In the case of Oman for example, the dummy switched from 0 to 1 in 2001. Results in columns 4-6 suggest that the probability of observing “Israeli missing exports” increases by around 20 percentage points when countries break ties with Israel. This is a large increase as the average probability is 18% over the whole sample. It is thus more than doubled when countries break ties. If we focus just on boycott countries, over the whole period the average probability of observing “Israeli missing exports” is 65% on average and 77% during boycott years.⁹

As a robustness check we replace Israeli exports and missing exports on the left-hand side with equivalent measures of US exports (Table 5). The idea is to check whether countries

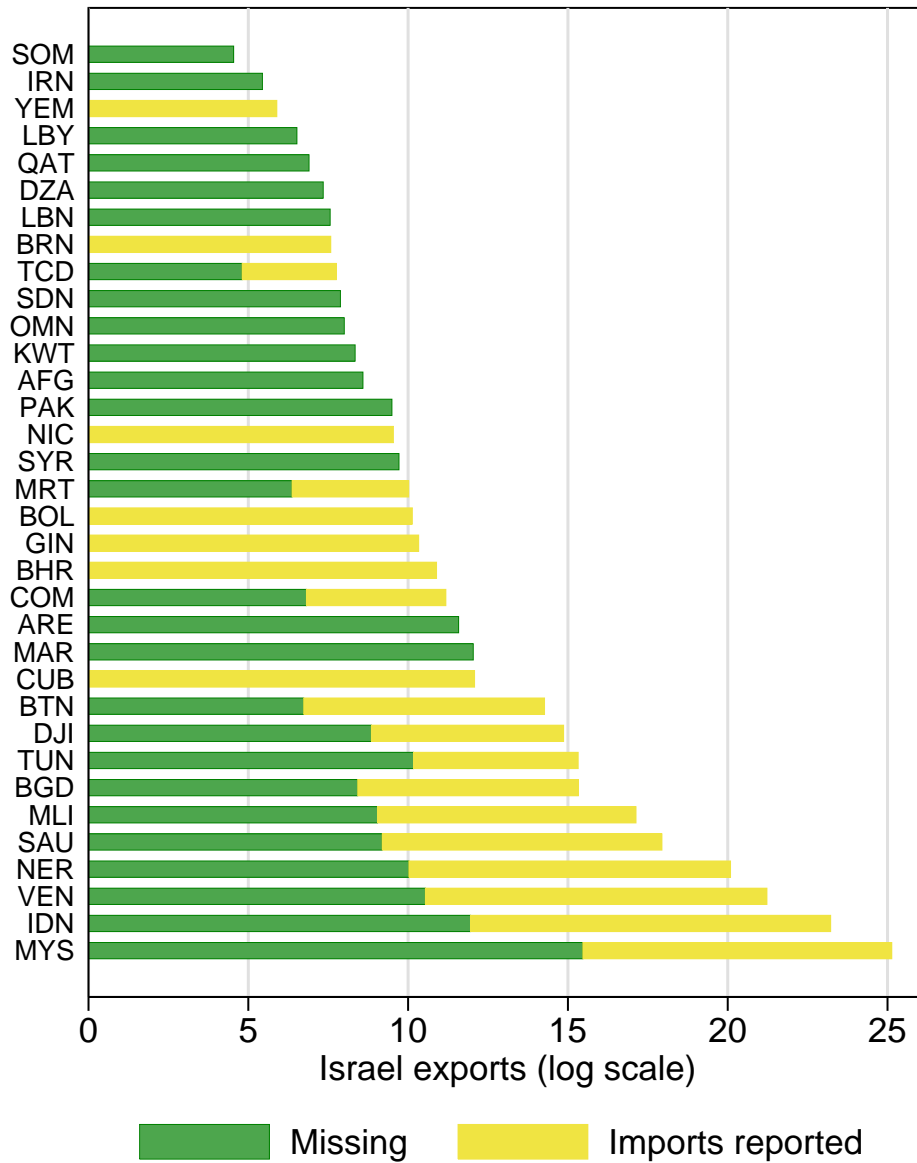
⁹We chose not to use the usual trade gap variable, i.e. the log difference between exports and imports as imports are zero in most cases and therefore the variation in the trade gap would come only from changes in reported Israeli exports.

that boycott Israel, who might also be anti-American, might fail to report imports from the US as well, despite no formal ban. The US can thus be seen as a counterfactual, i.e. what would happen if there were no formal ban but still an anti-Israel sentiment. If we find an effect, it would suggest that the coefficient picks up anti-US and anti-Israel sentiment rather than the effect of a formal boycott. The lack of significant effects of the boycott on US exports and US Missing exports confirms that our results are driven by the boycott policies.

4 CONCLUSION

The aim of our paper was to investigate Israel's trade with boycott countries. As in previous studies, we find that an asymmetric trade policy gives rise to *illicit* trade that is observable in official trade statistics. The data suggest that Israel exported a total of \$6.4 billion worth of merchandise to boycott countries between 1962 and 2012, and most of it is missing from importers' reports. We find that electronic exports to Malaysia account for the lion's share of this trade yet it also includes a wide array of products from footwear to fruit and vegetables exported to Arab League countries. We also show that the boycott is ineffective when it comes to blocking the import of Israeli value-added embedded in other countries' exports. While our results suggest there are ways to circumvent the boycott, economic forces are far from trumping politics. Israel's exports to boycott countries would be 10 times larger without the boycott.

FIGURE 1
 Israel's exports to boycott countries: 1962-2012



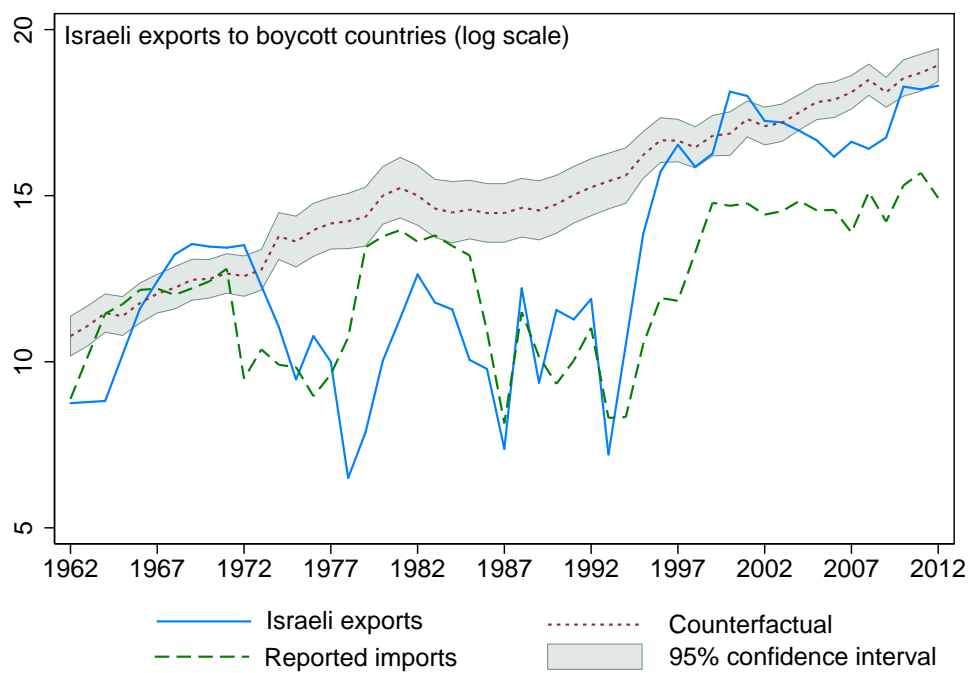
Note: Not all exports are reported by boycott countries as imports from Israel. The green part of the bar shows the share that is missing from importers' reports. Source: UN Comtrade.

TABLE 1
Israel's exports to boycott countries: 1962-2012

Products	Exports (\$1,000)	% of Israeli exports
Electrical machinery, apparatus	3,314,528	3.01
Special transact. Not class.	1,924,215	4.18
Chemical elements and compounds	227,825	0.54
Non metallic mineral manufactures	216,796	0.08
Machinery, other than electric	195,121	0.30
Chemical materials and products	119,181	0.46
Manufactures of metal, n.e.s	104,933	0.40
Miscellaneous manufactured articles	70,657	0.20
Fertilizers, manufactured	55,650	0.28
Fruit and vegetables	40,708	0.16
Plastic materials	39,778	0.25
Scientif & control instrum, photographic	25,800	0.10
Transport equipment	22,031	0.08
Medicinal and pharmaceutical products	17,826	0.04
Dyeing, tanning and colouring material	15,214	1.27
Crude animal and vegetable material	14,019	0.18
Non ferrous metals	11,224	0.22
Wood and cork manufactures	10,349	0.94
Perfume materials, toilet & cleansing	8,322	0.14
Rubber manufactures, n.e.s.	7,953	0.20
Textile yarn, fabrics, made up articles	6,085	0.05
Miscellaneous food preparations	5,006	0.14
Petroleum and petroleum products	4,729	0.12
Crude fertilizers and crude mineral	4,720	0.11
Iron and steel	3,941	0.15
Metalliferous ores and metal scrap	3,911	0.13
Clothing	3,829	0.03
Firearms of war and ammunition	2,392	0.18
Paper, paperboard and manufactures	1,315	0.05
Cereals and cereal preparations	1,124	0.10
Total	6,485,701	0.74

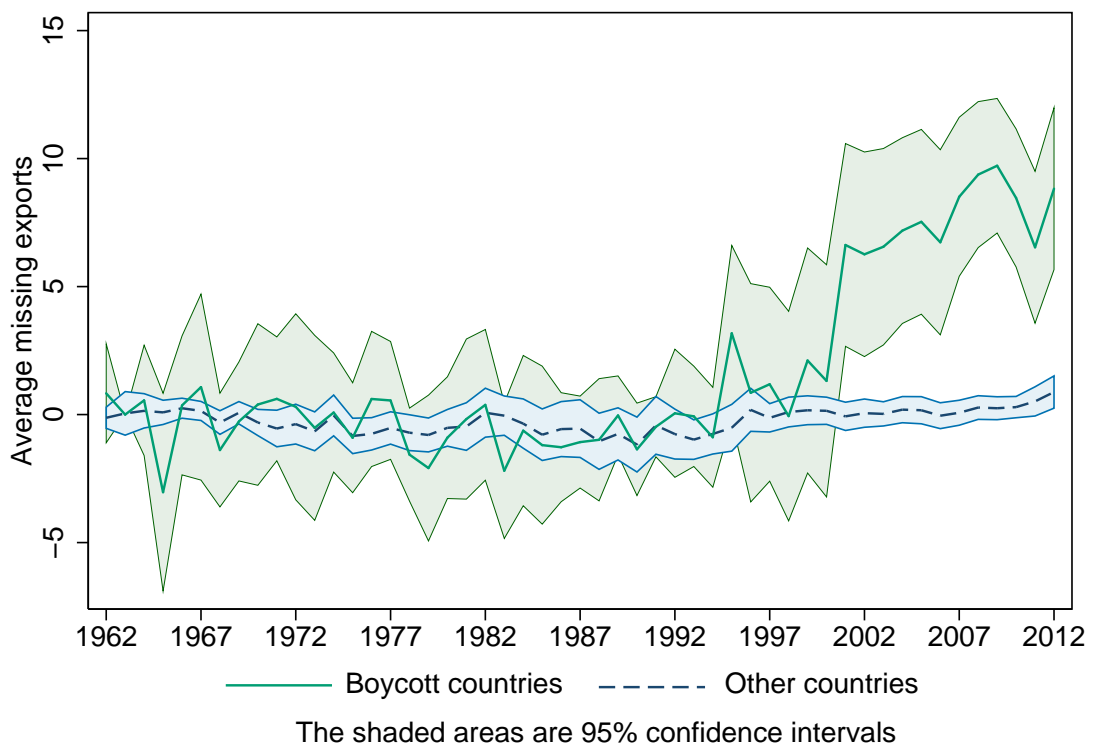
Source: UN Comtrade. Note: SITC rev. 1 two-digit clusters. Clusters with less than \$1,000,000 in trade are omitted for brevity.

FIGURE 2
Israel's exports to boycott countries



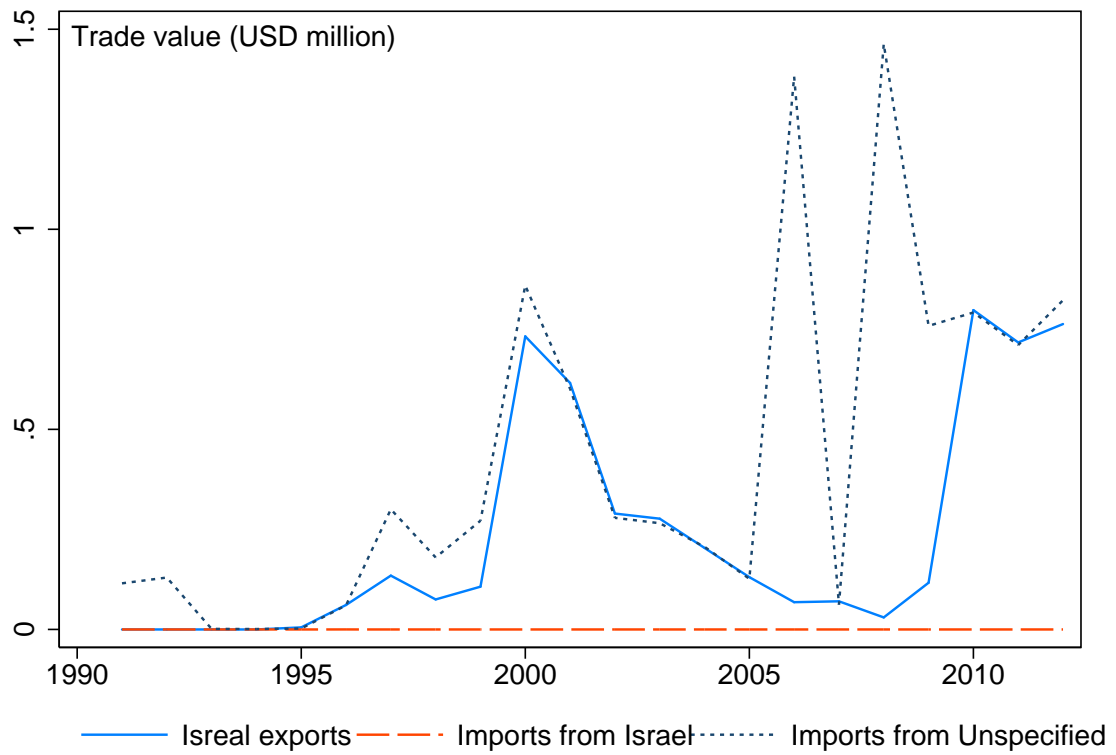
Note: Exports are as reported by Israel and imports are as reported by importing countries, both in UN Comtrade. Counterfactual exports are predicted by destination GDP (see Figure 6 for the 2012 case).

FIGURE 3
Missing exports from Israel, 1962-2012



Note: Missing exports are defined as the log difference between reported Israeli exports and reported imports. Source: UN Comtrade.

FIGURE 4
Malaysia imports from Israel



Source: UN Comtrade

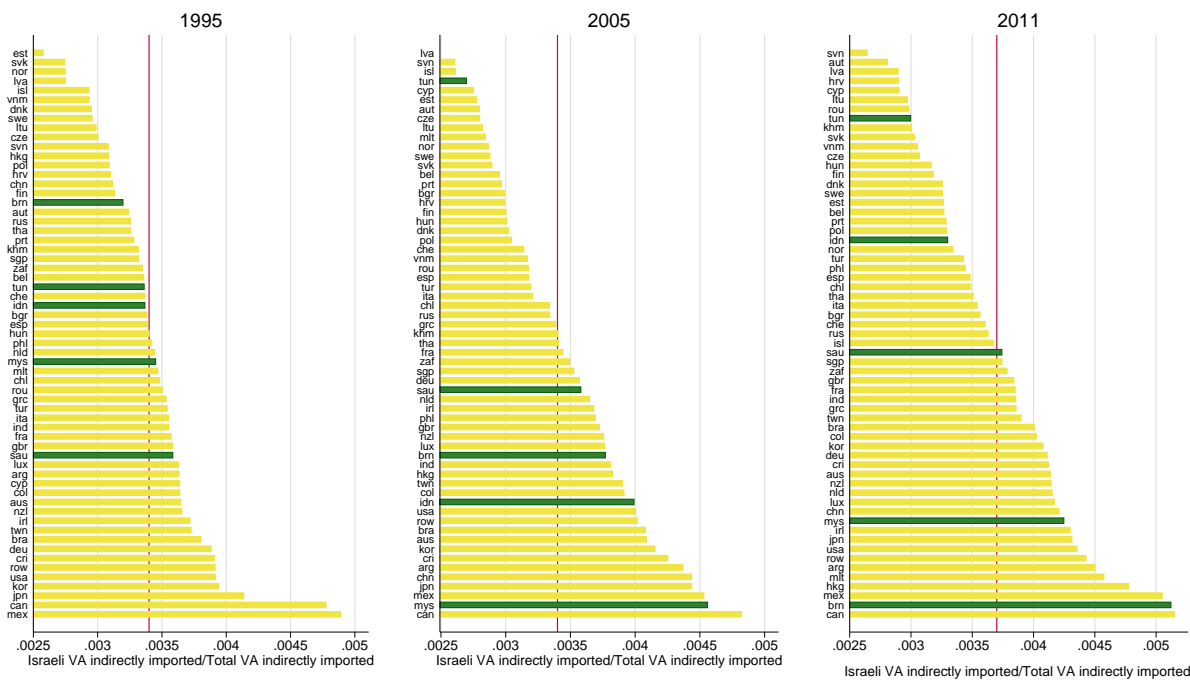
TABLE 2
Malaysia imports from Israel (USD 1,000)

2000			
Product	Imports from Israel	Israeli exports	Imports from Unspecified
Special transact. Not class.	0	714,268	54
Electrical machinery, apparatus	0	11,702	858,151
Chemical elements and compounds	0	2,911	0
Machinery, other than electric	0	2,146	283
Fertilizers, manufactured	0	509	0
Fruit and vegetables	0	285	24
Chemical materials and products	0	236	0
Metalliferous ores and metal scrap	0	139	0
Scientif & control instrum, photographic	0	81	1081
Plastic materials, etc.	0	46	0
Paper, paperboard and manufactures	0	34	9
Perfume materials, toilet & cleansing	0	17	0
Miscellaneous manufactured articles	0	14	5
Miscellaneous food preparations	0	13	0
Medicinal and pharmaceutical	0	6	0
Crude fertilizers and crude mineral	0	4	11
Total	0	732,411	859,673

2010			
Product	Imports from Israel	Israeli exports	Imports from Unspecified
Special transact. Not class.	0	608,935	27
Chemical elements and compounds	0	2,737	47
Electrical machinery, apparatus	0	2,614	600,363
Machinery, other than electric	0	583	48
Fertilizers, manufactured	0	452	3
Fruit and vegetables	0	390	43
Scientif & control instrum, photographic	0	127	103
Crude fertilizers and crude mineral	0	27	5
Perfume materials, toilet & cleansing	0	19	9
Paper, paperboard and manufactures	0	13	22
Manufactures of metal, n.e.s	0	8	54
Textile yarn, fabrics, made up arti	0	6	146
Miscellaneous manufactured articles	0	6	191
Chemical materials and products, n.	0	4	7
Clothing	0	3	59
Total	0	615,924	601,128

Source: UN Comtrade. Note: SITC rev. 1 two-digit clusters. Clusters with no Israeli exports are omitted for brevity.

FIGURE 5
Israeli share of indirectly-imported value-added



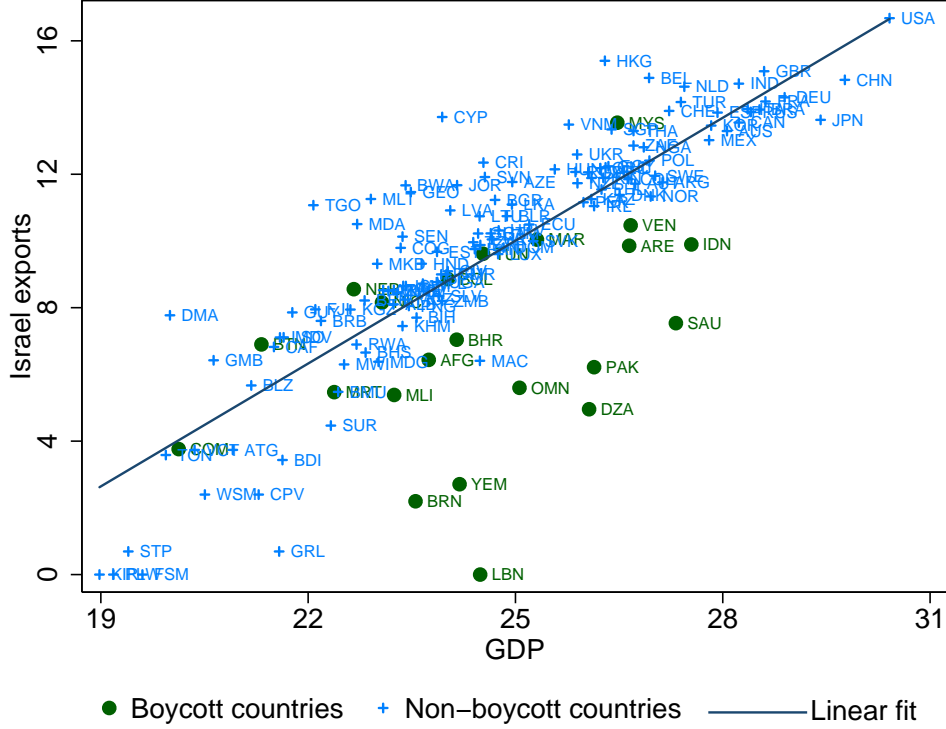
Source: TiVA. The horizontal line gives the average Israeli share of indirectly-imported value-added across countries. The country codes give the importing country.

TABLE 3
Panel 1962-2012

	(1)	(2)	(3)	(4)	(5)	(6)
	ln Israeli exports			Israeli missing exports		
Boycott	-2.479** (0.952)	-2.380** (1.013)	-2.388** (1.028)	0.198* (0.107)	0.210* (0.111)	0.211* (0.111)
ln GDP		0.899*** (0.185)	1.918*** (0.614)		0.00392 (0.0174)	-0.0607 (0.0553)
ln GDPPC			-0.995* (0.554)			0.0629 (0.0506)
Obs.	6,389	6,015	6,012	6,389	6,015	6,012
R-squared	0.870	0.871	0.871	0.691	0.703	0.703

Note: Country and year fixed effects included in all regressions. Two-way clustered (country and year) s.e. in parenthesis. *** p<0.01, ** p<0.05, * p<0.1. Israeli missing exports is a dummy=1 if imports from Israel=0 and Israeli exports>0, zero otherwise.

FIGURE 6
Israeli exports and destination GDP in 2012



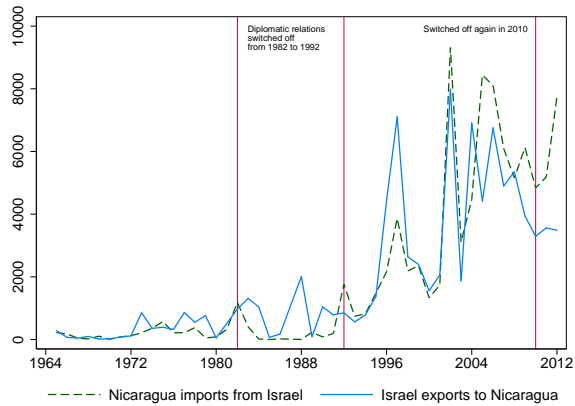
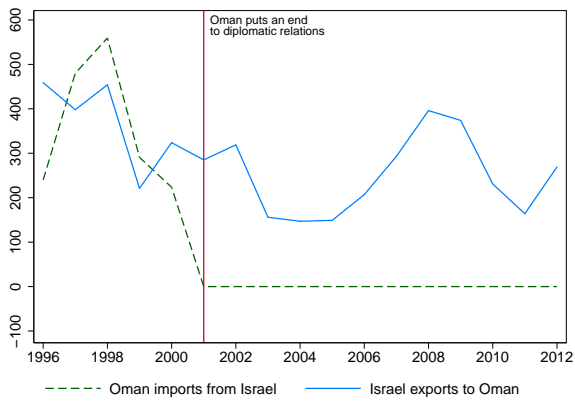
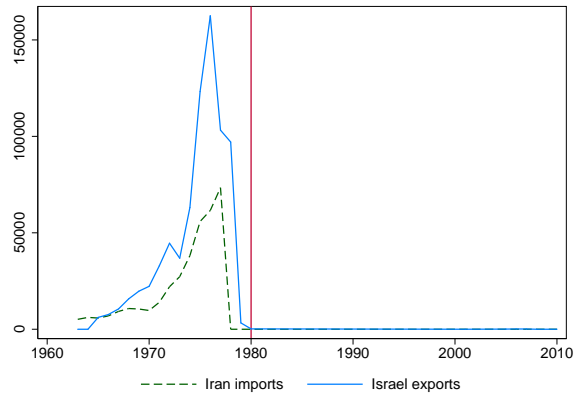
Source: UN Comtrade and World Development Indicators. Current USD.
Log scales.

TABLE 4
Robustness on Panel 1962-2012

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Arcsinh			No zeros			PPML		
Boycott	-2.694*** (0.998)	-2.593** (1.060)	-2.602** (1.076)	-1.470** (0.617)	-1.361** (0.674)	-1.444** (0.677)	-2.884* (1.691)	-2.802** (1.418)	-3.518* (2.011)
ln GDP		0.915*** (0.195)	2.142*** (0.648)		0.913*** (0.148)	1.606*** (0.430)		0.910*** (0.133)	2.832*** (0.623)
ln GDPPC			-1.197** (0.587)			-0.659 (0.402)			-2.061*** (0.616)
Obs.	6,389	6,015	6,012	5,224	5,016	5,016	6,366	5,962	5,959
R-squared	0.864	0.864	0.866	0.875	0.883	0.884	0.972	0.983	0.984

Note: Dependant variable is arcsinh(exports) in columns 1-3, ln(exports) in columns 4-6, and exports in columns 7-9. Columns 7-9 are PPML estimates. Country and year fixed effects included in all regressions. Two-way clustered (country and year) s.e. in parenthesis in columns 1-6, country clustered s.e. in columns 7-9. *** p<0.01, ** p<0.05, * p<0.1.

FIGURE 7
Case studies



Note: Trade flows in \$1,000 on the vertical axis. Source: UN Comtrade.

TABLE 5
Placebo panel 1962-2012

	(1)	(2)	(3)	(4)	(5)	(6)
	ln US exports			US missing exports		
Boycott	0.450 (0.873)	0.307 (0.819)	0.304 (0.817)	0.00539 (0.00740)	0.00463 (0.00772)	0.00435 (0.00777)
ln GDP		0.824*** (0.180)	1.201*** (0.390)		-0.00668 (0.00491)	0.0318 (0.0258)
ln GDPPC			-0.367 (0.448)			-0.0375 (0.0244)
Obs.	6,389	6,015	6,012	6,389	6,015	6,012
R-squared	0.864	0.885	0.885	0.135	0.132	0.139

Note: Country and year fixed effects included in all regressions. Two-way clustered (country and year) s.e. in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. US missing exports is a Dummy=1 if imports from US=0 and US exports>0, zero otherwise.

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