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DISCUSSION PAPER SERIES

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ABSTRACT

An Injury to One Is an Injury to All: Terrorism's Spillover Effects on Bilateral Trade

In this paper we investigate whether the effects of terrorism in one country spillover to affect trade in neighboring nations. Using a sample of more than 160 countries from 1976 to 2014, we report robust evidence that terrorist attacks in a nation's contiguous neighbors significantly reduce bilateral trade. Each additional terrorist attack in a neighboring country reduces bilateral trade by nearly 0.013% on average, which translates into a reduction of about $6.4 million USD in total trade. Trade effects from terrorist incidents are higher in sub-Sahara. Adverse trade effects hold for different flow and stock measures of terrorism, and even for terrorist incidents with zero casualties. Spillovers from terrorism are relatively long-lived, depressing bilateral trade up to five years after a terrorist event. Our findings are consistent with terrorism adversely impacting bilateral trade through several channels: psychological distress, higher trade costs arising from increased trade insecurity and regulatory burden, and adverse effects on income and trade reform.

JEL Classification: F14, D74, H56
Keywords: terrorism, spillovers, bilateral trade

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"So this is a sobering reminder that attacks on any American - regardless of race, ethnicity, religion or sexual orientation - is an attack on all of us …."

President Obama (2016)[1]

1. Introduction

Terrorism inflicts enormous costs on society and the economy. The immediate effects of terrorism are felt through loss of life and infrastructure. For example, since 2000, nearly 170,000 people were killed as a result of more than 72,000 terrorist acts (see online Appendix Table A1). In addition to these immediate tragic effects, there arise significant secondary effects such as adverse impacts on psychological health, foreign direct investment, and trade.[2] Moreover, the effects of terrorism can extend beyond the national borders of the country where terrorism occurs. The 9/11 terrorist attacks, for example, disrupted trade between the United States and Canada; United States exports to Canada fell by about 8 percent in the third quarter of 2001 relative to the pre-9/11 period, while imports from Canada declined by about 3 percent (Globerman and Storer, 2008).

Trade is important for growth and development. There is a flourishing literature on trade and conflict (e.g., Böhmelt, 2010; Peterson, 2014; and Feldman and Sadeh, 2016, and references therein). In this paper we add to this literature by examining whether terrorism in one nation spillovers to impact trade in neighboring states. We make four contributions. First, there exist relatively few studies into the spillover effects of terrorism on trade. However, terrorism can exert substantial spillover effects, principally because it triggers regulatory and counter-terrorism responses that increase bilateral trade costs and because it increases fear and reduces income and thereby adversely impacts demand. Spillovers are likely to become more important over time as growing interdependence between economies and the media's regular focus on global terrorism increases the probability that the effects of terrorism transmit spatially across the globe. Consideration of spillovers is in line with definitions of terrorism. For example, Bandyopadhyay *et al*. (2014: 1) define terrorism as: "… the premeditated use or threat to use violence by individuals or subnational groups against noncombatants to obtain a political or social objective through the intimidation of a large audience *beyond that of the immediate victims*" (emphasis added). Our focus here is on the spillover effects of terrorism on neighboring nations. Terrorists strive to gain political influence in their country of origin,

[1] President Obama on the Orlando shooting; https://www.washingtonpost.com/news/post-politics/wp/2016/06/12/president-obamas-complete-remarks-on-orlando-shooting/. Accessed August 15th 2016.

[2] For example, Abadie and Gardeazabal (2008) find that a sharp rise in the risk of terrorism reduces the net stock of foreign direct investment by 5 percent, while Hyams et al. (2002) document substantial adverse long-term health effects from terrorism.

in the countries they attack, or in other nations. Consequently, it is highly likely that terrorist actions in one country will affect other nations, especially neighboring states.

Our second contribution is to assess whether the effects of terrorism are long lived: does the impact of terror on trade depreciate rapidly and terrorism's consequences felt only in the immediate or short-term, or are the effects of terrorism felt over several years after the event? Our third contribution is to investigate whether small terrorist events have an impact. Large terror attacks such as 9/11 can be expected to disrupt trade, at least in the short-run. However, it is less obvious whether small scale events will also affect trade: are small terrorist events also disruptive to trade? Finally, we investigate several channels through which terrorism in one nation spills over to impact other nations.

We investigate and quantify spillovers from terrorism in neighboring nations on bilateral trade, for a large panel of countries observed over 45 years. We find that terrorist attacks in neighboring countries reduce bilateral trade. This finding holds for different categories of terrorist events: incidents, bombings, number of fatalities, attacks on facilities, and assaults with arms. The disruption to trade appears to be larger for sub-Saharan than OECD nations. A negative spillover effect on bilateral trade is also established for accumulated past terrorist attacks, suggesting that terrorism has a long lasting effect on international trade. This is confirmed also by exploring lags in terrorism; the effects of terrorism impact trade over a subsequent five-year period. Moreover, terrorist attacks do not have to be large to be disruptive; even attacks with zero fatalities adversely impact trade.

The article proceeds as follows. In Section 2 we discuss five channels through which the effects of terrorism may transmit to other nations. In Section 3 we review the data and the empirical methodology. The results are presented and discussed in Section 4. Channels through which terrorism affects trade are investigated in Section 5. The paper is concluded in Section 6.

2. Spatially transmitting the effects of terror

The impact of ethnic and religious conflict, civil war, and armed rebellion often spills across geographic borders, transmitting from one nation to another. Terrorism is often part of larger conflict and its effects can also span across national borders. Indeed, the aim of terrorism is often to spread conflict beyond the specific location where an act of terror occurred, with many attacks upon a country occurring outside that country's borders, e.g., attacks on Americans. Just as a terrorist attack in Boston is a threat to Washington, so too an attack in Brussels or Paris is a threat to Berlin; an injury to one becomes an injury to all.

Spillovers emerge as a consequence of actions taken in the country facing terrorism, reinforced by actions taken by other nations. We identify five main channels through which terrorism in one country spills over to adversely affect neighbors' international trade: regulatory burden, trade

reform, trade insecurity, income, and psychological distress. The first three factors increase the costs of trade and the latter two factors depress demand. An individual act of terrorism can disrupt trade through a specific channel or through all channels simultaneously, potentially impacting trade over several years.

2.1 Regulatory burden

Security is a public good that often requires cooperation between nations. Hence, there is an inherently spatial dimension to security as it transmits across geographic borders.[3] New regulations and laws are enacted in response to terrorist events occurring domestically and abroad, especially in neighboring countries that share similar political, cultural, and religious values. Some measures are directed against countries considered to be the sources or sponsors of transnational terrorism. Others impact on all trading nations.[4]

Policies designed to improve security and to deter money laundering and the financing of terrorism increase bilateral trade costs. Higher trading costs depress trade. For example, the USA and the UK applied stricter counter-terrorism measures after the 9/11 attacks to combat money laundering and the financing of terrorism. These measures substantially increased the pecuniary and non-pecuniary cost of borrowing to finance imports and exports.[5] Similarly, in the aftermath of the 2015 Paris attacks, European nations announced the adoption of new measures to combat terrorism including strengthening border controls on goods and people, thereby raising trade costs.[6] The costs of extra security are often born by exporters and importers in the form of higher frictional trading costs (Hobijn, 2002, OECD, 2003, Walkenhorst and Dihel, 2006). For example, higher insurance premiums and security surcharges increase trading costs (Walkenhorst and Dihel, 2006). Trading costs also rise as a result of delays in receiving funds due to requirements for businesses to report

[3] The overall impact of counter-terrorism and counter-insurgency measures on conflict is ambiguous. Counter-terrorism and counter-insurgency in one nation may force terrorists to transfer their activities across borders, increasing the threat of terror in neighboring nations and disrupting economic activity. Conversely, measures in one nation may reduce the threat of terrorism in neighbors, especially if counter-terrorism and counter-insurgency is successfully coordinated among several nations.

[4] An example of the former is the recent laptop ban on USA and UK bound flights from selected nations. Other measures impact all nations, e.g., screening of all air travel passengers regardless of country of origin or destination.

[5] As an example, the HSBC Global Policy and Principles on Anti-Money Laundering and Counter-Terrorism Financing requires due diligence with prospective customers, including pre-execution screening fees for customers considered to be higher risk; see https://www.hsbc.com.au/1/PA_ES_Content_Mgmt/content/australia/common/pdf/about/aml-ctf-statement.pdf. Accessed November 17th, 2016.

[6] See http://www.cer.org.uk/insights/after-paris-what%E2%80%99s-next-eu%E2%80%99s-counter-terrorism-policy. Accessed November 17th, 2016.

suspicious transactions (Walters et al., 2011). Furthermore, trading delays can be very costly. Djankov et al. (2010) show that time delays adversely affect trade; each additional day that trade is delayed reduces trade by more than 1 percent.[7]

2.2 Trade reform

Terrorism may negatively impact trade reform. Free trade agreements, commercial diplomacy initiatives, and trade reform in general, all facilitate international trade by reducing search and trade costs. Terrorism may disrupt such initiatives and thereby increase trade frictions and even lead to higher trade barriers. Terrorist actions in one country may be seen as a credible signal of the threat of terror and conflict in other countries; a case in point being attacks by ISIS supporters in recent years. In some countries, particularly developing ones, ruling elites may fear that terror will lead to generalized insurrection and the toppling of the regime. Consequently, government attention may be diverted from trade, economic, and institutional reform in general, with potentially adverse effects on imports.

2.3 Trade insecurity

Terrorism can disrupt trade by increasing insecurity in trade. This insecurity is a hidden cost on trade (Anderson and Marcouiller, 2002). Increased insecurity in exchange and disruption of supply chains can reduce the total volume of trade or result in substitution towards alternate trade routes and partners, reducing bilateral trade with terrorism afflicted nations. Seeking alternative trade routes and trading partners is costly. Hence, substitution is likely be imperfect with a net reduction in overall trade.

2.4 Income effects

Terrorism abroad, especially in neighboring countries, can cause income shocks to domestic economies, which in turn can reduce international trade (Czinkota et al., 2010). An immediate way this can arise is through spatial growth spillovers, whereby an adverse income or growth shock spills over to neighboring nations (Ades and Chua, 1997; Easterly and Levine, 1998). Remittances can also play an instrumental role as they often account for a large share of many developing countries' GDP and neighboring countries offer an important source of income for temporary domestic and migrant

[7] Most trading delays emerge from government responses to terrorism. Some are temporary, arising from the immediate closure of airports and vehicle inspections at border crossings after a terrorist attack, while others are more permanent arising from greater security. Delays may also occur when terrorists target key infrastructure, such as cargo terminals.

workers. For example, according to the World Bank, in 2012 Bangladesh received more than $6.6 USD billion, or half of its total remittances, from its neighbor India. Similarly, Kenya sent out at least $613 USD million to four neighboring countries in intra-African remittances in 2012.[8] Terrorism in neighboring countries can increase uncertainty in macroeconomic conditions, and interrupt production and reduce economic activity in those countries, thereby adversely affecting remittances and consequently lowering demand for both domestic and imported goods in nations relying on income from remittances.[9] For example, more stringent counter-terrorism measures by the United States and the United Kingdom to combat money laundering and the financing of terrorism have seriously threatened remittances from the Somalian diaspora, threatening the political and economic stabilization process in Somalia.[10]

2.5 Psychological distress

Terrorism may also disrupt trade through adverse psychological effects on individuals and organizations. Terrorism is designed to create fear. This fear may depress consumer confidence and increase stress.[11] Moreover, fear and anxiety felt by people in terrorized locations can spread to other locations. For example, Pfefferbaum et al. (1999 and 2000) find that children living geographically distant to the Oklahoma city bombing were also affected through television coverage, with symptoms of trauma-related stress lasting for as long as two years. Using data from an Internet-based survey of 1322 participants, Silver et al. (2013) find that early exposure to 9/11-related television predicted post-traumatic stress symptoms and physical health problems two or three years later. Interviewing a nationally representative sample of 560 United States adults about their stress reactions after September 11 2001, Schuster et al. (2001) find that respondents throughout the country reported stress symptoms.

Several factors may magnify the psychological effects of terrorism (Czinkota et al., 2010). For example, urbanization enables terrorist attacks to be deadlier than previously, as terrorists have more crowded places to target. The Internet, television, and social media, instantly broadcast terrorism-related events globally, increasing fear of a possible local terrorist attack. Modern communication techniques also help terrorists to better organize and plan their attacks. All these factors magnify the psychological effects of terrorism. Terrorism may thus have adverse

[8] For further details on remittances to developing countries see: http://www.worldbank.org/en/news/press-release/2014/04/11/remittances-developing-countries-deportations-migrant-workers-wb.

[9] Trade influences income and growth. Our argument here is that incomes also influence trade.

[10] See http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=16959&LangID=E. Remittances represent about 20% of Somali's GDP and are hence more important than foreign aid.

[11] See Herzenstein et al. (2015) for more details on how terror can alter consumer behavior.

psychological consequences even in countries with no terrorist attacks (Silke, 2013), and the psychological effects may not be contained within the borders of the country that is the target of terrorism. Consequently, in both the target and neighboring countries, the fear and panic that accompanies terrorist attacks may depress consumer demand, increase income uncertainty, and potentially delay or interrupt purchases of imported goods (Czinkota et al., 2010). Psychological effects may also affect the composition of trade, e.g., if they have greater adverse impact on luxury imports. They may also indirectly affect trade if, for example, fear translates into lobbying governments to tighten borders, impose sanctions, and restrict trade.

2.6. Related empirical literature

Extant empirical studies on the effects of terrorism on trade can be classified into two groups. One group of studies (e.g., Enders et al., 1992; and Drakos and Kutan, 2003) investigates the effects of terrorism on tourism using a consumer-choice model in which consumers allocate their budget between various goods including tourism. For example, using quarterly data for the 1970 to 1988 period for 12 OECD countries, Enders et al. (1992) found that terrorists have been successful in deterring tourism and that an incident in one country deterred tourism in neighboring nations.

A second group of studies investigates the effects of terrorism on international trade using the gravity model. For example, Nitsch and Schumacher (2004) analyze annual trade data between more than 200 countries to investigate the effects of terrorism on international trade over the period from 1960 to 1993, finding strong evidence that terrorist actions reduce the volume of trade. Fratianni and Kang (2006) also use a gravity model and include a binary measure of terrorism and its interaction with a dummy for common border, in order to examine the relationship between terrorism and international trade. They find that the impact of terrorism on bilateral trade declines as distance between trading partners increases. Using monthly data on bilateral trade of 30 individual OECD member countries and monthly data on terrorism events from 1970 to 2008, Egger and Gassebner (2015) find that international terrorism affects bilateral and multilateral trade only in the medium run (i.e. more than one and a half years after an attack/incident).

Neumayer and Plumper (2016), Feldman and Sadeh (2016), Qureshi (2013), De Sousa et al. (2009), and Mitra et al. (2017) are the five studies that are closest to our paper in terms of the econometric methodology. Using the gravity model, Neumayer and Plumper (2016) find that attacks on Western citizens in an Islamic country reduce tourism of both targeted and non-targeted Western tourists to that country and also to other Islamic nations. Feldman and Sadeh (2016) use the gravity model to investigate the impact of war on third-party trade, using a long time series spanning 1885 to 2000. Using a sample of trade and conflict data for 145 countries over the 1948-2006 period and relying on the gravity equation, Qureshi (2013) finds that both intrastate and international warfare in

neighboring states have a statistically significant effect on bilateral trade. Their findings also reveal that the impact of regional conflicts is persistent and increasing in duration. De Sousa et al. (2009) estimate the spillover effect of terrorism using bilateral imports data for the USA over the period 1993-2000. Their gravity model includes a measure of terrorism in the exporting country and a measure of terrorism in neighboring nations. They find that the closer a country is to a source of terrorism, the larger the negative spillovers on its trade. However, the focus of de Sousa et al. (2009) is limited to terrorist incidents against the USA. In contrast, our analysis is broader and considers all terrorist attacks, rather than terrorist incidents perpetrated against a particular nation. More recently, Mitra et al. (2017) document robust evidence that terror had a strong adverse effect on bilateral air passenger transport.

3. Data and econometric methodology

Data on bilateral trades are available annually from 1976 to 2013 from the UN COMTRADE Database.[12] The trade data includes 201 exporting countries and 280 importing countries. We are especially interested in the spillover impact of terrorism on trade. We here measure trade as bilateral imports, e.g., imports from Canada to the USA and imports from the USA to Canada. We focus on the effects of terrorism on importing countries with at least one contiguous neighbor. There are in total more than 2,000 pairs of trading partners for which a trading nation has a common border with at least one other country. Most of the observations in our data relate to bilateral trade flows between non-contiguous trading partners, i.e., while we focus on the impact of terrorism in neighboring nations on a given nation's bilateral imports, we actually consider the impact on trade between the affected nation and *all* other trading partners whether they are contiguous or not.

Data on terrorism are constructed using the Global Terrorism Database (GTD), University of Maryland. The database includes systematic data on domestic, transnational, and international terrorist incidents occurring during the period 1970 to 2014. We match these data with trade data that commence from 1976. The number of countries drops when trade data are merged with terrorism data. The final data includes about 171 exporters and 141 importers, depending on the measure of terrorism. The countries included in our data are listed in the online appendix Tables A2 and A3.

Data on standard gravity model variables, such as bilateral distance between the exporter and importer, whether they share a common border, a common language, and a common colonial relationship are available from CEPII's gravity dataset. Data on whether the pair of trading partners

[12] The use of annual data rather than monthly data shifts emphasis from the immediate impact of terror to longer-term effects on trade. For example, the immediate effect of terror may be felt through delays in shipping/delivering imports that were already arranged. Annual data enables investigation beyond these immediate effects.

has a common currency or a common free trade agreement are extracted from De Sousa et al. (2009) database. Descriptive statistics for the variables are reported in the online appendix Table A4.[13]

Figures 1 and 2 depict the evolution of terrorism across the globe over the period 1970 to 2014, for six categories of the flow of terrorism discussed below; the raw data are presented in Appendix Table A1. Each series is constructed by summing all the terrorist attacks or the number of human casualties taking place in *all* countries for each year. Several peaks in the data are evident, e.g. in 2001 due to 9/11. The six measures of terrorism exhibit very similar upward trends. Both Figures 1 and 2 also show that terrorist activities in the world have reached unprecedented levels in recent years. This escalation can be largely attributed to the increased intensity of conflict in Iraq, Afghanistan, Pakistan, Nigeria, and Syria. The online appendix, Figure A1 illustrates the global distribution of the average number of terrorist incidents; most terrorist events occurred in the Middle East and North Africa.

FIGURES 1 AND 2 ABOUT HERE

3.1 Gravity equation

The gravity equation has been used successfully in numerous studies to investigate the determinants of bilateral export or import flows. Here we use the gravity equation to investigate the effects of terrorism on bilateral imports. Specifically, we use the following augmented gravity model to estimate the effects of terrorist incidents/attacks occurring in the jth neighboring country:

$$Log\left(Imports_{ijt}\right) = \beta_0 + \beta_{it} + \beta_1 Log(Gdp_{jt}) + \beta_2 Log(Distance_{ij}) + \beta_3 Border_{ij} + \beta_4 Colony_{ij} + \beta_5 Language_{ij} + \beta_6 FTA_{ijt} + \beta_7 Currency_{ijt} + \beta_8\left(Terror_{jt}\right) + \beta_9(NeighborTerror_{jt}) + \varepsilon_{1ijt}, \quad (1)$$

where the dependent and explanatory variables are defined as follows. $Imports_{ijt}$ is the real value of imports by importer *j* from exporter *i*, in time period *t*. Note that we consider *all* bilateral combinations of importers and exporters. Gdp_{jt} denotes the Gross Domestic Product of the importer in year *t*. $Distance_{ij}$ is the bilateral distance between the exporter and the importer. $Border_{ij}$ is a dummy variable on whether the exporter and the importer share a common border. $Colony_{ij}$ is a dummy variable on whether the exporter and the importer share a common colonial relationship. $Language_{ij}$ is a dummy variable on whether the exporter and the importer speak the same language. FTA_{ijt} is a dummy variable on whether the exporter and the importer are members of a free trade agreement. $Currency_{ijt}$

[13] The GTD data can be found at: http://www.start.umd.edu/gtd/about/. The CEPII data can be found at: http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=8. The De Sousa et al. data can be found at: http://jdesousa.univ.free.fr/data.htm.

is a dummy variable on whether the exporter and the importer are members of a common currency area. $Terror_{jt}$ is a measure of terrorist incidents taking place in importer *j*. $NeighborTerror_{jt}$ is a measure of terrorist incidents taking place in the jth importer's contiguous neighbors.

Almost half of the terrorist incidents recorded in the GTD have no human casualties. Hence, expressing the measures of terrorism in logarithms substantially reduces the sample size. Our baseline results measure terrorism in levels to ensure as large a sample as possible. However, we also report results using a logarithmic transformation of the terrorism variables. We use both flow and stock measures of terrorism as discussed in subsection 3.2.

We include the exporter-year dummies (β_{it}) to control for all unobservable factors that determine bilateral imports between the two countries and that are specific to the exporter *and* year. In the gravity equation literature these dummies account for multilateral resistance, measuring the bilateral trade costs between countries *i* and *j* in relation to the rest of the world.

3.1.1 Endogeneity

The specification of the gravity model includes a measure of terror within a trading nation ($Terror_{jt}$) and a measure of terror in its neighboring nations ($NeighborTerror_{jt}$). However, we are primarily interested in, and focus on, the effects of terrorism occurring in the importer's neighbors. As noted in the introduction, this important area has received relatively little attention and we are interested in identifying and quantifying spillovers – if any - from terrorism. The coefficient estimate on $Terror_{jt}$ may be biased because of two sources of endogeneity in the relationship between the measure of terror in the importer ($Terror_{jt}$) and its imports ($Imports_{ijt}$). On the one hand, terrorists may have a greater incentive to attack countries for which international trade is an important component of national output. Consequently, the higher (lower) are imports, the higher (lower) is the incidence of terrorism. Hence, this source of endogeneity results in a downward bias of the coefficient estimate of $Terror_{jt}$. A second source of endogeneity arises if countries that are more engaged with international trade also allocate more funds toward counter-terrorism to reduce the threat of terrorism. This source of endogeneity may result in upward bias in the coefficient estimate of $Terror_{jt}$. Hence, the direction of the net bias can go either way depending on which of these two factors dominates.

The focus of our paper, the coefficient estimate of terror in neighboring states ($NeighborTerror_{jt}$) is less prone to endogeneity. We deem that terrorists are less likely to attack a country for reasons relating to imports from its neighbors and that it is less likely that a country's imports will be a determinant of its neighbors' counter-terrorism effort. Nevertheless, while it is less likely, this endogeneity cannot be ruled out entirely. If terrorists seek to create spillover effects by attacking the importer's neighbors, then the coefficient estimates of $NeighborTerror_{jt}$ will provide a lower bound estimate of the true underlying value. Failing to control endogeneity relating to the

counter-terrorism effort of neighboring states is likely to bias our results in favor of finding an adverse effects of terrorism. We address these concerns in the empirics through lags in $NeighborTerror_{jt}$ to mitigate reverse causality. We also control for the possibility that a country's counter-terrorism effort is a function of its neighbors' trade.

3.2 Measures of Terrorism

Our main explanatory variables of interest, $Terror_{jt}$ and $NeighborTerror_{jt}$, measure the total number of terrorist incidents occurring in the jth nation and in *neighboring* countries in year *t*, respectively. We consider six alternate measures of terrorism: the number of total confirmed fatalities including all victims and attackers who died as a direct result of terrorist incidents (*People Killed*); the number of terrorist incidents (*Incidents*); the number of terrorist incidents/attacks in which the primary effects are caused by either high or low explosives (including a dirty bomb) but does not include a nuclear explosive device (*Bombings*); the number of facilities that are the targets of the terrorist incidents/attacks (*Facilities*); the number of terrorist assaults in which arms are used (*Assaults*); and the number of terrorist incidents/attacks in which either biological or chemical weapons or explosives/bombs or firearms are used (*Wartypes*). For each measure and each country we calculate the number of incidents to derive annual series.

We use alternatively the *flow* measure and the *stock* measure of terrorist incidents. The flow measure corresponds to the value of $NeighborTerror_{jt}$ in year *t*, while the stock measure is the sum of terrorist incidents in each category during the five years prior to year *t*, with greater weight assigned to more recent years. A stock based measure of terrorism enables investigation of the longer-term effects of terrorism, consistent with sustained effects on imports from the channels discussed above.

The stock of terrorism is calculated as follows:

$$Terror^{S}_{j(t-1)} = \sum_{i=1}^{i=5}(1.2 - 0.2 * i)Terror_{j(t-i)} \quad (2)$$

$$NeighbourTerror^{S}_{j(t-1)} = \sum_{i=1}^{i=5}(1.2 - 0.2 * i)NeighbourTerror_{j(t-i)} \quad (3)$$

An annual discount rate of 20% is used to assign greater weight to recent terrorist incidents on the grounds that more recent events will have a greater impact.[14] However, we also explore the sensitivity of the results to alternate measures of the stock of terrorism.

[14] Egger and Gassebner (2015) assign equal weight to all data when they compute their stock measure of terrorism. However, these authors use monthly data compared to our annual data.

4. Results

4.1 Baseline estimates

Table 1 reports estimates of the baseline gravity model, Eqn. (1), which includes the flow measures of terrorism in both the trading nation and its neighbors. The gravity model performs very well and in line with prior findings in the literature: bilateral distance between an exporting and the importing nation reduces trade, while GDP, sharing a common border and a common language, being a past colony, having a FTA agreement, and being members of a common currency union all increase bilateral trade.

Terrorism in the trading nation and its neighbors reduces bilateral trade in most models. The one exception is the number of facilities targeted by terrorist attacks that has an unexpected positive effect on bilateral trade. However, our main variable of interest, terrorism in neighboring nations, has a statistically significant negative effect on bilateral trade in all cases.

TABLE 1 ABOUT HERE

Next, we examine the robustness of the regression results when, alternatively, only $NeighborTerror_{jt}$ is included in the gravity Eqn. (1), and when $NeighborTerror_{jt}$ and $Terror_{jt}$ are expressed as logarithms. These modifications explore the robustness of the negative spillover effects of terrorism to significant increases in sample size and alternate functional forms of the measure of terrorism. For the sake of brevity, only the coefficients on terrorism are presented; the full results are available in the online appendix Tables A6 and A7.

The inclusion of both *Terror* and *NeighborTerror* reduces sample size. The results when only $NeighborTerror_{jt}$ is included in the gravity equation are presented in Table 2. Column (1) reports the regression results when we restrict the sample to be identical to that used in Table 1. Column (2) presents results when we use all available bilateral trade data for which there has been a terrorist attack in a neighboring state. The adverse spillover effect of terrorism holds for all six different measures of terrorism. Moreover, compared to Table 1, the results from Column (2) suggest that terrorism in neighboring countries has a slightly larger adverse effect on bilateral trade. Table 3 presents results using a log transformation of the terrorism variables; Column (1) includes both $Log(Terror_{jt})$ and $Log(NeighborTerror_{jt})$, while Column (2) includes only $Log(NeighborTerror_{jt})$.[15] Regardless of the measure of used, terrorism in neighboring countries adversely affects bilateral trade.

[15] Modifying the log transformations with the addition of a small value (0.001) increases sample size but gives similar results.

TABLES 2 AND 3 ABOUT HERE

What is the economic significance of these negative spillover effects from terrorism? If we take Column (2) of Table 2 with the larger sample as the preferred estimates, the results suggest that one more human casualty in a neighboring country causes imports to decrease by 0.0061%, while an additional terrorist attack in a neighboring country results in a 0.013% reduction in bilateral imports. In other words, evaluated at sample means, bilateral imports fall by $34038 USD for each human casualty or by $72540 USD for each incident. The average nation in our sample imports from 88 exporters. Hence, an additional terrorist incidents will, on average, reduce a country's imports from the world by approximately $6.38 million. We deem this to be economically significant.

4.2 Are the trade effects of terrorism long-lived?

Terrorism may have long lasting effects. Hence, we also investigate whether *accumulated* terrorist attacks influence current bilateral trade. This stock of terrorism measure uses data from the previous five years; recall Eqns. (2) and (3). These results are presented in Columns (3) and (4) of Table 3, where in order to preserve space, we focus only on the coefficients on $Terror^{S}_{j(t-1)}$ and $NeighborTerror^{S}_{j(t-1)}$.[16] In all cases, terrorism in neighboring countries reduces bilateral trade. Comparing the results across the columns of Table 3 reveals that the accumulated past terrorist incidents have negative spillover effects on bilateral trade comparable to spillovers from contemporaneous terrorist attacks. For example, in the case of people killed in neighboring countries, *Log(NeighborPeopleKilled)*, the coefficient is -0.02267 for the stock measure compared to -0.02619 when a flow measure is used. However, the coefficient on the stock of terrorism is significantly larger than the flow measure when the terrorism variable is bombings, war type, facilities, or assaults, indicating that terrorism has large long-lasting adverse spillover effects on bilateral trade.

As noted earlier, reverse causality may be an issue if terrorists attack a country for reasons relating to trade with neighbors. While we believe that this is less likely to be a serious concern, it cannot be completely ruled out. Terrorists may be aware of the potential spillover effect of their acts and seek to disrupt trade by attacking neighbors. If this reverse causality is the only source of endogeneity it will cause a downward bias of our results. Consequently, the findings of a strong adverse spillover effect of terrorism reported here will be a conservative estimate of the true spillover effect of terror.

[16] The sample size is larger than in Columns (1) and (2) because the calculation of the stock of terrorism retains observations that would otherwise drop out when the logarithm of a flow measure is used due to zero terrorist events in certain years.

Absent strong instruments for terrorism for use in IV regressions, an effective way to address this issue is to use lags in terrorism. The intuition behind this is that lagged terrorism will not be affected by current bilateral trade. That is, even if terrorist activity in neighboring countries is influenced by trade between nations, it will be endogenous to expected trade and not to realized trade as revealed in the data. Hence, the use of lags should diminish the impact of reverse causality, e.g., terrorist attacks three or five years ago in neighboring countries are less likely to be influenced by current bilateral trade. Another benefit of using lagged terrorism is that it offers an alternate way to explore long-lived effects from terrorism. We consider the effects of terrorism in the importer's neighbors in years (t-1) to (t-10) when terrorism is measured in level form. However, in general, we find that lags beyond five years are not statistically significant. Results for one-, three- and five-year lags are presented in Table 4 and confirm that past terrorism in neighboring nations adversely affects trade (results for two- and four-year lags are similar to those reported in Table 4).

TABLE 4 ABOUT HERE

A second potential source of endogeneity may arise when a given country's counter-terrorism effort is related to trade with its neighbors. To the extent that neighboring economies are more economically interdependent than non-neighboring ones, a country's counter-terrorism effort may be a function of its neighbors' trade. This source of endogeneity is likely to bias our estimates in the direction of finding an adverse effect of terrorism. We address this endogeneity in two alternate ways. First, we estimate the spillovers effects of terrorism using the subsample of trading partners that do not share a common border. This subsample is less subject to this form of endogeneity because a country's counter-terrorism effort is less likely to be a function of non-contiguous countries (though they need not be completely independent as non-contiguous nations may also coordinate their counter-terrorism efforts). These results are presented in Panel A of Table A8 in the online appendix, and show that the adverse spillover effects hold even for this sample. In another effort to address this potential source of endogeneity we use the full data sample but include military spending as a share of GDP as an additional explanatory variable. We use this variable as a reasonable proxy for counter-terrorism efforts that may be a function of the extent to which a given economy is linked to its neighbors in terms of trade. These results are presented in Panel B of Table A8, and again confirm the adverse impact of terrorism on bilateral trade.

4.3 Does the magnitude of terror matter?

High intensity conflict can be expected to disrupt trade. We investigate whether the effects of terrorist incidents with a zero death toll differ from those having nonzero death toll and those with a very large

death toll. We define large death toll as terrorist incidents with 25 or more human casualties, as per the definition of conflict used in the Uppsala/PRIO Armed Conflict Dataset; we also explore alternate thresholds as part of robustness. These results are presented in Table 5, and show that even terrorist events with no death toll have a significant negative effect on the bilateral trade; see Column (1). These results are not surprising. Enders and Sandler (2004) note that low intensity conflict may be more sustainable. This sustainability may take its toll on trade. Table 5, Column (3), shows that terrorist attacks with very large death toll have a much larger adverse effects on bilateral trade than terrorist attacks with zero death toll.[17]

TABLE 5 ABOUT HERE

4.4 Robustness checks

We perform several robustness checks to investigate the sensitivity of the results. First, we extend the length of the stock measure to include terrorist attacks occurring over a 10 year period, compared to the 5 year span used in Table 3. In a second robustness check, per capita GDP, $Log(GDPC_{jt})$, is included as an added explanatory variable. In the empirical literature the inclusion of per capita GDP in the gravity equation tests whether the level of development influences trade. This variable is not statistically significant for our sample. Third, we remove countries that have experienced most of the terrorist attacks in recent years: Afghanistan, Iraq, Iran, Nigeria, Libya, Pakistan, and Syria. Aside from exploring the robustness of our results to these countries as potential outliers, there is also the issue of whether our results are driven by terrorist attacks that are part of much larger conflicts. Hence, it is prudent to explore the sensitivity of our results to the exclusion of these countries from the data. Fourth, we compare the spillover effects of terrorism before and after 9/11. For this purpose we include in the gravity equation the interaction between the measure of terrorism in neighboring nations and a post 9/11 dummy.

These robustness checks are reported in the online appendix (Tables A9 to A12) and confirm: the long-lived negative spillover effects from terrorism; that the baseline results are not driven by a handful of countries; and that there are broadly comparable negative spillover effects in the pre- and post-9/11 periods.

We also estimate the spillover effects of terrorism in the importer's neighbors separately for the OECD, Sub-Saharan Africa, and all other developing nations. The aim of this comparison is to

[17] In a robustness check we study how the effects of terror having at most one human casualty differ from the effects of terror with large death toll in which at least 3 people killed. We find very similar results; terrorist attacks with larger death toll have a larger adverse effect on bilateral trade.

explore whether the level of development alters a country's vulnerability to the negative spillover effects of terrorism. These results are reported on Table A13 in the appendix and are consistent with our findings; terrorism reduces trade for each region. However, we find that the impact of terrorism is much larger in Sub-Sahara. On average, an additional terrorist attack in a neighboring country results in a 0.056% reduction in bilateral imports in sub-Saharan economies compared to a 0.015% reduction in imports in OECD economies. This suggests that sub-Sahara is particularly vulnerable to the effects of terrorism.

We then explored whether the impact of terrorism is larger for more distant trading partners by splitting the data into two subsamples: trading partners that are located far away from each other and subsample of remaining trading partners.[18] These results show that terrorism has 2 to 3 times larger adverse effects on trading partners that are located further from each (see Table A14 in the appendix).

Finally, we investigate whether the adverse spillover effects of terrorism on bilateral imports are apparent in *aggregate* imports. While conflict might reduce trade between neighbors as our results show, it may also divert trade to third parties (Feldman and Sadeh, 2016). These results are reported in the online appendix (Table A15) and confirm that terrorism reduces total trade. Specifically, an additional terrorist incident in a given country's neighbors reduces its total imports from the rest of the world by approximately $6.37 US million annually. Moreover, an additional human casualty is predicted to reduce total imports by approximately $2.79 US million. The impact on total imports exceeds the impact on bilateral imports. Hence, any substitution of imports towards other trading partners is insufficient to offset the reduction in bilateral imports from neighbor's experiencing terrorism. Indeed, the results suggest an additional spillover: terrorism does not just disrupt trade between a nation and its neighbors experiencing terrorism; it also disrupts trade between all nations. This is consistent with the notion that terrorism affects trade beyond neighbors and countries that are immediately experiencing conflict, by increasing risk to supply chains, and by regulatory and psychological impact that spread across many nations.

5. Identifying Channels

Our baseline estimates (Table 1) control for income and trade reform. Hence, one interpretation of the negative trade spillovers in the baseline results is that they quantify the impact of channels other than income and trade reform, such as increased trade insecurity, time costs to trade, and psychological effects arising from terrorism. However, they also quantify reform and regulatory burden not captured by our measures. In this section we investigate the channels discussed in Section

[18] We define a trading partner to be distant if their bilateral distance belongs to the 10th percentile.

2 that may drive trade spillovers from terrorism. For the sake of brevity, we only present results for the number of people killed and the number of incidents, with terrorism measured as a flow and in logarithmic form; the results for other measures of terrorism are qualitatively similar.

5.1 Does terrorism reduce trade through regulatory burden?

Terrorism can depress trade by raising the time costs of international trade, as exporters and importers need to satisfy extra procedural requirements and stricter trade and financial procedures. We investigate this channel by estimating gravity equations that include the time to import, $ImportTime_{jt}$. This variable is constructed by the World Bank in its Doing Business project and measures the time burden of procedures faced by importers.[19] If terror adversely impacts bilateral trade by increasing regulatory burden, then the coefficient estimates on the terrorism variables will decrease when we control for the time to import. The time to import data is only available for a much smaller time span (2005-2017) than the bilateral trade and terrorism data. The results with and without $ImportTime_{jt}$ are compared in Table 6, Panel A, using the available annual data on time to import matched with trade and terrorism data for the period from 2005 to 2014. As expected, $ImportTime_{jt}$ has a large and statistically significant negative effect on trade. The coefficients on terrorism become statistically insignificant for people killed and are significantly smaller for terrorist incidents. The coefficient estimate on $Log(NeighborIncidents_{jt})$ - Column (3) Table 6, Panel A - suggests that doubling the number of terrorist attacks in a neighboring country causes a 4% decrease in bilateral trade. Column (4) Table 6, Panel A suggests that about half of this reduction is caused by time to import increases. This suggests that stricter trade-related counter-terrorism regulations depress trade through increased time delays.

We repeat this analysis in Panel B of Table 6 after extending the data back to 1976, using the average time delays for the period 2005-2014 to backdate from 1976 to 2004. This approach can be justified on the basis that there is relatively little variation in this series from one year to another. The coefficient estimates for the terrorism variables ($ImportTime_j$) are smaller in absolute value by 0.019 and 0.014 points for people killed and terrorist incidents in neighboring countries, respectively.

TABLE 6 ABOUT HERE

As an alternative test we investigate whether the effects of terrorism differ between two groups of exporters: the top ten non-OECD terror-intensive countries and the top ten OECD terror-intensive countries. The non-OECD group consists of: Afghanistan, Colombia, El Salvador, India, Iraq,

[19] Further details can be found at: http://www.doingbusiness.org/.

Pakistan, Peru, Philippines, Thailand, and Sri Lanka. The OECD group is: France, Germany, Greece, Israel, Italy, Japan, Spain, Turkey, the UK, and the USA. The logic behind this investigation is that new counter-terrorism regulations usually target high terror-intensive Non-OECD exporters because many developing countries are the sources of terrorist groups, their available resources for counter-terrorism are more limited, and their counter-terrorism forces are relatively less efficient. Non-OECD terror-intensive countries such as Afghanistan, Colombia, Iraq, Pakistan, and Philippines are considered terrorist safe havens by the USA and other countries. These countries are considered to have "ungoverned, under-governed, or ill-governed physical areas where terrorists are able to organize, plan, raise funds, communicate, recruit, transit, and operate in relative security because of inadequate governance policy, political will, or both." (U.S. Department of State, 2016). [20] These results are reported in the online appendix (Table A16) and suggest that the effects of terrorism are up to 40 times larger on the trade of the top 10 non-OECD terror-intensive exporters compared to the top 10 OECD terror-intensive exporters. This difference is consistent with the notion that greater trade insecurity in the non-OECD nations adversely affects trade.

5.2 Does terrorism reduce trade through trade reform?

We next investigate whether terrorism affects trade by retarding trade reform, by comparing the gravity model results with and without the free trade agreement dummy, FTA_{ijt}. These results are presented in Table 7. Columns (1) and (2) compare the results when FTA_{ijt} is included and excluded, respectively. A larger coefficient on the terrorism variables when FTA_{ijt} is excluded provides supportive evidence that terror negatively impacts trade reform, which in turn reduces bilateral trade. The coefficient for $Log(NeighborPeopleKilled_{jt})$ decreases from -0.03233 (Column (2)) to -0.02619 (Column (1)) when FTA_{ijt} is included, and the coefficient on $Log(NeighborIncidents_{jt})$ falls from -0.053 to -0.048. This suggests that trade reform is one channel through which terrorism adversely impacts bilateral trade.

TABLE 7 ABOUT HERE

5.3 Does terrorism reduce trade by reducing domestic income?

We explore whether terror reduces bilateral trade through adverse effects on national income by analyzing how the coefficient of $NeighborTerror_{jt}$ changes with and without the inclusion of

[20] More details the list of terrorist safe heavens can be found from the following link of US Department of State: https://www.state.gov/j/ct/rls/crt/2015/257522.htm.

log(GDP). These results are presented in Table 8.[21] The inclusion of GDP in the gravity equation reduces the adverse effect of terrorism, suggesting that one channel through which terrorism adversely exerts a spillover effect on bilateral trade is through reducing a country's national income. As noted earlier, national income can fall from a range of factors, including adverse spatial growth spillovers and declining remittances.

TABLE 8 ABOUT HERE

5.4 Does terrorism reduce trade through psychological factors?

We are unable to directly investigate the impact of psychological factors. Nevertheless, some of the above results are consistent with psychological factors as a channel that depresses trade. For example, Column (3) of Table 5 shows that very high death toll terrorist attacks have larger effects on bilateral trade than non-fatal terrorist attacks. High death toll attacks are likely to cause greater psychological distress among their direct victims and indirect observers than non-fatal and low death toll incidents.

Another factor that may be associated with psychological factors is the sharing of a common language between trading partners and former colony status. Closer bonds between nations may lead to stronger emotional responses to terrorism. We explore this by re-estimating the gravity equation with the addition of interaction variables between terrorist attacks in neighboring nations and a common language dummy and a former colony dummy. These results are reported in Table A20 in the online appendix and show that the impact of terrorism on trade is greater for nations that share a common language and nations that have colonial ties.

6. Conclusion

Terrorism has directly or indirectly destroyed hundreds of thousands of lives with an alarming and accelerating frequency. An important question is whether terrorism inflicts additional costs on the economy, beyond loss of life. In this paper we investigate whether terrorism affects trade through spillover effects. Specifically, we consider the impact on a nation's bilateral trade when its contiguous neighbors experience a terrorist event. Quantifying these spillovers is important to understanding the overall impact of terrorism. We document robust evidence that terrorism in a neighboring country

[21] For Column (2) Table 8 we also include the interaction of terrorism with a dummy for the group of the 10 countries with the longest borders and with eight or more neighbors: Austria, Brazil, China, Germany, France, the Democratic Republic of the Congo, the Russian Federation, Tanzania, Turkey, and Zambia. Countries with larger GDP tend to also have larger landmass and consequently more neighbors. Hence, they are exposed to the effects of terrorism from more neighboring states. Consequently, when GDP is excluded from the gravity equation, the coefficient on terrorism picks up this correlation. This causes the coefficient on $Terror_{jt}$ to change from negative to positive.

reduces bilateral trade. Spillovers are relatively long lasting; on average, a terrorist attack in a neighboring nation affects bilateral trade up to five years after the event. Moreover, even terrorist incidents with a small death toll (defined as zero or one death) have a significant adverse trade effect.

An important channel through which these adverse spillover effect operate is through higher trade costs associated with increased time to trade that results from stricter trade and financial procedures, greater compliance and regulatory burden, and trade insecurity. Other channels include the adverse effects of terrorism on trade reforms, income, and increased psychological distress. All these channels transmit the impact of terrorism across neighboring countries, impacting trade with terrorism afflicted neighbors and also affect trade with other trading partners.

What are the consequences of our findings for countries facing terror and for their neighbors? Trade is important for economic prosperity and also for the development of good governance and institutions, which are particularly important to small and developing nations. Our results confirm that terrorism disrupts trade and interdependence between nations. This disruption is larger for sub-Sahara. The spillovers on trade identified in this paper are a consequence of terrorist events (e.g., through increased time to import, psychological impact, and income shocks) and also as a consequence of actions to prevent such attacks (e.g. increased security). While the preservation of life remains a primary objective, the existence of significant cross-border spillovers arising from terrorism provides additional justification for between-country collaboration in counter-terrorism and counter-insurgency. Some of these methods, however, may also impede trade if they increase trade costs and frictions. Hence, policies that offset these frictions may alleviate some of the cost burden on trade while ensuing enhanced security and reducing terrorism.

Authors' Note: An online appendix presents regression tables for all models and robustness checks along with the data and information necessary to replicate all findings.

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References

Abadie, A. and Gardeazabal, J. 2008. Terrorism and the World Economy. *European Economic Review* 52: 1-27.

Abrahams, M. 2007. "Why Democracies Make Superior Counterterrorists". *Security Studie*s 16(2): 223-53.

Ades, A., Chua, H., 1997. Thy neighbour's curse: regional instability and economic growth. *Journal of Economic Growth* 2(3): 279-304.

Anderson, J.E. and Marcouiller, D. 2002. Insecurity and the Pattern of Trade: An Empirical Investigation. *The Review of Economics and Statistics* 84: 342-52.

Bandyopadhyay, S., Sandler, T. and Younas, J. 2014. Foreign direct investment, aid, and terrorism. *Oxford Economic Papers* 25: 25-50.

Bloomberg, S. B., and Hess, G. D. 2006. How Much Does Violence Tax Trade? *Review of Economics and Statistics* 88: 599-612.

Böhmelt, T. 2010. The impact of trade on international mediation. *Journal of Conflict Resolution* 54(4): 566-92.

Canada. Department of Foreign Affairs and International Trade. Trade Update. May 2002. Third Annual Report on Canada's State of Trade. Available at: [www.dfaitmaeci.gc.ca/eet/state-of-trade-e.asp].

Czinkota, M., Knight, G., Liesch, P. W., Steen, J. 2010. Terrorism and International Business: A Research Agenda. *Journal of International Business Studies* 41(5): 826-43.

De Sousa, J., Mirza, D. and Verdier, T. 2009. Trade and the Spillovers of Transnational Terrorism. *Swiss Journal of Economics and Statistics* 145: 453-61.

De Sousa, J. Mirza, D., and Verdier, T. 2010. Terrorism Networks and Trade: Does the Neighbor Hurt? CEPR Discussion Paper No. 7946, Centre for Economic Policy Research.

Dixon, P., Rehling, G. Shiwach, R. 1993. Peripheral Victims of the Herald of Free Enterprise Disaster. *British Journal of Medical Psychology* 66: 193-202.

Djankov, S., Freund, C. and Pham, C.S. 2010. Trading on time. *The Review of Economics and Statistics* 92(1): 166-73.

Drakos, K. and Kutan, A. M. 2003. Regional Effects of Terrorism on Tourism in Three Mediterranean Countries. *Journal of Conflict Resolution* 47: 621-41.

Dreher, A., Krieger, T., and Meierrieks, D. 2011. Hit and (They Will) Run: the Impact of Tourism on Migration. *Economics Letters* 113: 32-46.

Easterly, W., Levine, R., 1998. Troubles with the neighbours: Africa's problem. Africa's opportunity. *Journal of African Economies* 7(1): 120-42.

Egger, P. and Gassebner, M. 2015. International Terrorism as a Trade Impediment? *Oxford Economic Papers* 1: 42-62.

Enders, W. and Sandler, T. 2004. What Do We Know About the Substitution Effect in Transnational Terrorism? In A. Silke (ed.) *Research on Terrorism: Trends, Achievements and Failures*, Routledge: Oxon, 119-37.

Enders, W., Sandler, T., and Parise, G. F. 1992. An Econometric Analysis of the Impact of Terrorism on Tourism. *Kyklos* 45: 531-54.

Falkenrath, R. 1998. Confronting Nuclear, Biological, and Chemical Terrorism. *Survival*, 40: 43-65.

Feldman, N. and T. Sadeh. 2016. War and third-party trade. *Journal of Conflict Resolution* 1-24.

Fratianni, M. and Kang, H. 2006. International Terrorism, International Trade and Borders. *Mimeo*.

Globerman, S. and Storer, P. 2008. *The Impact of 9/11 on Canadian-U.S. Trade.* University of Toronto Press.

Herzenstein, M., Horsky, S. and Posavac, S. S. 2015. Living with Terrorism or Withdrawing in Terror: Perceived Control and Consumer Avoidance. *Journal of Consumer Behaviour*, 14: 228-236.

Hobijn,B. 2002. What Will Homeland Security Cost? Federal Reserve Board of New York Economic Policy Review (November):21-33.

Hyams, K. C., Murphy, F. M. and Wessely, S. Responding to Chemical, Biological, or Nuclear Terrorism: The Indirect and Long-Term Health Effects May Present the Greatest Challenge. *Journal of Health Politics, Policy and Law* 27(2): 273-91.

Global Terrorism Database. 2015. *The Global Terrorism Database Codebook.* Available online at: http://www.start.umd.edu/gtd/using-gtd/.

Mirza, D. and Verdier, T. 2006. International Trade, Security, and Transnational Terrorism. *World Bank Policy Research Working Paper*, 4093.

Mitra, D., Pham C. S., and Bandyopadhyay, S. 2017. The Effects of International Air Passenger Transport: An Empirical Investigation. *Federal Reserve Bank of St. Louis Working Paper Number 2017-2*.

Neumayer, E. and Plumper, T. 2016. Spatial Spill-overs from Terrorism on Tourism: Western victims in Islamic Destination Countries. *Public Choice* 163: 195-206.

Nitsch, V. and Schumacher, D. 2004. Terrorism and International Trade: An Empirical Investigation. *European Journal of Political Economy* 20: 423-33.

OECD. 2003. *Security in Maritime Transport: Risk Factors and Economic Impact*. Organization for Economic Co-operation and Development. Directorate for Science, Technology and Industry. Retrieved at: https://www.oecd.org/newsroom/4375896.pdf.

Peterson, T.M. 2014. Dyadic trade, exit costs, and conflict. *Journal of Conflict Resolution* 58(4): 564-91.

Pfefferbaum, B., Nixon S. J., Krug R. S., Tivis, R. D., Moore, V. L. Brown, J. M. Pynoos, R. S., Foy, D. and Gurwitch R. H. 1999. Clinical Needs Assessment of Middle and High School Students Following the 1995 Oklahoma City Bombing. *American Journal of Psychiatry*, 156(7): 1069-74.

Pfefferbaum, B. Seale, T. W., McDonald, N. B. Brandt, EN Jr., Rainwater S. M., Maynard B. T., Meierhoefer, B., Miller, P. D. 2000. Post-traumatic Stress Two Years after the Oklahoma City Bombing in Youths Geographically Distant from the Explosion. *Psychiatry*, 63 (4): 358-70.

Qureshi, M. S. 2013. Trade and thy Neighbor's War. *Journal of Development Economics*, 105: 178-195.

Schuster, M. A., Stein. B. D., Jaycox, L. H., Collins, R. L., Marshall, G. N., Elliott, M. N., Zhou, A. J., Kanouse, D. E., Morrison, J. L., Berry, S. H. 2001. A National Survey of Stress Reactions After the September 11, 2001, Terrorist Attacks. *New England Journal of Medicine*, 345 (20): 1507-1512.

Silke, Andrew. 2013. The Psychological Impact of the Continued Terrorist Threat. Retrieved at: http://www.aaets.org/article216.htm.

Silver, R. C. Holman, E. A., Andersen, J. P., Poulin, M., McIntosh, D. N., Gil-Rivas, V. G. 2013. Mental- and Physical-Health Effects of Acute Exposure to Media Images of the September 11, 2001, Attacks and the Iraq War. *Psychological Science*, 24 (9): 1623-1634.

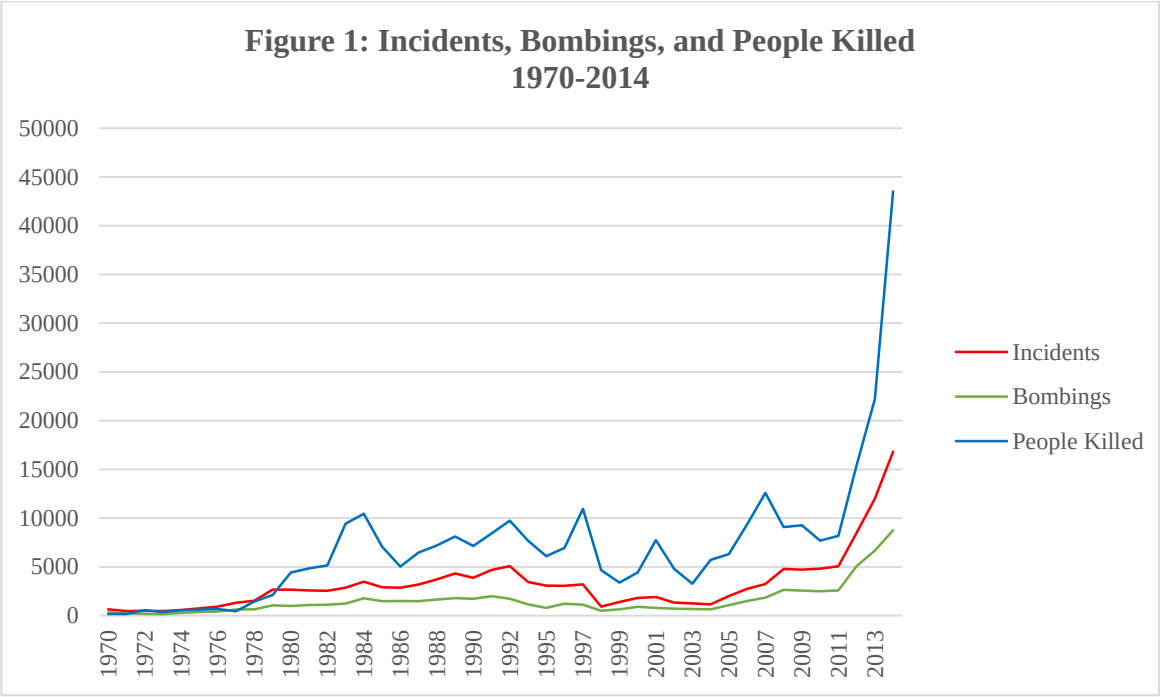
SIPRI (Stockholm International Peace Research Institute). 2017. "Trends in World Military Expenditure, 2016." SIPRI Fact Sheet. Retrieved from the following link: https://www.sipri.org/sites/default/files/Trends-world-military-expenditure-2016.pdf.

United Nations, International Merchandise Trade Statistics. 2014. *The 2014 International Trade Statistics Yearbook, Volume 1 – Trade by Country*.

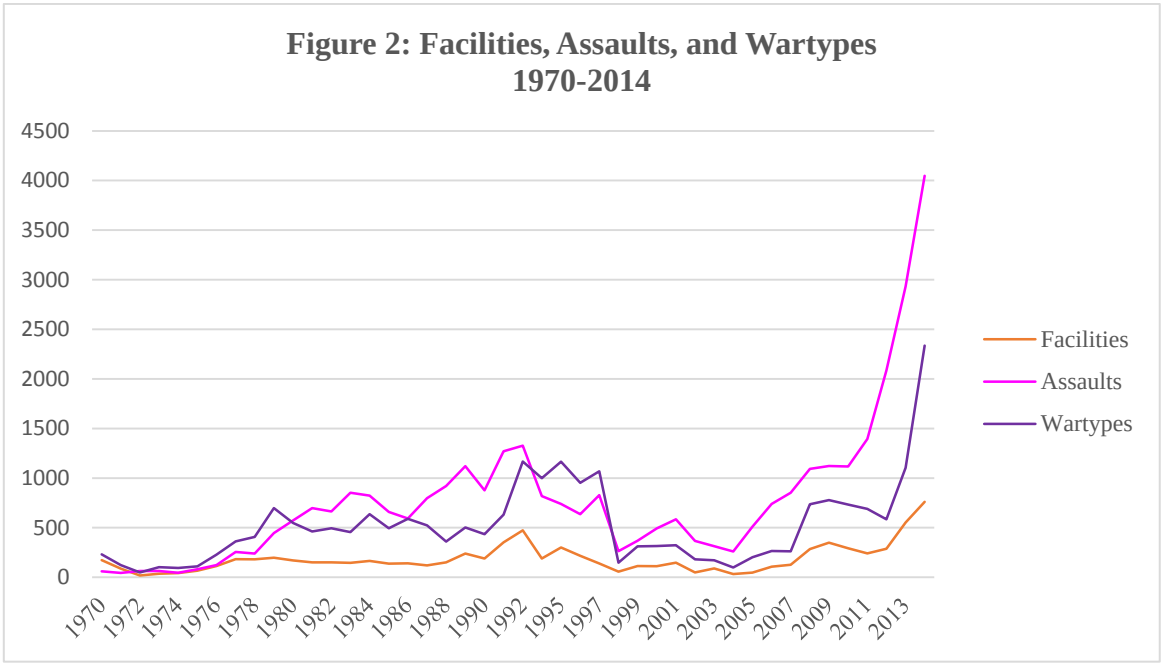
US State Department. 2016. *Country Reports on Terrorism 2015*. Retrieved at the following link: https://www.state.gov/documents/organization/258249.pdf.

Walkenhorst, P. and Dihel, N. (2006) Trade Impacts of Increased Border Security Concerns. *The International Trade Journal*, 20:1, 1-31.

Walters, J., Budd, C., Smith, R. G., Kim-Kwang, Choo, K., McCusker, R. and Rees, D. 2011. *Anti-Money Laundering and Counter-Terrorism Financing across the Globe: A Comparative Study of Regulatory Action*. Research and Public Policy Series, 113. Australian Institute of Criminology.



Notes: Data compiled by the authors from the Global Terrorism Database. Figure illustrates global patterns. *Incidents* denotes the number of terrorist incidents/attacks. *Bombings* denotes the number of terrorist incidents/attacks in which the primary effects are caused by explosives. *People Killed* denotes the number of total confirmed fatalities including all victims and attackers who died as a direct result of the incident.



Notes: Data compiled by the authors based from the Global Terrorism Database. Figure illustrates global patterns. *Facilities* denotes the number of facilities that are the targets of the terrorist incidents/attacks. *Assaults* denotes the number of terrorist incidents/attacks in which arms are used. *Wartypes* denotes the number of terrorist incidents/attacks in which either biological or chemical weapon or explosives/bombs or firearms are used.

Table 1: Terrorism and Bilateral Trade, Baseline Estimates, Flow Measure of Terrorism

Variables	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.936[c]	0.937[c]	0.961[c]	0.936[c]	0.971[c]	0.932[c]
	(0.00634)	(0.00637)	(0.00682)	(0.00644)	(0.00821)	(0.00720)
FTA_{ijt}	0.548[c]	0.556[c]	0.482[c]	0.547[c]	0.391[c]	0.581[c]
	(0.0394)	(0.0394)	(0.0424)	(0.0403)	(0.0485)	(0.0486)
$Log(Distance_{ij})$	-1.321[c]	-1.320[c]	-1.333[c]	-1.335[c]	-1.273[c]	-1.328[c]
	(0.0213)	(0.0213)	(0.0232)	(0.0219)	(0.0291)	(0.0266)
$Currency_{ijt}$	0.294[c]	0.299[c]	0.0474	0.313[c]	0.148	0.555[c]
	(0.105)	(0.105)	(0.113)	(0.111)	(0.115)	(0.136)
$Border_{ij}$	0.700[c]	0.697[c]	0.593[c]	0.672[c]	0.505[c]	0.672[c]
	(0.0993)	(0.0992)	(0.109)	(0.102)	(0.127)	(0.118)
$Language_{ij}$	0.771[c]	0.767[c]	0.714[c]	0.750[c]	0.686[c]	0.682[c]
	(0.0435)	(0.0436)	(0.0490)	(0.0447)	(0.0580)	(0.0505)
$Colony_{ij}$	1.100[c]	1.111[c]	1.129[c]	1.124[c]	1.127[c]	1.187[c]
	(0.0955)	(0.0956)	(0.103)	(0.0978)	(0.109)	(0.112)
$PeopleKilled_{jt}$	-0.000161[c]					
	(0.000022)					
$NeighborPeopleKilled_{jt}$	-0.000040[c]					
	(0.0000103)					
$Incidents_{jt}$		-0.000267[c]				
		(0.0000617)				
$NeighborIncidents_{jt}$		-0.000064[b]				
		(0.000025)				
$Bombings_{jt}$			-0.000489[c]			
			(0.000093)			
$NeighborBombings_{jt}$			-0.000092[b]			
			(0.000039)			
$Wartypes_{jt}$				-0.000315[c]		
				(0.000065)		
$NeighborWartypes_{jt}$				-0.000064[b]		
				(0.000027)		
$Facilities_{jt}$					0.003840[c]	
					(0.000721)	
$NeighborFacilities_{jt}$					-0.00297[c]	
					(0.000520)	
$Assaults_{jt}$						-0.000738[c]
						(0.000239)
$NeighborAssaults_{jt}$						-0.00023[b]
						(0.000113)
Constant	3.550[c]	3.507[c]	2.970[c]	3.663[c]	2.058[c]	3.689[c]
	(0.239)	(0.239)	(0.256)	(0.244)	(0.327)	(0.293)
Gravity Equation includes Exporter-year FE	Yes	Yes	Yes	Yes	Yes	Yes

N	187,976	187,976	140,470	172,967	75,180	107,255
Adjusted R^2	0.749	0.749	0.761	0.751	0.781	0.761

Notes: N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [b] and [c] denote 5% and 1% level of statistical significance, respectively.

Table 2: Terrorism in Neighboring Countries and Bilateral Trade, Flow Measure of Terrorism

	Same sample as Table 1 (1)	Largest sample (2)
$NeighborPeopleKilled_{jt}$	-0.000046[c]	-0.000059[c]
	(0.00001)	(0.0000096)
N	187,976	351,139
$NeighborIncidents_{jt}$	-0.000081[c]	-0.000130[c]
	(0.000025)	(0.000025)
N	187,976	351,139
$NeighborBombings_{jt}$	-0.000113[c]	-0.000192[c]
	(0.000039)	(0.000039)
N	140,470	351,139
$NeighborWartypes_{jt}$	-0.00008[c]	-0.000137[c]
	(0.000026)	(0.000027)
N	172,976	351,139
$NeighborFacilities_{jt}$	-0.00291[c]	-0.00354[c]
	(0.000519)	(0.000493)
N	75,180	351,139
$NeighborAssaults_{jt}$	-0.000273[c]	-0.000562[c]
	(0.000112)	(0.00011)
N	107,255	351,139
Gravity equation includes:		
Exporter year FE	Yes	Yes
Other Control Variables	Yes	Yes

Notes: Models focus on terrorism in neighboring countries. Column (1) uses the same sample as Table 1. Column (2) uses the largest sample. See Table 1 for list of control variables. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [c] denotes 1% level of statistical significance.

Table 3: Terrorism and Bilateral Trade, Log Transformation, Flow and Stock Measure of Terrorism

Variables	Flow measure (1)	Flow measure (2)		Stock measure (3)	Stock measure (4)
$Log(PeopleKilled_{jt})$	-0.0307[c]		$Log(PeopleKilled^{S}_{j(t-1)})$	-0.00991[b]	
	(0.11376)			(0.00452)	
$Log(NeighborPeopleKilled_{jt})$	-0.0230[c]	-0.02619[c]	$Log(NeighborPeopleKilled^{S}_{j(t-1)})$	-0.03963[c]	-0.02267[c]
	(0.0054)	(0.00426)		(0.00482)	(0.00407)
N	110,825	256,665	N	208,291	308,242
$Log(Incidents_{jt})$	-0.01429[b]		$Log(Incidents^{S}_{j(t-1)})$	-0.00244[b]	
	(0.00663)			(0.0055)	
$Log(NeighborIncidents_{jt})$	-0.04538[c]	-0.0478[c]	$Log(NeighborIncidents^{S}_{j(t-1)})$	-0.0346[c]	-0.0401[c]
	(0.00620)	(0.00517)		(0.00562)	(0.00511)
N	174,046	295,097	N	267,955	320,504
$Log(Bombings_{jt})$	-0.0233[c]		$Log(Bombings^{S}_{j(t-1)})$	-0.0095[c]	
	(0.00765)			(0.01204)	
$Log(NeighborBombings_{jt})$	-0.03092[c]	-0.0461[c]	$Log(NeighborBombings^{S}_{j(t-1)})$	-0.08906[c]	-0.1099[c]
	(0.00687)	(0.00555)		(0.01316)	(0.0112)
N	124,245	256,682	N	215,749	299,399
$Log(Wartypes_{jt})$	-0.0223[c]		$Log(Wartypes^{S}_{j(t-1)})$	-0.00262	
	(0.00687)			(0.01146)	
$Log(NeighborWartypes_{jt})$	-0.03505[c]	-0.0455[c]	$Log(NeighborWartypes^{S}_{j(t-1)})$	-0.10511[c]	-0.12144[c]
	(0.0063)	(0.00517)		(0.01416)	(0.01225)
N	159,390	287,906	N	255,676	317,938
$Log(Facilities_{jt})$	0.0281[c]		$Log(Facilities^{S}_{j(t-1)})$	0.00310	
	(0.01048)			(0.01316)	
$Log(NeighborFacilities_{jt})$	-0.04658[c]	-0.0504[c]	$Log(NeighborFacilities^{S}_{j(t-1)})$	-0.11392[c]	-0.09891[c]
	(0.00995)	(0.00711)		(0.01454)	(0.01043)
N	52890	179,330	N	126,823	257,097
$Log(Assaults_{jt})$	-0.02681[c]		$Log(Assaults^{S}_{j(t-1)})$	-0.01207	
	(0.00857)			(0.01188)	
$Log(NeighborAssaults_{jt})$	-0.03861[c]	-0.04762[c]	$Log(NeighborAssaults^{S}_{j(t-1)})$	-0.12909[c]	-0.12306[c]
	(0.00757)	(0.00574)		(0.01321)	(0.01095)
N	86,060	234,424	N	177,243	292,298
Gravity equation includes:			Gravity equation includes:		
Exporter-year FE	Yes	Yes	Exporter-year FE	Yes	Yes
Other control variables	Yes	Yes	Other control variables	Yes	Yes

Notes: Measures of terrorism are log transformed. Columns (1) and (3) include terrorism in the host country and its neighbors. Columns (2) and (4) include only terrorism in neighboring countries. Columns (3) and (4) use a five-year stock measure of terrorism; see Eqns. (2) and (3) in the text. See Table 1 for list of control variables. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [b] and [c] denote 5% and 1% level of statistical significance, respectively.

Table 4: Lagged Terrorism in Neighboring Countries and Bilateral Trade, Flow Measure of Terrorism

	t	t-1	t-3	t-5
	(1)	(2)	(3)	(4)
	NeighborPeopleKilled			
Coefficient	-0.0000607[c]	-0.0000682[c]	-0.0000647[c]	-0.0000733[c]
Std. err.	(0.0000117)	(0.0000125)	(0.0000119)	(0.0000115)
N	314,121	314,121	314,121	314,121
	NeighborIncidents			
Coefficient	-0.0001304[c]	-0.000175[c]	-0.0002262[c]	-0.0002359[c]
Std. err.	(0.0000251)	(0.0000322)	(0.0000419)	(0.0000493)
N	351,139	351,139	351,139	351,139
	NeighborBombings			
Coefficient	-0.0001917[c]	-0.0002711[c]	-0.0003636[c]	-0.0004186[c]
Std. err.	(0.0000386)	(0.00000514)	(0.000069)	(0.0000851)
N	351,139	351,139	351,139	351,139
	NeighborWartypes			
Coefficient	-0.0001375[c]	-0.0001863[c]	-0.000244[c]	-0.0002591[c]
Std. err.	(0.0000266)	(0.0000348)	(0.0000468)	(0.000055)
N	351,139	351,139	351,139	351,139
	NeighborFacilities			
Coefficient	-0.0035382[c]	-0.003766[c]	-0.003749[c]	-0.0003389[c]
Std. err.	(0.0004929)	(0.0004921)	(0.004847)	(0.0005012)
N	351,139	351,139	351,139	351,139
	NeighborAssaults			
Coefficient	-0.0005621[c]	-0.0006617[c]	-0.0007892[c]	-0.000713[c]
Std. err.	(0.0001101)	(0.0001318)	(0.0001682)	(0.0001971)
N	351,139	351,139	351,139	351,139

Notes: Terrorist incidents measured in levels and lagged one-, three-, or five-years. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. All regressions include exporter-year dummies and the same control variables as Table 1. All coefficient estimates of the control variables are similar to the estimates in Table 1. N denotes the number of observations. [c] denotes 1% level of statistical significance.

Table 5: Magnitude of Terrorism in Neighboring Countries and Bilateral Trade

	(1)	(2)	(3)
	Non-fatal	Fatal	High death toll
$Incidents_{jt}$	-0.000187[c]	-0.000190[c]	-0.001061[c]
	(0.000055)	(0.000040)	(0.00034)
N	274636	258763	88873
$Bombings_{jt}$	-0.000182[c]	-0.000270[c]	-0.002290[c]
	(0.000073)	(0.000067)	(0.000570)
N	239395	195170	88873
$Wartypes_{jt}$	-0.000133[c]	-0.000194[c]	-0.000223[c]
	(0.000048)	(0.000047)	(0.000044)
N	236841	238454	235110
$Facilities_{jt}$	-0.001520c	-0.00809[c]	-0.025071[c]
	(0.00049)	(0.00248)	(0.00473)
N	171878	63011	20700
$Assaults_{jt}$	-0.000651	-0.000468[c]	-0.001950[c]
	(0.000402)	(0.000131)	(0.00077)
N	186127	207441	79814
Gravity Equation includes			
Exporter-year FE	Yes	Yes	Yes
Other Control Variables	Yes	Yes	Yes

Notes: Flow measure of terrorism used; results are similar if terrorism is measured as a stock. See Table 1 for list of control variables. Fatal involves greater than 0 but less than 25 casualties. High death toll terrorist incidents have 25 or more human casualties. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [c] denotes 1% level of statistical significance.

Table 6: Terrorism and Bilateral Trade, Controlling for Time Needed to Import

Variables	Without time to import (1)	With time to import (2)	Without time to import (3)	With time to import (4)
	Panel A: 2005-2014			
$Log(PeopleKilled_{jt})$	-0.033448[c]	-0.006589	-	-
	(0.008739)	(0.008746)		
$Log(NeighborPeopleKilled_{jt})$	-0.009437	0.001522	-0.023269[c]	-0.000547
	(0.007645)	(0.007612)	(0.005467)	(0.005548)
$ImportTime_{jt}$	-	-0.012475[c]	-	-0.012978[c]
		(0.001069)		(0.000822)
N	37,110	37,110	95,002	95,002
$Log(Incidents_{jt})$	-0.016371[b]	-0.000678	-	-
	(0.008878)	(0.008975)		
$Log(NeighborIncidents_{jt})$	-0.009692	-0.000345	-0.040059[c]	-0.023206[c]
	(0.007728)	(0.007739)	(0.006212)	(0.006236)
$ImportTime_{jt}$	-	-0.009336[c]	-	-0.011191[c]
		(0.000976)		(0.000809)
N	59,482	59,482	113,325	113,325
	Panel B: 1976-2014			
$Log(PeopleKilled_{jt})$	-0.030595[c]	-0.018356[c]	-	-
	(0.005722)	(0.005795)		
$Log(NeighborPeopleKilled_{jt})$	-0.023008[c]	-0.013629[c]	-0.026530[c]	-0.007856[b]
	(0.005403)	(0.005439)	(0.004284)	(0.004338)
$ImportTime_{j}$	-	-0.012288[c]	-	-0.013432[c]
		(0.000906)		(0.000806)
N	110,707	110,707	254,148	254,148
$Log(Incidents_{jt})$	-0.014288[b]	-0.001943	-	-
	(0.006636)	(0.006677)		
$Log(NeighborIncidents_{jt})$	-0.045071[c]	-0.034748[c]	-0.044958[c]	-0.030907[c]
	(0.006214)	(0.006228)	(0.005207)	(0.005203)
$ImportTime_{j}$	-	-0.011812[c]	-	-0.012662[c]
		(0.000851)		(0.007932)
N	173,699	173,699	291,977	291,977

Notes: Columns (1) and (3) exclude $ImportTime_j$ and reproduce results from Table 3, Columns (1) and (2), respectively. Columns (2) and (3) include $ImportTime_j$. Terrorism is measured as a flow and in logarithmic form. Gravity equations include exporter-year fixed effects and the full set of control variables; see Table 1 for details. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. N denotes the number of observations. [b] and [c] denote 5% and 1% level of statistical significance, respectively. Panel A uses data available from 2005 to 2014. Panel B uses the average time to import from 2005 to 2014 to backdate data to 1976.

Table 7: Trade Reforms, Terrorism in Neighboring Countries and Bilateral Trade

	Including FTA dummy (1)	Excluding FTA dummy (2)
Log(NeighborPeopleKilled$_{jt}$)	-0.026190[c]	-0.032332[c]
	(0.004263)	(0.004293)
N	256,665	256,665
Log(NeighborIncidents$_{jt}$)	-0.047817[c]	-0.052617[c]
	(0.005175)	(0.005199)
N	295,097	295,097
Gravity equation includes:		
Exporter-year FE	Yes	Yes
Other control variables	Yes	Yes

Notes: Column (1) reproduces results from Column (2) Table 3. Terrorism measured as a flow and in logarithmic form. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. See Table 1 for list of control variables. N denotes the number of observations. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table 8: National Income and the Effects of Terrorism in the Neighboring Nations on Bilateral Trade

Variables	Includes log(Gdp) (1)	Excludes log(Gdp) (2)
Log(PeopleKilled$_{jt}$)	-0.030707[c]	0.046278[c]
	(0.005719)	(0.008798)
Log(NeighborPeopleKilled$_{jt}$)	-0.023041[c]	-0.040015[c]
	(0.005401)	(0.009759)
N	110,825	110,825
Log(Incidents$_{jt}$)	-0.014290[b]	0.273639[c]
	(0.006633)	(0.010236)
Log(NeighborIncidents$_{jt}$)	-0.045379[c]	-0.004294[c]
	(0.006203)	(0.011224)
N	174,046	174,046
Gravity equation includes:		
Exporter-year fixed effects	Yes	Yes
All other control variables	Yes	Yes

Notes: Column (1) reproduces the results from Table3, Column (1). See Table 1 for list of control variables. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [b] and [c] denote 5% and 1% level of statistical significance, respectively.

Online Appendix

An injury to one is an injury to all: Terrorism's spillover effects on bilateral trade

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1. DATA USED IN THE ANALYSIS

Table A1: Global Terrorism Data, 1970 to 2014

Year	People killed	Incidents	Bombings	Assaults	War types	Facilities
1970	171	651	333	61	231	174
1971	173	470	238	44	124	88
1972	566	494	186	63	49	19
1973	370	473	148	63	103	36
1974	542	580	284	46	94	42
1975	617	741	370	81	111	66
1976	672	923	418	124	228	113
1977	454	1318	633	255	362	183
1978	1455	1526	644	240	408	181
1979	2101	2661	1057	446	698	197
1980	4428	2663	997	573	547	170
1981	4851	2585	1082	697	462	151
1982	5149	2546	1126	664	494	150
1983	9435	2871	1246	852	455	145
1984	10449	3494	1775	823	637	165
1985	7085	2917	1482	659	495	138
1986	5031	2861	1507	592	589	141
1987	6480	3185	1476	798	523	120
1988	7192	3721	1651	920	360	151
1989	8121	4322	1797	1120	503	240
1990	7149	3887	1729	876	434	190
1991	8429	4683	1988	1271	631	353
1992	9746	5077	1738	1327	1167	473
1994	7691	3459	1153	819	999	190
1995	6095	3083	792	740	1166	300
1996	6955	3058	1220	636	953	216
1997	10955	3204	1123	829	1069	140
1998	4677	933	506	264	147	57
1999	3388	1396	653	368	312	114
2000	4422	1814	906	493	315	112
2001	7738	1907	799	584	324	148
2002	4799	1332	720	367	181	49
2003	3271	1262	676	313	171	89
2004	5713	1161	653	260	99	33
2005	6311	2014	1066	510	203	48
2006	9362	2751	1499	740	266	107
2007	12586	3241	1850	853	262	126
2008	9093	4788	2645	1093	737	285
2009	9271	4722	2562	1122	778	349
2010	7697	4819	2503	1117	733	293
2011	8176	5065	2583	1395	689	241

2012	15427	8491	5082	2085	584	288
2013	22211	11999	6670	2932	1105	552
2014	43512	16818	8754	4047	2335	760

Notes: We construct the series by summing the alternate measures of terrorism for all countries for each year. *People Killed* denotes the number of total confirmed fatalities including all victims and attackers who died as a direct result of the incident. *Incidents* denotes the number of terrorist incidents/attacks. *Bombings* denotes the number of terrorist incidents/attacks in which the primary effects are caused by explosives. *Facilities* denotes the number of facilities that are the targets of the terrorist incidents/attacks. *Assaults* denotes the number of terrorist incidents/attacks in which arms are used. *Wartypes* denotes the number of terrorist incidents/attacks in which either biological or chemical weapon or explosives/bombs or firearms are used. The raw data are derived from Global Terrorism Database of the University of Maryland. The online link to the database is: https://www.start.umd.edu/gtd/.

Figure A1: World Map of Terrorism Intensity

Average number of annual terrorist incidents, 1970-2014

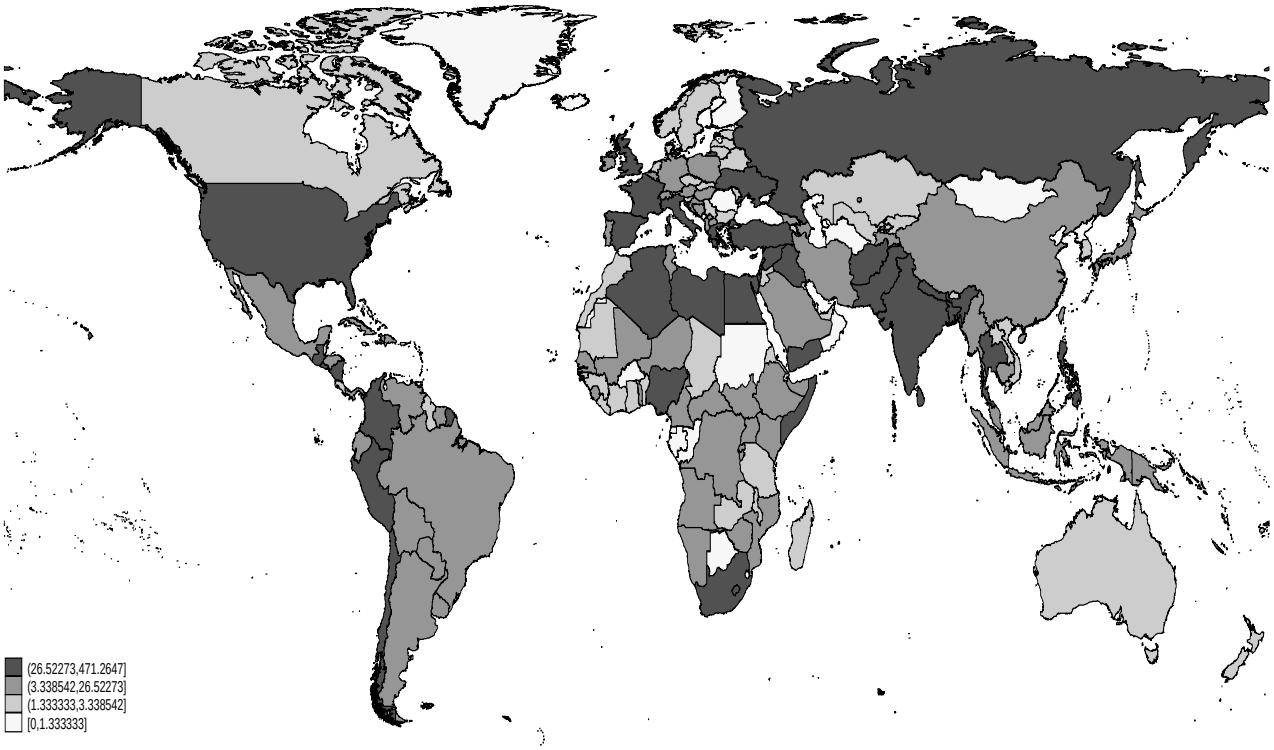

Table A2: List of Exporting Countries in the Sample

Afghanistan, Albania, Algeria, Andorra, Antiqua and Barbuda, Argentina, Armenia, Australia, Austria, Azerbaijan, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Canada, Central African Republic, Chile, China, China Hong Kong SAR, Colombia, Comoros, Congo, Cook Islands, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Ethiopia, Faeroe Islands, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, Hungary, Iceland, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Latvia, Lebanon, Lesotho, Libya, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritania, Mauritius, Mexico, Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Russian Federation, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Saud Arabia, Senegal, Seychelles, Singapore, Singapore, Slovakia, Slovenia, Solomon Islands, South Africa, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syria, TFYR of Macedonia, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Tuvalu, USA, Uganda, Ukraine, UAE, United Kingdom, United Republic of Tanzania, Uruguay, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe.

Table A3: List of Importing Countries in the Sample

Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Austria, Azerbaijan, Bangladesh, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Congo, Costa Rica, Croatia, Czech Republic, Denmark, Djibouti, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Ivory Coast, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Latvia, Lebanon, Lesotho, Liberia, Libya, Lithuania, Luxembourg, Malawi, Malaysia, Mali, Mauritania, Mexico, Mongolia, Morocco, Mozambique, Namibia, Nepal, Netherlands, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Russian Federation, Rwanda, Saud Arabia, Senegal, Sierra Leone, Singapore, Slovakia, Slovenia, South Africa, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syria, TFYR of Macedonia, Tajikistan, Thailand, Togo, Tunisia, Turkey, Turkmenistan, USA, Uganda, Ukraine, UAE, United Kingdom, United Republic of Tanzania, Uruguay, Uzbekistan, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe.

Table A4: Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
$Log(Imports_{ijt})$	351,139	15.46659	3.603044	6.907755	26.51594
$Imports_{ijt}$	351,139	5.58E+08	3.603044	1000	3.28E+11
$Log(GDP_{jt})$	351,139	24.44099	2.192998	18.054	30.28901
$Log(Distance_{ij})$	351,139	8.575379	0.826274	4.741773	9.885839
FTA_{ijt}	351,139	0.123492	0.329002	0	1
$Currency_{ijt}$	351,139	0.017355	0.13059	0	1
$Border_{ij}$	351,139	0.030418	0.171735	0	1
$Language_{ij}$	351,139	0.153173	0.360155	0	1
$Colony_{ij}$	351,139	0.02235	0.14782	0	1
$PeopleKilled_{jt}$	187,976	94.5795	393.3266	0	7046
$Incidents_{jt}$	187,976	46.75822	153.1722	1	2852
$Bombings_{jt}$	140,470	31.54652	107.9916	1	2130
$Wartype_{jt}$	172,967	42.90032	147.7267	1	2828
$Facilities_{jt}$	75,180	7.236845	13.78762	1	123
$Assaults_{jt}$	107,255	19.55194	49.07312	1	518
$NeighborPeopleKilled_{jt}$	351,139	243.504	777.4476	0	13585
$NeighborIncidents_{jt}$	351,139	108.4326	316.7165	0	6488
$NeighborBombings_{jt}$	351,139	57.07146	194.8701	0	4255
$NeighborWartypes_{jt}$	351,139	93.33711	292.7066	0	6234
$NeighborFacilities_{jt}$	351,139	5.140978	14.24137	0	170
$NeighborAssaults_{jt}$	351,139	25.19845	72.97902	0	1337
$Log(PeopleKilled_{jt})$	155,407	2.744754	2.10361	0	8.860215
$Log(Incidents_{jt})$	229,609	2.027152	1.762922	0	7.955776
$Log(Bombings_{jt})$	170,664	1.83765	1.635937	0	7.663877
$Log(Wartype_{jt})$	209,611	1.946358	1.737945	0	7.947325
$Log(Facilities_{jt})$	91,037	1.094047	1.163216	0	4.812184
$Log(Assaults_{jt})$	129,018	1.554978	1.521268	0	6.249975
$Log(NeighborPeopleKilled_{jt})$	284,825	3.774707	2.241686	0	9.516757
$Log(NeighborIncidents_{jt})$	327,155	3.293691	1.893528	0	8.77771
$Log(NeighborBombings_{jt})$	286,217	2.86513	1.779213	0	8.35585
$Log(NeighborWartypes_{jt})$	319,336	3.111891	1.894921	0	8.737774
$Log(NeighborFacilities_{jt})$	199,306	1.451178	1.215349	0	5.135798
$Log(NeighborAssaults_{jt})$	258,539	2.241226	1.687038	0	7.198184
$Imports_{World,jt}$	6,222	2.43E+10	9.12E+10	4741.082	1.75E+12
$Log(Imports_{World,jt})$	6,222	21.26265	2.604087	8.46	28.191
$ImportTime_{jt}$	113,325	25.57476	19.88546	3	117
Importtimej	291,977	24.33392	18.06368	3.48	110.7
$Log(MilitarySpending_{jt})$	4,932	19.801	2.338748	13.81551	27.26516

Table A5: List of Most Terror-Intensive Countries

Total Number of Terrorist Incidents in the 1970-2014 period

Top Ten most terror-intensive Non-OECD countries		Top Ten most terror-intensive OECD countries	
Country	No. of Incidents	Country	No. of Incidents
Iraq	16023	United Kingdom	4881
Pakistan	11522	Spain	3242
India	9069	Turkey	3144
Colombia	7942	United States of America	2646
Afghanistan	7414	France	2580
Peru	6075	Israel	2016
El Salvador	5320	Italy	1540
Philippines	4860	Greece	1169
Thailand	3074	Germany	598
Sri Lanka	2969	Japan	390

Note: (1) The data are computed by the authors using the Global Terrorist Database.

2. FULL RESULTS FOR ALTERNATE SPECIFICATIONS

Tables A6A and A6B report the full results for *Table 2: Terrorism in Neighboring Countries and Bilateral Trade, Flow Measure of Terrorism.*

Table A6A: Terrorism and Bilateral Trade, Baseline Estimates, Flow Measure of Terrorism

Variables	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.935[c]	0.936[c]	0.960[c]	0.935[c]	0.976[c]	0.931[c]
	(0.006)	(0.006)	(0.007)	(0.006)	(0.008)	(0.007)
FTA_{ijt}	0.564[c]	0.566[c]	0.495[c]	0.559[c]	0.379[c]	0.593[c]
	(0.039)	(0.039)	(0.042)	(0.040)	(0.049)	(0.49)
$Log(Distance_{ij})$	-1.318[c]	-1.318[c]	-1.330[c]	-1.333[c]	-1.273[c]	-1.326[c]
	(0.021)	(0.021)	(0.023)	(0.022)	(0.029)	(0.027)
$Currency_{ijt}$	0.304[c]	0.306[c]	0.057	0.321[c]	0.144	0.565[c]
	(0.105)	(0.105)	(0.113)	(0.111)	(0.116)	(0.135)
$Border_{ij}$	0.697[c]	0.696[c]	0.593[c]	0.671[c]	0.507[c]	0.699[c]
	(0.099)	(0.099)	(0.109)	(0.102)	(0.127)	(0.118)
$Language_{ij}$	0.762[c]	0.762[c]	0.708[c]	0.745[c]	0.689[c]	0.677[c]
	(0.044)	(0.044)	(0.049)	(0.045)	(0.058)	(0.051)
$Colony_{ij}$	1.108[c]	1.110[c]	1.128[c]	1.124[c]	0.125[c]	1.194[c]
	(0.095)	(0.096)	(0.103)	(0.098)	(0.109)	(0.112)
$NeighborPeopleKilled_{jt}$	-0.000046[c]					
	(0.000010)					
$NeighborIncidents_{jt}$		-0.000081[c]				
		(0.000025)				
$NeighborBombings_{jt}$			-0.000113[c]			
			(0.000039)			
$NeighborWartypes_{jt}$				-0.000081[c]		
				(0.000026)		
$NeighborFacilities_{jt}$					-0.002906[c]	
					(0.000519)	
$NeighborAssaults_{jt}$						-0.0000273[c]
						(0.000112)
Constant	3.533[c]	3.517[c]	2.970[c]	3.663[c]	1.954[c]	3.684[c]
	(0.239)	(0.239)	(0.256)	(0.244)	(0.327)	(0.293)
N	187,976	187,976	140,470	172,967	75,180	107,255
Adjusted R^2	0.742	0.743	0.753	0.745	0.768	0.751

Notes: Models focus on terrorism in neighboring countries. Columns 1 to 6 use the same sample as columns 1 to 6 in Table 1 of the text. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [c] denotes 1% level of statistical significance.

Table A6B: Terrorism and Bilateral Trade, Baseline Estimates, Flow Measure of Terrorism

Variables	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.910[c]	0.911[c]	0.911[c]	0.911[c]	0.913[c]	0.910[c]
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
FTA_{ijt}	0.609[c]	0.609[c]	0.611[c]	0.609[c]	0.613[c]	0.609[c]
	(0.036)	(0.036)	(0.035)	(0.036)	(0.036)	(0.036)
$Log(Distance_{ij})$	-1.282[c]	-1.281[c]	-1.281[c]	-1.281[c]	-1.280[c]	-1.280[c]
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
$Currency_{ijt}$	0.189[b]	0.189[c]	0.190[b]	0.189[c]	0.190[b]	0.191[b]
	(0.089)	(0.089)	(0.089)	(0.089)	(0.089)	(0.089)
$Border_{ij}$	0.934[c]	0.935[c]	0. 932[c]	0.934[c]	0.934[c]	0.937[c]
	(0.0869)	(0.086)	(0.086)	(0.086)	(0.086)	(0.086)
$Language_{ij}$	0.8972[c]	0.896[c]	0.896[c]	0.896[c]	0.895[c]	0.897[c]
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
$Colony_{ij}$	1.062[c]	1.062[c]	1.064[c]	1.063[c]	1.065[c]	1.061[c]
	(0.086)	(0.096)	(0.086)	(0.086)	(0.086)	(0.086)
$NeighborPeopleKilled_{jt}$	-0.000059[c]					
	(0.000009)					
$NeighborIncidents_{jt}$		-0.000130[c]				
		(0.000025)				
$NeighborBombings_{jt}$			-0.000192[c]			
			(0.000039)			
$NeighborWartypes_{jt}$				-0.000137[c]		
				(0.000027)		
$NeighborFacilities_{jt}$					-0.003538[c]	
					(0.000493)	
$NeighborAssaults_{jt}$						-0.000562[c]
						(0.000112)
Constant	3.945[c]	3.9257[c]	3.932[c]	3.930[c]	3.889[c]	3.935[c]
	(0.223)	(0.223)	(0.223)	(0.223)	(0.223)	(0.223)
N	351,139	351,139	351,139	351,139	351,139	351,139
Adjusted R^2	0.719	0.719	0.720	0.745	0.719	0.751

Notes: Models focus on terrorism in neighboring countries. Largest samples used. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [c] denotes 1% level of statistical significance.

Tables A7A to A7D report the full results for *Table 3: Terrorism and Bilateral Trade, Log Transformation, Flow and Stock Measure of Terrorism.*

Table A7A: Terrorism and Bilateral Trade, Baseline Estimates, Flow Measure of Terrorism

Variables	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.936[c]	0.943[c]	0.969[c]	0.945[c]	0.986[c]	0.929[c]
	(0.007)	(0.006)	(0.007)	(0.007)	(0.009)	(0.007)
FTA_{ijt}	0.548[c]	0.553[c]	0.484[c]	0.545[c]	0.325[c]	0.569[c]
	(0.039)	(0.039)	(0.043)	(0.041)	(0.052)	(0.049)
$Log(Distance_{ij})$	-1.321[c]	-1.314[c]	-1.344[c]	-1.331[c]	-1.294[c]	-1.337[c]
	(0.021)	(0.022)	(0.024)	(0.022)	(0.032)	(0.027)
$Currency_{ijt}$	0.294[c]	0.237[b]	0.070	0.314[b]	0.130	0.530[c]
	(0.105)	(0.106)	(0.112)	(0.111)	(0.117)	(0.144)
$Border_{ij}$	0.700[c]	0.698[c]	0.578[c]	0.675[c]	0.428[c]	0.693[c]
	(0.099)	(0.098)	(0.109)	(0.101)	(0.131)	(0.118)
$Language_{ij}$	0.771[c]	0.762[c]	0.682[c]	0.740[c]	0.655[c]	0.678[c]
	(0.044)	(0.044)	(0.051)	(0.046)	(0.064)	(0.052)
$Colony_{ij}$	1.100[c]	1.085[c]	1.052[c]	1.092[c]	1.049[c]	1.069[c]
	(0.096)	(0.095)	(0.104)	(0.097)	(0.112)	(0.117)
$Log(PeopleKilled_{jt})$	-0.030707[c]					
	(0.005719)					
$Log(NeighborPeopleKilled_{jt})$	-0.023041[c]					
	(0.005400)					
$Log(Incidents_{jt})$		-0.014290[b]				
		(0.006603)				
$Log(NeighborIncidents_{jt})$		-0.045379[c]				
		(0.006203)				
$Log(Bombings_{jt})$			-0.023327[c]			
			(0.007657)			
$Log(NeighborBombings_{jt})$			-0.030917[c]			
			(0.006867)			
$Log(Wartypes_{jt})$				-0.022274[c]		
				(0.006867)		
$Log(NeighborWartypes_{jt})$				-0.035050[c]		
				(0.006306)		
$Log(Facilities_{jt})$					0.028065[c]	
					(0.010476)	
$Log(NeighborFacilities_{jt})$					-0.046581[c]	
					(0.009953)	
$Log(Assaults_{jt})$						-0.026810[c]
						(0.008578)
$Log(NeighborAssaults_{jt})$						-0.038605[c]
						(0.007576)
Constant	3.839[c]	3.475[c]	2.977[c]	3.553[c]	1.843[c]	3.978[c]
	(0.276)	(0.244)	(0.263)	(0.247)	(0.358)	(0.301)
N	110,825	174,046	124,245	159,390	52,890	86,060
Adjusted R^2	0.743	0.744	0.754	0.747	0.771	0.752

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs.

Table A7B: Terrorism and Bilateral Trade, Baseline Estimates, Flow Measure of Terrorism

Variables	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.898[c]	0.917[c]	0.931[c]	0.916[c]	0.942[c]	0.896[c]
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.006)
FTA_{ijt}	0.641[c]	0.612[c]	0.583[c]	0.610[c]	0.534[c]	0.631[c]
	(0.039)	(0.037)	(0.038)	(0.037)	(0.039)	(0.038)
$Log(Distance_{ij})$	-1.278[c]	-1.279[c]	-1.278[c]	-1.280[c]	-1.279[c]	-1.280[c]
	(0.021)	(0.020)	(0.021)	(0.020)	(0.022)	(0.021)
$Currency_{ijt}$	0.232[c]	0.101	0.003	0.089	0.074	0.105
	(0.096)	(0.089)	(0.093)	(0.089)	(0.091)	(0.594)
$Border_{ij}$	0.942[c]	0.928[c]	0.883[c]	0.919[c]	0.826[c]	0.959[c]
	(0.088)	(0.087)	(0.089)	(0.087)	(0.093)	(0.088)
$Language_{ij}$	0.855[c]	0.871[c]	0.875[c]	0.869[c]	0.872[c]	0.848[c]
	(0.040)	(0.039)	(0.042)	(0.040)	(0.045)	(0.041)
$Colony_{ij}$	1.029[c]	1.045[c]	0.983[c]	1.035[c]	0. 990[c]	1.017[c]
	(0.092)	(0.086)	(0.088)	(0.086)	(0.098)	(0.092)
$Log(NeighborPeopleKilled_{jt})$	-0.026190[c]					
	(0.004263)					
$Log(NeighborIncidents_{jt})$		-0.047817[c]				
		(0.005175)				
$Log(NeighborBombings_{jt})$			-0.046055[c]			
			(0.005546)			
$Log(NeighborWartypes_{jt})$				-0.045522[c]		
				(0.000026)		
$Log(NeighborFacilities_{jt})$					-0.050438[c]	
					(0.007114)	
$Log(NeighborAssaults_{jt})$						-0.047622[c]
						(0.005748)
Constant	4.296[c]	3.861[c]	3.445[c]	3.663[c]	3.043[c]	3.684[c]
	(0.00439)	(0.226)	(0.233)	(0.244)	(0.247)	(0.293)
N	256,665	295097	256,682	287,906	179,330	234,424
Adjusted R^2	0.720	0.724	0.724	0.725	0.732	0.723

Notes: Models focus on terrorism in neighboring countries. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [c] denotes 1% level of statistical significance.

Table A7C: Terrorism and Bilateral Trade, Baseline Estimates, Stock Measure of Terrorism

Variables	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.913[c]	0.915[c]	0.947[c]	0.921[c]	0.956[c]	0.910[c]
	(0.007)	(0.007)	(0.007)	(0.006)	(0.008)	(0.007)
FTA_{ijt}	0.619[c]	0.622[c]	0.602[c]	0.617[c]	0.459[c]	0.626[c]
	(0.041)	(0.038)	(0.039)	(0.028)	(0.046)	(0.043)
$Log(Distance_{ij})$	-1.326[c]	-1.296[c]	-1.317[c]	-1.304[c]	-1.300[c]	-1.317[c]
	(0.022)	(0.0096)	(0.021)	(0.020)	(0.025)	(0.023)
$Currency_{ijt}$	0.241[b]	0.263[b]	0.129	0.264[c]	0.144	0.357[c]
	(0.109)	(0.096)	(0.104)	(0.099)	(0.101)	(0.112)
$Border_{ij}$	0.825[c]	0.853[c]	0.760[c]	0.854[c]	0.548[c]	0.792[c]
	(0.096)	(0.090)	(0.096)	(0.041)	(0.106)	(0.099)
$Language_{ij}$	0.784[c]	0.876[c]	0.795[c]	0.851[c]	0.728[c]	0.783[c]
	(0.0423)	(0.041)	(0.044)	(0.041)	(0.052)	(0.044)
$Colony_{ij}$	1.072[c]	1.057[c]	1.053[c]	1.0534[c]	1.122[c]	1.107[c]
	(0.093)	(0.088)	(0.093)	(0.089)	(0.103)	(0.096)
$Log(PeopleKilled_{jt})$	-0.009913[b]					
	(0.004521)					
$Log(NeighborPeopleKilled_{jt})$	-0.039627[c]					
	(0.004821)					
$Log(Incidents_{jt})$		-0.002435[b]				
		(0.005504)				
$Log(NeighborIncidents_{jt})$		-0.034601[c]				
		(0.005615)				
$Log(Bombings_{jt})$			-0.009501			
			(0.012044)			
$Log(NeighborBombings_{jt})$			-0.089064[c]			
			(0.013161)			
$Log(Wartypes_{jt})$				-0.002627		
				(0.011463)		
$Log(NeighborWartypes_{jt})$				-0.105112[c]		
				(0.014157)		
$Log(Facilities_{jt})$					0.003104	
					(0.013163)	
$Log(NeighborFacilities_{jt})$					-0.113920[c]	
					(0.014543)	
$Log(Assaults_{jt})$						-0.012067
						(0.011879)
$Log(NeighborAssaults_{jt})$						-0.129099[c]
						(0.013217)
Constant	4.401[c]	4.006[c]	3.331[c]	3.952[c]	2.780[c]	4.281[c]
	(0.244)	(0.234)	(0.239)	(0.233)	(0.285)	(0.259)
N	208,281	267,955	215,749	255,676	126,823	177,243
Adjusted R^2						

Notes: Models focus on terrorism in neighboring countries. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [c] denotes 1% level of statistical significance.

Table A7D: Terrorism and Bilateral Trade, Baseline Estimates, Stock Measure of Terrorism

Variables	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.904[c]	0.915[c]	0.931[c]	0.918[c]	0.935[c]	0.904[c]
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
FTA_{ijt}	0.627[c]	0.621[c]	0.611[c]	0.613[c]	0.630[c]	0.626[c]
	(0.036)	(0.036)	(0.037)	(0.036)	(0.038)	(0.039)
$Log(Distance_{ij})$	-1.293[c]	-1.288[c]	-1.286[c]	-1.289[c]	-1.265[c]	-1.286[c]
	(0.020)	(0.020)	(0.019)	(0.020)	(0.021)	(0.020)
$Currency_{ijt}$	0.127	0.156	0.102	0.154[a]	0.118	0.091
	(0.087)	(0.088)	(0.088)	(0.087)	(0.088)	(0.086)
$Border_{ij}$	0.922[c]	0.937[c]	0.962[c]	0.951[c]	0.925[c]	0.948[c]
	(0.086)	(0.086)	(0.087)	(0.086)	(0.088)	(0.087)
$Language_{ij}$	0.877[c]	0.883[c]	0.862[c]	0.882[c]	0.884[c]	0.867[c]
	(0.039)	(0.039)	(0.039)	(0.039)	(0.041)	(0.039)
$Colony_{ij}$	1.061[c]	1.058[c]	1.039[c]	1.056[c]	1.039[c]	1.054[c]
	(0.086)	(0.085)	(0.085)	(0.085)	(0.088)	(0.086)
$Log(NeighborPeopleKilled_{jt})$	-0.017458[c]					
	(0.003935)					
$Log(NeighborIncidents_{jt})$		-0.037529[c]				
		(0.005108)				
$Log(NeighborBombings_{jt})$			-0.104728[c]			
			(0.011015)			
$Log(NeighborWartypes_{jt})$				-0.108974[c]		
				(0.011988)		
$Log(NeighborFacilities_{jt})$					-0.096884[c]	
					(0.010303)	
$Log(NeighborAssaults_{jt})$						-0.107333[c]
						(0.010621)
Constant	4.247[c]	3.990[c]	3.558[c]	3.936[c]	3.118[c]	4.207[c]
	(0.226)	(0.224)	(0.228)	(0.224)	(0.234)	(0.228)
N	315,753	328,172	306,874	325,464	261,861	298,154
Adjusted R^2	0.723	0.722	0.728	0.722	0.731	0.725

Notes: Models focus on terrorism in neighboring countries. N denotes the number of observations. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [c] denotes 1% level of statistical significance.

Table A8: Terrorism in Neighboring Countries and Bilateral Imports

	Panel A: Subsample of non-neighboring countries				
	(1)	(2)		(3)	(4)
$NeighborPeopleKilled_{jt-1}$	-0.000061[c]		$NeighborWartypes_{jt}$	-0.000141[c]	
	(0.000009)			(0.000027)	
$Log(NeighborPeopleKilled_{jt-1})$		-0.028725[c]	$Log(NeighborWartypes_{jt})$		-0.046198[c]
		(0.004311)			(0.005234)
No. of Obs.	340,458	248,228	No. of Obs.	340,458	278,652
$NeighborIncidents_{jt}$	-0.000134[c]		$NeighborFacilities_{jt}$	-0.003352[c]	
	(0.000026)			(0.000499)	
$Log(NeighborIncidents_{jt})$		-0.048286[c]	$Log(NeighborFacilities_{jt})$		-0.050036[c]
		(0.005230)			(0.007221)
No. of Obs.	340,458	340,458	No. of Obs.	340,458	173,093
$NeighborBombings_{jt}$	-0.000195[c]		$NeighborAssaults_{jt}$	-0.000583[c]	
	(0.000040)			(0.000113)	
$Log(NeighborBombings_{jt})$		-0.046559[c]	$Log(NeighborAssaults_{jt})$		-0.050189[c]
		(0.005616)			(0.0058192)
No. of Obs.	340,458	248,232	No. of Obs.	340,458	226,569
Gravity equation includes			Gravity equation includes		
Exporter-year FE	Yes	Yes	Exporter-year FE	Yes	Yes
Other control variables	Yes	Yes	Other control variables	Yes	Yes
	Panel B: Full sample controlling for military spending				
$NeighborPeopleKilled_{jt-1}$	-0.000071[c]		$NeighborWartypes_{jt}$	-0.000164[c]	
	(0.000012)			(0.000035)	
$Log(NeighborPeopleKilled_{jt-1})$		-0.020040[c]	$Log(NeighborWartypes_{jt})$		-0.030101[c]
		(0.004390)			(0.005305)
No. of Obs.	314,121	235,088	No. of Obs.	314,121	263,825
$NeighborIncidents_{jt}$	-0.000145[c]		$NeighborFacilities_{jt}$	-0.002655[c]	
	(0.000032)			(0.000502)	
$Log(NeighborIncidents_{jt})$		-0.033055[c]	$Log(NeighborFacilities_{jt})$		-0.027138[c]
		(0.005299)			(0.007260)
No. of Obs.	314,121	270,640	No. of Obs.	314,121	163,461
$NeighborBombings_{jt}$	-0.000301[c]		$NeighborAssaults_{jt}$	-0.000525[c]	
	(0.000051)			(0.000131)	
$Log(NeighborBombings_{jt})$		-0.031058[c]	$Log(NeighborAssaults_{jt})$		-0.037280[c]
		(0.005743)			(0.005903)
No. of Obs.	317,638	235,379	No. of Obs.	314,121	215,591
Gravity equation includes			Gravity equation includes		
Exporter-year FE	Yes	Yes	Exporter-year FE	Yes	Yes
$Log(Military\ spending\ share_{jt})$	Yes	Yes	$Log(Military\ spending\ share_{jt})$	Yes	Yes
Other control variables	Yes	Yes	Other control variables	Yes	Yes

Notes: See Table A6 for list of control variables. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively. Panel A uses the subsample of trading partners that do not share a common border. Panel B includes military spending as a share of GDP as an additional control variable.

3. ROBUSTNESS CHECKS

This section reports results discussed in section *4.4 Robustness Checks* of the paper.

Table A9: Stock measure of terrorism - Accumulated Terrorist Attacks Measured Over the Past 10 Years

	(1)	(2)		(3)	(4)
$PeopleKilled_{j(t-1)}$	-0.000048[c]		$Log(PeopleKilled_{j(t-1)})$	-0.000456	
	(0.000008)			(0.004264)	
$NeighborPeopleKilled_{j(t-1)}$	-0.000019[c]	-0.000020[c]	$Log(NeighborPeopleKilledS_{j(t-1)})$	-0.036868[c]	-0.018354[c]
	(0.000003)	(0.000003)		(0.004829)	(0.004115)
$Incidents_{j(t-1)}$	-0.000061[b]		$Log\ (Incidents_{j(t-1)})$	0.001492	
	(0.000024)			(0.005395)	
$NeighborIncidents_{j(t-1)}$	-0.000049[c]	-0.000052[c]	$Log\ (NeighborIncidents_{j(t-1)})$	-0.037082[c]	-0.036894[c]
	(0.000010)	(0.000009)		(0.005659)	(0.005188)
$Bombings_{it}$	0.018158[c]		$Log\ (Bombings_{jt})$	-0.003949	
	(0.005567)			(0.010141)	
$NeighborBombings_{it}$	-0.016196[c]	-0.014444[c]	$Log\ (NeighborBombings_{jt})$	-0.106074[c]	-0.109939[c]
	(0.001726)	(0.001625)		(0.012302)	(0.010675)
$Watypes_{jt}$	0.025445[c]		$Log\ (Watypes_{jt})$	0.024872[b]	
	(0.005463)			(0.010572)	
$NeighborWatypes_{jt}$	-0.025526[c]	-0.012565[c]	$Log\ (NeighborWatypes_{jt})$	-0.098612[c]	-0.099656[c]
	(0.002805)	(0.001492)		(0.013299)	(0.012019)
$Facilities_{jt}$	-0.031605[c]		$Log\ (Facilities_{jt})$	0.022766[b]	
	(0.006975)			(0.010541)	
$NeighborFacilities_{jt}$	-0.025526[c]	-0.023241[c]	$Log\ (NeighborFacilities_{jt})$	-0.116552[c]	-0.107308[c]
	(0.002804)	(0.002731)		(0.012494)	(0.009497)
$Assaults_{j(t-1)}$	-0.000155		$Log(Assaults_{j(t-1)})$	-0.007232	
	(0.005498)			(0.009582)	
$NeighborAssaults_{j(t-1)}$	-0.011866[c]	-0.012096[c]	$Log(NeighborAssaults_{j(t-1)})$	-0.097243[c]	-0.081864[c]
	(0.002050)	(0.001994)		(0.011659)	(0.010133)
Gravity equation includes			Gravity equation includes		
Exporter-year FE	Yes	Yes	Exporter-year FE	Yes	Yes
Other Control Variables	Yes	Yes	Other Control Variables	Yes	Yes

Notes: See Table A6 for list of control variables. Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A10: Including per capita GDP as an Added Explanatory Variable, Flow Measure of Terrorism

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
$Log(Gdp_{jt})$	0.931[c]	0.930[c]	0.950[c]	0.927[c]	0.960[c]	0.923[c]
	(0.009)	(0.009)	(0.009)	(0.009)	(0.012)	(0.011)
$Log(Gdpc_{jt})$	0.009	0.0150	0.0227	0.0185	0.0207	0.0171
	(0.013)	(0.013)	(0.014)	(0.013)	(0.017)	(0.016)
FTA_{ijt}	0.549[c]	0.556[c]	0.475[c]	0.544[c]	0.382[c]	0.576[c]
	(0.040)	(0.040)	(0.044)	(0.041)	(0.049)	(0.050)
$Log(Distance_{ij})$	-1.314[c]	-1.311[c]	-1.324[c]	-1.327[c]	-1.262[c]	-1.325[c]
	(0.022)	(0.022)	(0.024)	(0.022)	(0.029)	(0.027)
$Currency_{ijt}$	0.291[c]	0.296[c]	0.0418	0.309[c]	0.138	0.550[c]
	(0.106)	(0.105)	(0.114)	(0.112)	(0.117)	(0.136)
$Border_{ij}$	0.706[c]	0.706[c]	0.609[c]	0.682[c]	0.528[c]	0.670[c]
	(0.100)	(0.100)	(0.110)	(0.103)	(0.127)	(0.119)
$Language_{ij}$	0.778[c]	0.776[c]	0.725[c]	0.759[c]	0.703[c]	0.684[c]
	(0.044)	(0.044)	(0.050)	(0.045)	(0.059)	(0.051)
$Colony_{ij}$	1.094[c]	1.103[c]	1.117[c]	1.116[c]	1.111[c]	1.184[c]
	(0.097)	(0.097)	(0.104)	(0.099)	(0.109)	(0.113)
$PeopleKilled_{jt}$	-0.000156[c]					
	(0.000022)					
$NeighborPeopleKilled_{jt}$	-0.000039[c]					
	(0.000014)					
$Incidents_{jt}$		-0.000249[c]				
		(0.000061)				
$NeighborIncidents_{jt}$		-0.000056[b]				
		(0.000026)				
$Bombings_{jt}$			-0.000461[c]			
			(0.0000093)			
$NeighborBombings_{jt}$			-0.000079[b]			
			(0.000039)			
$Wartypes_{jt}$				-0.000294[c]		
				(0.000064)		
$NeighborWartypes_{jt}$				-0.000055[b]		
				(0.000027)		
$Facilities_{jt}$					0.004130[c]	
					(0.000682)	
$NeighborFacilities_{jt}$					-0.002780[c]	
					(0.000520)	
$Assaults_{jt}$						-0.000674[c]
						(0.000231)
$NeighborAssaults_{jt}$						-0.000209[a]
						(0.000115)
Constant	3.514[c]	3.486[c]	2.955[c]	3.666[c]	2.052[c]	3.755[c]
	(0.243)	(0.243)	(0.260)	(0.248)	(0.330)	(0.300)
Observations	184,372	184,372	138,029	169,639	74,409	105,713
Adj. R^2	0.750	0.750	0.762	0.753	0.782	0.762

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A11: Terrorism and Trade, Excluding Afghanistan, Iran, Iraq, Nigeria, Libya, Pakistan, and Syria

Dependent variable: Log(Imports$_{ijt}$)

	Flow measure			Stock measure	
	(1)	(2)		(3)	(4)
NeighborPeopleKilled$_{jt}$	-0.000427^{c}		NeighborPeopleKilled$^{S}_{jt}$	-0.000024^{c}	
	(0.000012)			(0.0000058)	
Log(NeighborPeopleKilled$_{jt}$)		-0.021011^{c}	Log(NeighborPeopleKilled$^{S}_{jt}$)		-0.017510^{c}
		(0.00443)			(0.00414)
NeighborIncidents$_{jt}$	-0.000081^{c}		NeighborIncidents$^{S}_{jt}$	-0.025150^{c}	
	(0.000032)			(0.00301)	
Log(NeighborIncidents$_{jt}$)		-0.044061^{c}	Log(NeighborIncidents$^{S}_{jt}$)		-0.035640^{c}
		(0.00537)			(0.00521)
NeighborBombings$_{jt}$	0.000107^{b}		NeighborBombings$^{S}_{jt}$	0.000053^{c}	
	(0.000049)			(0.0000167)	
Log(NeighborBombings$_{jt}$)		-0.042331^{c}	Log(NeighborBombings$^{S}_{jt}$)		-0.101931^{c}
		(0.00577)			(0.01139)
NeighborWartypes$_{jt}$	-0.000085^{c}		NeighborWartypes$^{S}_{jt}$	0.021910^{c}	
	(0.000034)			(0.00275)	
Log(NeighborWartypes$_{jt}$)		-0.04159^{c}	Log(NeighborWartypes$^{S}_{jt}$)		-0.111260^{c}
		(0.00537)			(0.01241)
NeighborFacilities$_{jt}$	0.00314^{c}		NeighborFacilities$^{S}_{jt}$	0.036870^{c}	
	(0.000522)			(0.00475)	
Log(NeighborFacilities$_{jt}$)		-0.049912^{c}	Log(NeighborFacilities$^{S}_{jt}$)		-0.093471^{c}
		(0.00737)			(0.01057)
NeighborAssaults$_{jt}$	0.000348^{c}		NeighborAssaults$^{S}_{jt}$	-0.0188^{c}	
	(0.000135)			(0.00366)	
Log(NeighborAssaults$_{jt}$)		-0.042471^{c}	Log(NeighborAssaults$^{S}_{jt}$)		-0.110152^{c}
		(0.00604)			(0.01111)
Gravity equation includes			Gravity equation includes		
Exporter-year FE	Yes	Yes	Exporter-year FE	Yes	Yes
Other Control Variables	Yes	Yes	Other Control Variables	Yes	Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. All regressions include exporter-year dummies and the same control variables as in gravity equation (1). ^{a}, ^{b} and ^{c} denote 10%, 5% and 1% level of significance, respectively.

Table A12: Terrorism and Trade, Before and After 9/11

Flow Measure of Terrorism		*Stock Measure of Terrorism*	
$NeighborPeopleKilled_{jt}$	-0.000134[c]	$NeighborPeopleKilled_{j(t-1)}$	-0.000056[c]
	(0.000022)		(0.000013)
Interaction with post-9/11 dummy	0.000087[c]	Interaction with post-9/11 dummy	0.000032[c]
	(0.000023)		(0.000011)
$NeighborIncidents_{j(t-1)}$	-0.000443[c]	$NeighborIncidents_{j(t-1)}$	-0.000147[c]
	(0.000077)		(0.000029)
Interaction with post-9/11 dummy	0.000348[c]	Interaction with post-9/11 dummy	0.000089[b]
	(0.000078)		(0.000032)
$NeighborBombings_{jt}$	-0.000974[c]	$NeighborBombings_{jt}$	-0.032512[c]
	(0.000161)		(0.003414)
Interaction with post-9/11 dummy	0.000829[c]	Interaction with post-9/11 dummy	0.01149[c]
	(0.000163)		(0.00347)
$NeighborWartypes_{jt}$	-0.000515[c]	$NeighborWartypes_{j(t-1)}$	-0.028770[c]
	(0.000091)		(0.003080)
Interaction with post-9/11 dummy	0.000413c	Interaction with post-9/11 dummy	0.010030[c]
	(0.000093)		(0.003160)
$NeighborFacilities_{jt}$	-0.00126[c]	$NeighborFacilities_{j(t-1)}$	-0.043060[c]
	(0.000246)		(0.00546)
Interaction with post-9/11 dummy	0.00386[c]	Interaction with post-9/11 dummy	0.00607
	(0.000895)		(0.00643)
$NeighborAssaults_{jt}$	-0.001261[c]	$NeighborAssaults_{j(t-1)}$	-0.030650[c]
	(0.000246)		(0.004351)
Interaction with post-9/11 dummy	0.000841[c]	Interaction with post-9/11 dummy	0.014172[c]
	(0.000261)		(0.00471)
Gravity equation includes		Gravity equation includes	
Exporter-year FE	Yes	Exporter-year FE	Yes
Other Control Variables	Yes	Other Control Variables	Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. All regressions include exporter-year dummies and the same control variables as in gravity equation (1). The post-9/11 dummy is equal to 1 if the year is after 2001 and equal to zero otherwise. All coefficient estimates of the control variables are very similar to the estimates in Table 1 of the text. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A13: Terrorism in Neighboring Nations and Bilateral Imports

	Flow Measure of Terrorism	Stock Measure of Terrorism
	Subsample of OECD countries	
$NeighborPeopleKilled_{jt}$	-0.000061[b]	-0.000036[c]
	(0.000022)	(0.000012)
$NeighborIncidents_{jt}$	-0.000150[b]	-0.000072[b]
	(0.000068)	(0.000037)
$NeighborBombings_{jt}$	-0.000157[a]	-0.026090[c]
	(0.000095)	(0.00525)
$NeighborWartypes_{jt}$	-0.000140[b]	-0.029130[c]
	(0.000072)	(0.00487)
$NeighborFacilities_{jt}$	-0.002160[c]	-0.021620[c]
	(0.000687)	(0.00809)
$NeighborAssaults_{jt}$	-0.001110[c]	-0.039440[c]
	(0.000375)	(0.00617)
	Subsample of Sub-Saharan Countries	
$NeighborPeopleKilled_{jt}$	-0.000125[c]	-0.000064[c]
	(0.000030)	(0.000020)
$NeighborIncidents_{jt}$	-0.000561[c]	-0.000103
	(0.000151)	(0.000102)
$NeighborBombings_{jt}$	-0.000760[b]	-0.016581[b]
	(0.000380)	(0.00699)
$NeighborWartypes_{jt}$	-0.000659[c]	-0.012491[b]
	(0.000173)	(0.00540)
$NeighborFacilities_{jt}$	-0.00965[c]	-0.074386[c]
	(0.001342)	(0.01196)
$NeighborAssaults_{jt}$	-0.001802[c]	-0.013591[b]
	(0.000352)	(0.00617)
	Subsample of other Developing Countries	
$NeighborPeopleKilled_{jt}$	-0.000063[c]	-0.000035[c]
	(0.000011)	(0.0000054)
$NeighborIncidents_{jt}$	-0.000139[c]	-0.000091[c]
	(0.000027)	(0.000015)
$NeighborBombings_{jt}$	-0.000216[c]	-0.031880[c]
	(0.000042)	(0.00370)
$NeighborWartypes_{jt}$	-0.000146[c]	-0.030820[c]
	(0.000027)	(0.00351)
$NeighborFacilities_{jt}$	-0.003221[c]	-0.044690[c]
	(0.000675)	(0.00566)
$NeighborAssaults_{jt}$	-0.000556[c]	-0.029631[c]
	(0.000675)	(0.004431)
Gravity Equation includes		
Exporter-year FE	Yes	Yes
Other control variables	Yes	Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A14: Terrorism in Neighboring Nations and Bilateral Imports, Flow Measure of Terrorism

	Subsample of most Far-Away Trading Partners		Subsample of Other Remaining Trading Partners	
	(1)	(2)	(3)	(4)
$Log(PeopleKilled_{jt})$	-0.086536[c]		-0.023727[c]	
	(0.020105)		(0.005976)	
$Log(NeighborPeopleKilled_{jt})$	-0.04426[b]	-0.060539[c]	-0.021026[c]	-0.023967[c]
	(0.021933)	(0.019548)	(0.005579)	(0.004393)
No. of Obs.	9,093	18,906	101,732	237,759
$Log(Incidents_{jt})$	-0.1028071[c]		-0.006486	
	(0.022008)		(0.006952)	
$Log(NeighborIncidents_{jt})$	-0.109196[c]	-0.094390[c]	-0.040977[c]	-0.043701[c]
	(0.023956)	(0.022943)	(0.006415)	(0.005339)
No. of Obs.	13,771	21,490	160,275	273,607
$Log(Bombings_{jt})$	-0.099932[c]		-0.015593[a]	
	(0.025280)		(0.00806)	
$Log(NeighborBombings_{jt})$	-0.123001[c]	-0.115977[c]	-0.026102[c]	-0.040957[c]
	(0.024699)	(0.024166)	(0.007143)	(0.005739)
No. of Obs.	10,286	19,074	113,959	237,608
$Log(Wartypes_{jt})$	-0.106536[c]		-0.014181[b]	
	(0.022620)		(0.007209)	
$Log(NeighborWartypes_{jt})$	-0.104134[c]	-0.099335[c]	-0.030876[c]	-0.041434[c]
	(0.024185)	(0.023014)	(0.006534)	(0.005341)
No. of Obs.	12,871	21,168	146,519	266,738
$Log(Facilities_{jt})$	-0.0248061[c]		0.034531	
	(0.043571)		(0.010995)	
$Log(NeighborFacilities_{jt})$	-0.131063[c]	-0.091351[c]	-0.041956[c]	-0.046840[c]
	(0.042116)	(0.027758)	(0.010387)	(0.007375)
No. of Obs.	4,496	13,185	48,394	166,145
$Log(Assaults_{jt})$	-0.073382[c]		-0.018299[b]	
	(0.027627)		(0.009142)	
$Log(NeighborAssaults_{jt})$	-0.083408[c]	-0.056729[b]	-0.034563[c]	0.045459[c]
	(0.027476)	(0.026163)	(0.007963)	(0.005951)
No. of Obs.	7,448	17,181	78,612	217,243
Gravity equation includes				
Exporter-year FE	Yes	Yes	Yes	Yes
Other control variables	Yes	Yes	Yes	Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. The gravity equation includes all other control variables including bilateral distance. Subsample of most far-away trading partners consists of country pairs whose bilateral distances belong to the 10th percentile. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Analysis of the Impact of Terror on Aggregate Imports

We investigate whether the adverse spillover effects of terrorism on bilateral import are apparent in *aggregate* imports. While conflict might reduce trade between neighbors as our results show, it may also divert trade to third parties (Feldman and Sadeh, 2016). Hence, it is important to investigate the impact of terrorism on aggregate trade. For this analysis we adopt the specification of Djankov et al. (2010) and estimate the following gravity equation:

$$Log(Imports_{World,jt}) = \beta_0 + \beta_t + \beta_1 Log(GDP_{jt}) + \beta_2 Landlocked_j + \beta_3 Log(Terror_{jt}) + \beta_4 Log(NeighbourTerror_{jt}) + \varepsilon_{4ijt}, \quad (4)$$

where $Imports_{World,jt}$ is the volume of imports by importer *j* from the world in time period *t* and $Landlocked_j$ is a dummy on whether the importer is a landlocked country or not. As above we use either the flow measure or the stock measure of terrorism in the importer and its neighbors. We also estimate gravity specification (4) using only the measure of terrorism in the importer's neighbors. These results are presented in Table A15. All the results confirm our finding at the bilateral import level that both contemporaneous terrorist attacks and accumulated past terrorist attacks in a country's neighbors have a substantial spillover adverse effect on its imports. Specifically, an additional terrorist incident in a country's neighbors reduces itstotal imports from the rest of the world by approximately $6.37 US million annually. Moreover, an additional human casualty is predicted to reduce total imports by approximately $2.79 US million, which is well line with our estimation of the impact of terror on aggregate trade using the coefficient estimates of the bilateral gravity equation in Section 4.1. . These results suggest that the impact on total imports is consistent with the impact on bilateral imports. Hence, any substitution of imports towards other trading partners is insufficient to offset the reduction in bilateral imports from neighbor's experiencing terrorism. Indeed, the results suggest an additional spillover: terrorism does not just disrupt trade between the importer and its neighbors experiencing terrorism; it also disrupts trade between the importer and other nations. This is consistent with the notion that terrorism affects trade beyond neighbors and countries that are immediately experiencing conflict, by increasing risk to supply chains and by regulatory and psychological impact that spread across many nations.

Table A15: Terrorism in Neighboring Nations and Aggregate Imports

	Flow Measure of Terrorism			Stock Measure of Terrorism	
	(1)	(2)		(1)	(2)
$Log(GDP_{jt})$	0.857[c]	0.825[c]	$Log(GDP_{jt})$	0.859[c]	0.842[c]
	(0.005)	(0.006)		(0.007)	(0.005)
$Landlocked_j$	-0.555[c]	-0.723[c]	$Landlocked_j$	-0.578[c]	-0.603[c]
	(0.030)	(0.035)		(0.033)	(0.030)
$PeopleKilled_{jt}$	-0.000221[c]		$PeopleKilled^S_{jt-1}$	-0.000118[c]	
	(0.000037)			(0.000017)	
$NeighborPeopleKilled_{jt}$	-0.000032[c]	-0.000115[c]	$NeighborPeopleKilled^S_{jt}$	-0.000059[c]	-0.000059[c]
	(0.000014)	(0.000022)		(0.000006)	(0.000006)
No. of Obs.	4494	5110	No. of Obs.	3548	4995
$Log(GDP_{jt})$	0.858[c]	0.824[c]	$Log(GDP_{jt})$	0.863[c]	0.842[c]
	(0.005)	(0.006)		(0.007)	(0.005)
$Landlocked_j$	-0.557[c]	-0.731[c]	$Landlocked_j$	-0.579[c]	-0.604[c]
	(0.030)	(0.035)		(0.034)	(0.031)
$Incidents_{jt}$	-0.000580[c]		$Incidents^S_{jt}$	-0.000315[c]	
	(0.000112)			(0.000047)	
$NeighborIncidents_{jt}$	-0.000033	-0.000262[c]	$NeighborIncidents^S_{jt}$	-0.000117[c]	-0.000123[c]
	(0.000040)	(0.000062)		(0.000018)	(0.000018)
No. of Obs.	4494	5110	No. of Obs.	3548	4995
$Log(GDP_{jt})$	0.857[c]	0.824[c]	$Log(GDP_{jt})$	0.877[c]	0.845[c]
	(0.005)	(0.006)		(0.008)	(0.006)
$Landlocked_j$	-0.555[c]	-0.734[c]	$Landlocked_j$	-0.559[c]	-0.588[c]
	(0.030)	(0.035)		(0.033)	(0.031)
$Bombings_{jt}$	-0.000746[c]		$Bombings^S_{jt}$	-0.056126[c]	
	(0.000178)			(0.010787)	
$NeighborBombings_{jt}$	-0.000062	-0.000373[c]	$NeighborBombings^S_{jt}$	-0.015577[c]	-0.012077[c]
	(0.000062)	(0.000093)		(0.003029)	(0.002821)
No. of Obs.	4494	5110	No. of Obs.	3548	4995
$Log(GDP_{jt})$	0.858[c]	0.824[c]	$Log(GDP_{jt})$	0.875[c]	0.849[c]
	(0.005)	(0.006)		(0.008)	(0.006)
$Landlocked_j$	-0.556[c]	-0.732[c]	$Landlocked_j$	-0.575[c]	-0.576[c]
	(0.030)	(0.035)		(0.033)	(0.031)
$Wartypes_{jt}$	-0.000598[c]		$Wartypes^S_{jt}$	-0.095649[c]	
	(0.000123)			(0.013339)	
$NeighborWartypes_{jt}$	-0.000039	-0.000273[c]	$NeighborWartypes^S_{jt}$	-0.011566[c]	-0.016147[c]
	(0.000043)	(0.000066)		(0.005513)	(0.002615)
No. of Obs.	4494	5110	No. of Obs.	3548	4995
$Log(GDP_{jt})$	0.856[c]	0.824[c]	$Log(GDP_{jt})$	0.875[c]	0.840[c]
	(0.005)	(0.006)		(0.008)	(0.006)
$Landlocked_j$	-0.554[c]	-0.729[c]	$Landlocked_j$	-0.575[c]	-0.6070[c]
	(0.030)	(0.035)		(0.033)	(0.031)
$Facilities_{jt}$	-0.002998[c]		$Facilities^S_{jt}$	-0.095649[c]	
	(0.001501)			(0.013339)	
$NeighborFacilities_{jt}$	-0.000039	-005189[c]	$NeighborFacilities^S_{jt}$	-0.011566[b]	-0.007165[c]
	(0.001009)	(0.001519)		(0.005513)	(0.005306)

No. of Obs.	4494	5110	No. of Obs.	3643	4995
$Log(GDP_{jt})$	0.858^{c}	0.826^{c}	$Log(GDP_{jt})$	0.878^{c}	0.849^{c}
	(0.005)	(0.006)		(0.007)	(0.006)
$Landlocked_{j}$	-0.554^{c}	-0.717^{c}	$Landlocked_{j}$	-0.581^{c}	-0.579^{c}
	(0.030)	(0.034)		(0.033)	(0.031)
$Assaults_{jt}$	-0.002287^{c}		$Assaults^{S}_{jt}$	-0.119053^{c}	
	(0.0003672)			(0.010026)	
$NeighborAssaults_{jt}$	-0.000118^{b}	-0.000566^{c}	$NeighborAssaults^{S}_{jt}$	-0.030598^{c}	-0.0200467^{c}
	(0.000060)	(0.000084)		(0.003703)	(0.003696)
No. of Obs.	4494	5110	No. of Obs.	3548	4495
Gravity equation includes					
Year dummies	Yes	Yes		Yes	Yes

Notes: Parentheses report standard errors. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

4. CHANNELS

Table A16: Terrorism in Neighboring Nation and Bilateral Imports, Terror Intensive Exporters

Flow Measure of Terrorism *Top 10 Non-OECD terror-intensive exporters vs. top 10 OECD terror-intensive exporters*			
	(1)		(2)
Interaction with dummy of Non-OECD group	-0.042521[c]	Interaction with dummy of OECD group	0.026808[c]
	(0.016514)		(0.011311)
$Log(NeighborPeopleKilled_{jt-1})$	-0.0232995[c]	$Log(NeighborPeopleKilled_{jt-1})$	-0.029170[c]
	(0.004425)		(0.004616)
N	256,665	N	256,665
Interaction with dummy of Non-OECD group	-0.067823[c]	Interaction with dummy of OECD group	-0.000825
	(0.019220)		(0.013710)
$Log(NeighborIncidents_{jt})$	-0.043161[c]	$Log(NeighborIncidents_{jt})$	-0.047222[c]
	(0.005365)		(0.005586)
N	295,097	N	295,097
Interaction with dummy of Non-OECD group	-0.060030[c]	Interaction with dummy of OECD group	-0.006747
	(0.02028)		(0.014527)
$Log(NeighborBombings_{jt})$	-0.041989[c]	$Log(NeighborBombings_{jt})$	-0.045303[c]
	(0.005758)		(0.005982)
N	256,682	N	256,682
Interaction with dummy of Non-OECD group	-0.070111[c]	Interaction with dummy of OECD group	-0.002606
	(0.019308)		(0.013717)
$Log(NeighborWartypes_{jt})$	-0.040749[c]	$Log(NeighborWartypes_{jt})$	-0.045817[c]
	(0.00536)		(0.005584)
N	287,906	No. of Obs.	287,906
Interaction with dummy of Non-OECD group	-0.068709[c]	Interaction with dummy of OECD group	-0.033196[a]
	(0.025589)		(0.017070)
$Log(NeighborFacilities_{jt})$	-0.045872[c]	$Log(NeighborFacilities_{jt})$	-0.046736[c]
	(0.007404)		(0.007753)
N	179,330	N	179,330
Interaction with dummy of Non-OECD group	-0.083851[c]	Interaction with dummy of OECD group	0.0354725[b]
	(0.021391)		(0.015089)
$Log(NeighborAssaults_{jt})$	-0.041938[c]	$Log(NeighborAssaults_{jt})$	-0.051592[c]
	(0.005969)		(0.006230)
N	234,424	N	234,424
Gravity equation includes		Gravity equation includes	
Exporter-year FE	Yes	Exporter-year FE	Yes
Other control variables	Yes	Other control variables	Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. Group 1 consists of top ten most terror-intensive non-OECD exporters for the period 1970 to 2014 while group 2 consists of top ten most terror-intensive OECD exporters. Specifically, group 1 includes Iraq, Pakistan, India, Colombia, Afghanistan, Peru, El Salvador, Philippines, Thailand and Sri Lanka. Group 2 includes United Kingdom, Spain, Turkey, United States of America, France, Israel, Italy, Greece, Germany and Japan. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A17: Trade Reforms and Terrorism in Neighboring Nations, Flow Measure of Terrorism

	Including FTA dummy	Excluding FTA dummy
	(1)	(2)
Log(NeighborPeopleKilled$_{jt}$)	-0.022632[c]	-0.030077[c]
	(0.004385)	(0.004412)
Interaction with OECD country dummy	-0.048655[c]	-0.033234[c]
	(0.008027)	(0.007994)
N	256,665	256,665
Log(NeighborIncidents$_{jt}$)	-0.044944[c]	-0.051279[c]
	(0.005286)	(0.005313)
Interaction with OECD country dummy	-0.031592[c]	-0.015559c
	(0.008288)	(0.008228)
N	295,097	295,097
Log(NeighborBombings$_{jt}$)	-0.041768[c]	-0.049222[c]
	(0.005757)	(0.005785)
Interaction with OECD country dummy	-0.033445[c]	-0.016209[a]
	(0.009484)	(0.009410)
N	256,682	256,682
Log(NeighborWartypes$_{jt}$)	-0.042524[c]	-0.048919[c]
	(0.005308)	(0.005335)
Interaction with OECD country dummy	-0.031247[c]	-0.014706[c]
	(0.008710)	(0.008649)
N	287,906	287,906
Log(NeighborFacilities$_{jt}$)	-0.040044[c]	-0.052331[c]
	(0.008619)	(0.008643)
Interaction with OECD country dummy	-0.049575[c]	-0.015344
	(0.014606)	(0.014519)
N	179,330	179,330
Log(NeighborAssaults$_{jt}$)	-0.041809[c]	-0.050899[c]
	(0.005977)	(0.006012)
Interaction with OECD country dummy	-0.079238[c]	-0.055643[c]
	(0.012028)	(0.011969)
N	234,424	234,424
Gravity equation includes		
Exporter-year FE	Yes	Yes
Other control variables including the FTA dummy	Yes	
Other control variables but the FTA dummy		Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A18: National Income, Terrorism in Neighboring Nations and Bilateral Trade, Flow Measure of Terrorism

Variables	Excludes log(Gdp)	Includes log(Gdp)
	(1)	(2)
$Log(PeopleKilled_{jt})$	0.047029[c]	-0.03599[c]
	(0.00862)	(0.00570)
$Log(NeighborPeopleKilled_{jt})$	-0.162129[c]	-0.00332[c]
	(0.00882)	(0.00993)
Interaction with long border group dummy	0.44593[c]	-0.00332
	(0.011991)	(0.00993)
N	110, 825	110,825
$Log(Incidents_{jt})$	0.25397[c]	-0.02151[c]
	(0.01008)	(0.00661)
$Log(NeighborIncidents_{jt})$	-0.12720[c]	-0.04404[c]
	(0.01046)	(0.00628)
Interaction with long border group dummy	0.44611[c]	-0.02815[c]
	(0.01239)	(0.00994)
N	174,046	174,046
$Log(Bombings_{jt})$	0.20864[c]	-0.03007[c]
	(0.01077)	(0.00762)
$Log(NeighborBombings_{jt})$	-0.16465[c]	-0.02780[c]
	(0.01287)	(0.00705)
Interaction with long border group dummy	0.51950[c]	-0.02820[c]
	(0.013415)	(0.01115)
N	124,245	124,245
Gravity equation includes		
Exporter-year fixed effects	Yes	Yes
All other control variables		Yes
All other control variables but GDP	Yes	

Notes: (1) Parentheses report standard errors adjusted for clustering of exporter-importer pairs. (2) Top countries that have most neighbors are China (19), Russian Federation (14), Brazil (10), Germany (9), Austria (8), France (8), Turkey (8), Democratic Republic of the Congo (9), Tanzania (8), and Zambia (8); parentheses report the number of contiguous neighbors. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A19: Magnitude of Terrorism in Neighboring Countries and Bilateral Trade

	Flow Measure of Terrorism			Stock Measure of Terrorism		
	(1)	(2)	(3)	(4)	(5)	(6)
	Non-fatal	Fatal	High Death Toll	Non-fatal	Fatal	High Death Toll
$Incidents_{jt}$	-0.000187[c]	-0.000190[c]	-0.001061[c]	-0.000139[c]	-0.000136[c]	-0.000721[c]
	(0.000055)	(0.000040)	(0.00034)	(0.000030)	(0.000025)	(0.000145)
N	274636	258763	88873	275513	274138	187609
$Bombings_{jt}$	-0.000182[c]	-0.000270[c]	-0.002290[c]	-0.023391[c]	-0.007611[c]	-0.008391
	(0.000073)	(0.000067)	(0.000570)	(0.00339)	(0.00366)	(0.00697)
N	239395	195170	88873	250309	255850	142036
$Wartypes_{jt}$	-0.000133[c]	-0.000194[c]	-0.000223[c]	-0.000156[c]	-0.000150[c]	-0.000525[c]
	(0.000048)	(0.000047)	(0.000044)	(0.000034)	(0.000027)	(0.000165)
N	236841	238454	235110	269448	271814	171942
$Facilities_{jt}$	-0.001520[c]	-0.00809[c]	-0.025071[c]	-0.016891[c]	-0.006781[c]	-0.050911[c]
	(0.00049)	(0.00248)	(0.00473)	(0.00555)	(0.00139)	(0.01538)
N	171878	63011	20700	211987	129014	61207
$Assaults_{jt}$	-0.000651	-0.000468[c]	-0.001950[c]	-0.028201[c]	-0.022390	-0.012141
	(0.000402)	(0.000131)	(0.00077)	(0.00503)	(0.00423)	(0.00835)
N	186127	207441	79814	225411	238348	126380
Gravity Equation includes						
Exporter-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Other Control Variables	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [a], [b] and [c] denote 10%, 5% and 1% level of significance, respectively.

Table A20: Common Language, Colonial Status and the Effects of Terrorism in Neighboring Nation, Flow Measure of Terrorism

	(1)	(2)	(3)		(5)	(6)	(7)	(8)
$NeighborPeopleKilled_{jt}$	-0.0000538[c]	-0.000055[c]	-0.000051[c]		$NeighborWartypes_{jt}$	-0.000116[c]	-0.000129[c]	-0.000109[c]
	(0.0000101)	(0.0000096)	(0.0000102)			(0.000027)	(0.000027)	(0.000027)
Interaction with common language dummy	-0.000059[c]		-0.000053[a]		Interaction with common language dummy	-0.000311[c]		-0.000289[c]
	(0.000034)		(0.0000328)			(0.000101)		(0.000098)
Interaction with common colony dummy		-0.000239[c]	-0.000233[c]		Interaction with common colony dummy		-0.000747[c]	-0.000697[c]
		(0.000092)	(0.000089)				(0.000294)	(0.000283)
N	351,139	351,139	351,139		N	351,139	351,139	351,139
$NeighborIncidents_{jt}$	-0.000108[c]	-0.000123[c]	-0.000102[c]		$NeighborFacilities_{jt}$	-0.00277[c]	-0.003509[c]	-0.00279[c]
	(0.000026)	(0.000025)	(0.000026)			(0.000512)	(0.000499)	(0.000514)
Interaction with common language dummy	-0.000309[c]		-0.000287[c]		Interaction with common language dummy	-0.00790[c]		-0.00836[c]
	(0.000093)		(0.000090)			(0.00162)		(0.00164)
Interaction with common colony dummy		-0.000684[c]	-0.000624[c]		Interaction with common colony dummy		-0.00122	-0.003310
		(0.000271)	(0.000026)				(0.00283)	(0.003050)
N	351,139	351,139	351,139		N	351,139	351,139	351,139
$NeighborBombings_{jt}$	-0.000161[c]	-0.000178[c]	-0.000149[c]		$NeighborAssaults^{F}_{jt}$	-0.000471[c]	-0.000533[c]	-0.000454[c]
	(0.0000396)	(0.0000385)	(0.000039)			(0.000114)	(0.000110)	(0.000115)
Interaction with common language dummy	-0.000458[c]		-0.000432[c]		Interaction with common language dummy	-0.001090[c]		-0.000980[c]
	(0.000157)		(0.000150)			(0.000358)		(0.000357)
Interaction with common colony dummy		-0.001050[c]	-0.001001[c]		Interaction with common colony dummy		-0.002890[c]	-0.002557[c]
		(0.000422)	(0.000402)				(0.001140)	(0.001130)
N	351,139	351,139	351,139		N	351,139	351,139	351,139
Gravity equation includes								
Exporter-year FE	Yes	Yes	Yes			Yes	Yes	Yes
Other control variables	Yes	Yes	Yes			Yes	Yes	Yes

Notes: Parentheses report standard errors adjusted for clustering of exporter-importer pairs. [a] and [c] denote 10% and 1% level of significance, respectively.