hat e Do: Empiri s

- We exploi bo h spa ial and emporal varia ion in conflic in ensi y (number of Pales inian fa ali ies caused by he Israeli Defense Force (IDF)) and he erogenei y wi hin sec or
- We find one s.d. increase in **conflict** in ensi y o be associa ed wi h a **-9% reduction** in firms' **output value**
- We argue ha (a leas) par of his nega ive rela ionship is explained by **conflict-induced distortions** in he accessibili y of marke s for **imported material inputs**:
  - Firms opera ing in conflic environmen s subs i u e impor ed ma erial inpu s wi h domes ically produced ones
- We provide evidence on he role of border closures, ranspor a ion obs acles and ransac ion cos s as possible sources of (conflic -induced) inpu dis or ions
- Conflic affec s dispropor ionally more he mos produc ive firms and sec ors: **long-term effects** on produc ivi y.

The Israeli-Palestinian onfli t and the Se ond Intifada

- Six-Days War: Israel occupied he Wes Bank and he Gaza S rip
- 1993: Oslo peace agreemen s
- 1994-1999: failure of peace process
- Second In ifada (Sep ember 2000): period of in ensified violence be ween he IDF and he Pales inians
  - Violen even s on bo h sides: killing of Pales inians in he OPT, erroris a acks in Israel, assassina ion of Pales inians leaders, demoli ions of Pales inian houses
- Frequen clashes be ween Pales inians and he IDF in he OPT
- During he Second In ifada (2000-2006):
  - Pales inians killed 234 Israeli civilians and 226 IDF soldiers
  - IDF caused more han 4000 Pales inian fa ali ies, mos ly non-comba an s (B'Tselem, 2007).

Conceptual Framework: Hsie and Klenow (QJE, 2009)

- Produc ion in each sec or s is carried ou by a single represen a ive firm which aggrega es M_s differen ia ed inpu s by means of a CES produc ion func ion

- Each firm i in sec or s produces using capi al, labor and ma erials according o a Cobb-Douglas

$$Y_{si} = A_{si} K_{si}^{\alpha_s} L_{si}^{\beta_s} M_{si}^{1-\alpha_s-\beta_s}$$

- Firms po en ially face:
  - *output distortions* τ_{Yi}: hange in the marginal return from produ ing one unit of output
  - *input distortions* τ_{Xi}: hange in marginal produ t of input X

- Firm akes inpu prices as given and maximizes

$$(1-\tau_{Yi})P_{si}Y_{si} - w(1+\tau_{Li})L_{si} - R(1+\tau_{Ki})K_{si} - z(1+\tau_{Mi})M_{si}$$

Data

-

Output Value: Spe ifi ation

We implemen he following regression specifica ion

$$\ln\left(P_{si}Y_{si}\right)_{dt} = \delta_t + \gamma_d + \varphi_s + \quad fatalities_{dt} + \mathbf{Z}'_{isdt}\,\boldsymbol{\rho} + u_{isdt}$$

where

- $\left(P_{si}Y_{si}\right)_{dt}$ is output value of firm i in se tor s lo ated in distri t d and surveyed in year t
- $fatalities_{dt}$ is number of Palestinians killed by IDF in distri t d and year t
- δ_t, γ_d and φ_s are year, distri t and se tor fixed effe ts respe tively
- $\mathbf{Z}_{isdt}$ is a ve tor of firm-level ontrols (fra tion of proprietors andI

Output Value: Results

	Log of Product Value, ln(PY)				
	(1)	(2)	(3)	(4)	(5)
fatalities	-0.126**	-0.073***	-0.063*	-0.089***	-0.086***
	(0.049)	(0.024)	(0.036)	(0.033)	(0.033)
$\frac{\text{Family Workers}}{\text{Total}}$				-1.522***	-1.533***
				(0.100)	(0.097)
$\frac{\text{Proprietors}}{\text{Total}}$				-2.713***	-2.717***
				(0.112)	(0.112)
District FE	N	Y	Y	Y	Y
Year FE	N	Y	Y	Y	n.a.
Sector FE	N	N	Y	Y	n.a.
Sector Year FE	N	N	N	N	Y
Observations	10042	10042	10042	10039	10039
^{2}	0.007	0.035	0.156	0.434	0.443

Notes. Standard Errors clustered along both district-year and sector-year dimensions.

Output Value: Results

- One s andard devia ion increase in conflic in ensi y is associa ed wi h a 9% fall in ou pu value
- Robus o he inclusion of con rols and sec or-year rends

Output Value: Results

- One s andard devia ion increase in conflic in ensi y is associa ed wi h a 9% fall in ou pu value
- Robus o he inclusion of con rols and sec or-year rends
- Far from being causal: omi ed variable bias, reverse causali y (Dube and Vargas 2013)
- Also, he resul cap ures bo h **demand** and **supply** side effec s
- We focus on he supply side of he economy and look a changes in **input usage**.

The Me hanism: onfli t, Input Value Ratios and Implied Relative Input Distortions

For every pair of inpu s (X_{si}^1, X_{si}^2) wi h corresponding prices (p_1, p_2), we es ima e

$$\ln\left(\frac{p_1 X_{si}^1}{p_2 X_{si}^2}\right)_{dt} = \delta_t + \gamma_d + \varphi_s + \lambda_{12}\, fatalities_{dt} + \mathbf{Z}'_{isdt}\,\boldsymbol{\rho} + \varepsilon_{isdt}$$

and derive he (conflic -induced) implied rela ive inpu dis or ions as

$$\exp\left(\hat{\lambda}_{12}\right.$$

The Me hanism: Results

- We find evidence of **conflict-induced distortions** o be rela ively higher for impor ed ma erials wi h respec o domes ically produced ones
- Resul s are robus across specifica ions
- We claim ha par of he **negative effect** of conflic on **output value** comes hrough **distortions in market access** which are dispropor ionally higher for **imported material inputs**
- Aggrega e evidence fur her valida es his finding
  - Ne balance of rade increases wi h conflic in ensi y ▸ graph
  - Composi ion of impor s changes while composi ion of expor s does no . ▸ graph

Sour es of Distortions: order losure

- Border closures
  -

Sour es of Distortions: Transportation and Transa tion osts

- We use da a from he World Bank En erprise Survey (2006)
- Addi ional informa ion on firms' ac ivi y (firm loca ion available a he ci y/ own/village level)
- We look a he differen ial effec of fa ali ies on firms' ac ivi y according o heir impor ing s a us
- Impor ing firms in high conflic locali ies:
  - consider cus om regula ions and ranspor a ions cos s more of an obs acle Tabl
  -

Se tor-level Heterogeneity

- We look a he he erogeneous effec of conflic on domes ically vs. impor ed produced ma erial usage across sec ors
- We show ha **sector-level distortion** in inpu usage correla e wi h sec or-level varia ion in:
  - impor ed inpu in ensi y in pre-conflic year
  - ou pu value in pre-conflic year

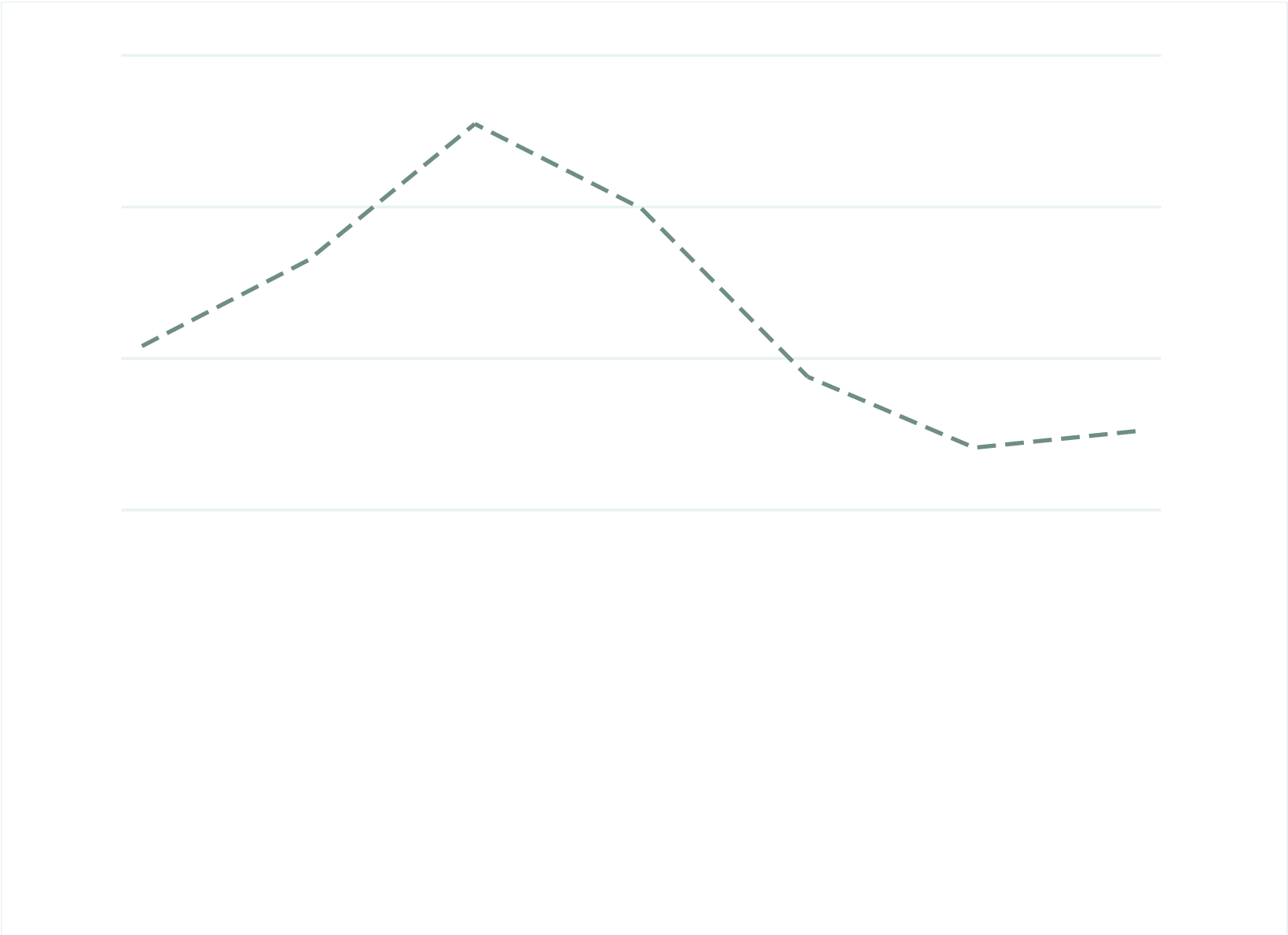
▸ Mor

- Conflic affec s more firms and sec ors ha use impor ed inpu ma erial more in ensively and have higher produc ivi y
- Hin s owards long- erm effec s on he Pales inian economy.

on lusions

- We have inves iga ed he impac of conflic on firm performance and inpu usage in he OPT during he Second In ifada
- Evidence shows ha conflic nega ively affec firms' ou pu value hrough he dis or ions i genera es in he accessibili y of marke s for impor ed ma erial
  - $\Rightarrow$ Wi hin he same sec or, firms opera ing in high conflic environmen s subs i u e domes ically produced ma erials for impor ed ones
- Inpu dis or ions ma erialize as increase in ranspor a ion and ransac ion cos s
- Conflic affec s more he mos produc ive sec ors in he economy, and may have long-las ing effec s.

Eviden e Supporting the Me hanism: Net Trade Value



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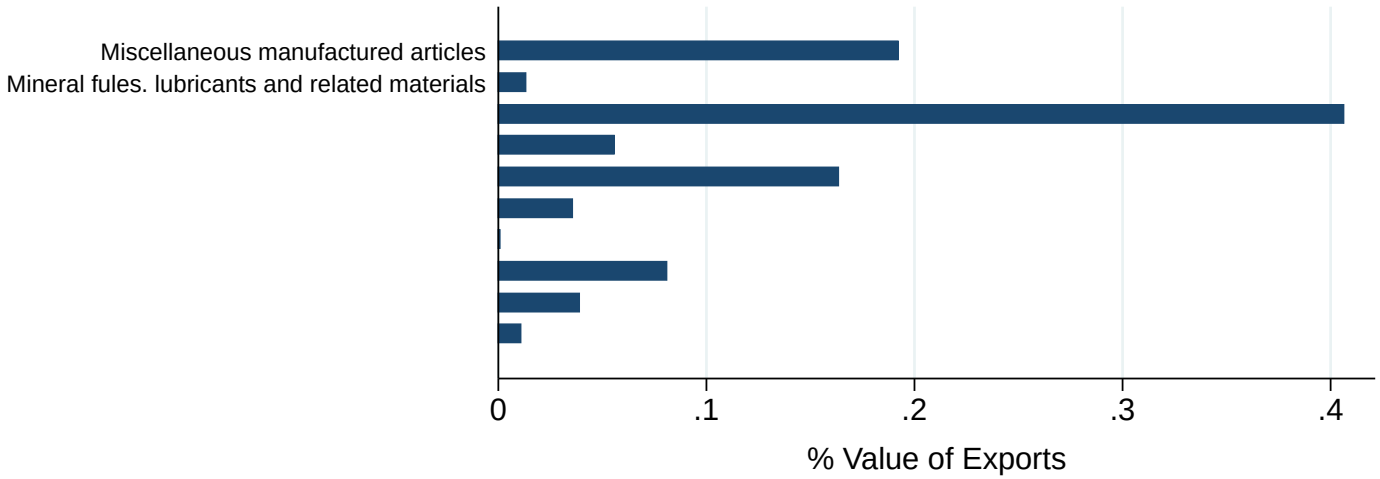
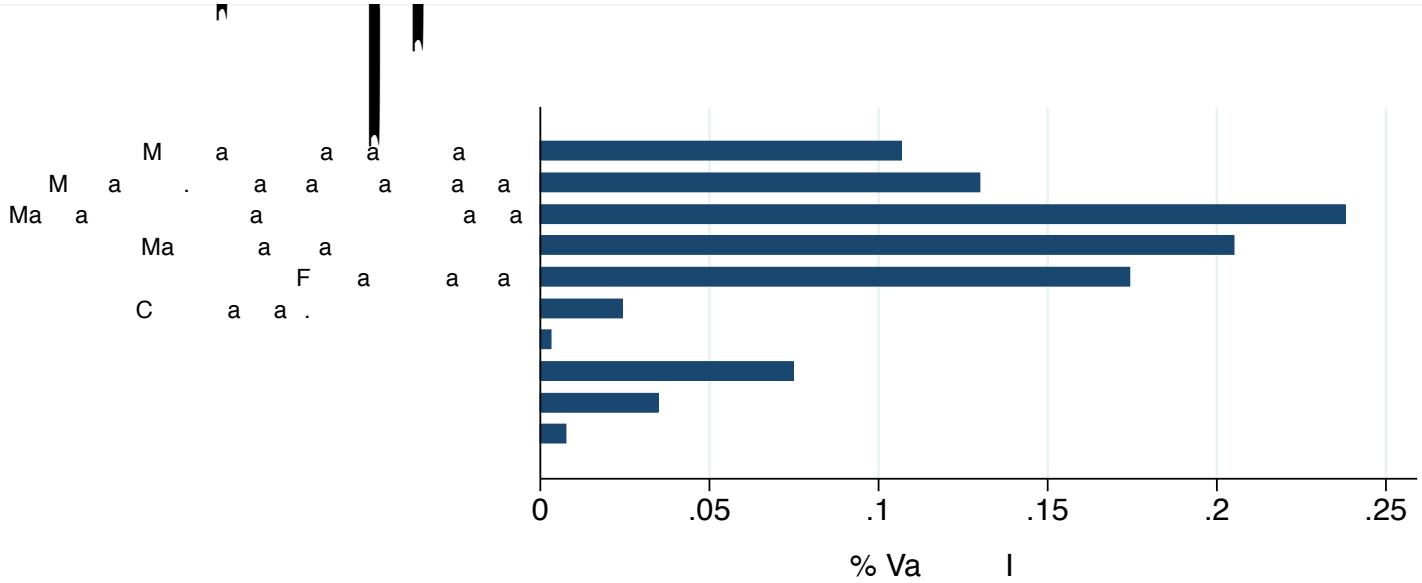
Trade omposition: Exports



Trade omposition: Imports



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Robustness: Output Pri es

- Wha if he fall in ou pu value is driven by a fall in firm-level **output price**?

  ⇒ We look a fa ali ies and Producer Price Index for indus ries clus ered in specific dis ric s

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ages

	Log of Wages, $\ln(W/L)$			
	(1)	(2)	(3)	(4)
fatalities	-0.070**	-0.072**	-0.079**	-0.076**
	(0.035)	(0.035)	(0.035)	(0.034)
$\frac{\text{Family Work rs}}{\text{Total}}$		-2.014***	-2.015***	-2.032***
		(0.071)	(0.071)	(0.084)
$\frac{\text{Propri tors}}{\text{Total}}$		-2.250***	-2.242***	-2.224***
		(0.081)	(0.081)	(0.075)
Sector FE	Y	Y	n.a.	n.a.
Year FE	Y	Y	n.a.	n.a.
District FE	Y	Y	Y	Y
Sector Year FE	N	N	Y	Y
Observations	8891	8891	8891	7302
^{2}	0.156	0.443	0.459	0.476

Notes. SE clust r d along both district-y ar and s ctor-y ar dim nsions.

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The Role of Firm Localization

- Is the effect of falsifies capturing the differential effects according to distance from the border?
  - $\Rightarrow$ We control for road distance from the closest entry gate in eracted with year fixed effects
- Allows to control for any nationwide shock which has differential impact according to distance from the border.

The Role of Distan e from the order

	Implied Relative Distortion			
	(1)	(2)	(3)	(4)
$\frac{\text{Labour}}{\text{Capital}}$	1.001	1.007	1.021	1.024
	[0.931;1.071]	[0.937;1.076]	[0.946;1.095]	[0.959;1.0
$\frac{\text{Mat rials}}{\text{Capital}}$	0.996	0.999	0.999	1.000
	[0.919;1.073]	[0.920;1.079]	[0.915;1.082]	[0.928;1.0
$\frac{\text{Mat rials}}{\text{Labour}}$	1.007	1.004	0.991	0.997
	[0.918;1.097]	[0.919;1.089]	[0.901;1.081]	[0.933;1.0
$\frac{\text{Import d Mat rials}}{\text{Dom stically Prod. Mat rials}}$	3.234	3.300	3.334	3.441
	[1.584;4.884]	[1.618;4.982]	[1.639;5.030]	[1.398;5.4
$\frac{\text{Family Workers}}{\text{Total}}$	N	Y	Y	Y
$\frac{\text{Proprietors}}{\text{Total}}$	N	Y	Y	Y
S ctor FE	Y	Y	n.a.	n.a.
Y ar FE	Y	Y	n.a.	n.a.
District FE	Y	Y	Y	Y
S ctor Y ar FE	N	N	Y	Y

Notes. Standard Errors clust r d along both district-y ar and s ctor-y ar dim nsions.

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Robustness: Demand-side Effe ts

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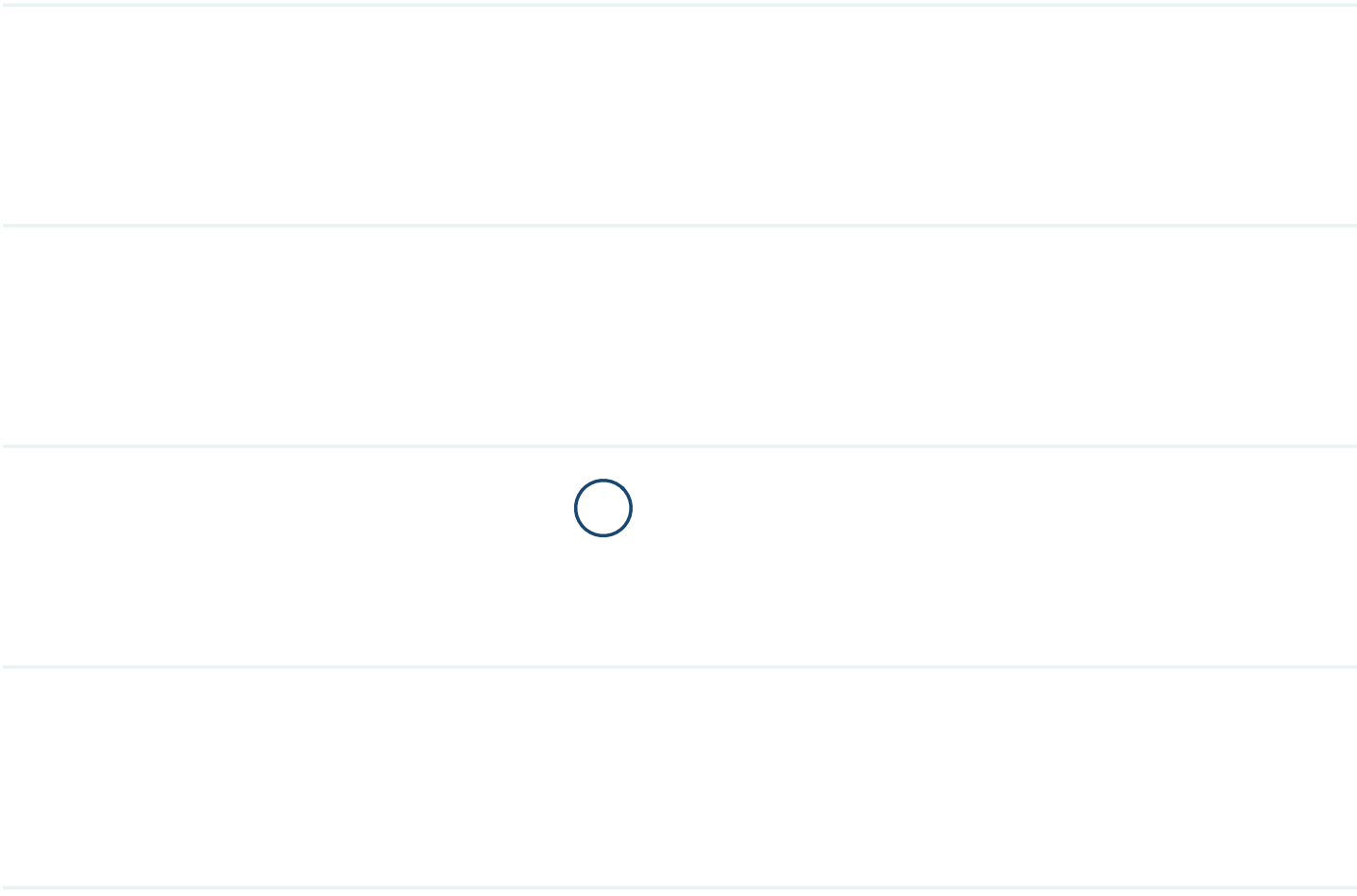
All Se tors: Output Value vs Input Value Ratio

Restri ted Sample: Output Value vs Input Value Ratio



Robustness: Demand-side Effe ts

- We res ric he sample o hose sec ors where inpu value ra ios are no sys ema ically correla ed wi h ou pu value and find very

Input Value Ratios, Fatalities and order losures

	Dependent Variable: $\ln z^d M^d_{si} / z^f M^f_{si}$			
	(1)	(2)	(3)	(4)
fatalities	1.263***	1.279***	1.290***	1.340***
	(0.247)	(0.247)	(0.246)	(0.289)
closure days dt_{passag}	0.010**	0.010**	0.010**	0.009*
	(0.004)	(0.004)	(0.004)	(0.005)
$\frac{\text{Family Work rs}}{\text{Total}}$	N	Y	Y	Y
$\frac{\text{Propri tors}}{\text{Total}}$	N	Y	Y	Y
Sector FE	Y	Y	n.a.	n.a.
Year FE	Y	Y	n.a.	n.a.
District FE	Y	Y	Y	Y
Sector Year FE	N	N	Y	Y

Notes. Standard Errors clust r d along both district-y ar and s ctor-y ar dim nsions.

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Obsta les to Firms' Operations

	(1)	(2)	(3)	(4)	(5)
PANEL A	Customs/Trade Regulations as Main Obstacle				
fatalities	-0.227***	-0.247***	-0.101	-0.016	-0.042
	(0.05)	(0.05)	(0.10)	(0.09)	(0.09)
Importer	0.287	0.355	0.336	0.393	0.309
	(0.34)	(0.34)	(0.32)	(0.30)	(0.30)
fatalities *Importer*	0.249***	0.237***	0.246***	0.234***	0.292***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
PANEL B	Trasportation as Main Obstacle				
fatalities	-0.254***	-0.257***	-0.144*	-0.062	-0.075
	(0.07)	(0.07)	(0.08)	(0.07)	(0.07)
Importer	0.255	0.305	0.304	0.386	0.393
	(0.34)	(0.34)	(0.33)	(0.31)	(0.28)
fatalities *Importer*	0.296***	0.288***	0.293***	0.258***	0.301***
	(0.07)	(0.07)	(0.06)	(0.07)	(0.06)
Population 1997	N	Y	Y	Y	Y
Sal s in 2003	N	N	N	Y	Y

ontra ts with Foreign Suppliers

	Percentage of Inputs Paid Before Delivery				
	(1)	(2)	(3)	(4)	(5)
fatalities	-0.013	-0.003	-0.009	-0.010	-0.013
	(0.02)	(0.01)	(0.02)	(0.03)	(0.03)
I porter	0.110	0.100	0.107	0.090	0.090
	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)
fatalities I porter	0.039**	0.041***	0.041***	0.051***	0.062***
	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)
Population 1997	N	Y	Y	Y	Y
Sales in 2003	N	N	N	Y	Y
Employment in 2003	N	N	N	Y	Y
Year Started	N	N	N	Y	Y
Other Controls	N	N	N	N	Y
District FE	N	N	Y	Y	Y
Observations	10042	10042	10042	10039	10039
^{2}	0.007	0.035	0.156	0.434	0.443

Notes. Standard Errors clust r d at th locality l v l.

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Sector-level Heterogeneity: Most and Least Affected

	Most Affected
1	(34) Manufacture of motor vehicles, trailers and semitrailers
2	(23) Manufacture of coke, refined petroleum products and nuclear fuel
3	(21) Manufacture of paper and paper products
4	(37) Recycling
5	(24) Manufacture of chemicals and chemical products

	Least Affected
25	(20) Manufacture of wood and of products of wood and cork, except furniture; articles of straw and plaiting materials
24	(36) Manufacture of furniture; manufacturing n.e.c.
23	(35) Manufacture of other transport equipment
22	(32) Manufacture of radio, television and communication equipment
21	(14) Other mining and quarrying

Se tor-level Distortions and Pre- onfli t Imported Input Material Value Intensity

Se tor-level Distortion and Pre- onfli t Output Value