Grin and Bear It: Producer-Financed Exports from an Emerging Market

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Motivation

- Large amounts are spent on trade financing - $1.5 trillion annually.
- Shock to trade finance viewed as one of the drivers of the Great Trade Collapse.
- Trade financing is a key issue for policy makers and exporters in developing countries.

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  - cash in advance (CIA): importer finances and bears the risk
  - letter of credit (LC): neither of the trading partners bears the risk.
- Literature on trade finance is very new, and there is a lot to learn.

Research questions

- What determines the choice of financing terms in an international trade transaction?
- Does competition in the destination market matter for the choice of financing terms?
  - End of the Multi-Fibre Agreement
  - Great Recession

Literature

- Literature on trade finance (broader perspective): e.g. Amiti and Weinstein (2011); Chaney (2005); Manova (2008); Paravisini et al. (2013).

- Very recent literature on financing terms in international trade: Antràs and Foley (2013); Eck et al. (2012); Engemann et al (2011); Hoefele et al. (2013); Schmidt-Eisenlohr (2013).

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- First study to examine the role of competition in the destination market for the choice of financing terms.
- Exploits the end of the Multi-Fibre Agreement and the Great Recession as exogenous shocks

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- OA exports increase with the degree of competition in the destination market
  - more OA exports after the end of the MFA
  - to countries affected by the Great Recession
- Effect of contractual enforcement in the destination is stronger for differentiated goods.

Outline

- Data
- Stylized facts
- Model
- Empirical findings
- Conclusion

Data

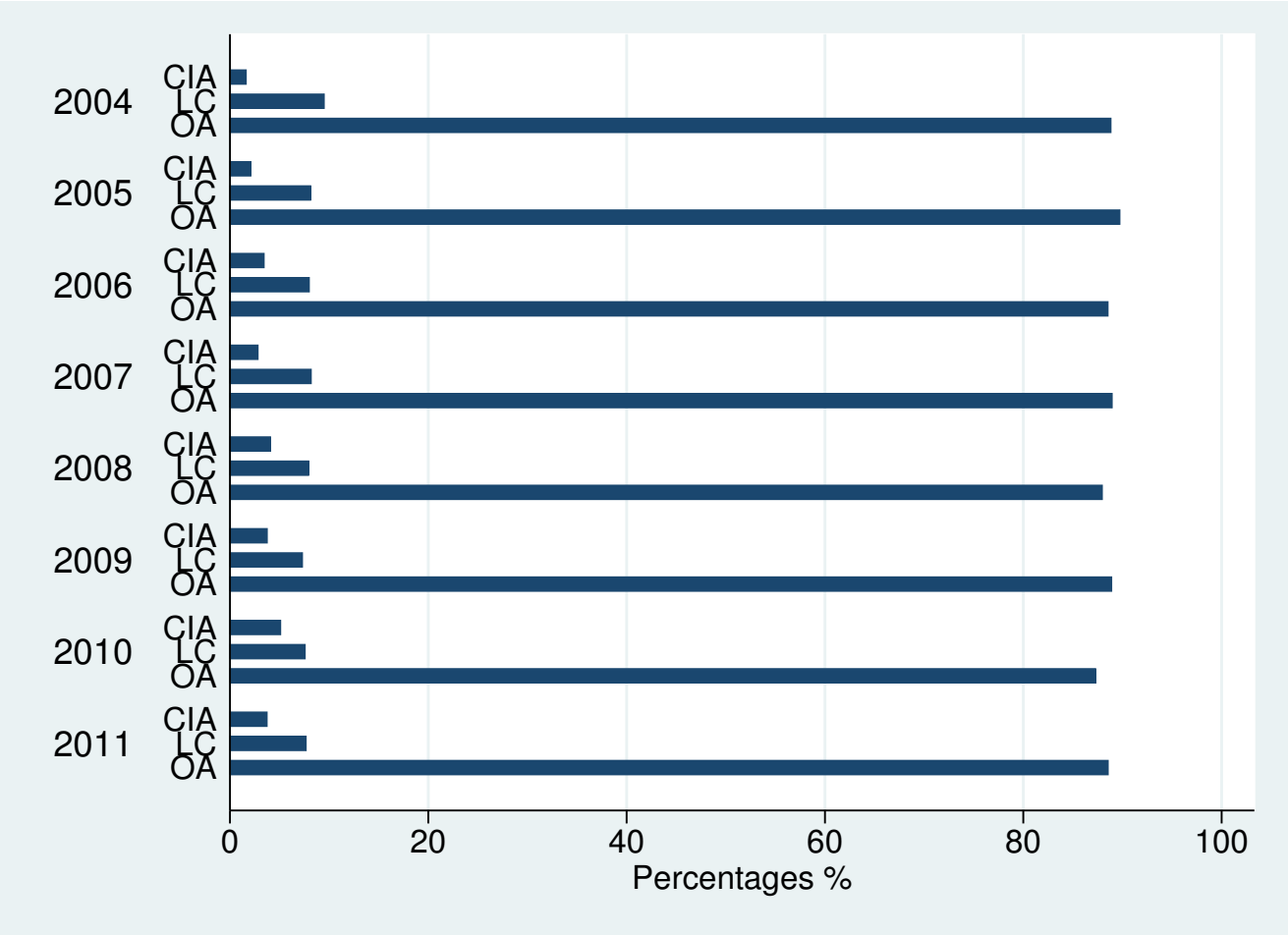
- Data cover manufacturing exports of Turkey by destination, financing term, and product (HS10) for the period 2004-2011.
- Manufacturing exports account for about 94% of total exports.

Why Turkey?

- Only country that publishes trade data disaggregated by financing terms.
- Turkey exports almost 5,000 (HS6) products to more than 200 countries, reflecting a diversified product base.
- Since 1996, Turkey has been in a customs union with the EU: the 5^{th} largest exporter to the EU and its 7^{th} largest importer.

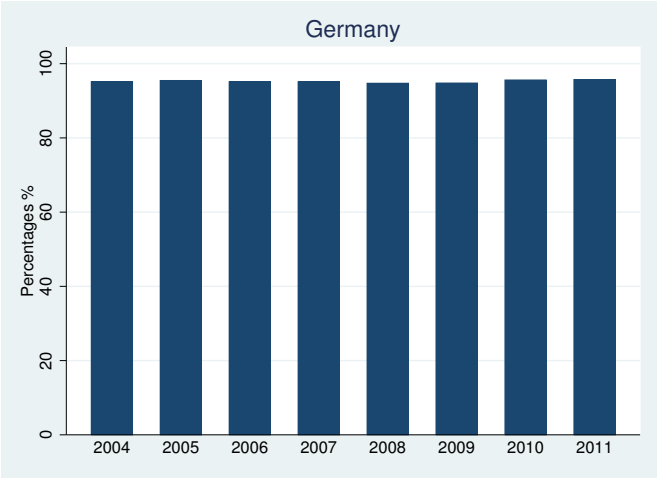
Stylized facts - OA as the dominant form of financing

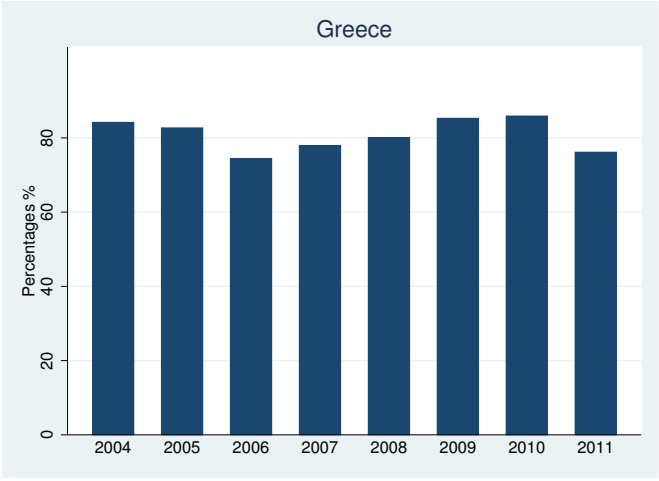
- On average, OA accounts for 80% of total exports, while CIA 7% and and LC 13%.

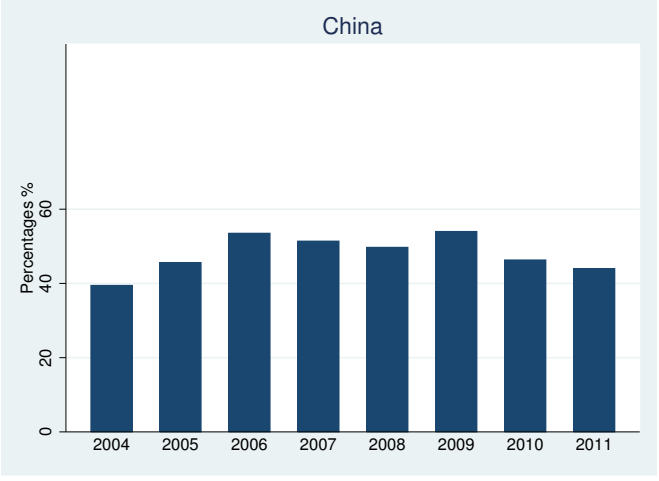


Share of exports by financing terms (2004-2011)

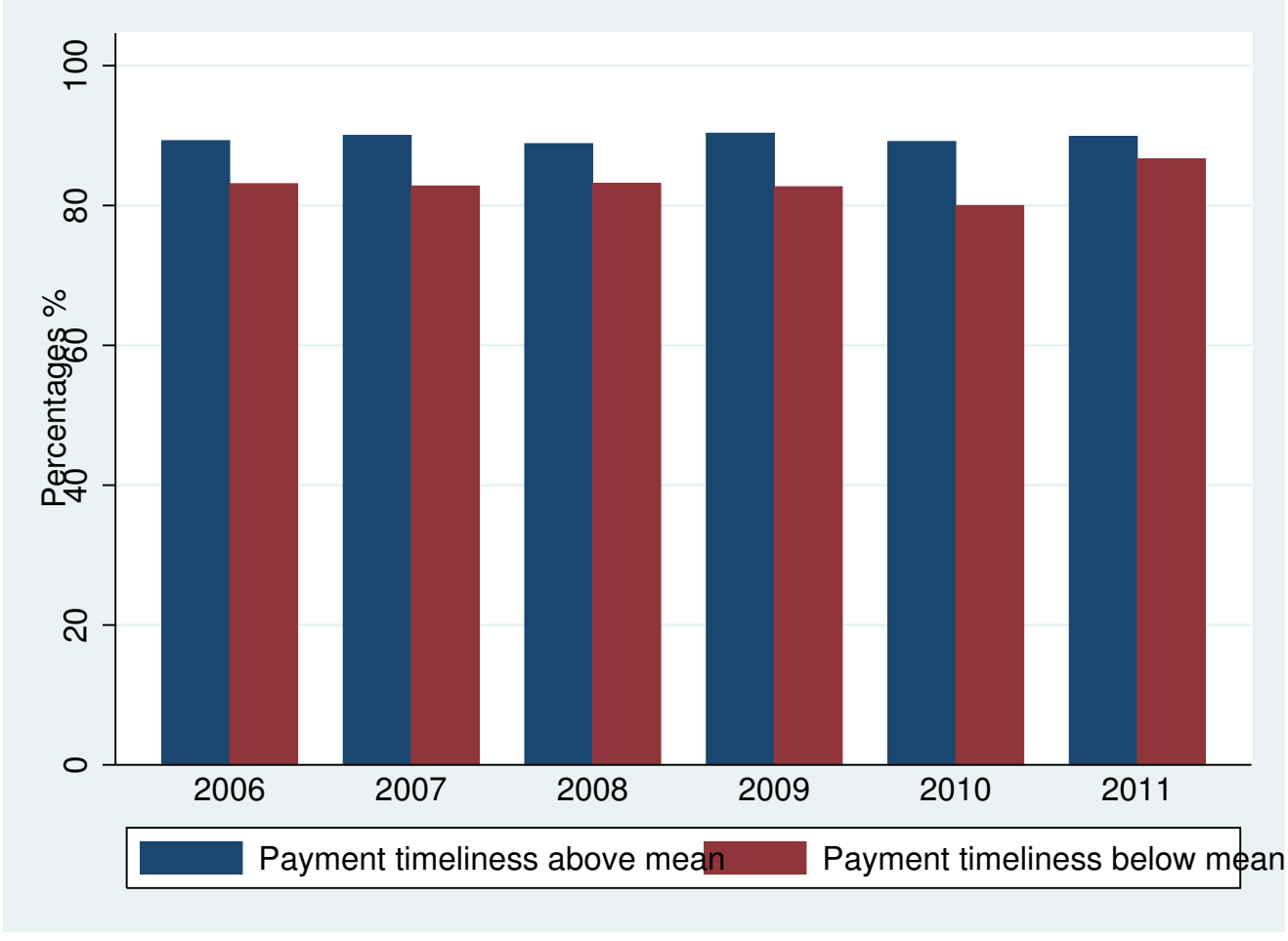
Stylized facts - considerable variation in the use of OA across countries and years





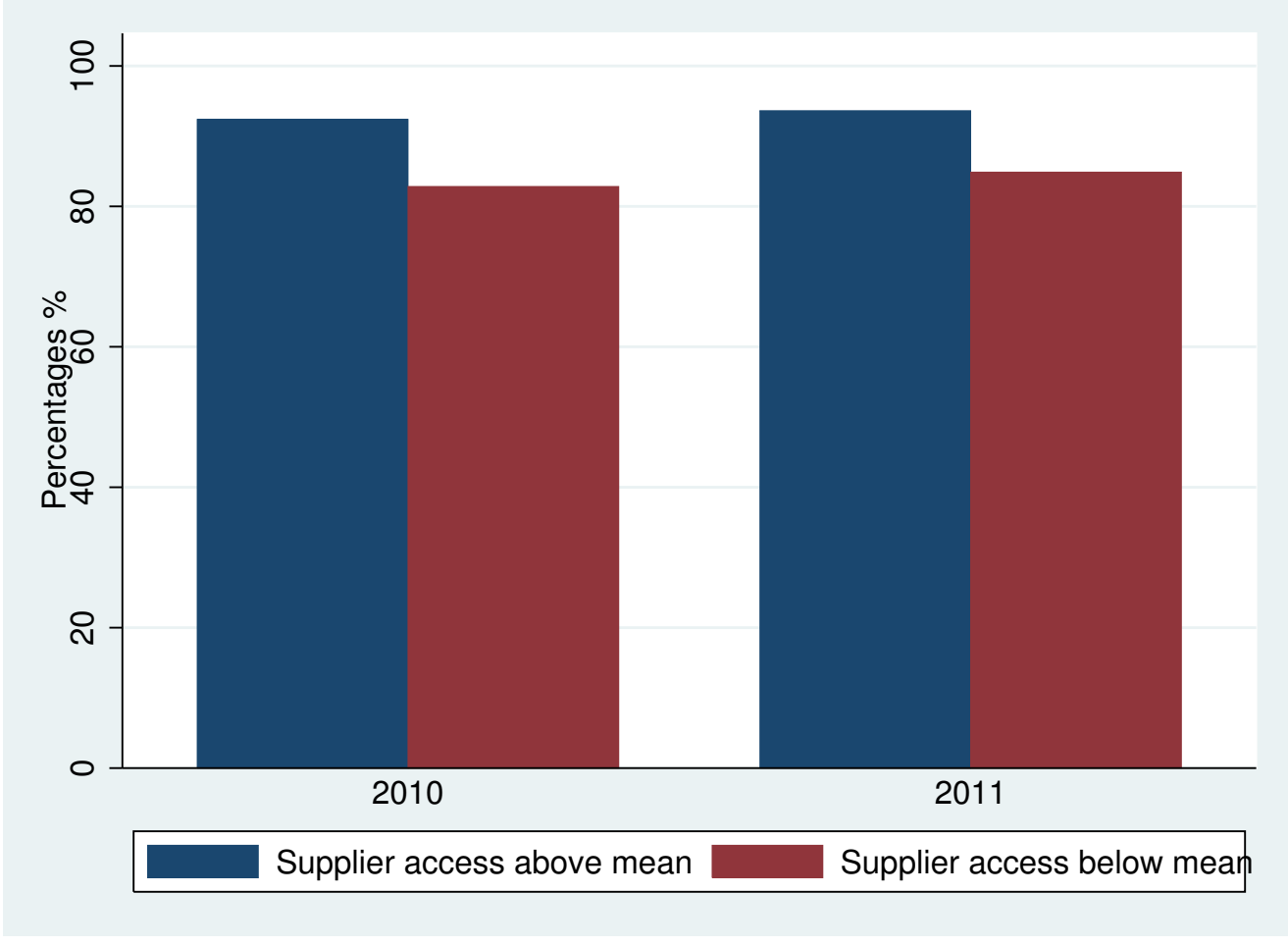


Exporter financing more prevalent to countries with better institutions



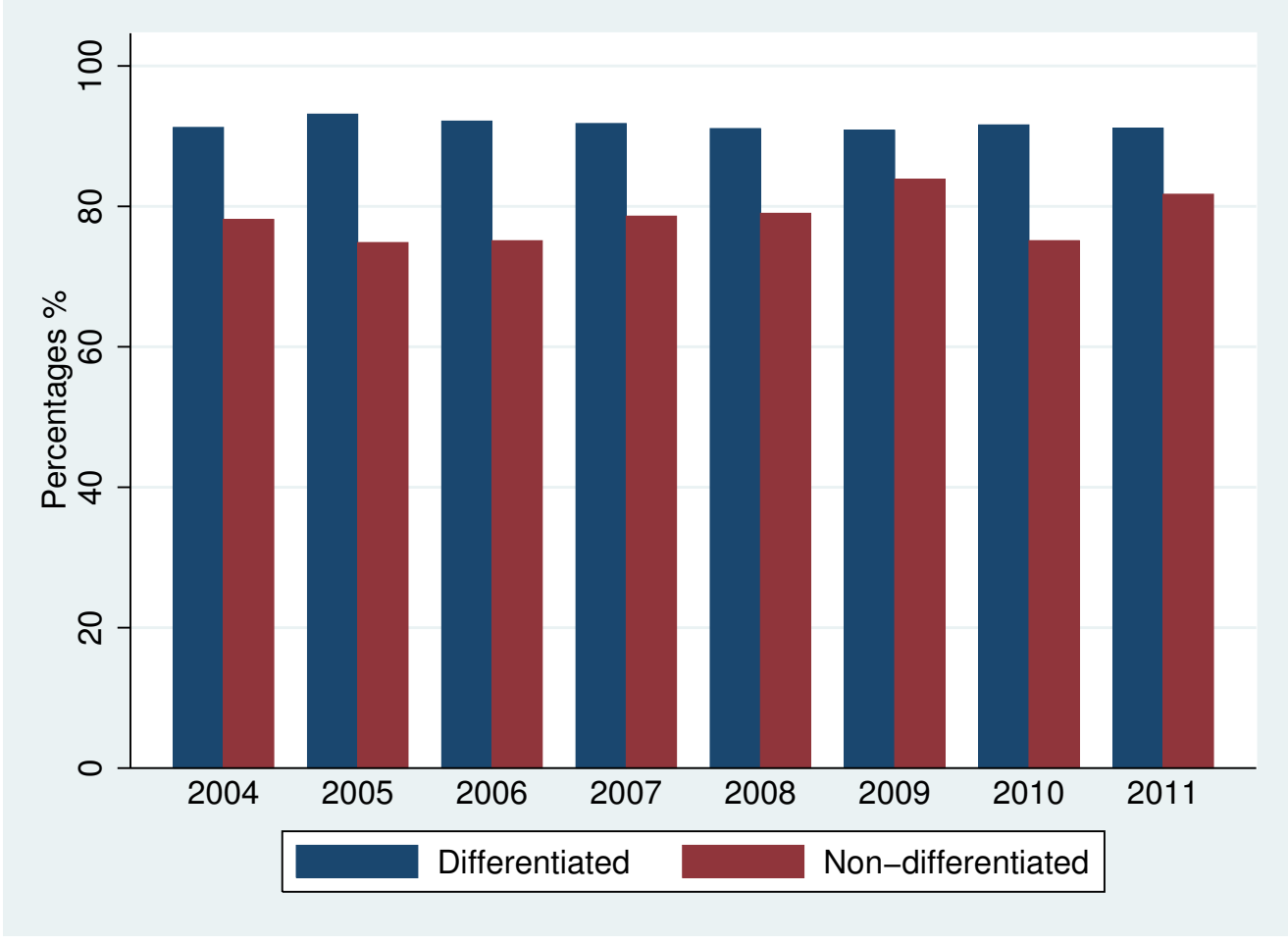
Share of exports on open account terms and institutional quality

Exporter financing more prevalent to more competitive countries



Share of exports on open account terms and competition in the destination

Exporter financing more prevalent for differentiated products



Share of exports on open account terms across product types

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- Timing:
  - Under CIA: importer pays at $t = 0$ $\rightarrow$goods arrive at c after t periods
  - Under OA: exporter produces and ships the goods at $t = 0$ $\rightarrow$importer pays after t periods
  - Under LC: importer's bank guarantees payment to the exporter after the arrival of goods at the destination (pre-financing on both sides)

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$$\begin{aligned} E[\Pi_E^{CIA}] &= Q(P^{CIA} - 1), \\ E[\Pi_I^{CIA}] &= Q\left\{\frac{\lambda + (1-\lambda)(1-\delta(e))}{(1+r_c)^t} S - P^{CIA}\right\}, \end{aligned}$$

where Q is the size of shipment, P^{CIA} the price agreed when the contract was concluded, and r_c the cost of financing in the importer's country.

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$$\Omega^*_{CIA} \propto \left(\frac{\lambda + (1-\lambda)(1-\delta(e))}{(1+r_c)^t} S - 1\right),$$

$$\Omega^*_{OA} \propto \left(\frac{(1+r)^t}{\lambda_c + (1-\lambda_c)(1-\gamma(e))}\right)^{\alpha} \left(\frac{\lambda_c + (1-\lambda_c)(1-\gamma(e))}{(1+r)^t} S - 1\right)$$

$$\Omega^*_{LC} \propto (1+r)^{t\alpha} \left(\frac{1}{(1+r_c)^t (1+r)^t f^{LC}} S - 1\right).$$

Predictions

- OA becomes more attractive as enforcement in the destination improves

$$\frac{\partial(\Omega^*_{OA}/\Omega^*_{CIA})}{\partial\lambda_c}, \frac{\partial(\Omega^*_{OA}/\Omega^*_{LC})}{\partial\lambda_c} > 0$$

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Variables

- All continuous variables are mean-centered.
- We measure IQ in four ways:
  - PT: (payment timeliness) measures the risk associated with receiving and exporting payments from the country.
  - CV: (contract viability) measures the risk of unilateral contract modification or cancellation.
  - CLS (confidence in legal system): measures the degree to which firms believe the judicial system will defend their rights in a business dispute
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- We also control for the inefficiency of the banking sector in the destination country
  - NIM (net interest margin): difference between interest income and interest expense as a percentage of interest-earning assets.

Empirical strategy

$$X_{cpft} = \beta_0 + \beta_1 OA_{cpft} * IQ_{ct} + \beta_2 OA_{cpft} * NIM_{ct} + \beta_3 OA_{cpft} * Comp_{cpt} + \Theta OA_{cpft} * Z_{ct} + \delta_{ft} + \gamma_{ct} + \alpha_{cp} + \varepsilon_{cpft}$$

where

- X_{cpft} denotes the log of Turkey's exports, measured in physical units, of HS10 product p to country c on financing term f at time t.
- OA_{cpft} takes on the value one if $f = OA$, and zero otherwise.
- IQ_{ct} is a measure of institutional quality in country c at time t.
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- Z_{ct} is a vector of additional destination-level controls.

- Theory predicts $\beta_1 > 0$, $\beta_2 > 0$, and $\beta_3 > 0$
- Also $\beta_1^{Diff} > \beta_1^{Non-diff}$ and $\beta_2^{Diff} < \beta_2^{Non-diff}$
- Standard errors are clustered at the country-year level.

Exporter-financed exports: Role of institutional quality

	Full sample				X_{cpt} on both terms	
	PT	CV	CLS	DLP	PT	CV
OAxIQ	0.294***	0.193**	0.274***	-0.124***	0.284***	0.201**
	(0.0676)	(0.0758)	(0.0685)	(0.0400)	(0.0731)	(0.0840)
OAxNIM	0.0393**	0.0316*	-0.00356	-0.00686	0.0448**	0.0380**
	(0.0168)	(0.0170)	(0.0196)	(0.0207)	(0.0180)	(0.0182)
OAxDist	-0.443***	-0.409***	-0.489***	-0.424***	-0.448***	-0.412***
	(0.0398)	(0.0408)	(0.0419)	(0.0424)	(0.0432)	(0.0440)
OAxGDPpc	0.0112***	0.0147***	0.0300***	0.0162***	0.0132***	0.0164***
	(0.00352)	(0.00315)	(0.00303)	(0.00279)	(0.00385)	(0.00337)
N	1190679	1190679	789483	948284	527050	527050
R2	0.808	0.807	0.808	0.808	0.787	0.787
FE	cxt,cxHS10	cxt,cxHS10	cxt,cxHS10	cxt,cxHS10	cxt,cxHS10	cxt,cxHS10

Standard errors clustered at country-year level. All specifications include fxt FEs

Is it economically significant?

- A one-standard-deviation increase in PT $\Rightarrow$ a 26% increase in OA-based exports relative to exports on other financing terms.
- E.g. going from the PT measured in China in 2012 to Germany in 2012 $\Rightarrow$ a 34% increase in OA relative to non-OA exports

Robustness check: Fractional Logit

	PT	CV	CLS	DLP
	(1)	(2)	(3)	(4)
IQ	**0.0645***	**0.0818****	**0.176*****	-0.0000176
	(0.0345)	(0.0349)	(0.0348)	(0.0000215)
	[0.009177*]	[0.0116256**]	[0.0234473***]	[-0.00000245]
NIM	**0.0528*****	**0.0526*****	0.0191	**0.0441*****
	(0.00987)	(0.0101)	(0.0127)	(0.0105)
	[0.0075009***]	[0.0074745***]	[0.0025438]	[0.0061266***]
Distance	-0.242***	-0.236***	-0.239***	-0.237***
	(0.0195)	(0.0194)	(0.0231)	(0.0202)
	[-0.0344155]***	[-0.0335962]***	[-0.031803]***	[-0.0328915]***
GDPpc	0.00415**	0.00423**	0.0140***	0.00610***
	(0.00186)	(0.00170)	(0.00184)	(0.00151)
GDP	0.0824***	0.0874***	0.0124	0.109***
	(0.0115)	(0.0119)	(0.0140)	(0.0121)
N	648458	648458	425539	515826
AIC	541477.1	541397.7	337074.2	423426.2
BIC	542512.9	542433.5	338071.7	424441.1
FE	HS2,t	HS2,t	HS2,t	HS2,t

Notes: Standard errors are clustered at the country-year level. Dependent variable is share of exports of HS6 product p to country c on OA terms at time t. Measure of institutional quality (IQ) is given at the top of each column. Marginal effects in square parantheses.

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  - *"Open account terms may help win customers in competitive markets"*
  - *"Insisting on cash-in-advance could, ultimately, cause exporters to lose customers to competitors who are willing to offer more favorable payment terms to foreign buyers"*

Testing the competition effect: Part I

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    where the estimated coefficients are obtained from a gravity equation run for each t

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$$\ln T_{ic} = E_i + I_c + \delta_1 \ln dist_{ic} + \delta_2 contig_{ic} + u_{ic}$$

  - $N_{c,t-3,HS6}$ is the number of countries exporting a given HS product to destination c in year $t-3$

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- WITS/TRAINS applied tariff data by destination, year, and HS6 product:
- $Rel\_Tariff_{ct,HS6} = Tariff^{TUR}_{c,t-3,HS6} - Tariff^{CHN}_{c,t-3,HS6}$
- $D\_Tariff_{ct,HS6} = 1$ if $Tariff^{TUR}_{c,t-3,HS6} > Tariff^{CHN}_{c,t-3,HS6}$ and zero otherwise.
- Exclude MFA products.

Exporter-financed exports and competition in the destination

	$GDP_{c,t}$	$SA_{c,t}$	$N_{c,t-3,HS6}$	$Rel\_Tariff_{ct,HS6}$	$D\_Tariff_{ct,HS6}$
OAxCompet	0.279***	0.201***	0.0274***	0.0043***	0.365***
	(0.00604)	(0.00771)	(0.000840)	(0.0004)	(0.0186)
OAxIQ	0.150**	0.0938	0.0815	0.260***	0.252***
	(0.0130)	(0.0222)	(0.0297)	(0.0109)	(0.0109)
OAxNIM	0.0663***	0.101	0.114	0.0518***	0.0516***
	(0.00323)	(0.00804)	(0.0125)	(0.0028)	(0.0028)
OAxDistance	-0.582***	-0.391***	-0.524***	-0.389***	-0.371***
	(0.0106)	(0.0178)	(0.0219)	(0.0085)	(0.0085)
OAxGDPpc	0.00374	0.00539	0.0183**	0.0087***	0.0084***
	(0.000570)	(0.000910)	(0.00124)	(0.0005)	(0.0005)
N	1190679	430953	295960	1018997	1018997
R2	0.809	0.875	0.880	0.822	0.822
FE	cxt,cxHS10	cxt,cxHS10	cxt,cxHS10	cxt,cxHS10	cxt,cxHS10

Standard errors clustered at country-year level. All specifications include fxt FEs and all relevant interactions.

Is it economically meaningful?

- SA measured for Germany in 2011 is 0.75 std higher than the one measured for China $\Rightarrow$ a 50% increase in OA relative to non-OA exports
- Number of countries exporting to Germany (averaged over HS6 products) in 2011 is 0.55 std higher than the number of countries exporting to China $\Rightarrow$ a 30% increase in OA relative to non-OA exports

Testing the competition effect: Part III
End of the Multi-fibre Agreement

- Turkey, China, India, and Bangladesh have been the leading exporters of textiles and apparel into the EU market.
- Turkish exports have not been subject to any quota restrictions since 1996.
- Quota restrictions against India were abolished in January 2005, and those against China in 2008.
- Focus on Turkish exports of textile/apparel to the EU in 2004 and 2008

Policy experiment: Measurement

- Treatment: quotas for an HS6 product were binding for at least one exporter in 2004

$$\begin{aligned} Treat_{HS6} &= 1 \text{ if } \exists\ i \in \{CHN, BGD, IND\} \text{ s.t. } FR_{i,HS6,2004} > 0.9 \\ Treat_{HS6} &= 0 \text{ if } \forall\ fill\_rate_{i,HS6,2004} < 0.9 \end{aligned}$$

- Max fill rate per product in 2004: Max_FR_{HS6}
- Did OA exports increase disproportionately in treated products?

$$\ln(X_{cpt,OA}) - \ln(X_{cpt,nonOA}) = \gamma_0 + \gamma_1 2008_t * MFA_{HS6} + \gamma_2 MFA_{HS6} + \gamma_3 2008_t + \Theta * Z_{ct} + \epsilon_{cpt}$$

where $MFA = \{Treat_{HS6}, Max\_FR_{HS6}\}$ and $t = 2004, 2008$.

- We estimate

$$\ln(X_{cpt,OA}) - \ln(X_{cpt,nonOA}) = \gamma_0 + \gamma_1 2008_t * MFA_{HS6} + \alpha_p + \alpha_{ct} + \epsilon_{cpt}$$

- We expect $\gamma_1 > 0$

End of MFA and exporter financed exports

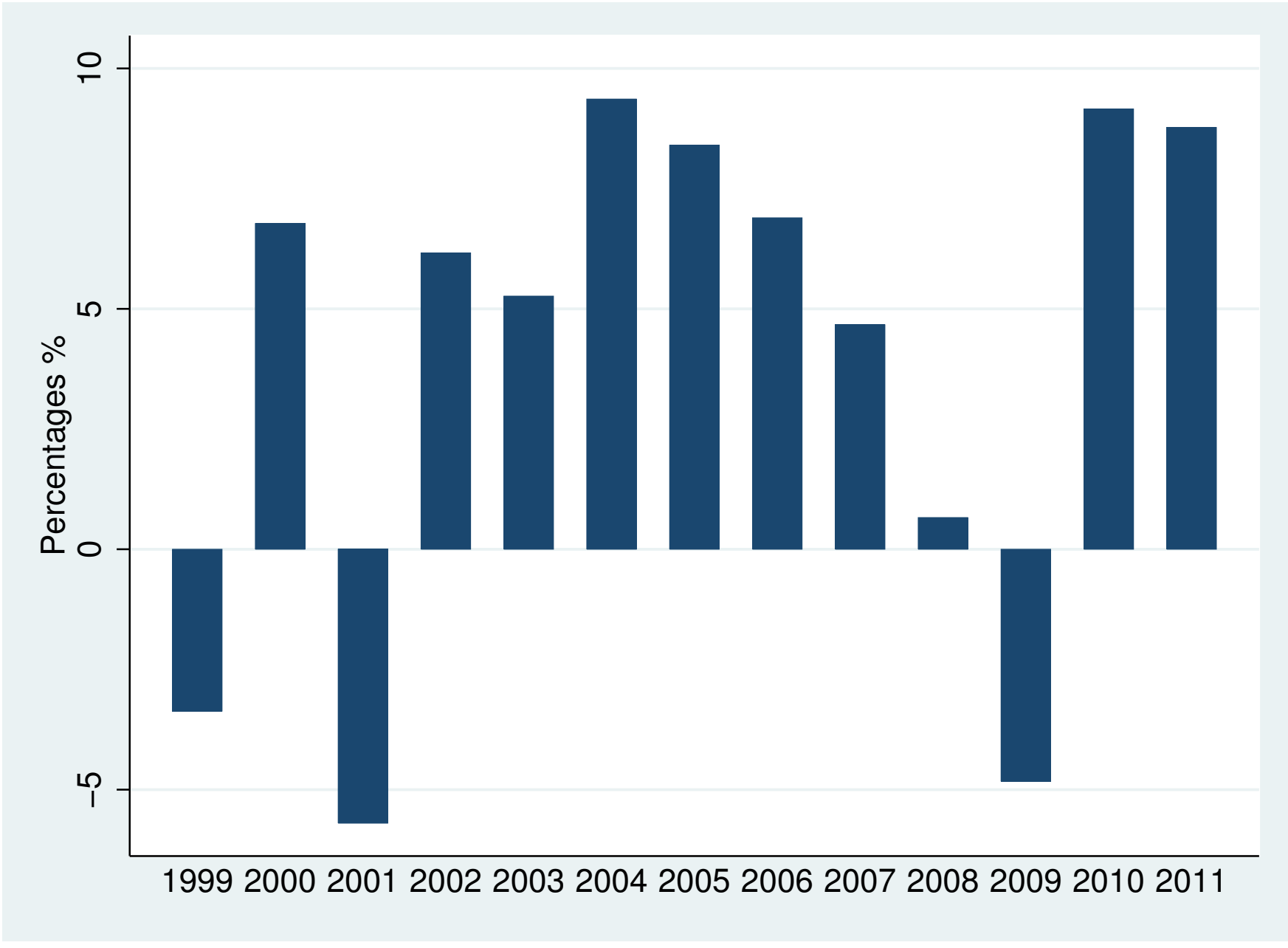
	Treatment dummy		Maximum fill rate	
2008xMFA	**0.564*** **	**0.509***	**0.597*** **	**0.542***
	(0.165)	(0.290)	(0.173)	(0.303)
N	25913	25913	25913	25913
R2	0.220	0.786	0.220	0.786
FE	cxt, HS10	cxt, cxHS10	cxt, HS10	cxt, cxHS10

Standard errors clustered at HS6 level.

Export financing during the Great Recession

- Turkish economy recovered relatively quickly from the Great Recession.
- The banking sector weathered the crisis times unscathed, e.g. no bank bail-outs (Uygur (2010)).
- In the crisis database constructed by Laeven and Valencia (2012), Turkey is not among the countries that experienced a banking crisis after 2008.
- Two effects of the crisis
  - More limited access to financing by importers
  - A negative demand shock which could be viewed as an increase in competitive pressures

Real GDP growth in Turkey



Specification

- Diff-in-diff similar to the MFA exercise
- OA exports relative to non-OA exports in 2006 vs 2009.
- Dependent variable: $\ln(X_{cpt,OA}) - \ln(X_{cpt,nonOA})$
- We estimate

$$\ln(X_{cpt,OA}) - \ln(X_{cpt,nonOA}) = \beta_0 + \beta_1 2009_t + \beta_2 2009_t * Crisis_c + \Theta * Z_{ct} + \alpha_{c,HS6} + \alpha_p + \epsilon_{cpt}$$

- We expect $\beta_2 > 0$

Export financing during the Great Recession

2009	-0.378***	-0.369***	-0.352***	-0.373***	-0.367***	-0.375***
	(0.0011)	(0.0028)	(0.0048)	(0.0041)	(0.0027)	(0.0029)
Crisis	**0.0927*** **					
	(0.0204)					
Output_loss		**0.0025*** **			**0.0043*** **	**0.0014** **
		(0.0006)			(0.0005)	(0.0007)
Liq_support			**-0.0011**		**-0.0068*** **	
			(0.0011)		(0.0005)	
NPLs				**0.0082*** **		**0.0054*** **
				(0.0011)		(0.0002)
GDPpc	-0.0267***	-0.0237***	-0.0213***	-0.0225***	-0.0212***	-0.0233***
	(0.0013)	(0.0007)	(0.0009)	(0.0003)	(0.0008)	(0.0007)
NIM	0.0239***	0.0250***	0.0270***	0.0253***	0.0247***	0.0248***
	(0.0043)	(0.0044)	(0.0048)	(0.0047)	(0.0044)	(0.0044)
N	346046	346046	346046	346046	346046	346046
R2	0.671	0.671	0.671	0.671	0.671	0.671
Fixed effects	cxHS6,HS10	cxHS6,HS10	cxHS6,HS10	cxHS6,HS10	cxHS6,HS10	cxHS6,HS10

Standard errors clustered at the country-year level.

Conclusion

- Better contract enforcement in the importing country increases the incidence of OA, and even more so for differentiated goods.
- Cost of financing in the destination increases exports on OA terms, but to a smaller extent for differentiated goods.
- Exports on OA terms are larger to more competitive destinations.
  - Increase in OA exports in quota-restricted products after the end of the MFA
  - Increase in OA exports to crisis-affected countries
- Our results are consistent with the idea that the ability to provide financing helps increase aggregate exports from an emerging market.

Price under each financing term

Setting the first-order condition with respect to P^f to zero under each financing term, we obtain the following expressions for the transaction prices

$$\begin{aligned} P^{CIA} &= (1-\alpha)\frac{\lambda + (1-\lambda)(1-\delta(e))}{(1+r_c)^t}S + \alpha, \\ P^{OA} &= (1-\alpha)S + \alpha\frac{(1+r)^t}{\lambda_c + (1-\lambda_c)(1-\gamma(e))}, \\ P^{LC} &= (1-\alpha)\frac{1}{f^{LC}(1+r_c)^t}S + \alpha(1+r)^t. \end{aligned}$$

▸ choice

Digression: New products

- New product defined as an HS10 product exported to a destination c for the first time in the last three years.

	Payment timeliness		Contract viability	
OAxIQ	0.253***	0.243**	0.192**	0.198
	(0.0735)	(0.112)	(0.0803)	(0.127)
NewxOAxIQ	-0.102**	-0.0496	-0.106*	-0.0454
	(0.0452)	(0.0810)	(0.0595)	(0.106)
NewxIQ	0.0532	-0.00920	0.0349	-0.0362
	(0.0366)	(0.0758)	(0.0486)	(0.0963)
New	0.301***	0.510**	0.362**	0.612**
	(0.109)	(0.220)	(0.155)	(0.305)
NewxOA	-0.833***	-0.891***	-0.843***	-0.905***
	(0.0332)	(0.0528)	(0.0346)	(0.0544)
N	1019154	1019154	1019154	1019154
R2	0.817	0.899	0.817	0.899
FE	cxt,cxHS10	cxt,cxHS6xt,cxHS10	cxt,cxHS10	cxt,cxHS6xt,cxHS10

Standard errors clustered at country-year level. All specifications include fxt FEs.

All specifications include distance, NIM, and GDPpc interactions.

Exporter-financed exports and IQ: alternative IQ measures

	Regulatory quality		Government effectiveness	
	(1)	(2)	(3)	(4)
OAxIQ	0.136	0.134	0.0756	0.0616
	(0.0830)	(0.126)	(0.0851)	(0.129)
OAxDistance	-0.377***	-0.355***	-0.396***	-0.375***
	(0.0396)	(0.0618)	(0.0414)	(0.0643)
OAxNIM	0.00792	0.00826	0.00939	0.00932
	(0.0201)	(0.0309)	(0.0197)	(0.0299)
OAxGDPpc	0.00904**	0.00978*	0.0113***	0.0125*
	(0.00369)	(0.00567)	(0.00422)	(0.00655)
N	1369605	1369605	1369605	1369605
R2	0.807	0.897	0.807	0.897
FE	cxt,cxHS10	cxHS6xt,cxHS10	cxt,cxHS10	cxHS6xt,cxHS10

Standard errors clustered at country-year level. All specifications include fxt FEs.

Product differentiation matters

	Payment timeliness		Contract viability	
	(1)	(2)	(3)	(4)
OAxIQ	0.212***	0.217***	0.135***	0.142***
	(0.0296)	(0.0305)	(0.0274)	(0.0285)
DiffxOAxIQ	0.103***	0.101***	0.0746**	0.0710**
	(0.0324)	(0.0334)	(0.0297)	(0.0308)
DiffxIQ	-0.0816**	-0.0826**	-0.0476*	-0.0725**
	(0.0341)	(0.0408)	(0.0275)	(0.0322)
OAxNIM	0.0753***	0.0780***	0.0707***	0.0735***
	(0.00744)	(0.00764)	(0.00741)	(0.00760)
DiffxOAxNIM	-0.0432***	-0.0448***	-0.0470***	-0.0486***
	(0.00823)	(0.00846)	(0.00820)	(0.00843)
DiffxNIM	0.0304***	0.0228**	0.0330***	0.0254***
	(0.00789)	(0.00899)	(0.00788)	(0.00898)
DiffxOA	0.561***	0.561***	0.564***	0.565***
	(0.0209)	(0.0215)	(0.0210)	(0.0216)
N	1120495	1120495	1120495	1120495
R2	0.808	0.815	0.807	0.815
FE	cxt,cxHS10	cxHS2xt,cxHS10	cxt,cxHS10	cxHS2xt,cxHS10

S.E. clustered at country-HS10 level.All spec. incl. GDP per capita and distance interactions, and fxt FEs.

Product differentiation matters: Role of Judicial System

	CLS		DLP	
	(1)	(2)	(3)	(4)
OAxIQ	0.306***	0.313***	-0.0551**	-0.0548**
	(0.0430)	(0.0440)	(0.0225)	(0.0230)
DiffxOAxIQ	-0.0310	-0.0356	-0.0810***	-0.0817***
	(0.0472)	(0.0483)	(0.0247)	(0.0253)
OAxNIM	0.0236**	0.0233**	0.0314***	0.0326***
	(0.0111)	(0.0114)	(0.0108)	(0.0111)
DiffxOAxNIM	-0.0323***	-0.0322**	-0.0446***	-0.0450***
	(0.0122)	(0.0126)	(0.0120)	(0.0124)
DiffxNIM	0.0263**	0.0188	0.0314**	0.0301*
	(0.0124)	(0.0151)	(0.0135)	(0.0170)
DiffxOA	0.658***	0.655***	0.599***	0.602***
	(0.0262)	(0.0268)	(0.0241)	(0.0248)
N	743562	743562	892789	892789
R2	0.808	0.815	0.807	0.815
FE	cxt,cxHS10	cxHS2xt,cxHS10	cxt,cxHS10	cxHS2xt,cxHS10

S.E. clustered at country-HS6.All spec. incl. GDP per capita and distance interactions, and fxt FEs.

Constructing an alternative measure of product differentiation

- Data on US imports by 10-digit HS and country in 2004.
- Keep only products measured in kg.
- Calculate unit values by product, country.
- Calculate the median absolute deviation at HS6-level across all importers:

$$MAD_{HS6,2004} = med_{HS6,2004}(\mid UV_{HS10,c,2004} - medUV_{HS6,2004} \mid)$$

- Define $Diff = 1$ if $MAD_{HS6,2004}$ is above the median in 2004.

Product differentiation matters: Alternative measure of product differentiation

	Payment timeliness		Contract viability	
	(1)	(2)	(3)	(4)
OAxIQ	0.189***	0.198***	0.128***	0.144***
	(0.0351)	(0.0369)	(0.0323)	(0.0342)
DiffxOAxIQ	0.0921**	0.0808*	0.0772*	0.0703*
	(0.0431)	(0.0453)	(0.0395)	(0.0417)
DiffxIQ	-0.119**	-0.0869	-0.0892**	-0.0723
	(0.0466)	(0.0572)	(0.0366)	(0.0439)
OAxNIM	0.0934***	0.0956***	0.0888***	0.0911***
	(0.00878)	(0.00920)	(0.00871)	(0.00912)
DiffxOAxNIM	-0.0455***	-0.0435***	-0.0486***	-0.0461***
	(0.0111)	(0.0117)	(0.0111)	(0.0116)
DiffxNIM	0.0303***	0.0222*	0.0328***	0.0241*
	(0.0104)	(0.0123)	(0.0104)	(0.0123)
DiffxOA	0.587***	0.604***	0.591***	0.609***
	(0.0284)	(0.0298)	(0.0285)	(0.0298)
N	400486	400486	400486	400486
R2	0.777	0.792	0.777	0.792
FE	cxt,cxHS10	cxHS2xt,cxHS10	cxt,cxHS10	cxHS2xt,cxHS10

S.E. clustered at country-HS10 level.All spec. incl. GDP per capita and distance interactions, and fxt FEs.

Product differentiation matters: Detailed classification

	Diff vs Ref		Diff vs Hom		Ref vs Hom	
	(1)	(2)	(3)	(4)	(5)	(6)
OAxIQ	0.234***	0.238***	0.0555	0.0601	0.0563	0.0536
	(0.0315)	(0.0324)	(0.0818)	(0.0866)	(0.0859)	(0.0941)
DiffxOAxIQ	0.0806**	0.0795**	0.260***	0.257***		
	(0.0342)	(0.0352)	(0.0828)	(0.0876)		
DiffxIQ	-0.0581	-0.0651	-0.230***	-0.164		
	(0.0362)	(0.0436)	(0.0829)	(0.101)		
RefxOAxIQ					0.179**	0.182*
					(0.0910)	(0.0995)
RefxIQ					-0.176*	-0.231
					(0.0919)	(0.155)
OAxNIM	0.0730***	0.0757***	0.0847***	0.0872***	0.0841***	0.0986***
	(0.00787)	(0.00808)	(0.0220)	(0.0231)	(0.0229)	(0.0190)
DiffxOAxNIM	-0.0410***	-0.0426***	-0.0525**	-0.0540**		
	(0.00862)	(0.00886)	(0.0223)	(0.0234)		
RefxOAxNIM					-0.0109	-0.0236
					(0.0242)	(0.0194)
DiffxOA	0.542***	0.542***	0.741***	0.730***		
	(0.0221)	(0.0228)	(0.0560)	(0.0589)		
RefxOA					0.199***	0.168**
					(0.0612)	(0.0660)
N	1094152	1094152	935696	935696	211142	211142
R2	0.805	0.812	0.801	0.809	0.803	0.819
FE	cxt,cxHS10	cxHS2xt,cxHS10	cxt,cxHS10	cxHS2xt,cxHS10	cxt,cxHS10	cxHS2xt,cxHS10

S.E. clustered at country-HS10 level.All spec. incl. GDP per capita and distance interactions, and fxt FEs.

Summary: Product differentiation

- Product differentiation reinforces the effect of *contractual enforcement* but weakens the effect of *cost of financing* on the attractiveness of OA terms.

- Results are robust to
  - using more aggregate (HS6-level) data
  - restricting the sample to *cpt* combinations with non-zero exports on both terms
  - using alternative measures of product differentiation
  - using more disaggregated measures of product differentiation