Does exporting affect financial leverages: Evidence from Chinese firms under exchange rate fluctuations

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3. Empirical method
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5. Data and summary statistics
6. Exchange rate shocks and exports
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8. The role of importer's financial institution
9. Potential violation of the exclusive restriction
10. Conclusion

1. Introduction

1. Introduction

- Financial factors as a new dimension to understanding international trade at both country and firm level
  - Theory
    - Financial factors as a new determinant of countries' trade pattern and volume (Kletzer - Bardhan 1987, Ju-Wei , 2005, Antras-Cabellero 2009, Manova 2013)
    - Financial frictions may hinder firms' exports at both extensive and intensive margins (Chaney 2005, Manova 2013, Feenstra , Li, and Yu . 2011)
  - Empirics
    - Financially developed countries has comparative advantage and thus relatively superior export performances in sectors more reliant on external finance (Manova 2013 , Beck 2002)
    - Negative relation between firm level exports and financial constraint at extensive and intensive margin (e.g. Greenaway et al. 2007, Mulls 2008, Manova et al. 2009, Minetti and Zhu 2010 , Egger and Kesina 2014 ,see Wagner 2014 for a survey)
- Empirical causality between exports and firms' financial performances less clear (*Daja Vu ?* remember the *export-productivity debate*)

Table 1 . Summary of prior studies on exports and finance using firm level data

Author (year)	Country	Sample	Causality	
			Finance to Exports	Exports to finance
Campa and Shaver (2002)	Spain	3057 firms , 1990-1998	-	YES
Baggs and Brander (2006 JIBS)	Canada	291,53 observations, 1989-1997	-	YES (indirect)
Greenaway, Guariglia and Kneller (2007 *JIE*)	UK	9292 firms , 1993-2003	NO	YES
Bellone, Musso, Nesta, Schiav (2010)	France	25,000 firms , 1993-2005	YES	NO
Mulls (2008)	Belgium	8926 firms , 1999-2005	YES	-
Berman and Hericourt (2010, *JDE*)	9 developing countries	5000 firms, 2000-2005	YES	-
Minetto and Zhu (2011 JIE)	Italy	4680 firms, 2001	YES	-
Forlani (2010)	Italy	4668 firms, 2000 and 2003	YES	-
Du and Girma (2007)	China	28,000 firms 1999-2002	YES	-
Manova, Zhang and Wei (2009)	China	Customs Transaction data ,2005	YES	-
Egger and Kesina (2010)	China	57,000 firm-year observations , 2001-2005	YES	-
Li and Yu (2010)	China	160,000 firms 2000-2007	YES	-
Feenstra, Li and Yu (2011)	China	160,000 firms 2000-2008	YES	-

1. Introduction

- This paper
  - Tackle the causal impact of exports demand on firms' financial leverages using matched production-transaction firm level data
  - Using firm-specific exchange rate shocks induced by a unique event , i.e. the depegging of Chinese Yuan from the USD in July 2005 , as the instrument for changes in firms' exports
  - Examine the role of importers' financial institution
  - Distinguishes between domestic and foreign-owned exporters

1. Introduction

- Main findings
  - Increases in export demand induced by the exchange rate fluctations does increase firms' total sales and factor inputs , but has no average effects on liquidity and leverage.
  - For domestic exporters selling in countries with well-developed financial markets, increasing exports does reduce(increase) firms financial leverages(liquidity)
  - Such beneficial effect , however, is not present for foreign-owned firms.

2. The impacts of exports on firms' financial performances : the mechanisms

2. Economic Background

Channels : exports ___?___ financial leverages and liquidity constraint

REDUCES

- **Insurance mechanism**. Exporting makes firms less tied to the domestic cycle , generating more stable cash flows, which relaxes liquidity constraint (Campa and Shaver 2002)
- **Pecking order** model of capital structure (Myers 1984) , and its links to trade policy via profit channel (Baggs and Brander 2006)

INCREASES

- Exports are more **reliant on external finance** , due to higher costs and risks associated with foreign sales. (Chaney 2005, Manova et al. 2009) So increasing exports may increase leverage.
- Tax shield – bankruptcy **trade-off model** (Kraus and Litzenberger 1972) , and its links to trade policy via profit channel (Baggs and Brander 2006)

2. Economic Background

- The importer's financial institution may matter
  - Underdevelopment of the importer's financial market may lead the foreign buyers to
    - use trade credit as a means of financing so unable to pay in advance
    - unable to offer letter of credit.
    - unable to provide financial assistance to the exporter with upfront costs of production or investment
  - These may cause liquidity difficulties of the exporter , since they may be forced to engage in an open account transaction (Manova 2010) , or relying on external finance to fund the required investments.
  - This implies that for credit constrained firms , increasing exports to foreign buyers in financially more developed countries may reduce the external finance requirement of their exports and relax their liquidity constraint.

3. Empirical Method

3. Empirical Method

- Our identification strategy of the causal effect of exports on firm finance closely follows Park, Yang, Shi and Jiang (ReStat forthcoming)
  - PYSJ construct firm-specific exchange rate shocks induced by 1997 Asian financial crisis., based on firms' pre-crisis export destinations.
  - They show that the shocks are good instruments for changes in firm level exports during1995-1998(2000).
  - They show that firm-level export growth have positive effects on productivity , especially in high-income countries, which is consistent with the learning-by-exporting hypothesis.

3. Empirical Method

- The question and the problem

Suppose the effect of exports on financial factors can be captured by

$$F_{it} = \alpha X_{it} + \mu_i + \mu_t + \varepsilon_{it} \quad (1)$$

where

i= *firm index* , t = *time* , F_{it} = Financial factors , X_{it} = Value of exports

To eliminate firm fixed effect use first-difference w.r.t time

$$\Delta F_{it} = \alpha \Delta X_{it} + C + \omega_{it} \quad (2)$$

where $C = \mu_t - \mu_{t-1}$, $\omega_{it} = \varepsilon_{it} - \varepsilon_{it-1}$

Endogeneity problem : e.g. unobservable time variant firm variables may cause a spurious relation between exports growth and changes in finance.

3. Empirical Method

- First Stage of IV : Exchange rate shock as instrument
  - Now suppose export growth is affected by an exogenous firm-specific exchange rate shock across time period *t= T0* and *T1*

$$\Delta X_i = \delta + \beta \Delta EXR_i + \gamma' \Delta EXR_i \times \mathrm{Y}_{iT_0} + \varsigma' \mathrm{Z}_{iT_0} + \theta_i \qquad (3)$$

where

- Changes from time T_0 to T_1: $\Delta(.)_i = (.)_{iT1} - (.)_{iT_0}$
- Firm specific real exchange rate shock ΔEXR_i
- Pre-shock firm characteristics Y_{iT_0} and Z_{iT_0} (including Y_{iT_0})

3. Empirical Method

- Constructing Firm-specific exchange rate shock
  - Using pre-shock exports by destination ***j*** to construct the firm-specific shock

$$\Delta EXR_i = \sum_{j=1}^{J_i} w_{ijT_0} \Delta EXR_j \qquad (4)$$

- Real exchange rate changes by destination : $\Delta EXR_j = \ln\left(\frac{XR_{jT_1}}{P_{jT_1}}\right) - \ln\left(\frac{XR_{jT_0}}{P_{jT_0}}\right)$,
- Pre-shock exports by destination as weights : $w_{ijT_0} = X_{ijT_0} \Big/ \sum_{j=1}^{J_i} X_{ijT_0}$

3. Empirical Method

- Second Stage of IV regression
  - Obtain predicted export growth from the first stage regression, which is used as the main regressor for the second stage

$$\Delta F_i = \alpha \, \mathrm{Pr}ed\Delta X_i + \eta' Z_{iT_0} + C + \omega_i \qquad (5)$$

- The role of importer's financial institution

$$\Delta F_i = \alpha_0 \, \mathrm{Pr}ed\Delta X_i + \alpha_1' \mathrm{Pr}ed\left(\Delta X_i \times FinDev_{iT_0}\right) + \eta' Z_{iT_0} + C + \omega_i \qquad (6)$$

Where $FinDev_{iT_0} = \sum_{ij_{T_0}} w_{ij_{T_0}} \ln\left(FinDev_{jT_0}\right)$

$\Delta X_i \times FinDev_{iT_0}$ instrumented by $\Delta EXR_i \times FinDev_{iT0}$ and $\Delta EXR_i \times Y_{iT_0} \times FinDev_{iT0}$

4. The exchange rate shock

4. The Event

- Date of the event : 21 July 2005
- Description of the event
  - People's Bank of China made an official announcement that RMB will depeg from the USD , moving into a managed floating exchange rate regime with reference to a basket of currencies
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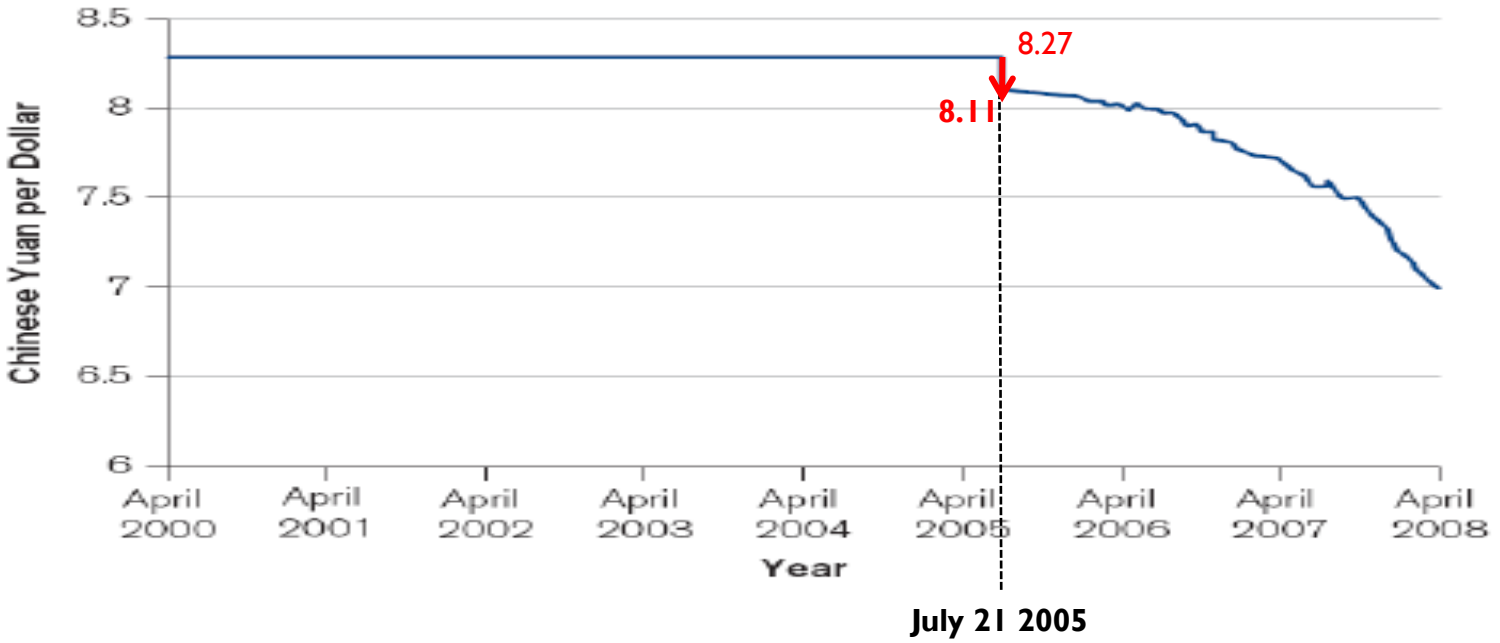
Figure 2: Chinese Yuan to US Dollar



4. The Event

- Unexpectedness of the event
  - Massive debate on whether the RMB is undervalued or not in the media
    - Krugman (NY Times, 09.2003, 05.2005) versus Lau & Stiglitz (FT, 04.2005)
  - Mounting debate over the need for a reform on RMB's exchange rate regime
    - Greenspan to US Senate : RMB free floating could be risky and threaten the world economy (China daily May 2004)
  - Chinese official claimed RMB regime to be an" internal affair" and denied imminent revaluation/reform prior to the event
    - Premier Wen Jiabao : no RMB exchange rate reform likely (China Daily . Nov 2004)
    - On July 27 , 2005, PBC published a "solemn statement" accusing misleading reports from the foreign media , and denied the implications for further appreciation.
  - Despite the western pressure on RMB revaluation, the possibility and the timing of the exchange rate reform remains highly uncertain prior to 2005.

Wen: No RMB change while speculation is rife

(China Daily)
Updated: 2004-11-2

China will not re
(RMB) while hot
currency, said P

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中国人民银行
THE PEOPLE'S BANK OF CHINA

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Solemn Statement by the Spokesman of the People''s Bank of China

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The reform of the RMB exchange rate regime has triggered widespread coverage and considerable support from the media both at home and abroad. However, certain foreign media has misled the public and even wrongly speculated that the revaluation of RMB by 2 percent was only the first step in a series of adjustment, which could "lead to expectations for further RMB revaluation by the People's Bank of China in the non-distant future".

To promote correct understanding of the RMB exchange rate regime reform, the People's Bank of China is hereby making solemn statements as follows:

First, a revaluation of RMB by 2 percent, effective in the beginning of the exchange rate regime reform, does not in the least imply an initial move which warrants further actions in the future.

Figure 3a: Exchange Rate Movements in China's "Big Four" Export Destinations , Jan 2004- Dec 2007

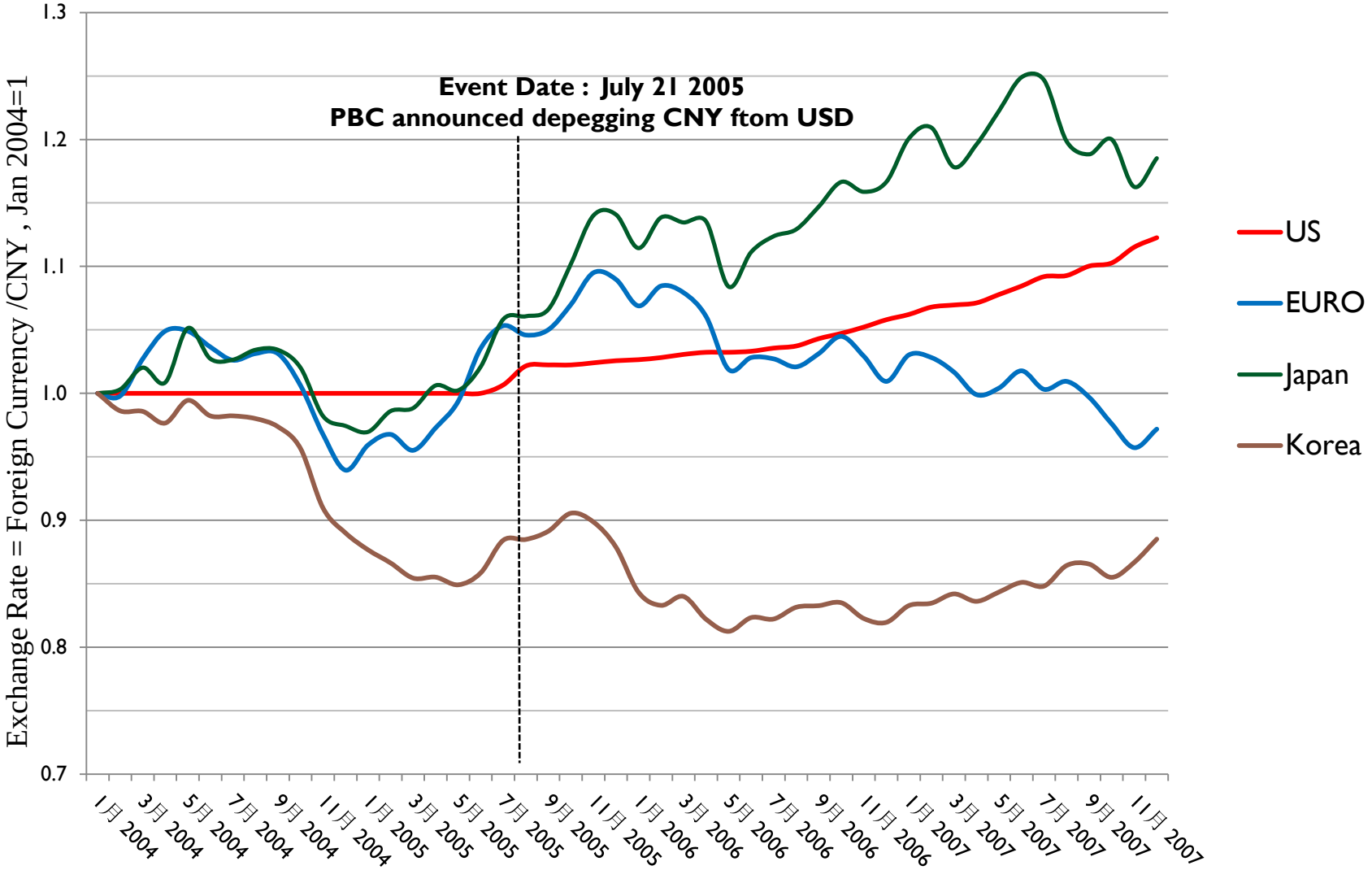
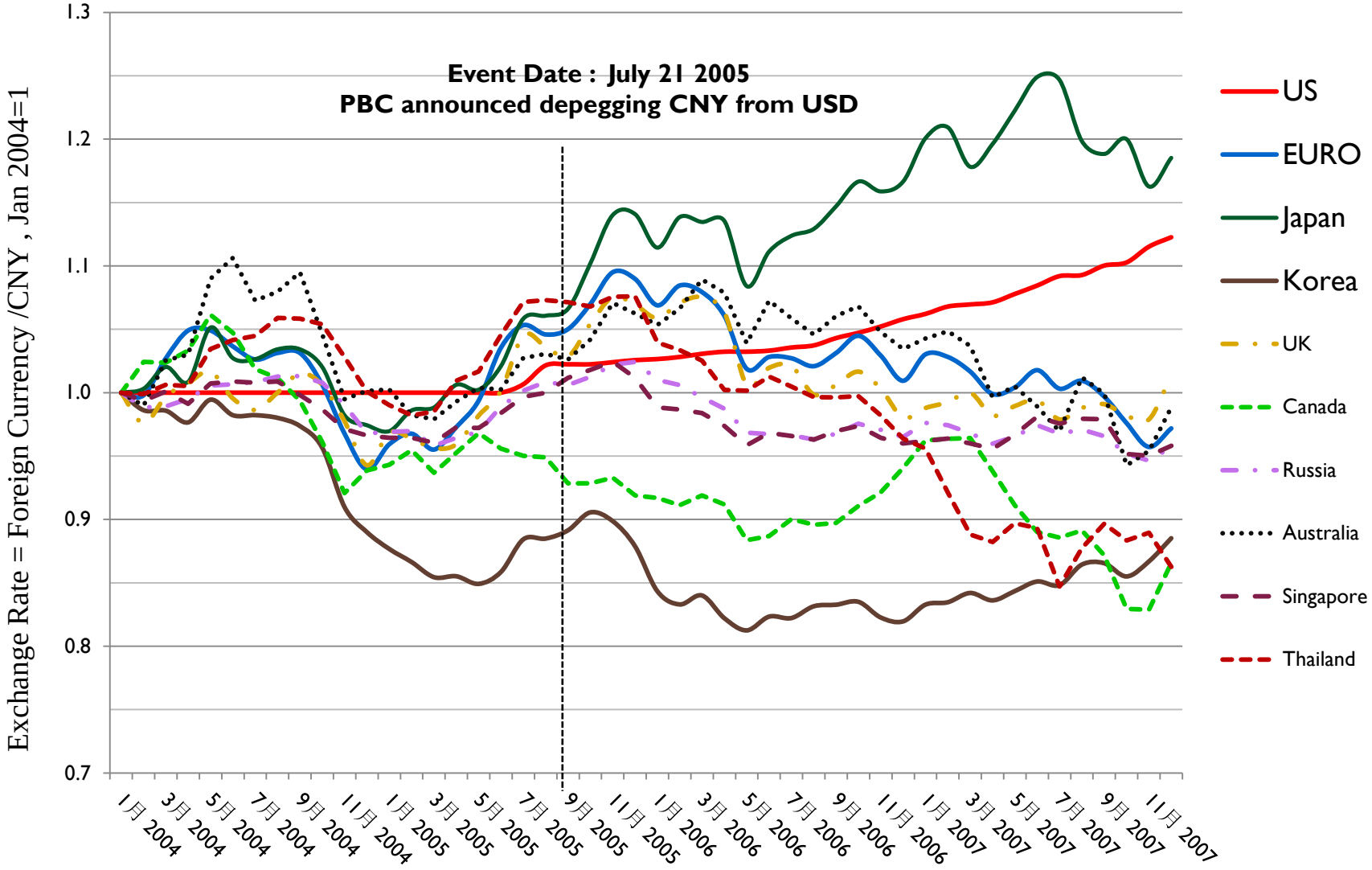


Figure 3b: Exchange Rate Movements in Selected Export Destinations of China , Jan 2004- Dec 2007



5. Data and Summary Statistics

5. Data

- ## Firm level production/balance sheet data
  - Panel data from Annual Survey of Manufacturing Firms (ASM) collected by the National Bureau of Statistics in China (NBSC) 2000-2007,
  - Include all state-owned firms, plus firms of other ownership types with annual sales above 5 million RMB (700,000 USD).
  - Include information on production activities (employment, capital, intermediate inputs , sales, value added), balance sheet statements (current or total assets, liabilities, inventories etc.) , etc.
  - Include the total value of export shipments (from total output).

- ## Transaction level trade data
  - Panel data from Chinese Customs Trade Statistics (CCTS) compiled and maintained by the General Administration of Customs of China from 1 January 2000 to 31 December 2006
  - Include all (monthly) merchandise transactions passing through Chinese customs.
  - Information on firm basic information (name, address, ownership, etc.), 8 digit HS code, quantity/price of imports and exports, customs regimes, means of transportation, customs code, origin and destination country.
  - Used previously in Manova and Zhang (2008a, 2008b, 2011)

5. Data

- Matched transaction-firm level data
  - Matched sample
    - ASM and CCTS linked by firms' names
    - Around 50% of the exporting firms in ASM can be matched to CCTS
    - See Upward , Wang and Zheng (2010) and Wang and Yu (2011) for detailed description
  - This study only include firms
    - Survived in both 2004 and 2006 (one year before and after the shock)
    - Report positive export values from ASM.
  - The final sample included 28,932 firms.

- Real exchange rate data
  - Nominal exchange rate and CPI from World Development Indicator (World Bank)
  - Taiwan data from Oanda and NBS

- Definition of the financial variables
  - Liquidity ratio = (Current assets- Current liability)/Total Assets (GGK 2007)
  - Leverage ratio = Current liability/Current Assets (GGK 2007)
  - Short term liability ratio = Current Liability/ Total Asset (Baum et al. 2007, GGK 2005)
  - Total debt ratio = Total Debt / Total Asset (BB 2005, GGK 2005)

Table 1. Summary Statistics for Chinese exporters under exchange rate shocks 2004-2006

Variables	All Firms Mean	All Firms Std. Dev	All Firms No. obs	Domestic Firms Mean	Domestic Firms Std. Dev	Domestic Firms No. obs	Foreign Firms Mean	Foreign Firms Std. Dev	Foreign Firms No. obs
Changes 2004-2006									
Chg. Firm specific EXR	**-0.028**	0.073	28932	**-0.050**	0.071	9931	**-0.017**	0.072	19001
Chg. log Exports	**0.329**	1.104	28932	**0.430**	1.242	9931	**0.275**	1.021	19001
Chg. Liquidity	**0.019**	0.227	28926	**0.002**	0.212	9931	**0.029**	0.227	18995
Chg. Leverage	**-0.035**	0.444	28926	**-0.010**	0.472	9931	**-0.017**	1.195	18995
Chg. Total Debt ratio	**-0.003**	0.195	28926	**0.007**	0.179	9931	**-0.008**	0.202	18995
Chg. ST debt ratio	**-0.002**	0.202	28926	**0.008**	0.191	9931	**-0.008**	0.207	18995
Chg. Cash-Asset ratio	**0.013**	0.196	28926	**0.011**	0.146	9931	**0.014**	0.218	18995
Chg. Log Sales	**0.305**	0.601	28932	**0.355**	0.582	9931	**0.278**	0.610	19001
Chg. Log Employment	**0.090**	0.480	28932	**0.089**	0.480	9931	**0.090**	0.480	19001
Chg. Log Capital	**0.161**	0.655	28922	**0.242**	0.682	9928	**0.118**	0.637	18994
Chg. Log Intermediates	**0.200**	0.710	28924	**0.247**	0.648	9931	**0.176**	0.739	18993
Chg. TFP	**0.308**	0.827	28002	**0.271**	0.776	9550	**0.327**	0.852	18452
Pre-shock characteristics	**Mean**	**All Firms Std. Dev**	**No. obs**	**Mean**	**Domestic Firms Std. Dev**	**No. obs**	**Mean**	**Foreign Firms Std. Dev**	**No. obs**
Liquidity	**0.096**	0.258	28932	**0.024**	0.242	9931	**0.134**	0.258	19001
Leverage	**0.920**	0.527	28932	**1.049**	0.532	9931	**0.853**	0.513	19001
Total Debt Ratio	**0.551**	0.237	28932	**0.617**	0.208	9931	**0.517**	0.244	19001
ST debt ratio	**0.517**	0.238	28932	**0.566**	0.216	9931	**0.491**	0.244	19001
Cash-Asset Ratio	**0.086**	0.141	28932	**0.080**	0.132	9931	**0.089**	0.146	19001
Log sales	**10.661**	1.322	28932	**10.720**	1.321	9931	**10.631**	1.322	19001
Export intensity	**0.646**	0.367	28932	**0.518**	0.371	9931	**0.714**	0.347	19001
Log GDP per capita	**9.466**	1.456	28932	**8.874**	1.826	9931	**9.774**	1.100	19001
Log private credit/GDP	**-0.274**	0.458	28932	**-0.429**	0.511	9931	**-0.194**	0.405	19001

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6. Exchange rate shocks and exports

Table 2. Export responses to exchange rate shocks for Chinese firms , 2004-2006, OLS regressions

Dep. Var. Changes in Log exports 2004-06

	Domestic Firms		Foreign Firms	
	(1)	(2)	(3)	(4)
Exchange rate shock 2004-06	0.2446	-2.0593	**-0.3205****	1.4409
	(0.2263)	(3.4093)	**(0.1246)**	(2.2877)
Shock interacted with				
**** log Sales***		0.2070		0.1758
		(0.4090)		(0.2141)
**** ln age***		-0.1428		-0.07095
		(0.1880)		(0.1434)
**** Foreign Ownership Share***		-0.07988		-0.03005
		(2.6103)		(0.2191)
**** State ownership Share***		1.2739		0.1609
		(1.1116)		(1.1289)
**** Productivity***		0.4257		-0.03323
		(0.2970)		(0.1443)
**** Log Income Per capita***		-0.1938		**-0.3689****
		(0.1664)		(0.1510)
**** share export to HK***		-1.1108		2.3329*
		(2.2841)		(1.3510)
**** Export intensity***		**1.6869*****		**1.2504*****
		(0.3584)		**(0.09697)**
**** log capital per worker***		**0.7658*****		**0.2087***
		(0.2043)		**(0.1186)**
**** Size dummy 25%***		-1.1529		0.7330
		(0.7408)		(0.4587)
**** Size dummy 50%***		-0.6201		0.3605
		(0.7006)		(0.3296)
**** Size dummy 75%***		-0.03808		0.4102*
		(0.5050)		-0.2309
Pre-shock Controls	YES	YES	YES	YES
FE: prov&indus2	YES	YES	YES	YES
No. Observations	9931	9931	19001	19001
R squre	0.198	0.219	0.133	0.143
F Test: joint significance of instruments(D1, D2)	**1.17** (1, 182)	**14.12** (13, 182)	**6.62** (1, 178)	**6.88** (13, 178)
P value of F test	**0.2813**	**0.0000**	**0.0109**	**0.000**

Notes

*** ,**, * denotes significant at 1%, 5%,10% respectively ,

Standard errors in parentheses , clustered at largest export market

All regressions controlling for pre-shock (year 2004) firm level characteristics including : Industry-province dummies, log sales , log exports , export intensity , productivity , liquidity , leverage , total and ST debt ratio, log capital intensity , foreign ownership , log income per capita of export markets

7. The impact of exports on firm finance

Table 3. Impacts of exports on firm finance 2004-2006

Depv.		Changes in Financial variables					Changes in Other variables				
		Liquidity ratio	*Leverage ratio*	*Total debt ratio*	*ST debt ratio*	*Cash-Asset ratio*	*Log Sales*	*Log Intermediates*	*Log Capital*	*Log Employment*	*TFP*
Domestic Firms											
OLS	**Co-efficient**	**0.0060*** **	**-0.0212***	-0.0021	**-0.0029***	**0.01542*** **	**0.2765*** **	**0.2682*** **	**0.1142*** **	**0.1257*** **	**0.2120*** **
	S.E.	(0.00213)	(0.0112)	(0.0017)	(0.0017)	(0.0012)	(0.0067)	(0.0069)	(0.0064)	(0.0057)	(0.0075)
IV	**Co-efficient**	-0.0449	0.0137	0.0183	0.0137	0.0061	**0.2687*** **	**0.2896*** **	0.09014	**0.2112*** **	**0.3341*** **
	S.E.	(0.0316)	(0.0283)	(0.0279)	(0.0283)	(0.0172)	(0.0750)	(0.0863)	(0.0713)	(0.0670)	(0.0885)
No. Observation		9931	9931	9931	9931	9931	9931	9931	9928	9931	9550
Foreign Firms											
OLS	**Co-efficient**	**0.0051***	**-0.0342*** **	**0.00422** **	**0.0043** **	**0.0305*** **	**0.3799*** **	**0.3698*** **	**0.1190*** **	**0.1499*** **	**0.2809*** **
	S.E.	(0.0026)	(0.0121)	(0.0016)	(0.0018)	(0.0025)	(0.0109)	(0.0134)	(0.0068)	(0.0054)	(0.0094)
IV	**Co-efficient**	0.0077	-0.0112	0.0035	-0.0112	0.0557	**0.6197*** **	**0.7102*** **	**0.5018** **	0.1524	0.1497
	S.E.	(0.0586)	(0.0600)	(0.0550)	(0.0599)	(0.0752)	(0.2007)	(0.2165)	(0.2161)	(0.09597)	(0.1806)
No. Observation		18995	18995	18995	18995	18995	19001	18993	18994	19001	18452

Notes : *** ,**, * denotes significant at 1%, 5%,10% respectively , Standard errors in parentheses , clustered at largest export market. All regressions controlling for pre-shock (year 2004) firm level characteristics including : Industry-province dummies, log sales , log exports , export intensity , productivity , liquidity , leverage , total and ST debt ratio, log capital intensity , foreign ownership , log income per capita of export markets

Table 3. Impacts of exports on firm finance 2004-2006

Depv.		Changes in Financial variables					Changes in Other variables				
		Liquidity ratio	*Leverage ratio*	*Total debt ratio*	*ST debt ratio*	*Cash-Asset ratio*	*Log Sales*	*Log Intermediates*	*Log Capital*	*Log Employment*	*TFP*
Domestic Firms											
OLS	**Co-efficient**	**0.0060*** **	**-0.0212***	-0.0021	**-0.0029***	**0.01542*** **	**0.2765*** **	**0.2682*** **	**0.1142*** **	**0.1257*** **	**0.2120*** **
	S.E.	(0.00213)	(0.0112)	(0.0017)	(0.0017)	(0.0012)	(0.0067)	(0.0069)	(0.0064)	(0.0057)	(0.0075)
IV	**Co-efficient**	-0.0449	0.0137	0.0183	0.0137	0.0061	**0.2687*** **	**0.2896*** **	0.09014	**0.2112*** **	**0.3341*** **
	S.E.	(0.0316)	(0.0283)	(0.0279)	(0.0283)	(0.0172)	(0.0750)	(0.0863)	(0.0713)	(0.0670)	(0.0885)
No. Observation		9931	9931	9931	9931	9931	9931	9931	9928	9931	9550
Foreign Firms											
OLS	**Co-efficient**	**0.0051***	**-0.0342*** **	**0.00422** **	**0.0043** **	**0.0305*** **	**0.3799*** **	**0.3698*** **	**0.1190*** **	**0.1499*** **	**0.2809*** **
	S.E.	(0.0026)	(0.0121)	(0.0016)	(0.0018)	(0.0025)	(0.0109)	(0.0134)	(0.0068)	(0.0054)	(0.0094)
IV	**Co-efficient**	0.0077	-0.0112	0.0035	-0.0112	0.0557	**0.6197*** **	**0.7102*** **	**0.5018** **	0.1524	0.1497
	S.E.	(0.0586)	(0.0600)	(0.0550)	(0.0599)	(0.0752)	(0.2007)	(0.2165)	(0.2161)	(0.09597)	(0.1806)
No. Observation		18995	18995	18995	18995	18995	19001	18993	18994	19001	18452

Notes : *** ,**, * denotes significant at 1%, 5%,10% respectively , Standard errors in parentheses , clustered at largest export market. All regressions controlling for pre-shock (year 2004) firm level characteristics including : Industry-province dummies, log sales , log exports , export intensity , productivity , liquidity , leverage , total and ST debt ratio, log capital intensity , foreign ownership , log income per capita of export markets

8. The role of importer’s financial institution

Table 4a. The fole of importer's financial institution in the effects of exports on firm finance 2004-2006 (IV estimates)

Dep. Var.	Changes in Liquidity ratio				Changes in Leverage ratio			
	Domestic Firms		Foreign Firms		Domestic Firms		Foreign Firms	
Changes in exports	-0.015	0.084	-0.03926	0.08546	0.08481	-0.3183*	0.1206	-0.1450
	(0.02649)	(0.06655)	(0.04697)	(0.1090)	(0.05781)	*(0.1625)*	*(0.09725)*	(0.2132)
Importer characteristics Interactions								
**** Log Fin Dev***	**0.023****	**0.0399*****	0.01134	0.0003811	**-0.0569****	**-0.1230*****	-0.0024	-0.0037
	(0.0093)	**(0.0135)**	(0.01130)	(0.02499)	**(0.0230)**	**(0.0349)**	(0.0199)	(0.0505)
** Log Income Per Cap*		-0.003		-0.01315		-0.00832		0.02894*
		(0.003842)		(0.009066)		(0.002900)		(0.01497)
** Log Rule of Law*		-0.026		0.05782		0.09298		-0.06967
		(0.03337)		(0.05119)		(0.08108)		(0.1048)
Other firm level Interactions								
** Liquidity 2004*		0.038		-0.1329***				
		(0.02992)		(0.03927)				
** Leverage 2004*						0.06543		-0.1577***
						(0.04561)		(0.05397)
* Sales 2004		-0.004		0.01037		0.004826		-0.001384
		(0.008427)		(0.008161)		(0.01378)		(0.01679)
** Productivity 2004*		-0.004		-0.01089		0.02794*		0.004085
		(0.006901)		(0.008409)		(0.01602)		(0.01658)
** Forown 2004*		-0.073		-0.01087		0.1962**		0.03183
		(0.06001)		(0.02276)		(0.08908)		(0.03933)
No. Observations	9931	9931	18995	18995	9931	9931	18995	18995

Notes : FindDev measured by Private credit / GDP , Importer characteristics are corresponding country characteristics in firms' export destinations weighted by firms' pre-shock exports , *** ,**, * denotes significant at 1%, 5%,10% respectively , Standard errors in parentheses , clustered at largest export market. All regressions controlling for pre-shock (year 2004) firm level characteristics including industry-province dummies.

Table 4b. The fole of importer's financial institution in the effects of exports on firm finance 2004-2006 (IV estimates)

Dep. Var.	Changes in Total Debt ratio				Changes in ST Debt ratio			
	Domestic Firms		Foreign Firms		Domestic Firms		Foreign Firms	
Changes in exports	-0.008	-0.008	0.1052**	-0.06365	0.007336	-0.06335	0.07495*	-0.06058
	(0.02477)	(0.05757)	(0.05056)	(0.1167)	(0.02209)	(0.06598)	(0.04469)	(0.1136)
Importer characteristics Interactions								
**** Log Fin Dev***	**-0.0168****	**-0.0207***	0.002854	-0.003763	**-0.0181****	**-0.0238***	-0.001048	-0.007348
	(0.00842)	(0.0117)	(0.01363)	(0.01552)	**(0.00895)**	**(0.0127)**	0.01085)	(0.01504)
** Log Income Per Cap*		0.000		0.01208		0.00118		0.01048
		(0.003214)		(0.008124)		(0.003645)		(0.007374)
** Log Rule of Law*		0.009		-0.02940		-0.002507		-0.02065
		(0.02445)		(0.04186)		(0.02824)		(0.04049)
Other Firm Level Interactions								
** Total Debt Ratio 2004*		-0.018		-0.05494				
		(0.02731)		(0.04586)				
** ST Debt Rat 2004*						-0.004852		-0.05989
						(0.02425)		(0.04107)
* Sales 2004		0.0003119		-0.006582		0.005273		-0.005833
		(0.004771)		(0.006949)		(0.005245)		(0.006828)
** Productivity 2004*		0.002		0.009164		-0.0006705		0.01007
		(0.005259)		(0.007478)		(0.005421)		(0.007875)
** Forown 2004*		0.077		0.03628		0.1058		0.03082
		(0.07137)		(0.02654)		(0.07352)		(0.02255)
No. Observations	9931	9931	18995	18995	9931	9931	18995	18995

Notes : FindDev measured by Private credit / GDP , Importer characteristics are corresponding country characteristics in firms' export destinations weighted by firms' pre-shock exports , *** ,**, * denotes significant at 1%, 5%,10% respectively , Standard errors in parentheses , clustered at largest export market. All regressions controlling for pre-shock (year 2004) firm level characteristics including industry-province dummies.

9. Potential violation of the restrictive exclusion

9. Potential violations of the exclusive restriction

- Exporters may also import from their export destinations
  - Around 30% domestic firms and 70% foreign owned firms imported in year 2004, respectively
  - Results remain robust when we excluding importers and re estimate the IV regressions

- Changes in financial status correlated with changes in ownership
  - Run IV regressions controlling for changes in foreign ownership and state ownership
  - Results remain unaffected

- Results may be driven by other domestic policy changes during the shock period
  - Domestic macro economic conditions remains stable over the sample period , e.g. interest rate and money supply very stable during 2004-2006

10. Concluding remarks

10. Conclusions

- This study examines the causal effect of export demand shocks on firms' financial performances of Chinese exporter.
- The degepping of RMB from USD in July 2005 leads to unexpected fluctuations in RMB's real exchange rate, making it a potentially good instrument for export demand
- Our IV results reveals that , for domestic-owned firms, increasing exports improve their financial performances, only if their export destinations' financial markets are well developed.
- However, for foreign-owned firms, exports have no significant causal effects on their liquidity and leverage , possibly due to their easy access to internal finance from parent company.

10. Conclusions

- Further works
  - Extend to more recent years e.g. 2007 or 2008
  - The role of local financial systems across regions within China