

Globalization in Turbulent Times

Beata Javorcik
EBRD, Oxford & CEPR

March 12, 2024

Rolling back and reshaping of globalization

- ▶ Trump **tariffs** and job opportunities for US workers
- ▶ Brexit referendum and **barriers to services trade**
- ▶ **Sanctions** and rise of the **renminbi as currency of invoicing**

Did 2018 Trade War Improve Job Opportunities for US Workers?

Beata Javorcik, EBRD, Oxford & CEPR

Ben Kett, IMF

Katherine Stapleton, World Bank

Layla O'Kane, Burning Glass Technologies

“One by one, the factories shuttered and left our shores, with not even a thought about the millions upon millions of American workers left behind”

- President Trump, Inaugural Address, 2017

The Trade War: Timeline

TABLE 2.1. TIMELINE OF TARIFF INCREASES

Tariff wave	Date enacted	Products	2017 imports	Tariff (%)		
		(# HS-10)	(mil US\$) (%)	2017	2018	
Panel A: Tariffs on U.S. imports enacted by the United States in 2018						
Solar panels	7th Feb, 2018	8	5,782	0.2	0	30
Washing machines	7th Feb, 2018	8	2,105	0.1	1.3	32.2
Aluminum	Mar–Jun, 2018	67	17,685	0.7	2	12
Iron and steel	Mar–Jun, 2018	753	30,523	1.3	0	25
China 1	6th July, 2018	1,672	33,510	1.4	1.3	26.2
China 2	23rd Aug, 2018	433	14,101	0.6	2.7	27
China 3	24th Sep, 2018	9,102	199,264	8.3	3.3	12.9
Total		12,043	302,970	12.7	2.6	16.6
Panel B: Retaliatory tariffs on U.S. exports enacted by trading partners in 2018						
China	Apr–Sep, 2018	7,474	92,518	6	8.4	18.9
Mexico	5th Jun, 2018	232	6,746	0.4	9.6	28
Turkey	21st Jun, 2018	244	1,554	0.1	9.7	31.8
European Union	22nd Jun, 2018	303	8,244	0.5	3.9	29.2
Canada	1st July, 2018	325	17,818	1.2	2.1	20.2
Russia	6 Aug, 2018	163	268	0	5.2	36.8
Total		8,073	127,149	8.2	7.3	20.4

Notes: Reproduced based on Fajgelbaum et al. (2020). Panels display unweighted monthly 10-digit HS country average tariff rates. 2017 tariff rates computed as annual average; 2018 rates computed in December 2018. Total tariff rates represent trade-weighted average of row values. Import/export share denominator is total 2017 annual US\$ value of all U.S. imports/exports. US government announced import tariffs on aluminum and steel on March 23 but granted exemptions for Mexico, Canada, and the EU which were later lifted on 1st June. Chinese retaliation dates are 6th April, 2nd July, 23rd August, and 24th September.

Our approach

- ▶ Analysis at the commuting zone (CZ) level: 625 commuting zones in total
- ▶ Outcome of interest: Online job postings data from Burning Glass Technologies
 - ▶ scrape 'universe' of online job postings on a daily basis
 - ▶ sourced from >40,000 online job boards and company websites
 - ▶ almost 74 million US job adverts from Jan 2016-Dec 2018
 - ▶ remove duplicates, classify posts by county, occupation etc.

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 - ▶ remove duplicates, classify posts by county, occupation etc.
- ▶ Employment composition: County Business Patterns (CBP), Census Bureau
 - ▶ employment shares by county and NAICS6 code (excluding crop and animal production) in 2015
 - ▶ includes 120 million employees, 977 sectors and 3,142 counties
- ▶ County-Commuting Zone mapping: Penn state (Fowler et al., 2016)
- ▶ Goods tariffs and trade data:
 - ▶ US customs data report foreign export values by source country at HS10
 - ▶ tariffs publicly available, here use aggregation by Amiti et al. (2019)

US exposure to the Trade War: Sectoral measures

$$output_tariff_exposure_{jt} = \frac{\sum_{p \in j} \sum_c USimports_{pc2016} \times US_tariff_{pct}}{L_{j2015}}$$

- ▶ $USimports_{pc2016}$: US imports of HS10 product p from country c in 2016
- ▶ L_{j2015} : total national employment in sector j in 2015

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$$\text{input_tariff_exposure}_{jt} = \frac{1}{L_{k2015}} \sum_k S_{jk} \sum_{p \in j} \sum_c \text{USImports}_{pc2016} \times \text{US_tariff}_{pct}$$

- ▶ where S_{jk} is the share of inputs produced by sector k in sector j 's output

$$\text{export_tariff_exposure}_{jt} = \frac{\sum_{p \in j} \sum_c \text{USExports}_{pc2016} \times \text{foreign_tariff}_{pct}}{L_{j2015}}$$

- ▶ $\text{USExports}_{pc2016}$: US exports of product p to country c in 2016

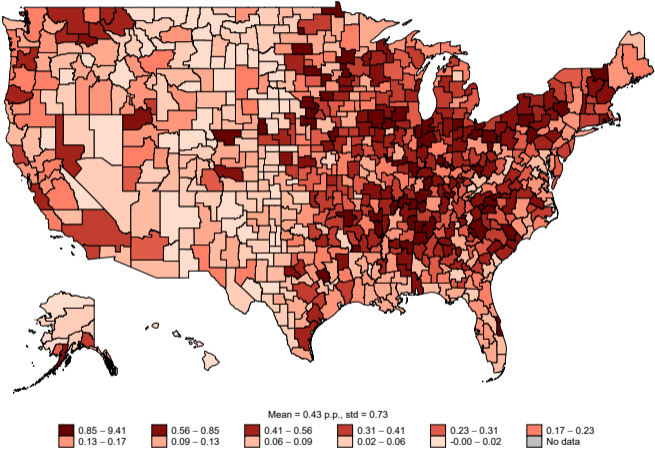
US exposure to the Trade War: Commuting zone

Each tariff measure is then brought to the CZ level using employment shares:

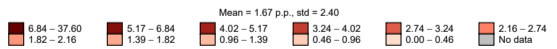
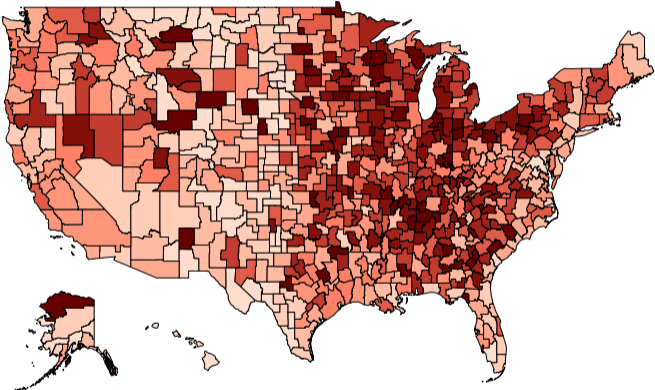
$$tariff_measure_{rt} = \sum_j empl_sh_{rj2015} \times tariff_measure_{jt}$$

- ▶ where $Empl_sh_{j,2015}$ is the share of sector j in commuting zone r 's total employment.

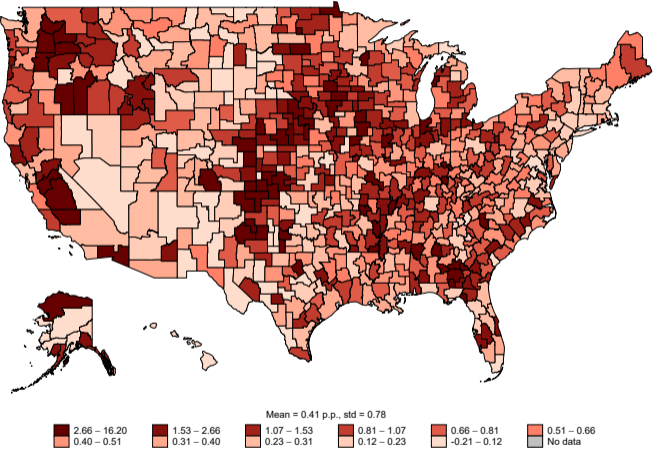
Exposure of commuting zones: Output tariffs



Exposure of commuting zones: Input tariffs



Exposure of commuting zones: Export (retaliatory) tariffs



Baseline results

Dep. var. $\ln(\text{postings}+1)$	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Output tariff exposure	-0.048*** (0.014)			-0.020 (0.013)		-0.039*** (0.013)	-0.016 (0.014)
Imported input tariff exposure		-0.019*** (0.006)		-0.017*** (0.006)	-0.016** (0.006)		-0.015** (0.006)
Export tariff exposure			-0.112*** (0.029)		-0.096*** (0.032)	-0.105*** (0.028)	-0.094*** (0.032)
Observations	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Adjusted R-squared	0.976	0.976	0.976	0.976	0.976	0.976	0.976
FE	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM
Cluster	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM

- ▶ A one-standard-deviation increase in input tariff exposure (\$2,400 per worker) led to a 3.6% decrease in job postings (column 7)
- ▶ A one-standard-deviation increase in export tariff exposure (\$780 per worker) led to a 7.3% decrease in job postings

Impact on lower skilled jobs

Dep. var. $\ln(\text{postings}+1)$	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Low skill					Baseline
Output tariff exposure	-0.052*** (0.016)			-0.006 (0.016)	-0.007 (0.016)	-0.006 (0.015)
Imported input tariff exposure		-0.024*** (0.007)		-0.022*** (0.007)	-0.022*** (0.007)	-0.020*** (0.007)
Export tariff exposure			-0.152*** (0.046)	-0.140*** (0.046)	-0.133** (0.049)	-0.120*** (0.036)
Total ag subsidy					0.001 (0.001)	0.001* (0.001)
Ag subsidy * Export tariff exposure					-0.000 (0.000)	-0.000 (0.000)
Adjusted R-squared	0.964	0.964	0.964	0.964	0.964	0.977
Observations	14,640	14,640	14,640	14,640	14,640	14,640
FE	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM
Cluster	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM	CZ YM

Robustness checks

- ▶ Shift-share robustness [Summary](#)
- ▶ Shift-share alternative standard errors [Table](#)
- ▶ Placebo regression [Table](#)
- ▶ Alternative definitions of tariffs [Summary](#)
- ▶ Tariffs lagged by one period

Why don't we find positive effects of output tariffs on job postings?

- ▶ In trade theory, **output tariffs** should benefit US producers through protection from imports if:
 - ▶ **There is high pass-through & trade elasticity:** Amiti, Redding and Weinstein (2019), Cavallo et al. (2021), Fajgelbaum et al. (2020), and Flaaen, Hortacsu and Tintelnot (2020) show this was the case ✓
 - ▶ **Consumers substitute imports with domestically produced varieties:** Fajgelbaum et al. (2022) show tariffs resulted in an increase in US imports from countries not subject to tariffs → less clear

Summary

- ▶ The trade war does not seem to have increased job opportunities for US workers
- ▶ Quite to the contrary, tariffs on inputs and retaliation in export markets seem to have lowered online job posting
- ▶ Postings for low skilled job were more affected
- ▶ The combined effect
 - ▶ 175,000 fewer job postings in 2018
 - ▶ 0.6% of the US total
 - ▶ 2/3 due to the imported input tariffs
 - ▶ 1/3 to retaliatory tariffs

Unravelling Deep Integration

Local Labour Market Effects of the Brexit Vote

Beata Javorcik, EBRD, Oxford & CEPR

Ben Kett, IMF

Katherine Stapleton, World Bank

Layla O'Kane, Burning Glass Technologies

Setting

- ▶ The Brexit referendum introduced prospect of 'unravelling' of decades-long deep integration with the EU
- ▶ It created a threat of substantial and complex barriers to trade in services and (to a lesser extent) in goods
- ▶ Did the threat of future barriers matter for online job postings?

This paper

Question: How did the threat of future barriers to UK exports to the EU affect online job postings?

- ▶ Use 'near universe' of UK online job postings for 2015-2019 (BGT)
- ▶ Focus on local labour market exposure to prospective barriers
- ▶ 218 Travel to work areas (TTWAs), excl. Northern Ireland
- ▶ Consider trade in services and in goods
- ▶ Consider other key channels: exchange rate depreciation, immigration policy

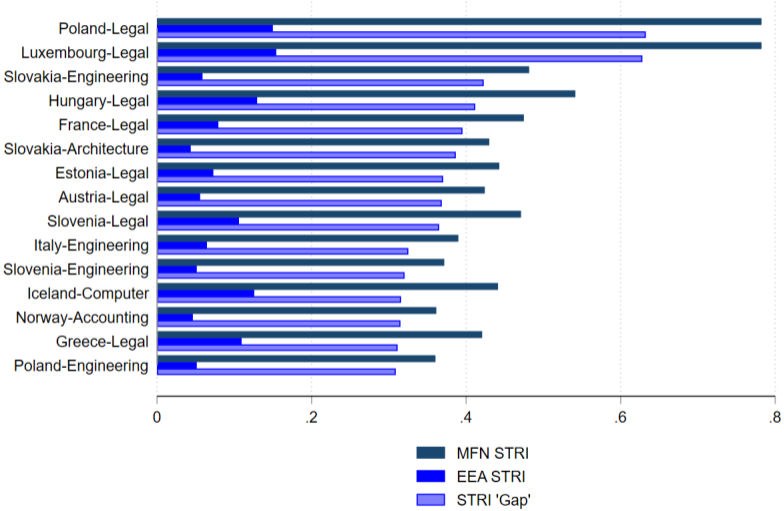
Brexit timeline

- ▶ 23rd Jan 2013: David Cameron declares he is in favour of an EU referendum
- ▶ **23rd Jun 2016: Brexit referendum**
- ▶ **29th Mar 2017: Invocation of Article 50**
- ▶ **12th July 2018: UK Government publishes its White Paper**
- ▶ 14th Nov 2018: The Withdrawal Agreement is agreed and published
- ▶ 31st Jan 2020: UK leaves the EU, entering transition period until the end of 2020
- ▶ 24th Dec 2020: Brexit trade deal agreed
- ▶ 1st Jan 2021: Transition period ended

OECD Services Trade Restrictiveness Index (STRI) for 2014

- ▶ Available at country-industry level
- ▶ Quantifies restrictions on services provision by (i) EEA countries, (ii) non-EEA WTO members
- ▶ Covers restrictions on foreign entry and movement of people, barriers to competition, regulatory transparency and other discriminatory measures
 - ▶ Examples: limits on foreign equity shares in local businesses, restrictions on cross-border mergers, product level regulations
- ▶ Calculate **the 'gap' between STRI within-EEA and STRI for third countries**
- ▶ Focus on professional services:
 - ▶ finance, insurance, legal, accounting, ICT, telecoms, engineering and architecture

OECD STRI country-sector pairs with highest EEA vs MFN barrier 'gap'



Notes: Raw OECD STRI scores from 2014

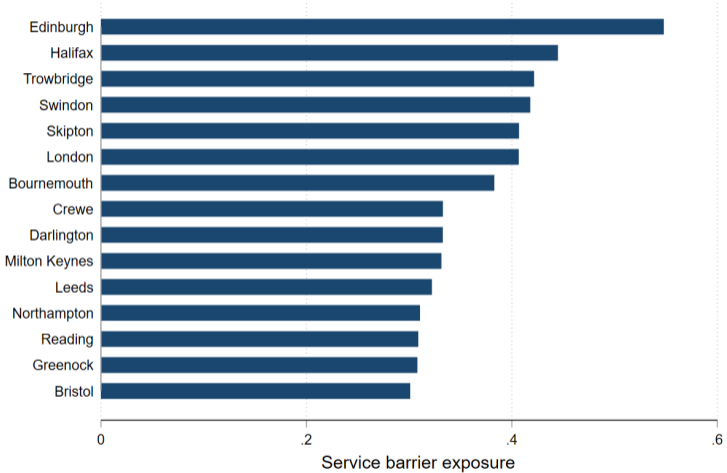
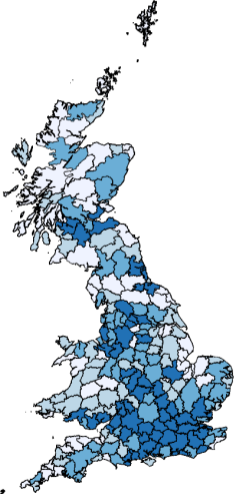
Professional services trade barrier exposure

$$prof_services_exposure_{j^{serv}} = \frac{Exports_{j^{serv},2015}}{L_{j^{serv},2015}} \times avg_STRI_gap_{j^{serv},2014} \quad (1)$$

$$prof_services_exposure_r = \sum_{j^{serv}} empl_share_{rj^{serv},2015} \times prof_services_exposure_{j^{serv}} \quad (2)$$

- ▶ Avg STRI gap $_{j^{serv},2014}$: difference between the 2014 MFN STRI and intra-EEA STRI for industry j^{serv} in EEA country c , weighted by UK exports to EEA country c in sector j^{serv} in 2015
- ▶ $Exports_{j^{serv},2015}$: UK exports from industry j^{serv} to the EEA in 2015
- ▶ $L_{j^{serv},2015}$: national employment in sector j^{serv} in 2015
- ▶ $empl_share_{rj^{serv},2015}$: industry j^{serv} share of TTWA r employment (BRES)

Professional services exposure by UK region



Baseline specification

$$\log(\text{job_postings}_{rt}) = \beta_0 + \beta_1 \text{trade_barrier_exposure}_r \times \text{post_vote}_t + \mathbf{X}_{rt} + \gamma_t + \gamma_r + \epsilon_{rt} \quad (3)$$

- ▶ Period: Jan 2015 - Dec 2019
- ▶ job_postings_{rt} : count of postings by TTWA r & month t
- ▶ post_vote_t : dummy for the post referendum period
- ▶ \mathbf{X}_{rt} : region-specific time-varying controls
- ▶ Fixed effects: year-month t and TTWA r
- ▶ Clustering: year-month t and TTWA r

Baseline results

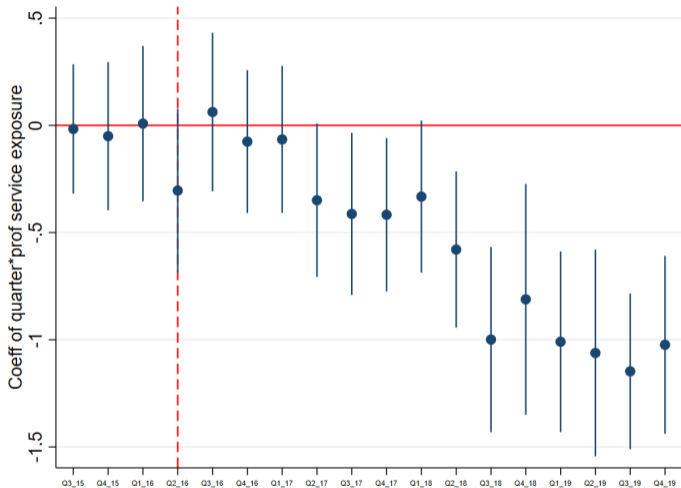
Dep variable: log postings	(1)	(2)	(3)	(4)	(5)
post vote * service barrier exposure	-0.538*** (0.132)	-0.540*** (0.132)	-0.559*** (0.134)	-0.553*** (0.127)	-0.557*** (0.133)
post vote * tariff exposure		-0.008 (0.033)	-0.029 (0.055)	-0.029 (0.055)	-0.029 (0.054)
export REER			-0.135 (0.146)	-0.136 (0.146)	-0.141 (0.146)
post vote * EU national share				-0.267 (0.861)	
post vote * EU8 national share					-0.885 (1.377)
Observations	12,780	12,780	12,780	12,780	12,780
Adjusted R-squared	0.984	0.984	0.984	0.984	0.984
TTWA FE	YES	YES	YES	YES	YES
Month-Year FE	YES	YES	YES	YES	YES

Notes: Standard errors two-way clustered at TTWA & month-year level

Baseline results magnitude

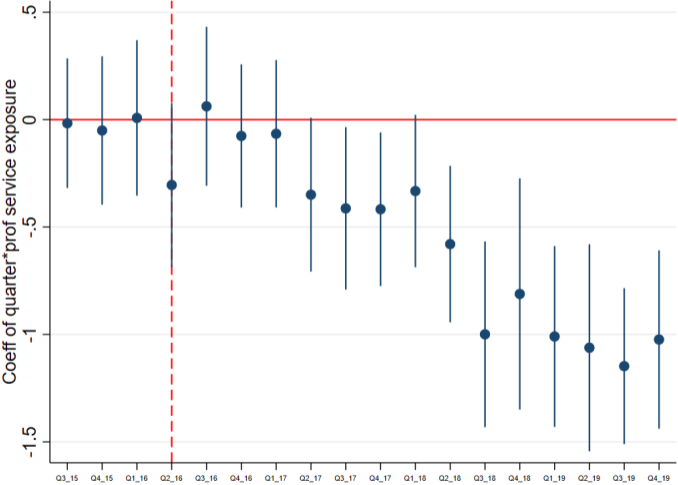
- ▶ Prof services exposure:
 - ▶ 1 sd increase in exposure (0.09) reduces postings by 4.95% (based on col 4)
 - ▶ Average number of monthly postings is 2,409 → a decline of 120 postings per month per TTWA
 - ▶ Aggregate effect: if all TTWAs had the 10th percentile exposure score, there would have been cumulatively approx. 1.5 million more postings over post vote period

Timing of the effects: 29th Mar 2017 Invocation of Article 50



Note: Quarters 1 & 2 of 2015 excluded. 95% confidence intervals displayed.

12th July 2018 UK Gov't publishes its White Paper ruling out mutual recognition as preferred option for financial services sector



Note: Quarters 1 & 2 of 2015 excluded. 95% confidence intervals displayed.

'A real blow': City group lashes out at Brexit white paper

TheCityUK also describes white paper as 'frustrating'

Katie Martin JULY 12 2018



The UK government's [preferred path forward](#) with the EU is “a real blow for the UK’s financial and related professional services sector”, the City of London Corporation said on Thursday.

White paper

- ▶ July 2018 publication of a white paper fleshing out Theresa May's proposal for Britain's future relationship with the EU
- ▶ The White paper "confirms that Britain would seek a "free trade area" for goods (...). But it also sets out plans for a **looser relationship on services**, which represent 80 per cent of the British economy, **including financial services**; the white paper says Britain would seek the 'freedom to chart its own path'."
- ▶ Quote from [FT article from 12th July 2018](#)

Impact on postings for different occupations

Dep var: log SOC postings	1. Managers, Directors and Senior Officials	2. Professional Occupations	3. Associate Professional and Technical Occupations	4. Administrative and Secretarial Occupations	5. Skilled Trades Occupations
post vote * prof services exposure	-0.546*** (0.133)	-0.792*** (0.147)	-0.542*** (0.149)	-0.022 (0.133)	-0.239 (0.153)
post vote * tariff exposure	-0.042 (0.048)	0.058 (0.053)	-0.043 (0.057)	-0.055* (0.033)	-0.063 (0.043)
export REER	0.019 (0.029)	-0.018 (0.022)	0.030 (0.025)	0.044** (0.018)	0.060* (0.030)
post vote * EU national share	0.531 (0.850)	-1.077 (0.889)	0.002 (0.976)	0.625 (0.921)	2.231** (0.958)
	6. Caring, Leisure and Other Service Occupations	7. Sales and Customer Service Occupations	8. Process, Plant and Machine Operatives	9. Elementary Occupations	
post vote * prof services exposure	-0.170 (0.121)	-0.241 (0.151)	-0.182 (0.157)	-0.172 (0.174)	
post vote * tariff exposure	0.023 (0.040)	-0.048 (0.034)	-0.090** (0.041)	0.038 (0.078)	
export REER	-0.014 (0.017)	0.009 (0.023)	0.041 (0.025)	-0.014 (0.031)	
post vote * EU national share	-1.281 (0.938)	0.724 (0.932)	2.081** (0.906)	0.635 (0.984)	
Observations	12,780	12,780	12,780	12,780	
TTWA FE	YES	YES	YES	YES	
Month-Year FE	YES	YES	YES	YES	

Notes: 98.% of postings are assigned an SOC code. Standard errors two-way clustered at TTWA & month-year level

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Month-Year FE	YES	YES	YES	YES	

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Extensions and Robustness

- ▶ Zoom in on financial services using more detailed data on regional exports
- ▶ Excluding London [Table](#)
- ▶ Share controls [Table](#)
- ▶ Alternative tariff measures [Table](#)
- ▶ Intermediate import & import competing tariffs [Table](#)
- ▶ NTBs on goods [Table](#)

Summary

- ▶ UK areas more exposed to future EU barriers on services exports experienced a substantial reduction in online job adverts after the Brexit referendum relative to less exposed regions
- ▶ The impact was particularly acute for skilled jobs and professional occupations
- ▶ Robust to controlling for exchange rate depreciation and migrant presence

Exorbitant privilege and economic sanctions

Maxim Chupilkin, EBRD

Beata Javorcik, EBRD, Oxford & CEPR

Alexander Plekhanov, EBRD

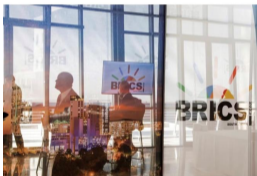
Alexandra Peeva, Kiel Institute

Sanctions on Russia have given rise to talk about BRICS currency

What is a BRICS currency and is the U.S. dollar in trouble?

By Rachel Savage

August 24, 2023 11:02 AM GMT+1 · Updated 3 months ago



Delegates walk past the logos of the BRICS summit during the 2023 BRICS Summit at the Sandton Convention Centre in Johannesburg, Africa on August 23, 2023. GIANLUIGI GUERCIA/Pool via...



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The power and the limits of the American dollar

The greenback is still king. But those who want to evade it are finding ways to do so



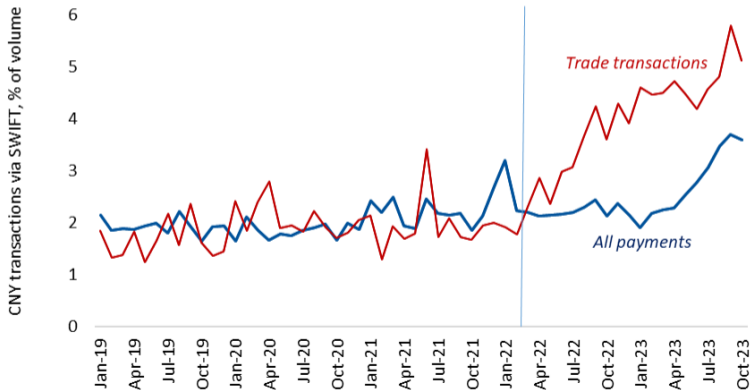
IMAGE: GETTY IMAGES

Apr 27th 2023

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VERY SOFTEN TO BRICS CURRENCY FOR

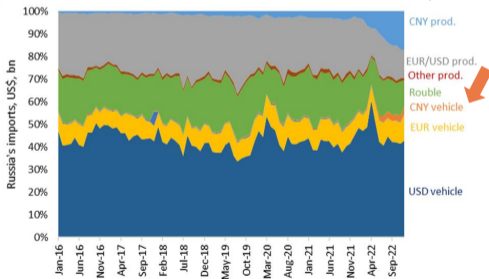
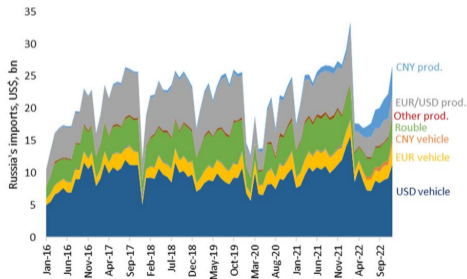
CNY payments on the rise as a share of global SWIFT transactions since early 2022 – in particular for trade related payments



This paper

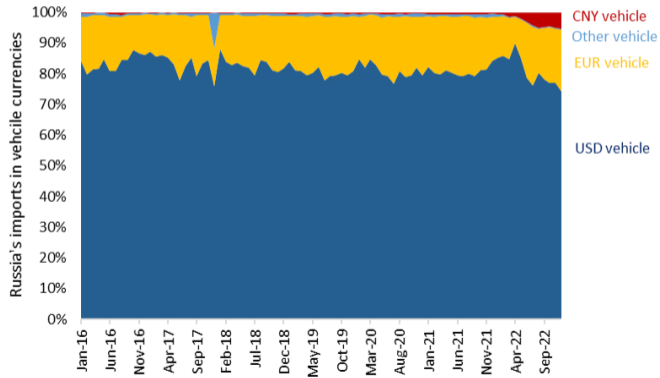
- ▶ Research question:
How have sanctions affected the choice of currency used to denominate exports to a sanctioned country?
- ▶ Context:
 - ▶ Western sanctions imposed in the aftermath of Russia's invasion of Ukraine in 2022
 - ▶ Trade sanctions, financial sanctions with major banks disconnected from SWIFT, part of Central Bank reserves frozen
 - ▶ This episode stands out in terms of its size, comprehensive nature and the size of the target economy (11th largest economy in 2021 at market exchange rates)
- ▶ Data:
 - ▶ Transaction-level data on Russia's imports 2016-2022
 - ▶ Analysis at the firm-product-country-month level

Rapid rise of CNY as producer & vehicle currency after sanctions

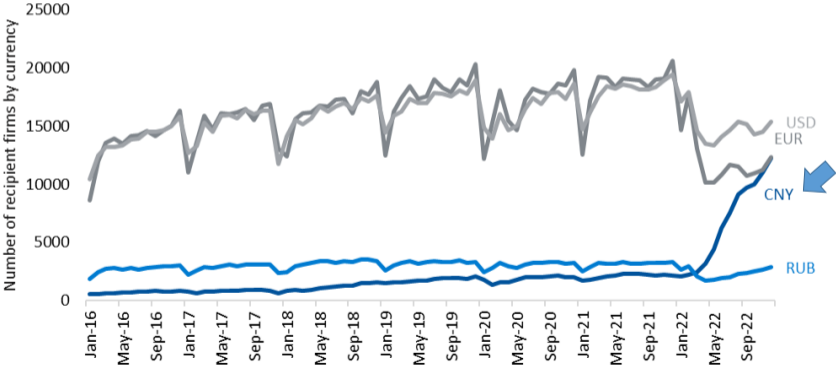


Source: Russia customs statistics and authors' calculations.

CNY as a vehicle currency up from below 1% to over 5% by end-2022 (as a share of imports in vehicle currencies)



Sharp increase in number of firms dealing with CNY invoices and a drop in numbers dealing with USD and EUR invoicing



Jump in the number of firms using more than one currency to import the same product from the same country

By firm - product - country

Number of currencies	1	2	3	>3
March-December 2021				
Import value	77.9	13.0	1.1	8.1
Transactions	86.8	12.0	0.9	0.3
Firms	97.2	2.7	0.1	0.0
March-December 2022				
Import value	78.9	19.6	1.4	0.1
Transactions	79.5	17.4	2.9	0.2
Firms	93.2	6.6	0.2	0.0

Changes in invoicing currencies very pronounced in sanctioned goods

$$\text{CurrencyShare}_{fpct} = \beta \text{PostSanctions}_t * \text{ProductType}_p + \alpha_{fpc} + \alpha_{fct} + \epsilon_{fpct}$$

Dep. var: share of trade	CNY producer	CNY vehicle	USD vehicle	EUR vehicle	Other producer
Post-sanctions x Dual-use	0.00227** (0.00114)	0.000337*** (0.000105)	-0.000932** (0.000404)	-0.000119 (0.000311)	0.000275 (0.000331)
Post-sanctions x Industrial	0.00455*** (0.00174)	5.39e-05 (0.000161)	-0.00180*** (0.000674)	0.000496 (0.000584)	0.000806 (0.000576)
Post-sanctions x Luxury	-0.00445* (0.00233)	-0.000469 (0.000285)	0.00217** (0.000866)	0.00136** (0.000557)	-8.15e-05 (0.000554)
Observations	4,022,404	19,640,186	22,797,008	13,333,837	8,445,851
R-squared	0.922	0.957	0.977	0.980	0.974

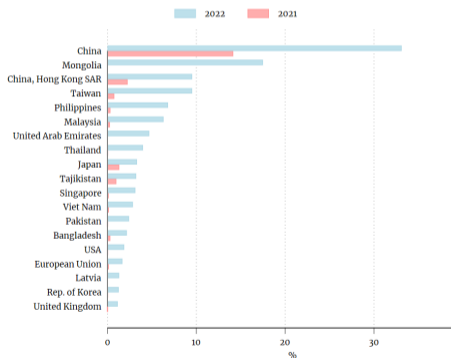
And in trade with countries not imposing sanctions

$$\text{CurrencyShare}_{fpct} = \beta_1 \text{PostSanctions}_t \times \text{CountryType}_c + \alpha_{fpt} + \alpha_{fpc} + \varepsilon_{fpct}$$

VARIABLES	CNY	USD vehicle	EUR vehicle	Producer	RUB
Post-sanctions x China	0.164*** (0.00441)	-0.157*** (0.00455)	-0.00681*** (0.00258)	0.192*** (0.00423)	0.0102*** (0.00137)
Post-sanctions x Neutral	0.0321*** (0.00274)	-0.0346*** (0.00396)	-0.0112*** (0.00335)	0.00853*** (0.00183)	0.00775*** (0.00150)
Observations	5,191,160	4,739,909	2,011,381	5,191,160	5,191,160
R-squared	0.893	0.964	0.969	0.925	0.968

Most economies increasingly using CNY invoices have currency swap lines with People's Bank of China

Top 20 countries by increase in share of invoicing Russian imports in CNY between 2021 and 2022



Note: Countries with at least 1 mln USD of imports invoiced in CNY in 2022

Table A1: CNY swap lines

Country	Date	Amount	Country	Date	Amount
Hong Kong SAR	20.1.2009	200-500	South Korea	20.4.2009	180-400
Malaysia	8.02.2009	80-180	Belarus	11.03.2009	7-20
Indonesia	23.03.2009	100-250	Argentina	2.04.2009	70-130
Iceland	9.06.2010	3.5	Singapore	23.07.2010	150-300
New Zealand	18.04.2011	25	Uzbekistan	19.04.2011-19.04.2014	0.7
Mongolia	6.05.2011	5-15	Kazakhstan	13.06.2011	7
Thailand	22.12.2011	70	Pakistan	23.12.2011	10-30
UAE	17.01.2012-14.12.2018	35	Turkiye	21.2.2012	10-35
Australia	22.3.2012	200	Ukraine	26.06.2012-10.12.2021	15
Brazil	26.03.2013-26.03-2016	190	UK	22.06.2013	350
Hungary	09.09.2013	10-40	Albania	12.09.2013	2
ECB	08.10.2023	350	Switzerland	21.07.2-14-21.07.2020	350
Sri Lanka	16.09.2014	10	Russia	13.10.2014	150
Qatar	3.11.2014	35	Canada	8.11.2014	200
Suriname	18.03.2015	1	Armenia	25.03.2015-25.03.2018	1
South Africa	10.04.2015	30	Chile	25.05.2015	22-50
Tajikistan	3.09.2015-3.09.2018	3	Morocco	11.05.2016-11.05.2019	10
Serbia	17.06.2016-17.06.2019	1.5	Egypt	6.12.2016	18
Nigeria	3.05.2018	15	Japan	26.10.2018	200
Macau SAR	05.12.2019	30	Laos	20.05.2020	6

Source: Authors based on Baha] and Reis (2020) and People's Bank of China.
Note: As of end-2022; amounts in CNY billion. If end date is not specified, the line is ongoing.

Swap line is associated with extra 2-4% CNY invoicing share post sanctions – only for neutral countries

$$\text{CurrencyShare}_{fpct} = \beta_1 \text{PostSanctions}_t \times \text{SwapLine}_{ct} \times \text{Sanctioning}_c + \beta_2 \text{PostSanctions}_t \times \text{SwapLine}_{ct} + \beta_3 \text{PostSanctions}_t * \text{Sanctioning}_c + \beta_4 \text{SwapLine}_{ct} \times \text{Sanctioning}_c + \beta_5 \text{SwapLine}_{ct} + \alpha_{fpt} + \alpha_{fpc} + \varepsilon_{fpct}$$

Dep.var: Trade invoiced in CNY	Swap lines		Swap lines and sanctioning vs neutral		
	Share of volume	Share of transactions	Share of volume	Share of transactions	Share of volume, aggregated cells
Post-sanctions x Swap line	0.00649*** (0.00169)	0.00435** (0.00177)	0.0225*** (0.00448)	0.0155*** (0.00479)	0.0453*** (0.0159)
Post-sanctions x Swap line x Sanctioning			-0.0206*** (0.00451)	-0.0139*** (0.00480)	-0.0473*** (0.0172)
Post-sanctions x Sanctioning			-0.0168*** (0.00374)	-0.0224*** (0.00411)	0.00199 (0.00568)
Post-sanctions x China	0.154*** (0.00466)	0.145*** (0.00522)	0.148*** (0.00564)	0.135*** (0.00652)	0.282*** (0.0214)
Swap line	-0.00204*** (0.000417)	-0.00228*** (0.000417)	-0.00262 (0.00233)	-0.00231 (0.00235)	0.0133 (0.0108)
Swap line x Sanctioning			0.000837 (0.00236)	0.000145 (0.00239)	-0.0118 (0.0109)
Observations	5,191,160	5,193,633	5,191,160	5,193,633	12,397
R-squared	0.893	0.897	0.893	0.897	0.479

Summary

- ▶ The share of Russia's imports invoiced in CNY increased by 17% points
- ▶ Use of CNY as a vehicle currency increased by 4% points for trading partners that have an active PBOC swap line and did not impose economic sanctions on Russia
- ▶ Invoicing in CNY more prevalent for trade in (internationally) sanctioned dual-use and industrial goods
- ▶ Number of importing firms in Russia dealing with CNY invoices increased sharply, while the numbers of importers dealing with USD and EUR invoicing dropped

Conclusions

- ▶ Ongoing retreat from globalization
- ▶ Protectionism has not delivered on job opportunities for American workers
- ▶ Barriers to exports of services can have large effects
- ▶ Global dominance of USD has made sanctions more effective, but in the long run it may undermine its dominance