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Protectionist U.S. Trade Policies and the Cross-Section of Emerging Market Currency Returns

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I. Contribution

- Present causal evidence for the impact of expected protectionist US trade policies on the cross section of Emerging Market currency returns
- Use US presidential TV debates as natural experiment
- Consider cross sectional variation of bilateral trade integration with US to quantify shock
- Investigate policy instruments and macro fundamentals that help mitigating protectionism shocks on exchange rate

I. Results

1. Unconditional effect of presidential TV debate: 1.4 basis points depreciation of USD against EME currencies

2. Debate victory of protectionist candidate leads to EME currency depreciation. More intense bilateral trade integration with US leads to more EME currency weakening

3. EME currency weakening can be mitigated by:
   a) Higher FX reserves
   b) Capital account management
   c) Larger financial system
   d) Larger net foreign assets

II. Literature

Protectionism and exchange rates

- Exchange rate as a shock absorber (e.g., Mundell, 1961; Dornbusch, 1974; Eichengreen, 1981; Krugman, 1982; Van Wijnbergen, 1987; Edwards and Ostry, 1990).
- Evidence from DSGE models (Lindé and Pescatori, 2019; Barattieri et al., 2021; Boer and Rieth, 2023) and large panel studies (Furceri et al., 2018)
- Trade policy uncertainty (Boer and Rieth, 2023; Khalil and Strobel, 2024)
- Anticipation effects; news, tweets (Barbiero et al., 2019; Carlomagno and Albagli, 2022; Matveev and Ruge-Murcia, 2024; Jeanne and Son, 2024).

II. Literature

Policy uncertainty

- Policy uncertainty and exchange rates (Eichler et al., 2009; Eichler, 2011; Beckmann and Czudaj, 2017; Beckmann et al., 2023).
- Monetary policy uncertainty (Kuttner, 2001; Rosa, 2011; Mueller et al., 2017; Cieslak and Schrimpf, 2019)
- Macro announcements (Faust et al., 2007; Gürkaynak et al., 2005; Andersen et al., 2003, 2007)

Trump, political risk and the stock market

- Trump stocks (Wagner et al., 2018; Hanke et al., 2020);
- Trump protectionism and stocks (Bianconi et al., 2021; Huang et al., 2023)
- Presidential election cycles (Bernhard and Leblang, 2006; Snowberg et al., 2007; Sattler, 2013; Brogaard et al., 2019; Santa-Clara and Valkanov, 2003; Della Corte and Fu, 2020)

II. Literature

Presidential debates, protectionism, and exchange rates

De Boer and Eichler (2024):

- Use US presidential debates to identify protectionist shocks
- Higher bilateral trade integration causes more currency depreciation after protectionist debate victory

Contribution

- We focus on the **heterogeneity** of the impact of protectionist shocks on exchange rates
- Causal evidence for impact of protectionism given country's policies and macro fundamentals

II. Theoretical Motivation

Inserting protectionism into a portfolio balance approach of Gabaix and Maggiori (2015):

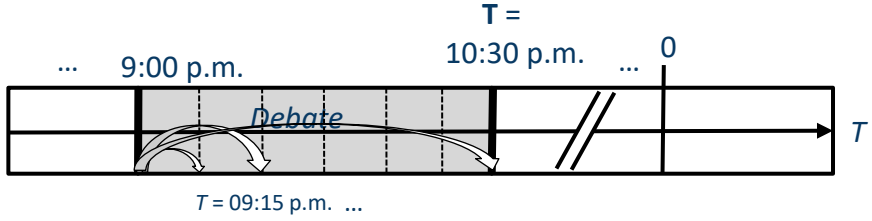
- Higher likelihood of protectionist policies, e.g. higher import tariffs
  - ➢ Increase in expected US net exports
  - ➢ Increase in expected USD demand, EM currency supply
  - ➢ Expected USD appreciation against EM currency
  - ➢ USD will immediately appreciate against EM currency after protectionist shock, to incentive financiers to provide USD in the future

III. Empirical model

Sample from 1996 to 2016 = **23 debates** (9:00 – 10:30 p.m. EDT)

Spot exchange rates of **71 flexible EME currencies** in 15-minute windows (Thomson Reuters Tick History)

Prices of **Democratic Winner-Takes-All contracts** $q_{t,T}^{Dem}$ from *Iowa Electronic Markets* (Security pays \$1 if the Democratic candidate receives majority in popular vote, \$0 otherwise)



09/26/2016: \$0.661 \$0.675 $\Delta q_{10:30p.m.}^{Dem}$ = 1.4 pp

Return: $r_{i,t,T} = \ln(s_{i,t,T}) - \ln(s_{i,t,9:00p.m.})$

Change in Democratic election probability: $\Delta q_{t,T}^{Dem} = q_{t,T}^{Dem} - q_{t,9:00p.m.}^{Dem}$

III. Empirical model

Position on **protectionism** from *Manifesto Project* (share of sentences)

Protectionism Positive: Favorable mentions of extending/maintaining protection of internal markets. Measures include: Tariffs, quota restrictions, export subsidies.

Protectionism Negative: Support for the concept of free trade and open markets. Call for abolishing all means of market protection.

1) Net position of each candidate and 2) Difference between candidates

2016:

Democrat: 0.13 – 0.27 = -0.14

Republican: 0.36 – 0.46 = -0.1

-0.14 – (-0.1) < 0 → Republican = Protectionist candidate in 2016

Change in election probability of protectionist candidate:

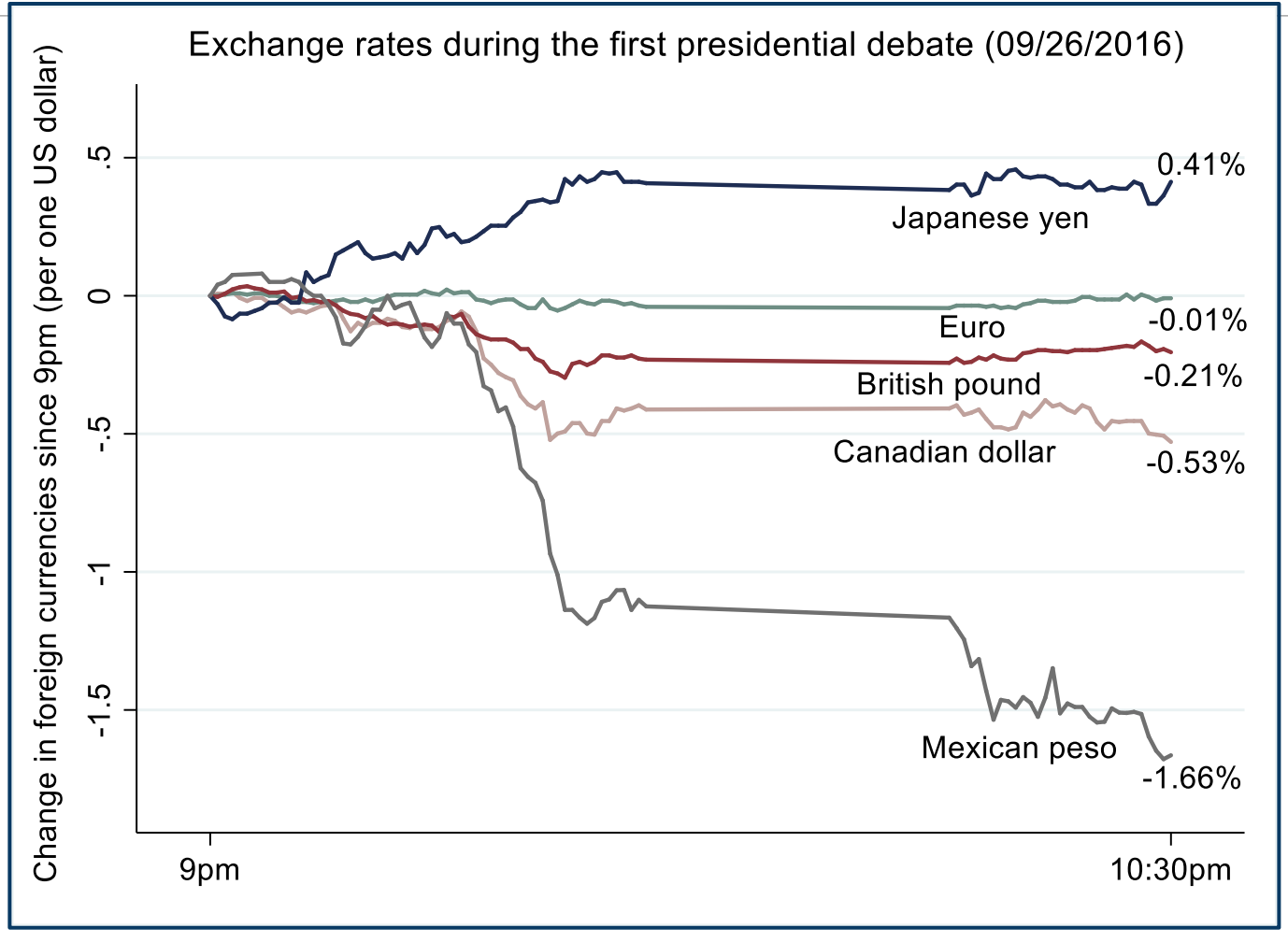
$$\Delta q_{t,T}^{\text{Protectionism}} = \Delta q_{t,T}^{\text{Dem}} * (1 \text{ or } -1)$$

09/26/2016: $\Delta q_{10:30\text{p.m.}}^{\text{Protectionism}}$ = -1.4 pp → Republican = Protectionist candidate loses this debate

➢Expect that currencies of countries with high bilateral trade integration gain (weaken) more when protectionist candidate loses (wins) debate

III. Empirical model

Positive values indicate currency depreciation against USD



III. Empirical model

Identification:

- US presidential TV debate as a natural event
  - ✓ No other important events shocking FX markets (9:00 to 10:30 p.m. EDT), no macro news, stock exchanges are closed
  - ✓ FX investors cannot forecast the performance of each candidate beforehand
  - ✓ Account for change in election probability during debate → anticipation effect cleaned out
- Change in the election probability in the course of the TV debate is an exogenous shock to FX
- We exploit the ex ante country heterogeneity with respect to bilateral trade integration, policies, and macro fundamental to identify the cross sectional variation of currency returns around the debate

III. Empirical model

Baseline impact of protectionism: Impact of change of protectionist election probability on currency return along the range of bilateral trade integration with the US

$$r_{i,t} = \kappa + \beta_1 \times Debate_t + \beta_2 \times Debate_t \times \Delta q_t^{Dem} + \beta_3 \times Debate_t \times \Delta q_t^{Protec}$$
$$+ \beta_4 \times Trade_{i,t} + \beta_5 \times Debate_t \times Trade_{i,t} + \beta_6 \times Debate_t \times \Delta q_t^{Dem} \times Trade_{i,t}$$
$$+ \beta_7 \times Debate_t \times \Delta q_t^{Protec} \times Trade_{i,t} + \alpha_i + \gamma_t + \varepsilon_{i,t}$$

III. Empirical model

Heterogeneous impact of protectionism: Impact of change of protectionist election probability on currency return along the range of bilateral trade integration with the US, given **country's policies and macro fundamentals** ξ

$$
\begin{aligned}
r_{i,t} = {} & \kappa + \beta_1 \times Debate_t + \beta_2 \times Debate_t \times \Delta q_t^{Dem} + \beta_3 \times Debate_t \times \Delta q_t^{Protec} \\
& + \beta_4 \times Trade_{i,t} + \beta_5 \times Debate_t \times Trade_{i,t} + \beta_6 \times Debate_t \times \Delta q_t^{Dem} \times Trade_{i,t} \\
& + \beta_7 \times Debate_t \times \Delta q_t^{Protec} \times Trade_{i,t} + \beta_8 \times \zeta_{i,t} + \beta_9 \times Debate_t \times \zeta_{i,t} \\
& + \beta_{10} \times Debate_t \times \Delta q_t^{Protec} \times \zeta_{i,t} + \beta_{11} \times Trade_{i,t} \times \zeta_{i,t} \\
& + \beta_{12} \times Debate_t \times Trade_{i,t} \times \zeta_{i,t} + \beta_{13} \times Debate_t \times \Delta q_t^{Protec} \times Trade_{i,t} \times \zeta_{i,t} + \alpha_i + \gamma_t + \varepsilon_{i,t}.
\end{aligned}
\tag{5}
$$

IV. Results: Baseline effect

Positive values indicate Emerging Market currency depreciation against USD

Table 2: Impact of protectionism conditional on exports to US. The table shows results of the OLS model of daily panels of exchange rate returns in 15-minute-windows on the interaction of changes in the protectionist candidates' election probability with country's exports to the US (scaled by GDP), $r_{i,t,T} = \beta_1 \times Debate_{t,T} + \beta_2 \times Debate_{t,T} \times \Delta q^{Dem}_{t,T} + \beta_3 \times Debate_{t,T} \times \Delta q^{Protec}_{t,T} + \beta_4 \times Exports_{i,t,T} + \beta_5 \times Debate_{t,T} \times Exports_{i,t,T} + \beta_6 \times Debate_{t,T} \times \Delta q^{Dem}_{t,T} \times Exports_{i,t,T} + \beta_7 \times Debate_{t,T} \times \Delta q^{Protec}_{t,T} \times Exports_{i,t,T} + \alpha_i + \gamma_t + \varepsilon_{i,t,T}$. Exchange rate returns of currency i at day t are calculated as $r_{i,t,T} = \ln(s_{i,t,T}) - \ln(s_{i,t,9:00p.m.})$ with expanding T by 15-minute-windows and are matched with changes in election probabilities. A positive coefficient denotes a depreciation of the foreign currencies against the US dollar and vice versa. The results are given in percentage points. The full sample ranges from 01/1996 - 12/2016 and contains 71 exchange rates of emerging market and developing countries. In the baseline model (I), we account for country fixed effects and year fixed effects, the regression models (II) contain country fixed effects and month fixed effects, and the regression models (III) contain year fixed effects with standard errors clustered on country and year. The p-values (in parentheses) are based on robust standard errors. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Return at T	21:15	21:30	21:45	22:00	22:15	22:30	22:45	23:00	23:15	23:30	23:45	00:00
(I)												
Debate (D)	0.0048	-0.0072	-0.0074*	-0.0081**	-0.0113	-0.0117**	-0.0117***	-0.0067	-0.0061	-0.0064	-0.0134**	-0.0096**
	(0.0054)	(0.0059)	(0.0038)	(0.0037)	(0.0071)	(0.0056)	(0.0042)	(0.0051)	(0.0069)	(0.0063)	(0.0065)	(0.0048)
Exports to US (Exp)	0.0008	0.0006	0.0001	0.0003	-0.0001	-0.0004	0.0005	0.0003	-0.0001	-0.0005	-0.0016	-0.0002
	(0.0006)	(0.0007)	(0.0004)	(0.0003)	(0.0008)	(0.0009)	(0.0011)	(0.0003)	(0.0010)	(0.0011)	(0.0014)	(0.0005)
D × Exp	-0.0006	0.0000	-0.0002	0.0001	-0.0015	-0.0009	0.0001	-0.0003	-0.0011	-0.0013*	-0.0007	-0.0010
	(0.0005)	(0.0007)	(0.0005)	(0.0010)	(0.0011)	(0.0014)	(0.0008)	(0.0006)	(0.0008)	(0.0007)	(0.0012)	(0.0006)
D × Δq^{Dem}	-0.0081**	-0.0007	0.0043***	0.0000	-0.0012	0.0015	0.0025**	0.0034***	0.0047	0.0015	-0.0009	0.0027
	(0.0038)	(0.0018)	(0.0016)	(0.0019)	(0.0030)	(0.0014)	(0.0012)	(0.0011)	(0.0032)	(0.0020)	(0.0022)	(0.0019)
D × Δq^{Dem} × Exp	0.0002	-0.0002	-0.0009**	-0.0007***	-0.0009**	-0.0015***	-0.0022***	-0.0020***	-0.0031***	-0.0029***	-0.0028***	-0.0024***
	(0.0004)	(0.0004)	(0.0003)	(0.0002)	(0.0003)	(0.0002)	(0.0002)	(0.0002)	(0.0004)	(0.0002)	(0.0003)	(0.0003)
D × Δq^{Protec}	0.0079**	-0.0038**	0.0025	-0.0009	-0.0013	0.0011	-0.0003	0.0004	0.0005	0.0009	-0.0012	-0.0011
	(0.0037)	(0.0018)	(0.0016)	(0.0016)	(0.0030)	(0.0015)	(0.0012)	(0.0013)	(0.0033)	(0.0015)	(0.0021)	(0.0015)
D × Δq^{Protec} × Exp	-0.0003	-0.0001	-0.0001	0.0005**	0.0001	0.0008**	0.0017***	0.0017***	0.0014***	0.0021***	0.0022***	0.0022***
	(0.0004)	(0.0002)	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0005)	(0.0003)	(0.0004)	(0.0003)
Constant	0.0002	0.0024	0.0034*	0.0009	0.0046**	0.0063**	0.0056**	0.0028*	0.0081**	0.0090**	0.0114***	0.0032
	(0.0013)	(0.0016)	(0.0018)	(0.0011)	(0.0022)	(0.0026)	(0.0026)	(0.0016)	(0.0032)	(0.0035)	(0.0042)	(0.0023)
Observations	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592
Currencies	69	69	69	69	69	69	69	69	69	69	69	69
R^2	0.0007	0.0007	0.0006	0.0002	0.0006	0.0009	0.0012	0.0007	0.0013	0.0018	0.0018	0.0011

IV. Results: Baseline effect: Interaction effect

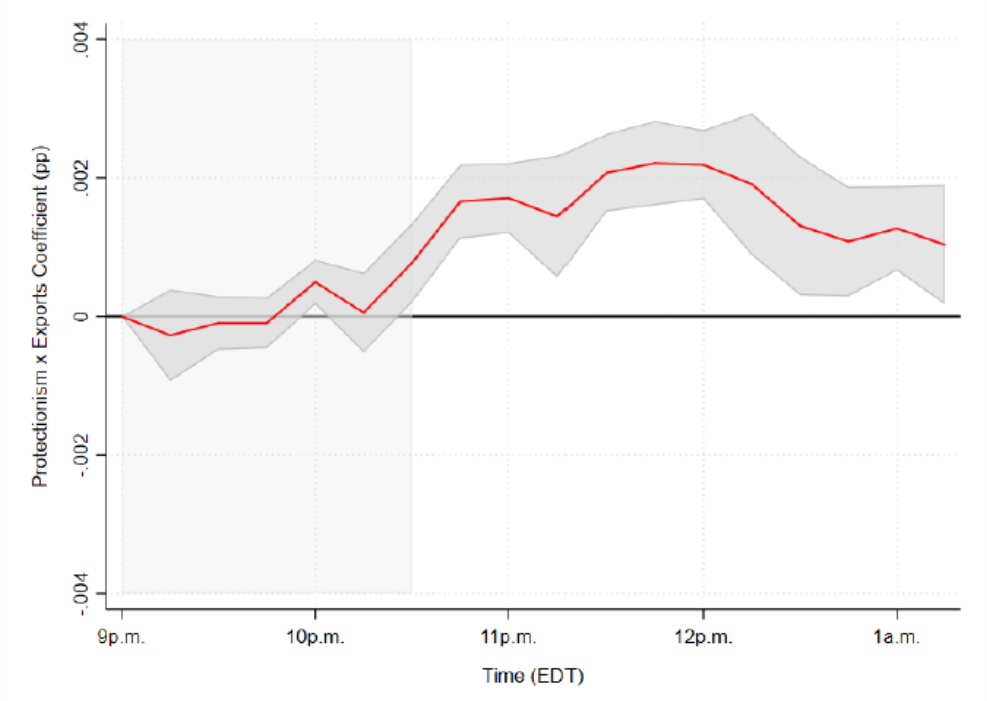


Figure 2: Impact of protectionism conditional on exports to US. Plot of the coefficient β_7 from the regression $r_{i,t,T} = \beta_1 \times Debate_{t,T} + \beta_2 \times Debate_{t,T} \times \Delta q_{t,T}^{Dem} + \beta_3 \times Debate_{t,T} \times \Delta q_{t,T}^{Protec} + \beta_4 \times Exports_{i,t,T} + \beta_5 \times Debate_{t,T} \times Exports_{i,t,T} + \beta_6 \times Debate_{t,T} \times \Delta q_{t,T}^{Dem} \times Exports_{i,t,T} + \beta_7 \times Debate_{t,T} \times \Delta q_{t,T}^{Protec} \times Exports_{i,t,T} + \alpha_i + \gamma_t + \varepsilon_{i,t,T}$ around US presidential debates (9:00 - 10:30 p.m. EDT) with upper and lower limit in 90%-confidence intervals. A positive coefficient denotes a depreciation of the foreign currency against the US dollar. The results are given in percentage points. We account for country fixed effects and year fixed effects. The full sample ranges from 01/1996 - 12/2016 and contains 71 exchange rates of emerging markets and developing countries.

Positive and significant interaction coefficient β_{13}

Higher bilateral exports to US leads to more EME currency depreciation against USD when protectionist election probability is increased

IV. Results: Baseline effect: Marginal effects at 11:00 p.m.

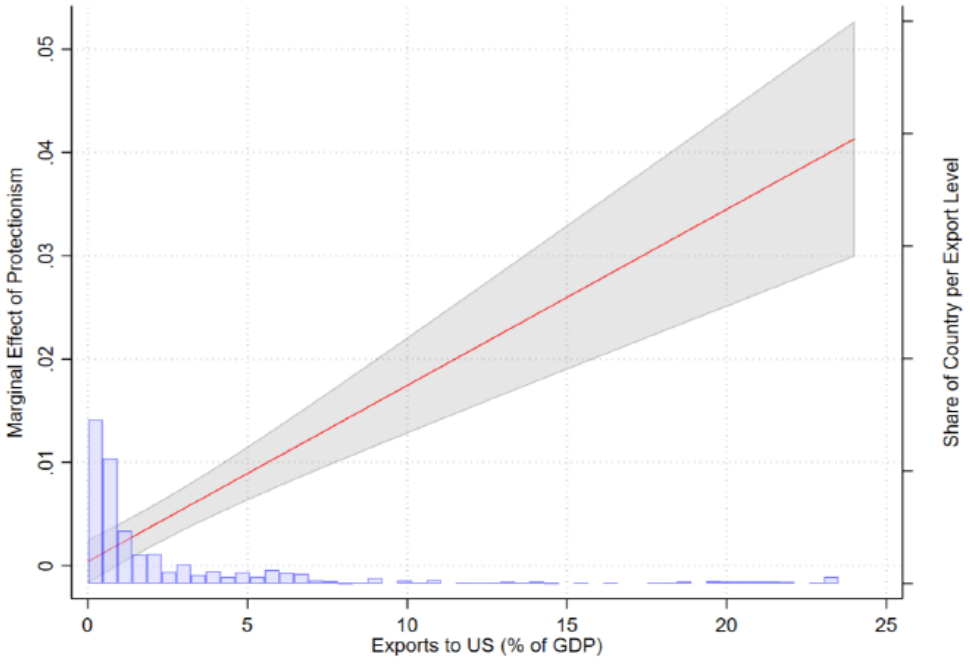


Figure 3: Average marginal effect of protectionism conditional on exports to US. Plot of the average marginal effect of $\Delta q_{t,T}^{Protectionism}$ for different relative export levels. The underlying regression is $r_{i,t,T} = \beta_1 \times Debate_{t,T} + \beta_2 \times Debate_{t,T} \times \Delta q_{t,T}^{Dem} + \beta_3 \times Debate_{t,T} \times \Delta q_{t,T}^{Protec} + \beta_4 \times Exports_{i,t,T} + \beta_5 \times Debate_{t,T} \times Exports_{i,t,T} + \beta_6 \times Debate_{t,T} \times \Delta q_{t,T}^{Dem} \times Exports_{i,t,T} + \beta_7 \times Debate_{t,T} \times \Delta q_{t,T}^{Protec} \times Exports_{i,t,T} + \alpha_i + \gamma_t + \varepsilon_{i,t,T}$ at $T = 11:00 p.m. EDT$. A positive coefficient denotes a depreciation of foreign currencies against the US dollar. The results are given in percentage points. We account for country fixed effects and year fixed effects. The full sample ranges from 01/1996 - 12/2016 and contains 71 exchange rates of emerging markets and developing countries.

- Significant effect for bilateral exports > 1% of GDP
- At mean export level (2.81% of GDP), a 1 pp. increase in protectionist election prob leads to 0.0055 pp. EME currency depreciation against USD
- Mean increase in protectionist effect accounts for 0.07 Std dev in currency returns
- For top exporters (Mexico, 23% of GDP), 1 pp. higher protectionist election prob leads to 0.04 pp currency depreciation

→ Mean increase in protectionist effect accounts for 0.5 Std dev in currency returns

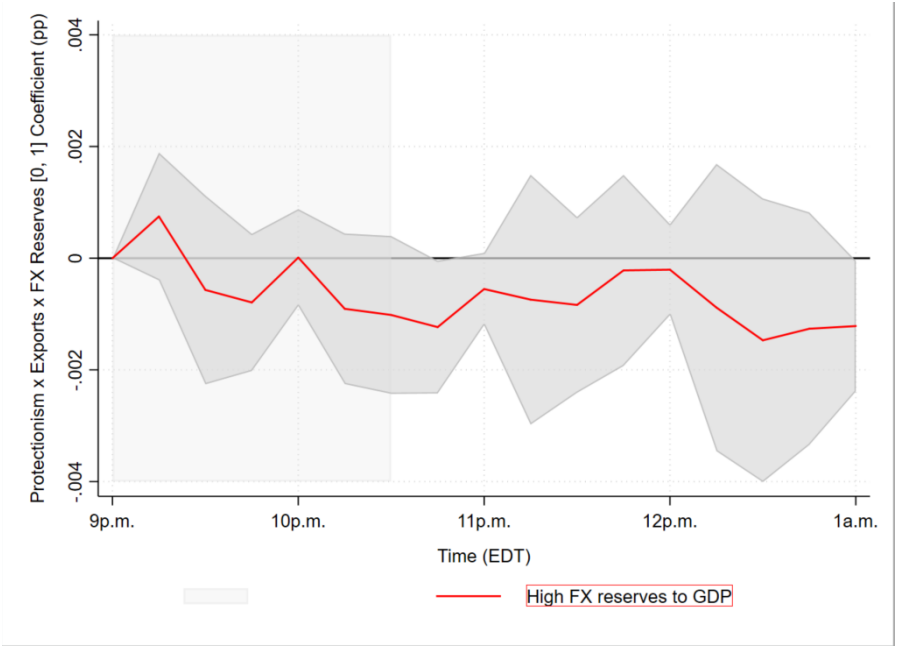
IV. Channels: FX reserves to GDP

Table 4: Impact of protectionism conditional on exports to US and high FX reserves to GDP. The table shows results of the OLS model of daily panels of exchange rate returns in 15-minute-windows on the interaction of changes in the protectionist candidates' election probability with country's exports to the US (scaled by GDP), $r_{i,t,T} = \beta_1 \times Debate_{t,T} + \beta_2 \times Debate_{t,T} \times \Delta q_{t,T}^{Dem} + \beta_3 \times Debate_{t,T} \times \Delta q_{t,T}^{Protec} + \beta_4 \times Exports_{i,t,T} + \beta_5 \times Debate_{t,T} \times Exports_{i,t,T} + \beta_6 \times Debate_{t,T} \times \Delta q_{t,T}^{Dem} \times Exports_{i,t,T} + \beta_7 \times Debate_{t,T} \times \Delta q_{t,T}^{Protec} \times Exports_{i,t,T} + \beta_8 \times \zeta_{i,t} + \beta_9 \times Debate_t \times \zeta_{i,t} + \beta_{10} \times Debate_t \times \Delta q_t^{Protec} \times \zeta_{i,t} + \beta_{11} \times Trade_{i,t} \times \zeta_{i,t} + \beta_{12} \times Debate_t \times Trade_{i,t} \times \zeta_{i,t} + \beta_{13} \times Debate_t \times \Delta q_t^{Protec} \times Trade_{i,t} \times \zeta_{i,t} + \alpha_i + \gamma_t + \varepsilon_{i,t}$. Exchange rate returns of currency i at day t are calculated as $r_{i,t,T} = \ln(s_{i,t,T}) - \ln(s_{i,t,9:00p.m.})$ with expanding T by 15-minute-windows and are matched with changes in election probabilities. A positive coefficient denotes a depreciation of the foreign currencies against the US dollar and vice versa. The results are given in percentage points. The full sample ranges from 01/1996 - 12/2016 and contains 71 exchange rates of emerging market and developing countries. In the baseline model (I), we account for country fixed effects and year fixed effects. The p-values (in parentheses) are based on robust standard errors. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Return at T	21:15	21:30	21:45	22:00	22:15	22:30	22:45	23:00	23:15	23:30	23:45	00:00
(I)												
Debate (D)	0.0005	-0.0079	-0.0070*	-0.0087**	-0.0079	-0.0112	-0.0137**	-0.0052	-0.0053	-0.0116	-0.0120	-0.0102
	(0.0091)	(0.0065)	(0.0038)	(0.0034)	(0.0097)	(0.0074)	(0.0064)	(0.0085)	(0.0102)	(0.0074)	(0.0077)	(0.0080)
Exports to US (Exp)	0.0007	0.0003	0.0001	0.0004	0.0001	0.0003	0.0017	0.0004**	0.0012	0.0007	-0.0004	0.0003
	(0.0008)	(0.0006)	(0.0004)	(0.0003)	(0.0008)	(0.0011)	(0.0012)	(0.0002)	(0.0008)	(0.0009)	(0.0007)	(0.0004)
D × Exp	-0.0005	0.0004	-0.0005	-0.0009**	-0.0022**	-0.0022***	-0.0007	-0.0010*	-0.0016**	-0.0017***	-0.0020***	-0.0017***
	(0.0007)	(0.0004)	(0.0004)	(0.0004)	(0.0009)	(0.0008)	(0.0006)	(0.0006)	(0.0007)	(0.0005)	(0.0005)	(0.0003)
D × Δq^{Dem}	-0.0089**	-0.0016	0.0043**	-0.0011	-0.0020	0.0005	0.0016	0.0024**	0.0022	0.0006	-0.0026	0.0020
	(0.0038)	(0.0025)	(0.0018)	(0.0023)	(0.0034)	(0.0015)	(0.0014)	(0.0012)	(0.0037)	(0.0021)	(0.0026)	(0.0021)
D × Δq^{Dem} × Exp	0.0002	-0.0000	-0.0008**	-0.0005***	-0.0006*	-0.0012***	-0.0019***	-0.0018***	-0.0026***	-0.0026***	-0.0025***	-0.0022***
	(0.0005)	(0.0004)	(0.0003)	(0.0002)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0003)	(0.0002)	(0.0003)	(0.0004)
D × Δq^{Protec}	-0.0017	0.0019	0.0022**	0.0003	0.0028*	0.0011	0.0026	0.0074**	0.0028	0.0038*	0.0008	
	(0.0047)	(0.0021)	(0.0017)	(0.0010)	(0.0025)	(0.0016)	(0.0016)	(0.0017)	(0.0032)	(0.0020)	(0.0021)	(0.0013)
D × Δq^{Protec} × Exp	-0.0005	-0.0000	0.0002*	0.0005***	0.0003	0.0011***	0.0020***	0.0019***	0.0016***	0.0023***	0.0023***	0.0023***
	(0.0003)	(0.0002)	(0.0001)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0002)	(0.0003)	(0.0001)	(0.0002)	(0.0002)
High FX Reserves/GDP (FXR)	-0.0039	-0.0017	-0.0014	-0.0014	-0.0065	-0.0034	-0.0020	-0.0019	-0.0038	-0.0036	-0.0056*	-0.0015
	(0.0031)	(0.0028)	(0.0011)	(0.0010)	(0.0042)	(0.0025)	(0.0020)	(0.0013)	(0.0030)	(0.0023)	(0.0031)	(0.0020)
D × FXR	0.0084	0.0036	-0.0018	-0.0027	-0.0099	-0.0062	0.0011	-0.0056	-0.0034	0.0083	-0.0095	-0.0022
	(0.0105)	(0.0105)	(0.0081)	(0.0080)	(0.0133)	(0.0099)	(0.0085)	(0.0090)	(0.0143)	(0.0128)	(0.0139)	(0.0107)
D × Δq^{Protec} FXR	-0.0077	-0.0039	0.0016	-0.0066	-0.0029	-0.0032	-0.0023	-0.0045**	-0.0145**	-0.0036	-0.0110**	-0.0043
	(0.0064)	(0.0061)	(0.0034)	(0.0041)	(0.0033)	(0.0025)	(0.0023)	(0.0021)	(0.0064)	(0.0037)	(0.0051)	(0.0033)
FXR × Exp	0.0002	0.0004	0.0000	-0.0001	-0.0003	-0.0011	-0.0018	-0.0002	-0.0020	-0.0018	-0.0018	-0.0008
	(0.0007)	(0.0008)	(0.0004)	(0.0003)	(0.0009)	(0.0010)	(0.0012)	(0.0002)	(0.0013)	(0.0012)	(0.0015)	(0.0006)
D × Exp × FXR	0.0001	-0.0021	0.0014	0.0042**	0.0030	0.0056***	0.0034*	0.0030**	0.0019	0.0022	0.0060**	0.0031***
	(0.0019)	(0.0032)	(0.0014)	(0.0019)	(0.0031)	(0.0021)	(0.0019)	(0.0013)	(0.0032)	(0.0017)	(0.0026)	(0.0009)
D × Δq^{Protec} × Exp × FXR	0.0007	-0.0006	-0.0008	0.0000	-0.0009	-0.0010	-0.0012*	-0.0006	-0.0007	-0.0008	-0.0002	-0.0002
	(0.0007)	(0.0010)	(0.0007)	(0.0005)	(0.0008)	(0.0008)	(0.0007)	(0.0004)	(0.0013)	(0.0009)	(0.0010)	(0.0005)
Constant	0.0015	0.0032*	0.0038**	0.0012	0.0062**	0.0063**	0.0046*	0.0031**	0.0074***	0.0085***	0.0114***	0.0029
	(0.0020)	(0.0019)	(0.0017)	(0.0012)	(0.0025)	(0.0026)	(0.0025)	(0.0015)	(0.0026)	(0.0029)	(0.0036)	(0.0023)
Observations	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592	151,592
Currencies	69	69	69	69	69	69	69	69	69	69	69	69
R^2	0.0007	0.0007	0.0006	0.0003	0.0007	0.0010	0.0013	0.0008	0.0015	0.0019	0.0020	0.0011

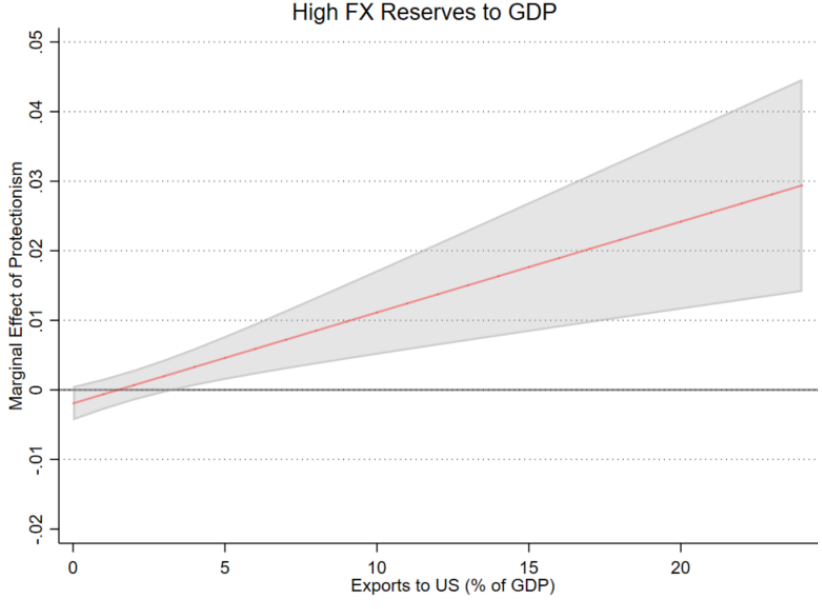
IV. Channels: FX reserves to GDP, Interaction effect

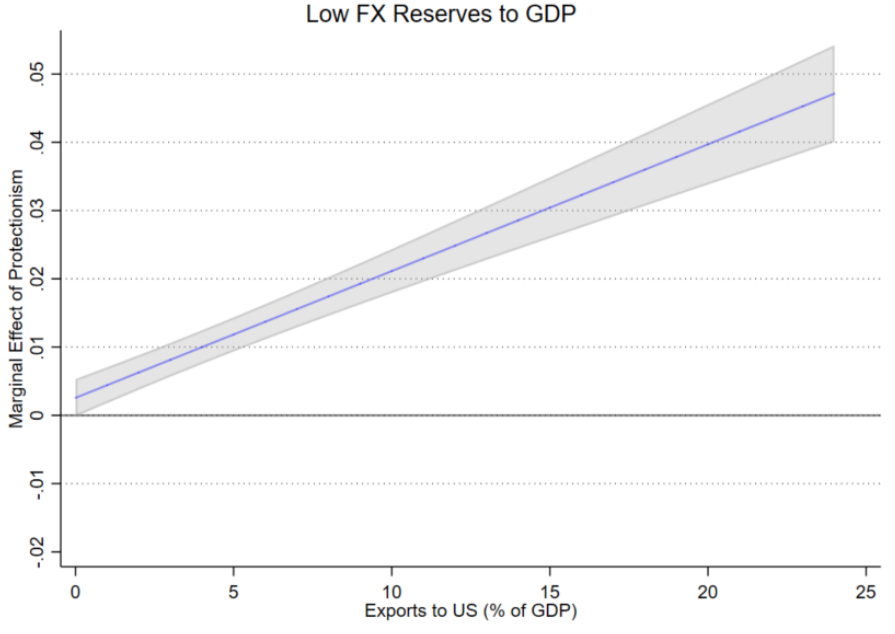
- Evolution of the interaction coefficient $\beta_{13} = Debate_{t,T} \times \Delta qProtec_{t,T} \times Exports_{i,t,T} \times FXReserves[0, 1]_{i,t,T}$ testing for a difference in the protectionism channel for high FX reserves countries against low FX reserves countries
- Negative interaction coefficient: Weak evidence that countries with above median FX reserves (FX Reserves = 1) can mitigate the impact of protectionism on their domestic currency returns.



IV. Channels: FX reserves to GDP, marginal effects

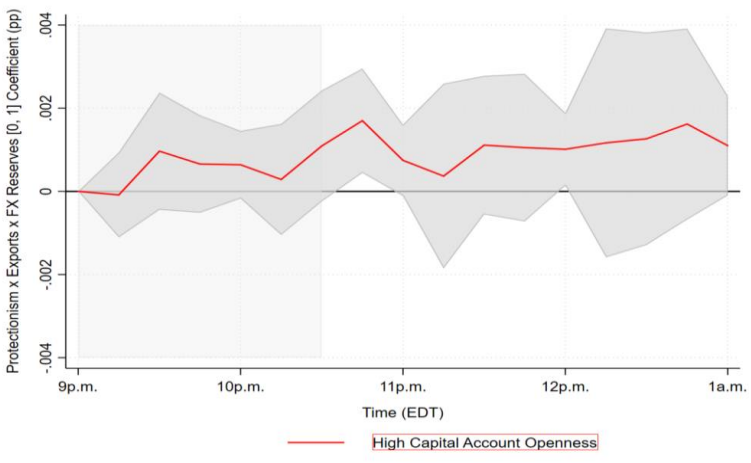
- Marginal effect of a one pp increase in the protectionist candidate's election probability on exchange rate returns (y-axis), for a range of bilateral exports to the US (x-axis) for high FX reserves countries and low FX reserves countries.



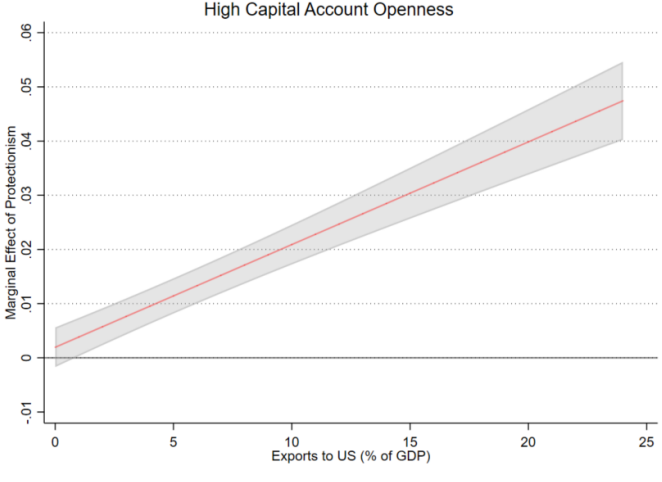


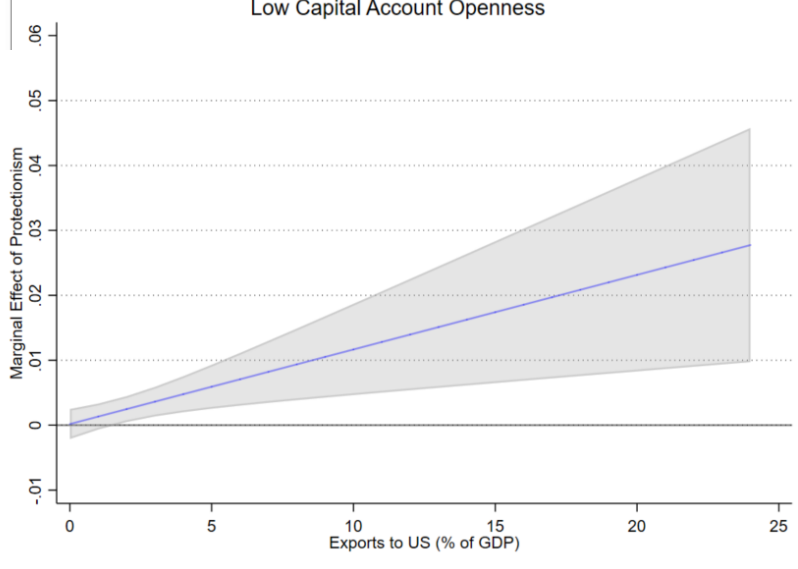
- CB can use FX intervention to fend off speculative attacks
- FX reserves help against anticipated meltdown in NFA with future protectionist shock

IV. Channels: Capital controls (Chinn Ito CAopenness)

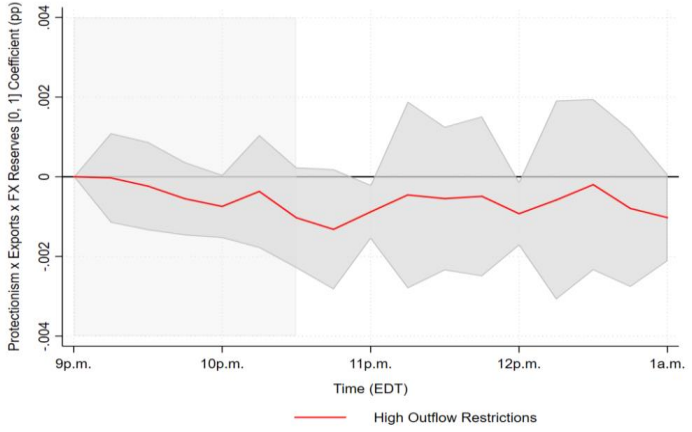


- Capital controls may prevent sudden stops after protectionist shock
- Sand in the wheels: Less pronounced intertemporal adjustment of exchange rate

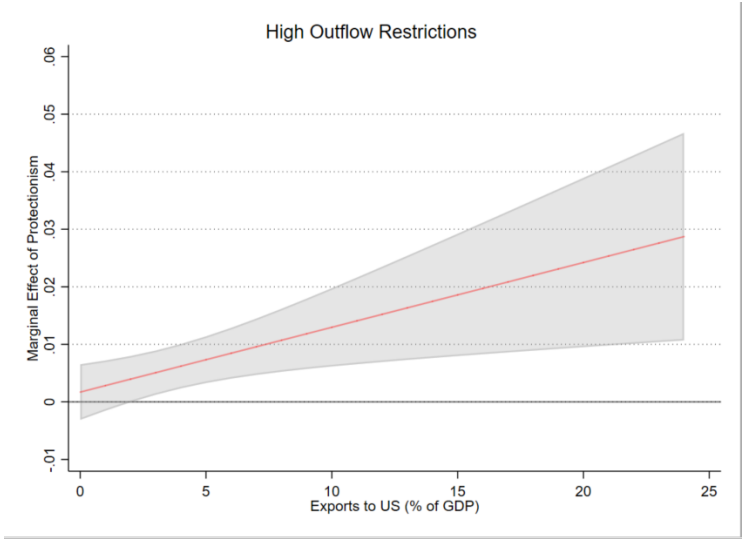


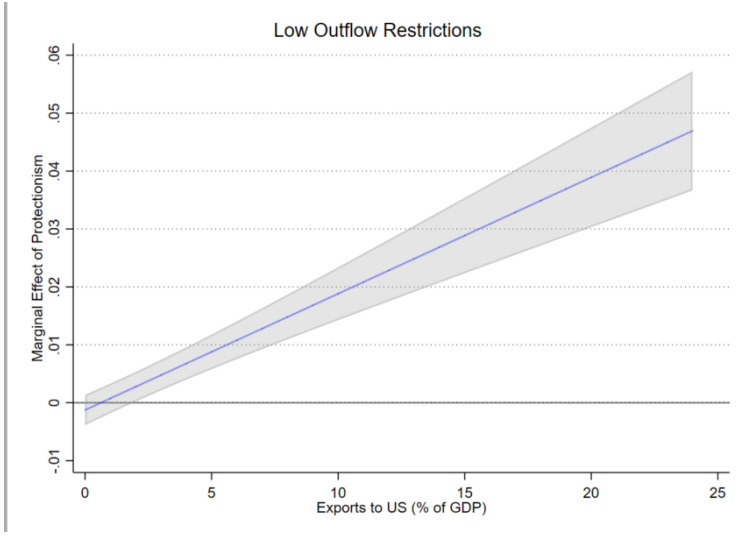


IV. Channels: Capital outflow restrictions (Schindler index)

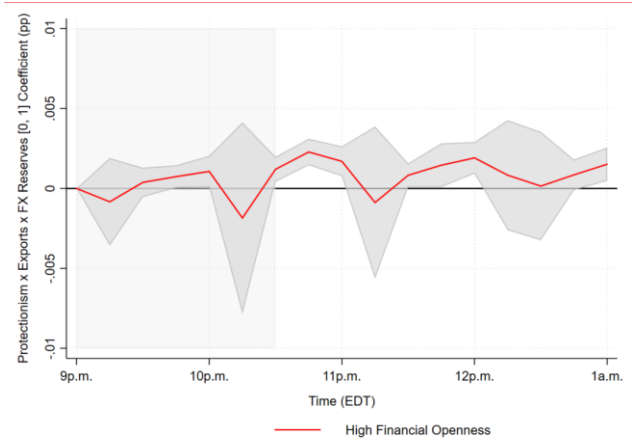


- Restrictions on capital outflows particularly effective for mitigating impact of protectionist shocks on currency returns

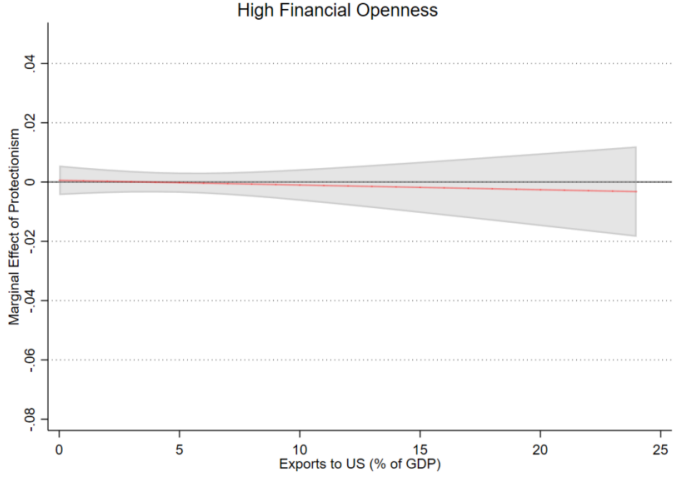


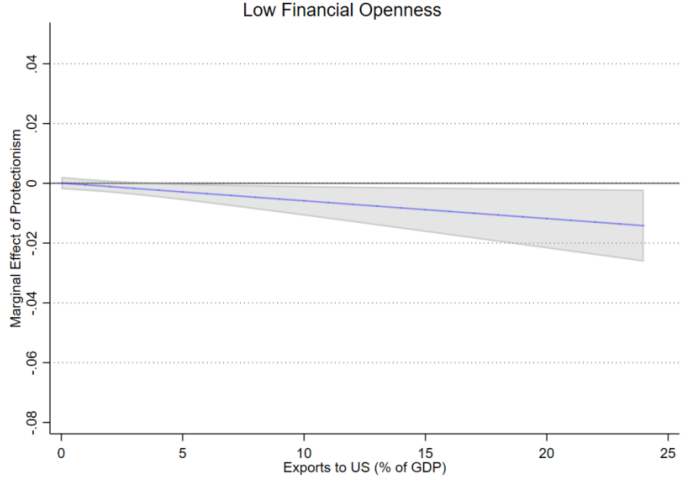


IV. Channels: Financial openness

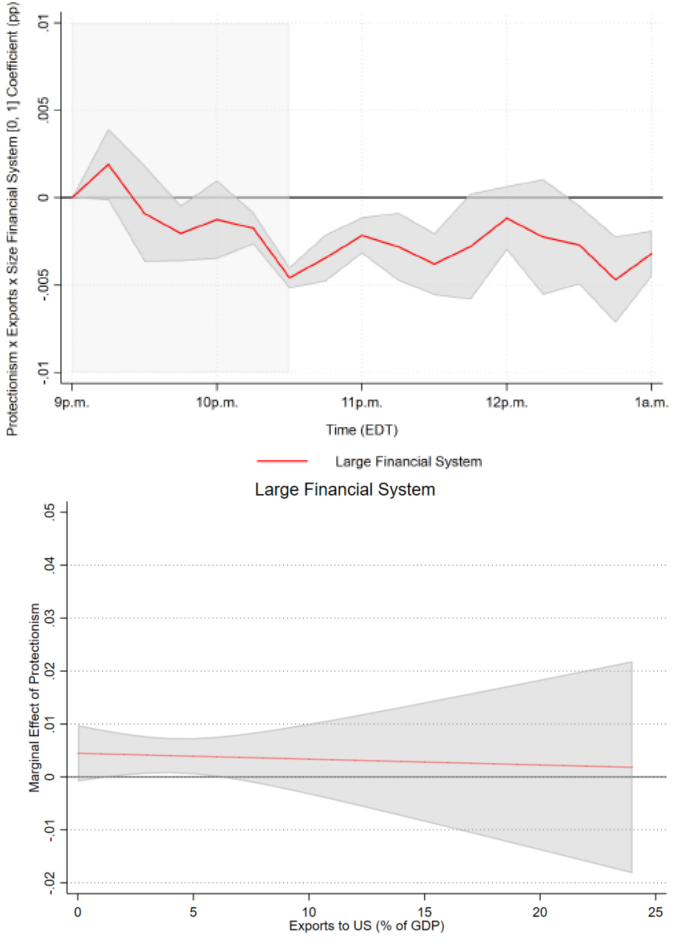


- Largely insignificant effects for financial openness

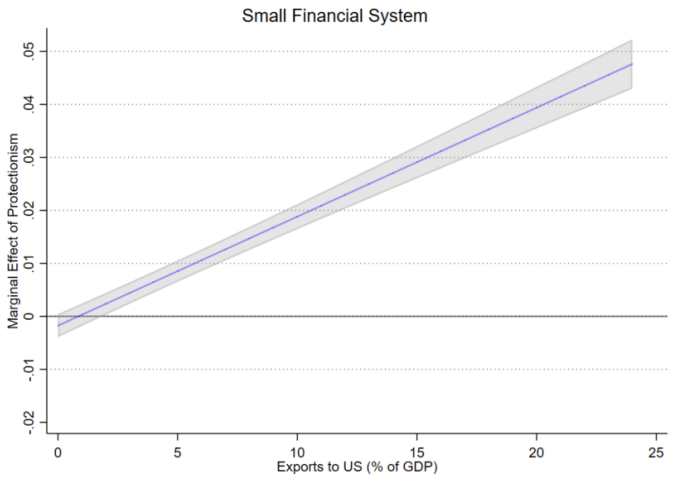




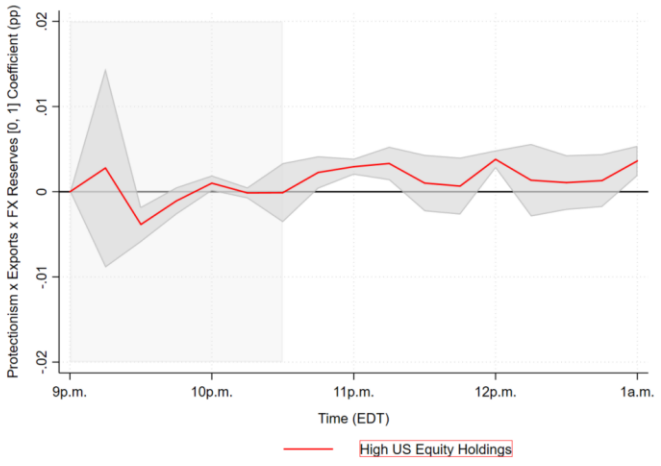
IV. Channels: Size of Financial system



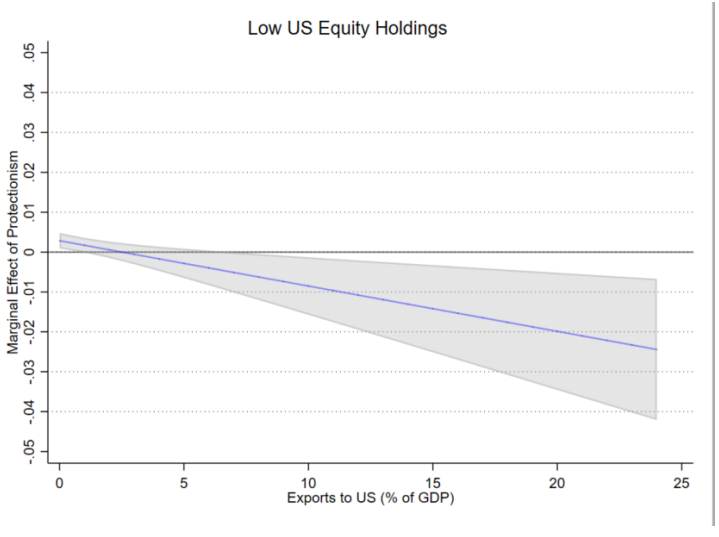
- Larger financial systems are better able to mitigate protectionist shocks on FX
  - → broader investor base
  - → more liquid markets
  - → lower sensitivity of risk premia



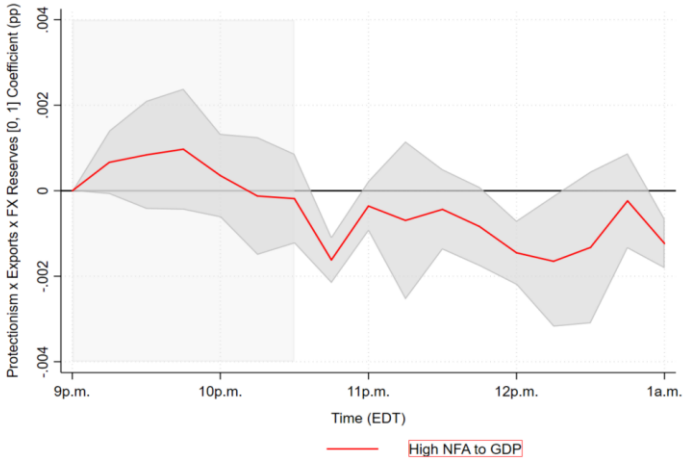
IV. Channels: Bilateral equity holdings



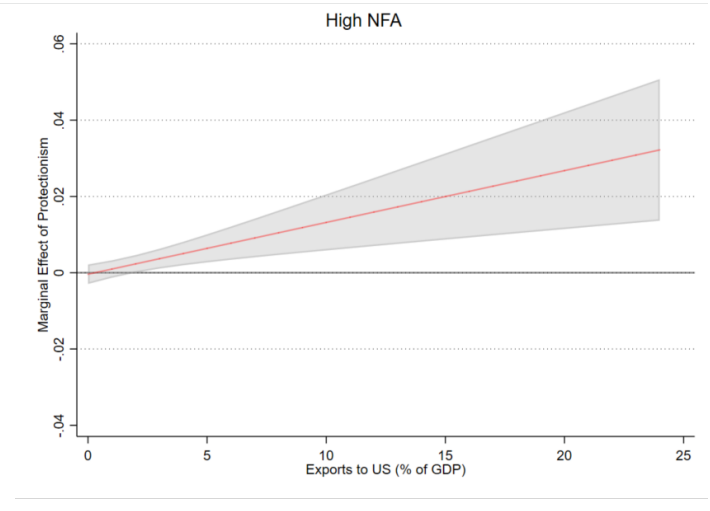
- High bilateral equity holdings propagate protectionist shocks in exchange rate
- Confirms findings in literature that financial linkage intensifies transmission of shocks (Forbes and Chinn, 2004; Fratzscher (2009)

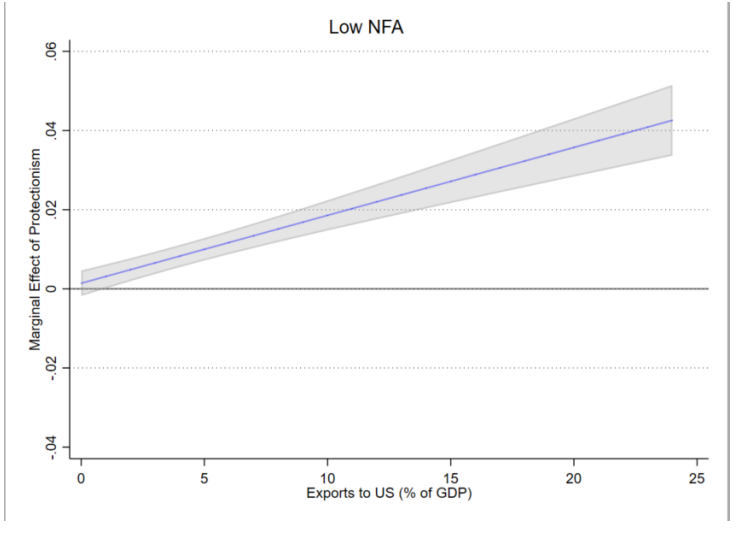


IV. Channels: Net foreign assets

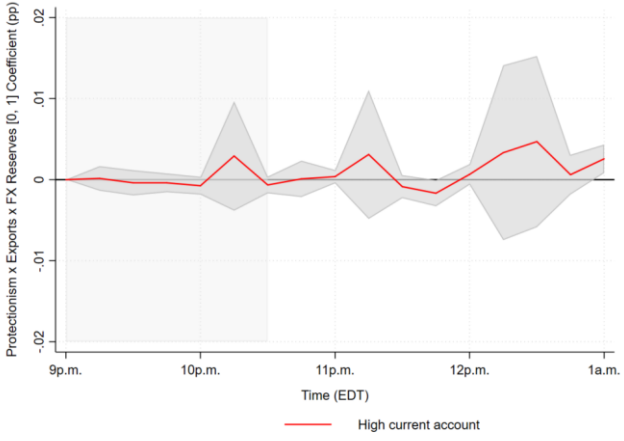


- Low NFA countries (debtors) more exposed to protectionist shocks than higher NFS countries (creditors)
- Gabaix and Maggiori (2015): Deterioration in expected net exports leads to build-up in risk-premia; even more so for low NFA countries

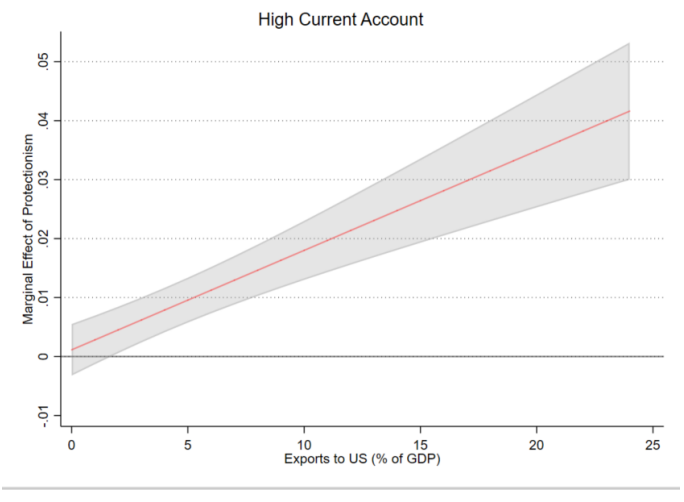


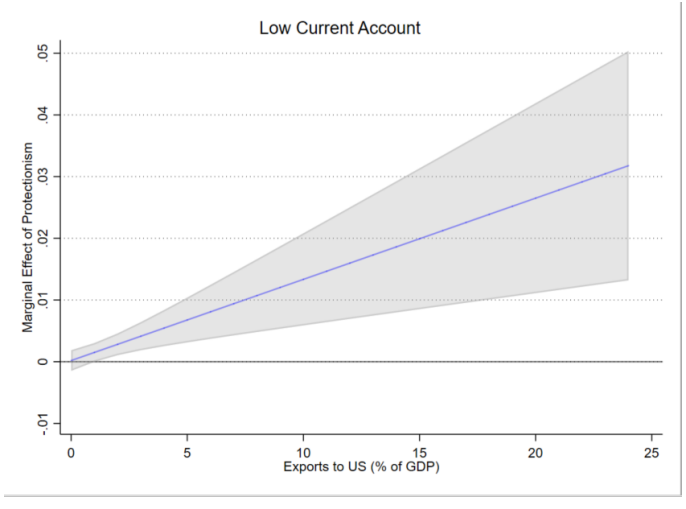


IV. Channels: Current account balance

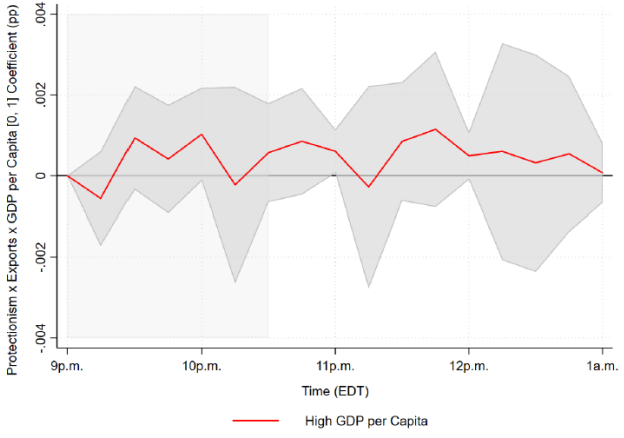


- No significant difference between high current account and low current account countries

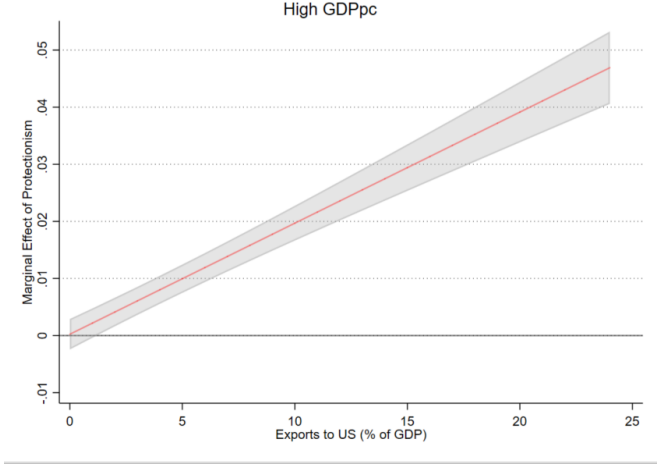


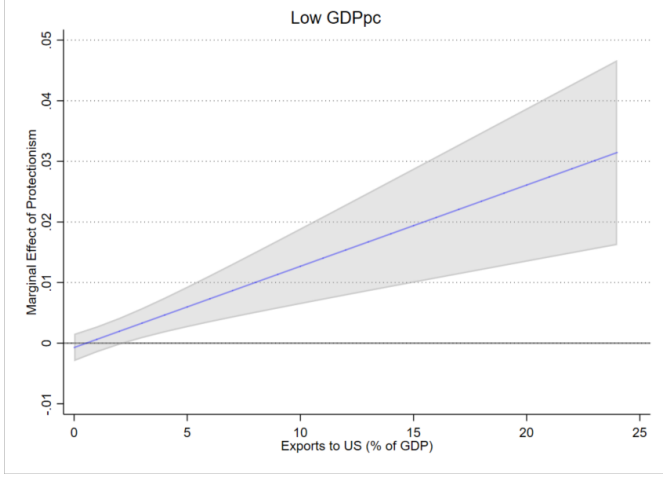


IV. Channels: GDP pc

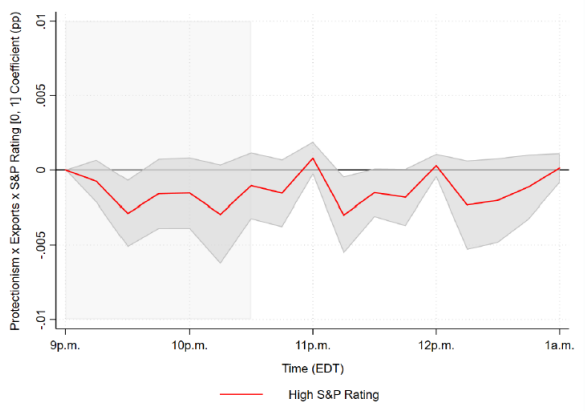


- No significant difference between high GDP p.c. and low GDP p.c. countries

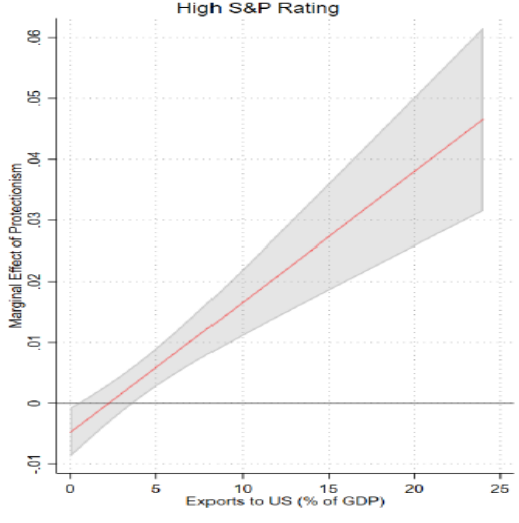


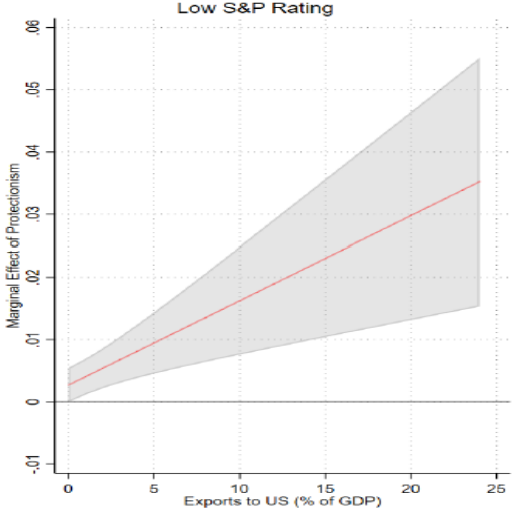


IV. Results: S&P rating

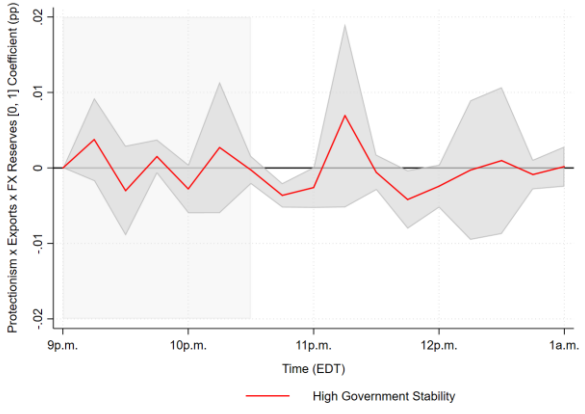


- No significant difference between high S&P rating and low S&P rating countries

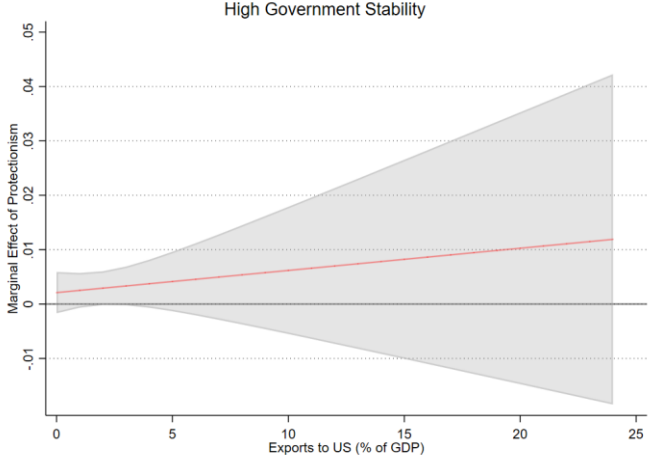


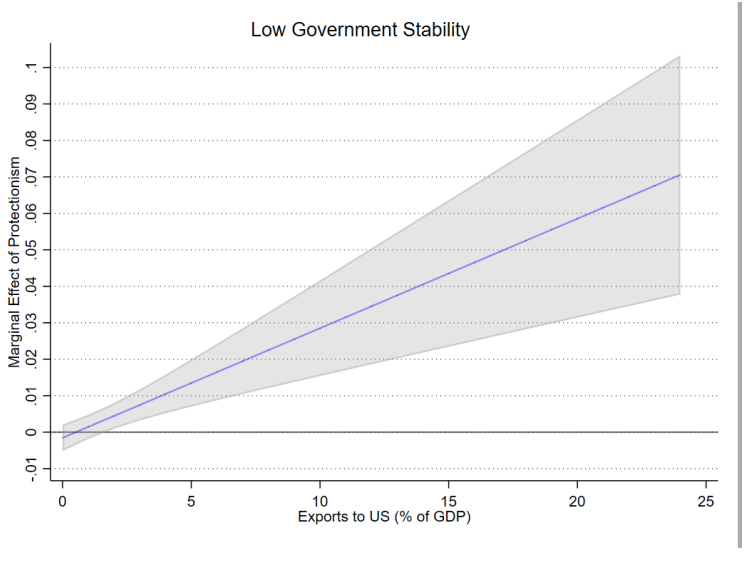


IV. Channels: Political stability

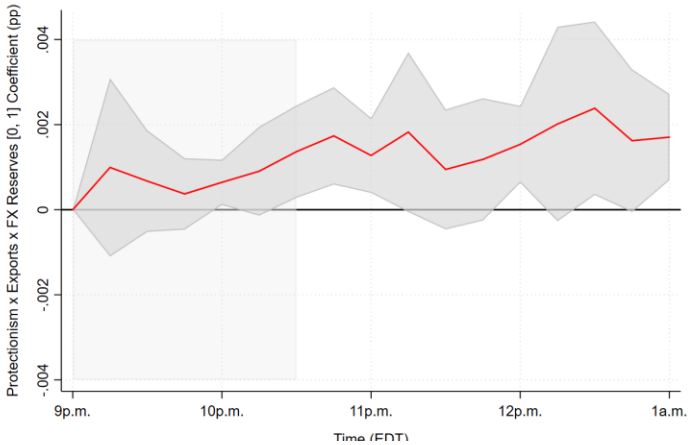


- Weak evidence that higher political risk increases impact of protectionist shock on exchange rate

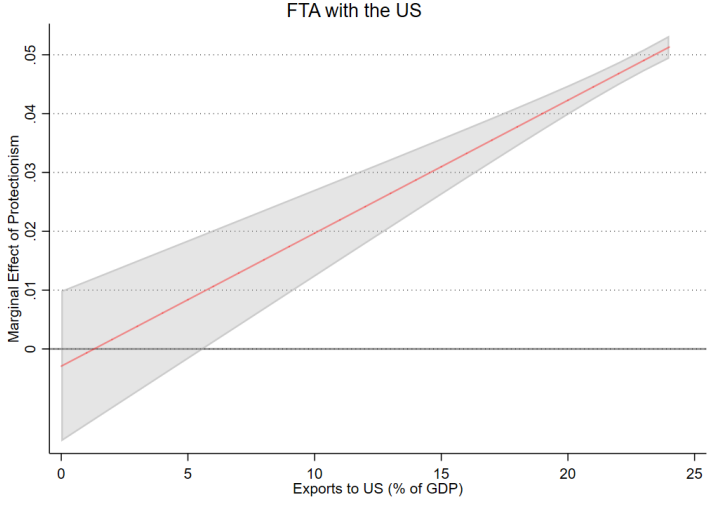


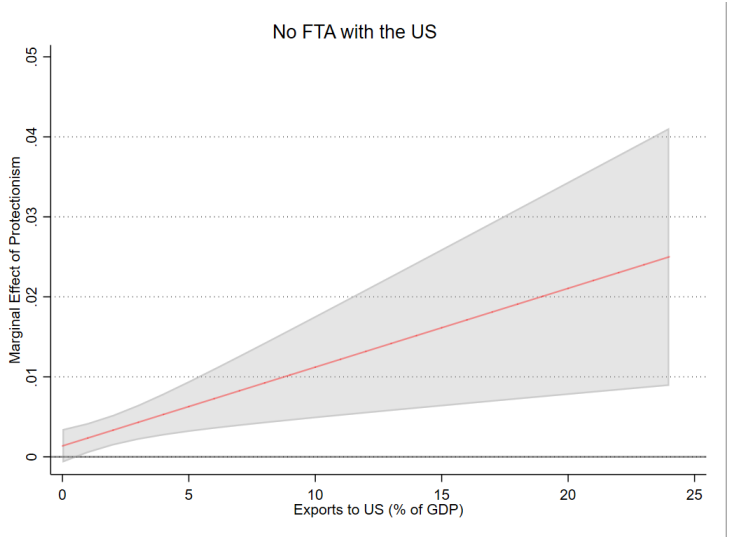


IV. Channels: FTA with US

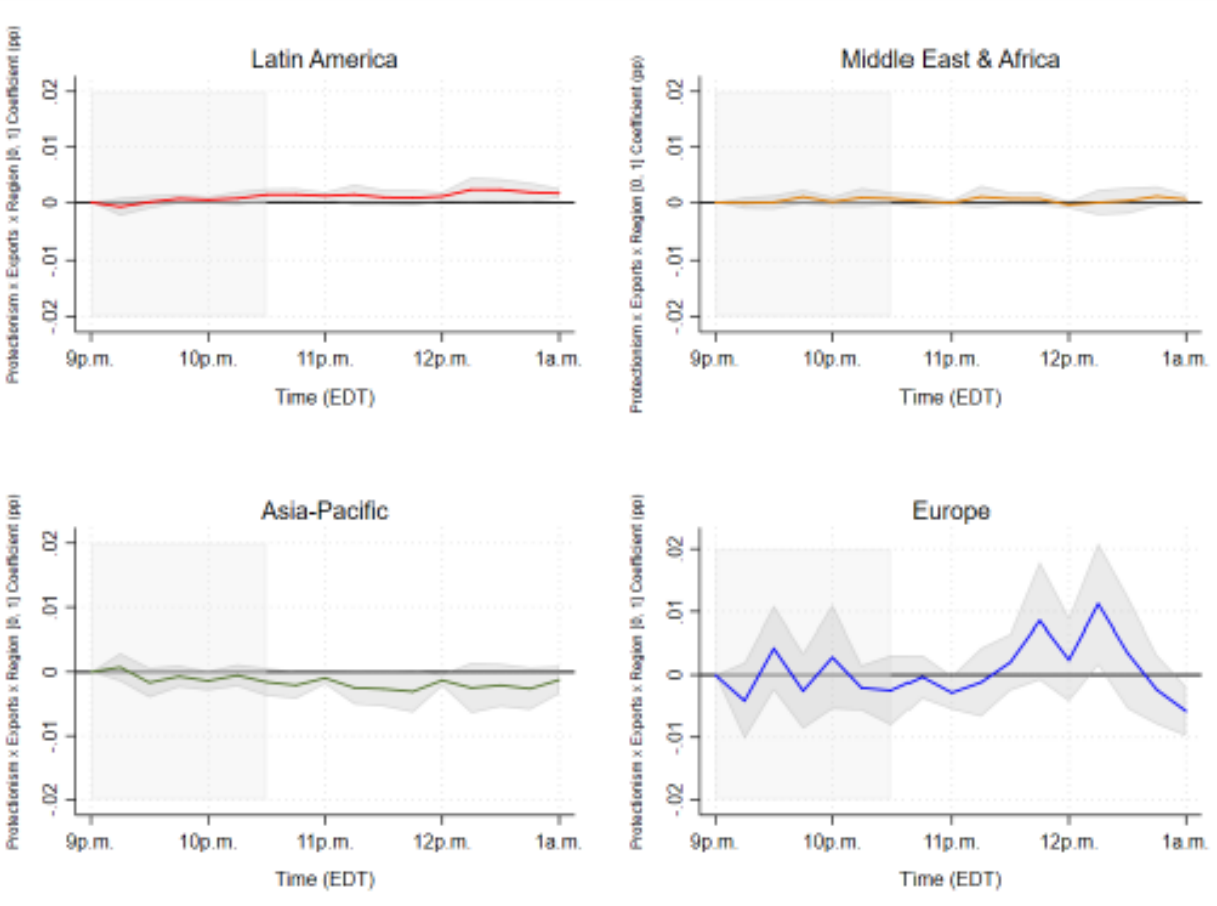


- Countries with FTA with US more exposed to protectionist shocks than non-FTA countries
- FX investors may anticipate that protectionist measures will only be imposed on FTA countries with substantial bilateral trade to justify violation of the FTA.





IV. Regional differences



- LATAM and European countries face more currency pressure, Asia-Pacific countries less

V. Conclusions

- We presented causal evidence that anticipated protectionist policies effect the cross section of currency returns
- Used US presidential debates as a natural experiment
- Currency depreciation after debate victory of a protectionist candidate is more pronounced for intense bilateral trade integration with US
- Interaction models reveal that countries may mitigate of protectionist shocks on their currencies using:

a) Higher FX reserves

b) Capital account management

c) Larger financial system

d) Larger net foreign assets

Thanks for your attention

Table A.2: Definition and data sources of controls. This table reports in the first column the used control variables in the empirical analysis. The second column specifies the calculation, while the third column reports sources of the data.

Variable	Definition	Source
Exchange Rates	Nominal bid and ask rates of foreign currency i against the US Dollar in 15-minute-windows. Foreign currency per unit of US dollar.	Thomson Reuters Tick History
Exports to the US	Annual bilateral exports to and imports from the US.	UN Comtrade
	1. Exchange Rate Flexibility and Policy Measures	
FX reserves	Level of FX reserves minus gold.	Lane and Milesi-Ferretti (2007, 2017)
Capital Controls	Capital Outflow Restrictions	Fernández et al. (2015), Schindler (2009)
Capital Account Openness	Restrictions on cross-border financial transactions reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions	Chinn and Ito (2006)
	2. Size and Liquidity of Financial Markets	
Financial Openness	Sum of foreign assets and liabilities (portfolio equity and foreign direct investments) to GDP	Lane and Milesi-Ferretti (2007, 2017)
Size of Financial System	Sum of deposit money bank assets and stock market capitalization to GDP	Financial Structure Database (Beck et al., 2000, 2009; Čihák et al., 2012)

3. Country Risk Measures		
US Equity Holdings	Annual market value of foreign portfolio holdings of long-term US equity	Treasury International Capital (TIC)
S&P Country Rating	Sovereign credit ratings	Standard & Poor's Ratings Services
External Imbalances	Net Foreign Assets to GDP	Lane and Milesi-Ferretti (2007, 2017)
Current Accounts	Current Account Balance to GDP	World Bank
4. Trade Openness		
FTA	Active Free Trade Agreements with the US.	Office of the US Trade Representative
5. Size of the Economy		
GDP per capita	GDP per capita (current US dollar)	World Bank
6. Domestic Government Measures		
Political Stability	Government stability ratings	International Country Risk Guide (ICRG)