Trade Agreements and Trade Deficits:

The Case of the Korea-U.S. Free Trade Agreement

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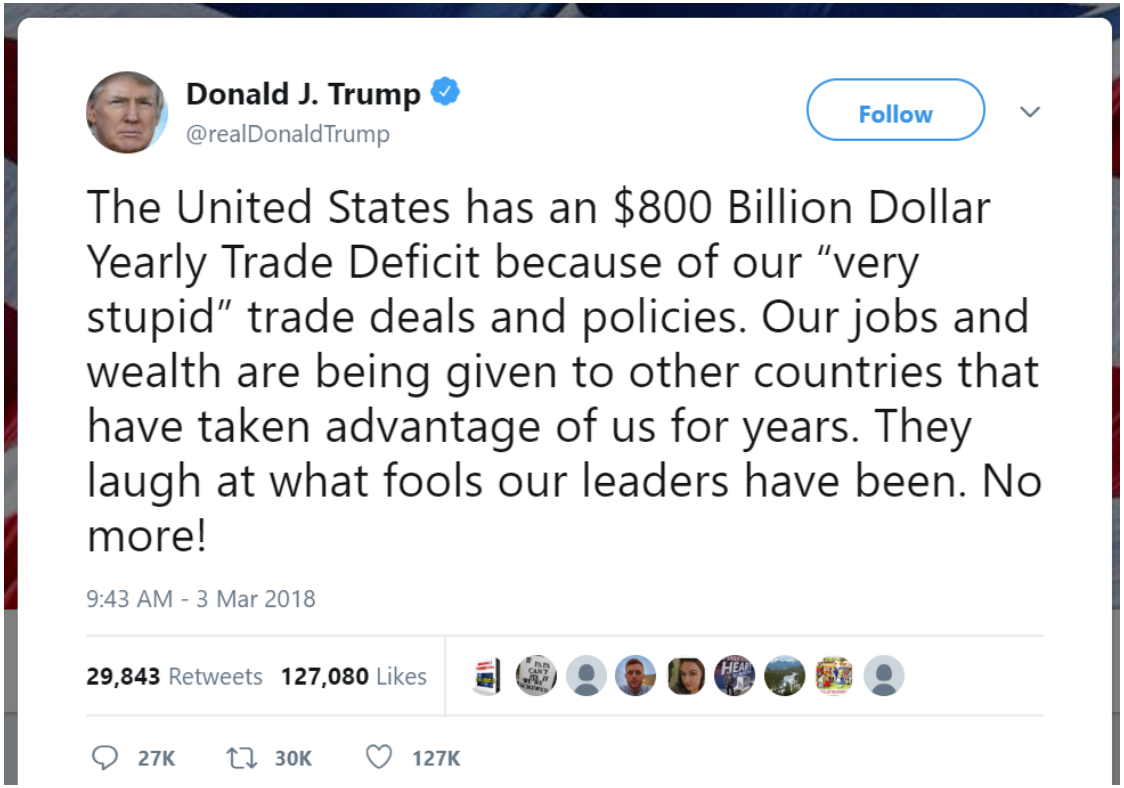
Trade deficits are driving current U.S. trade policy

Both aggregate and bilateral



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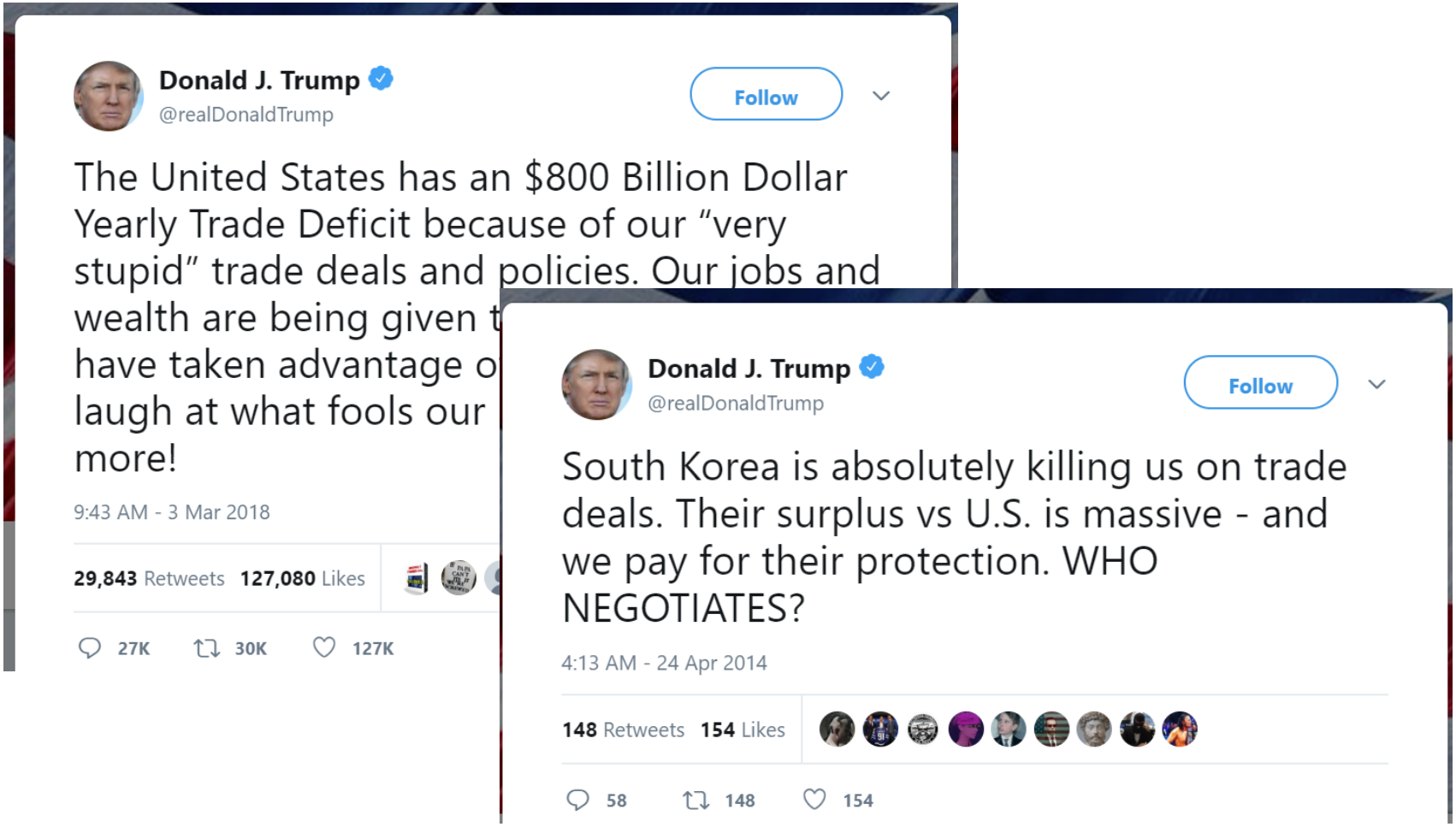

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but macroeconomists have not answered it in a way that the general public accepts.

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  2. Ricardian structural/quantitative estimation

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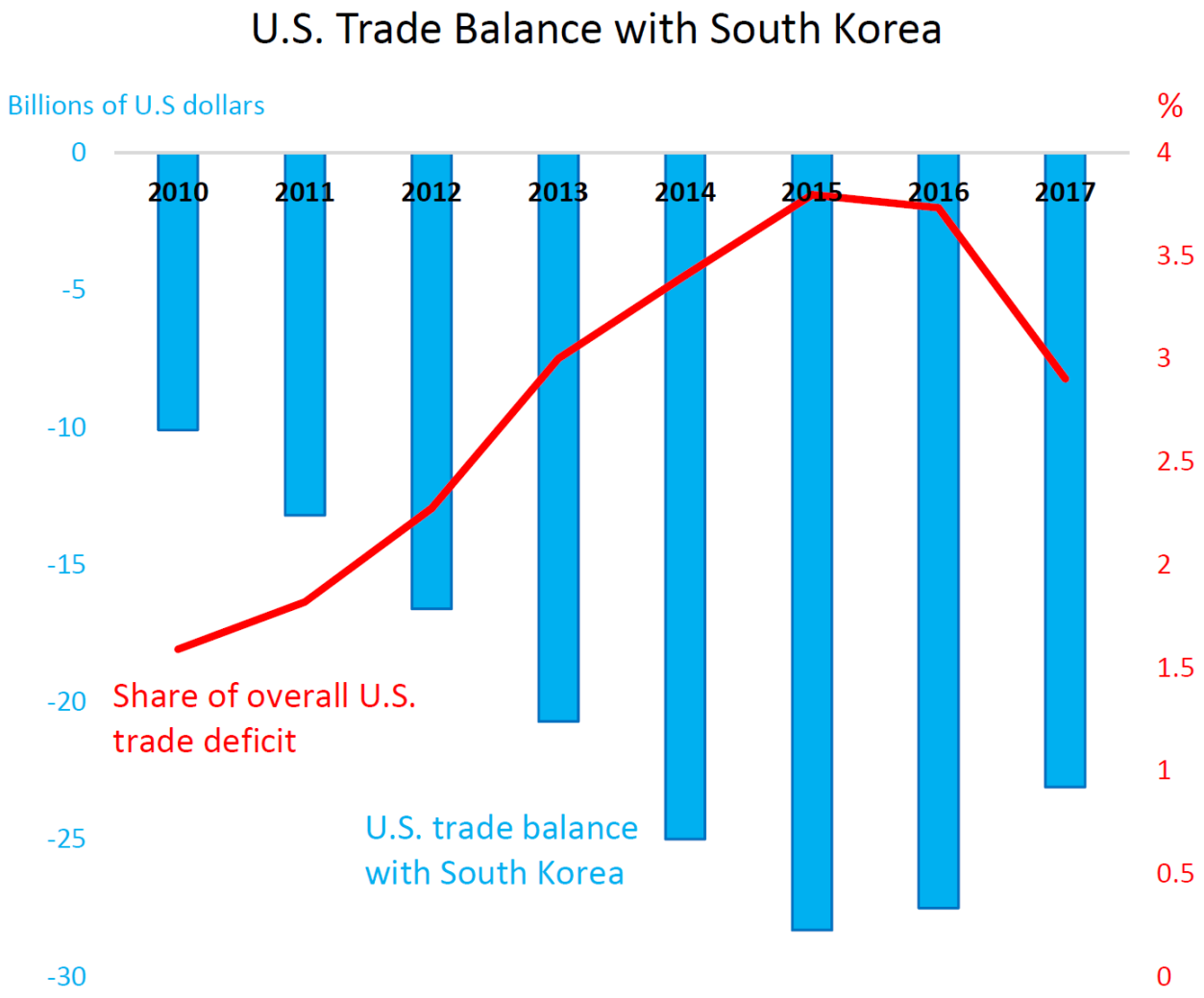
- Are these reasonable assumptions?
- Our findings suggest: Yes, based on observed trade diversion.

The U.S. trade deficit with South Korea grew faster than the overall U.S. trade deficit after 2012-2015.



What we do

- Measure trade diversion (Romalis REStat 2007)
  - M:= imports, i:= HS-6 good, j:=partner country, t:= year

$$\ln \frac{M_{ijt}^{US}}{M_{ijt}^{CAN}} = \sigma \ln \frac{1+\tau_{ijt}^{US}}{1+\tau_{ijt}^{CAN}} - (\sigma-1) \ln \frac{g_{ijt}^{US}}{g_{ijt}^{CAN}} + (\sigma-1) \ln \frac{P_{it}^{US}}{P_{it}^{CAN}} + \ln \frac{b_{it}^{US} Y_t^{US}}{b_{it}^{CAN} Y_t^{CAN}}$$

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- Import data from UN COMTRADE, tariff data from WTO Tariff Database (2010-2014)

Log of U.S.-reference country import ratio on U.S. tariff for South Korean goods

Reference Country	Canada		Australia	
	(1)	(2)	(3)	(4)
$\tau_{it}^{US,Korea}$	1.177***	0.740**	1.195**	1.443***
	(0.370)	(0.378)	(0.476)	(0.426)
MFN Tariffs	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Partner Country-Year FE	No	Yes	No	Yes
HS-6 Product FE	Yes	Yes	Yes	Yes
N	99,456	99,456	73,248	73,248
R^2	0.174	0.214	0.230	0.434
No. Products	4,333	4,333	4,098	4,098

Note: Standard errors in parentheses with ***, **, and * respectively denoting significance at the 1%, 5% and 10% levels.

Log of U.S.-Canada import ratio on U.S. tariff for South Korean goods by region

	(1)	(2)	(3)	(4)
$\tau^{US,Korea}$	0.446	1.526***	1.515***	1.629***
	(0.384)	(0.439)	(0.440)	(0.552)
FTA Partner $\times \tau_{ijt}^{US,Korea}$	1.793***			
	(0.418)			
Asia-Pacific $\times \tau_{ijt}^{US,Korea}$		-1.181***		
		(0.337)		
China $\times \tau_{ijt}^{US,Korea}$			-1.841***	-2.280***
			(0.530)	(0.674)
Japan $\times \tau_{ijt}^{US,Korea}$			-1.158	0.009
			(0.730)	(0.947)
Other Asia-Pacific $\times \tau_{ijt}^{US,Korea}$			-0.993***	-0.793*
			(0.361)	(0.418)
MFN Tariffs	Yes	Yes	Yes	Yes
Partner Country-Year FE	Yes	Yes	Yes	Yes
HS-6 Product FE	Yes	Yes	Yes	Yes
N	99,456	99,456	99,456	39,705
R^2	0.214	0.214	0.214	0.199
No. products	4,333	4,333	4,333	918

Note: Columns (1)-(3) contain the full sample, while Column (4) contains only HS-6 goods within the Consumption end-use category.

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Year	Estimated trade diversion	Δ U.S.-South Korea trade deficit (compared to 2011)
2013	$10.3 billion	$7.5 billion
2014	$10.7 billion	$11.8 billion

Appendix: Aggregation

$$\ln(M_{ijt}^{US}) = \beta_1 \ln(1 + \tau_{it}^{US,Korea}) + \beta_2 \ln(1 + \tau_{it}^{US,MFN}) + \ln(M_{ijt}^{CAN}) + D_i + D_{jt} + \varepsilon_{it}$$

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$$Z_t = \sum_{i=1,j=1}^{I,J} Z_{ijt} = \sum_{i=1,j=1}^{I,J} \left[\exp \beta_1 \left(\frac{\ln \tau_{it}^{US,Korea}}{\ln \tau_{i,2011}^{US,Korea}} \right) - 1 \right] M_{ij,2011}^{US}$$