Tariffs in 2025: Short-Run Impacts on the U.S. Economy

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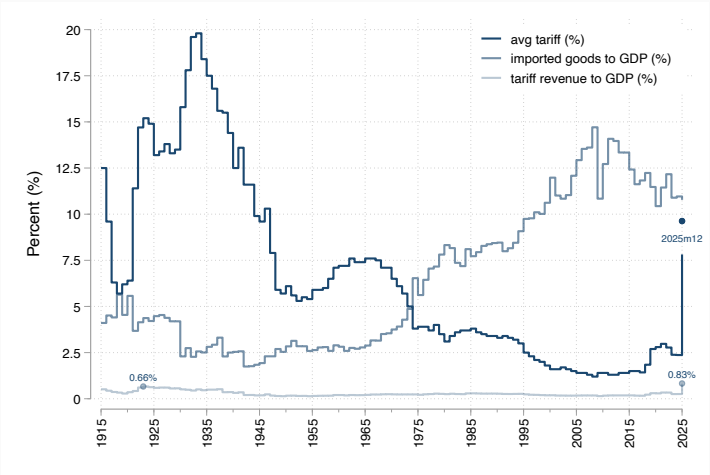
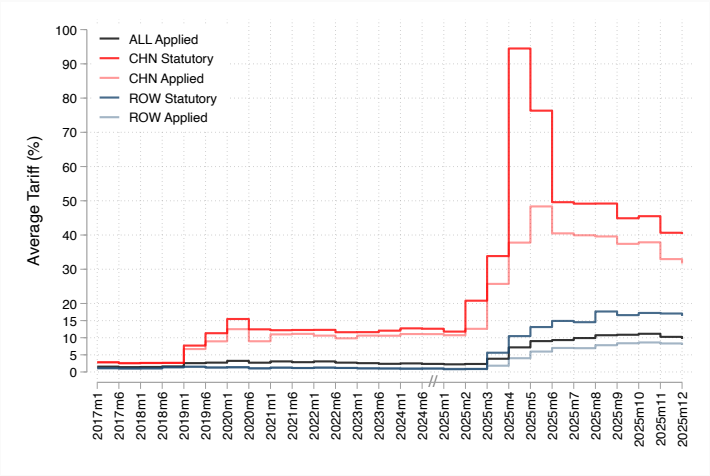
The 2025 Tariff Shock



- 2025m12 applied tariff: 9.6% (12.5% at 2024 wgts)
- highest share of GDP tariffed in 100+ years

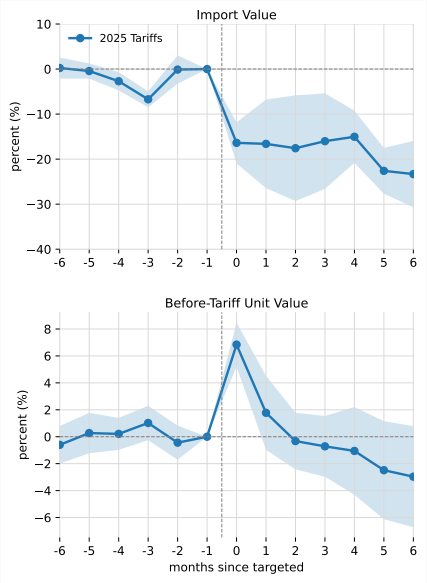
- this paper:
  1. structure of 2025 tariff changes
  2. impacts on trade and welfare
  3. assess rationales for the tariffs

Unprecedented Tariff Hike, But Not as Large as Headlines Suggested



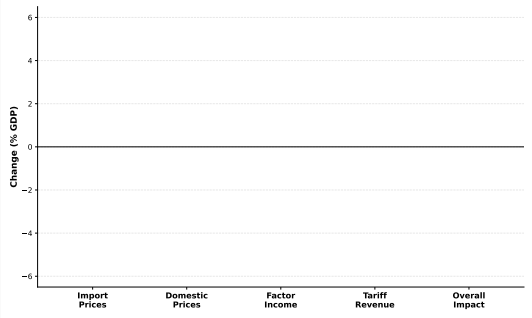
- applied rates $<$ statutory rates
- 57% of imports duty-free in 2025m12
- muted retaliations (except China)
- Δtariffs=7% on 11% imports/gdp

Short-Run Impacts: Trade



- targeted imports decline (within products)
- estimate high pass-through, but not complete:
  10% tariff raises border prices by 9%
- use tariffs to estimate short-run demand/supply elasticities

Short-Run Impacts: Welfare



- static GE trade model with input-output linkages
  - simulate tariffs w & wout terms-of-trade (ToT)

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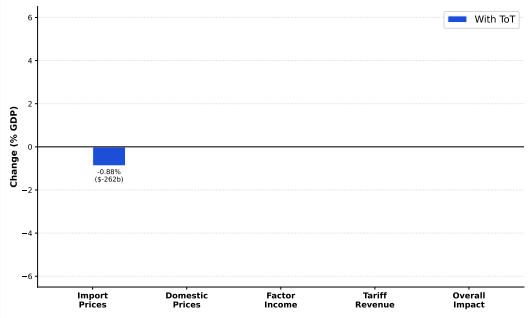

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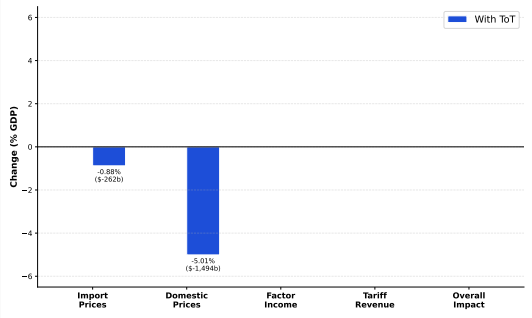

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- domestic prices rise
  - ▲ demand for Tr & NTr (reallocation, tf rev)
  - ▲ producer prices (wages, imported costs)

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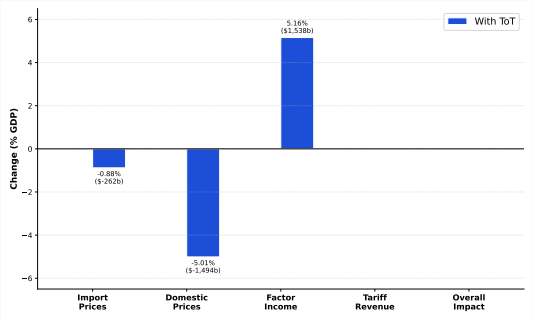

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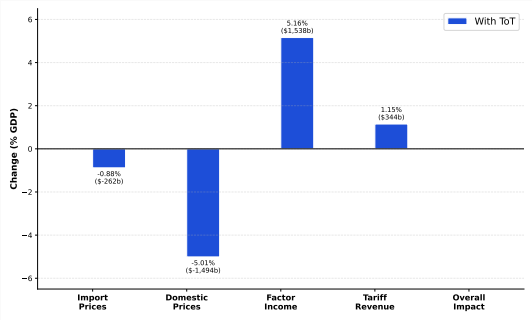

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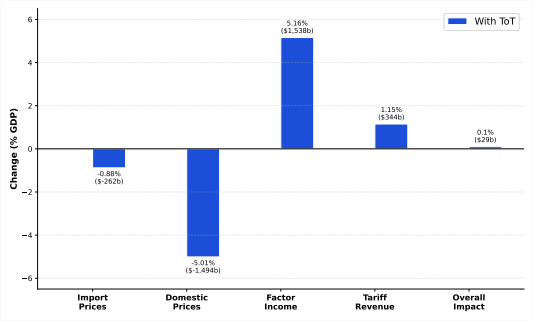

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$\Rightarrow$ overall net real income gain 0.10% GDP

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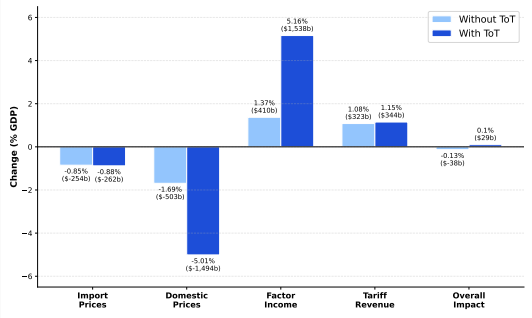

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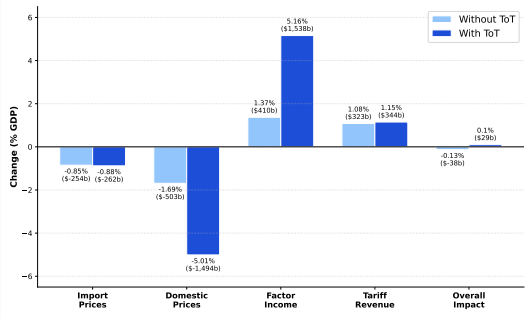
$\Rightarrow$ overall net real income gain 0.10% GDP

$\Rightarrow$ wout ToT adjustments, net loss of 0.13% GDP

$\Rightarrow$ MVPF = [-.12,.09]

Short-Run Impacts: Welfare



model lacks many forces, e.g.:

- uncertainty
- capital adjustment
- increasing returns
- market power
- retail/distribution margins
- rent-seeking

- static GE trade model with input-output linkages
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Rationales

- are tariff structure and responses consistent with stated (often conflicting) rationales?

✓

1. raise government revenue: $264bn, up from $79b in 2024
2. decouple from China: 2017 to 2025 import share fell from 22% to 9%

✗ ?

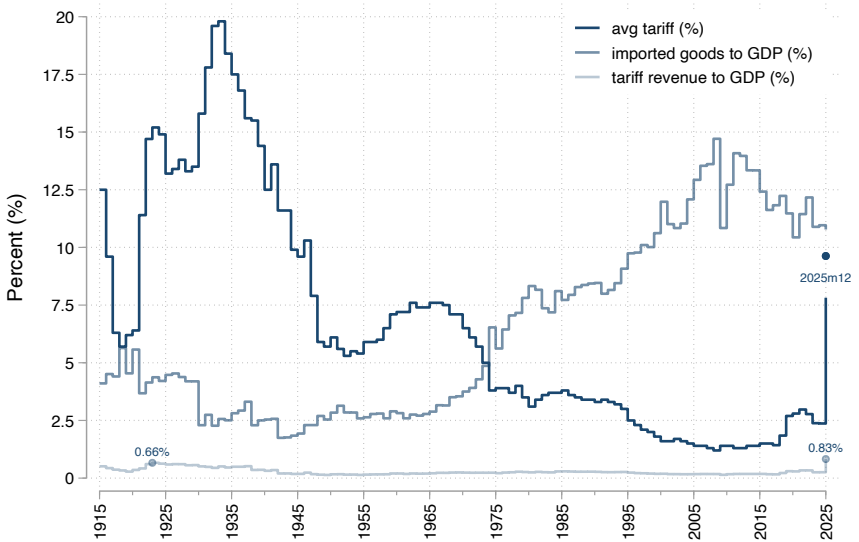
3. lower before-tariff prices: estimate pass-through at different horizons/controls: 85%-100%
4. lower goods trade deficit: overall goods deficit ▲ 2.2%, bil. deficits uncorrelated w/ Δtariffs
5. increase mfg employment: mfg emp ▼ 0.53%; 2018-19 tariffs did not raise mfg emp
6. friend-shoring, hurting rivals: no corr. bn geopolitical alignment and tariffs/import responses
7. strategic sectors: low tariffs on advanced technologies; most protected sector is apparel/textiles
8. improve market access for U.S. exports: TBD. 6 deals signed, 13 under negotiations

Figures and Tables

1. Applied Tariff Rates (1915–2025)
2. Tariff Rates: China vs ROW
3. Import Shares by Rate Provision
4. Correlates of U.S. Import Tariffs
5. Event Study: Imports
6. Event Study: Imports (CHN vs ROW)
7. Event Study: Exports
8. Pass-Through: Imports
9. Welfare Scenarios (with ToT)
10. Welfare Scenarios (no ToT)
11. Bilateral Deficits vs Tariffs
12. Geopolitical Winners/Losers
13. Import/Export Shares
14. Federal Revenue
15. Nominal Wages by County
16. Targeted Imports by Region
17. Reduced Form: Imports
18. Reduced Form: Exports
19. Welfare Impacts
20. Aggregate Outcomes
21. Country Tariffs
22. Targeted Imports: Military
23. Targeted Imports: ATP
24. Targeted Imports: Sectors
25. Elasticity Estimates
26. IV Welfare Components Tests
27. PPI/XPI IV Tests
28. Welfare (Labor Mobility)
29. Welfare (2018–19 Tariffs)

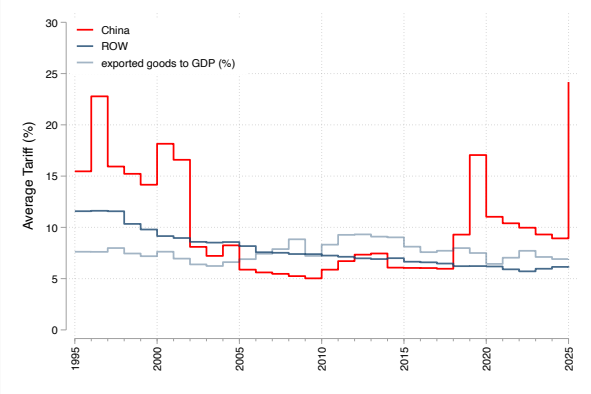
Applied Tariff Rates (1915–2025)

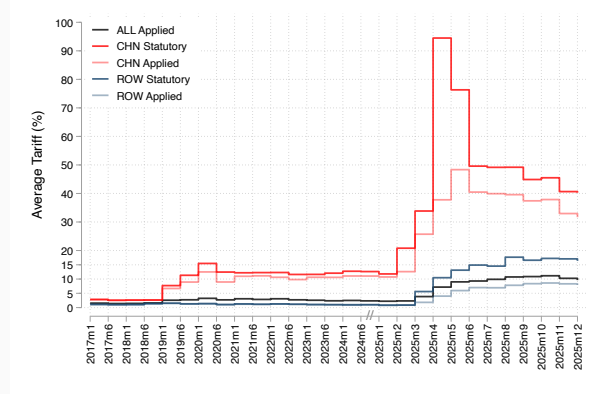
← Index



Tariff Rates by Origin

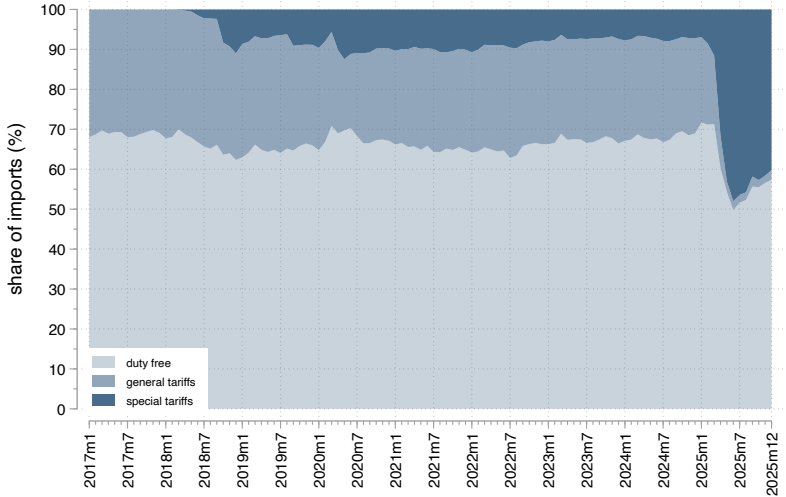
← Index





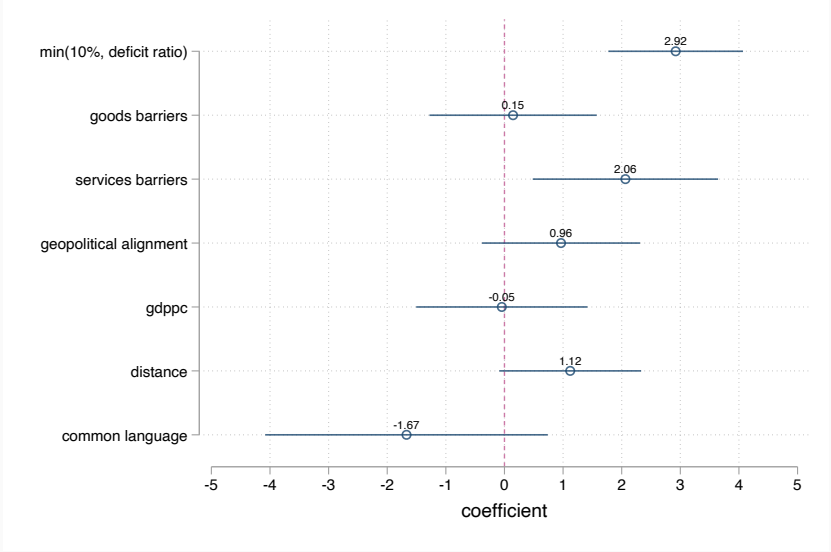
Import Shares by Rate Provision

← Index



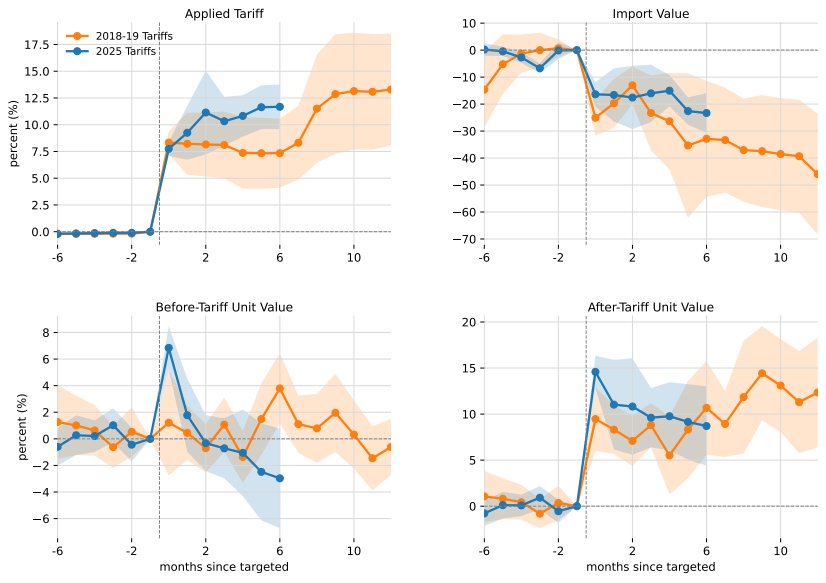
Correlates of U.S. Import Tariffs

← Index



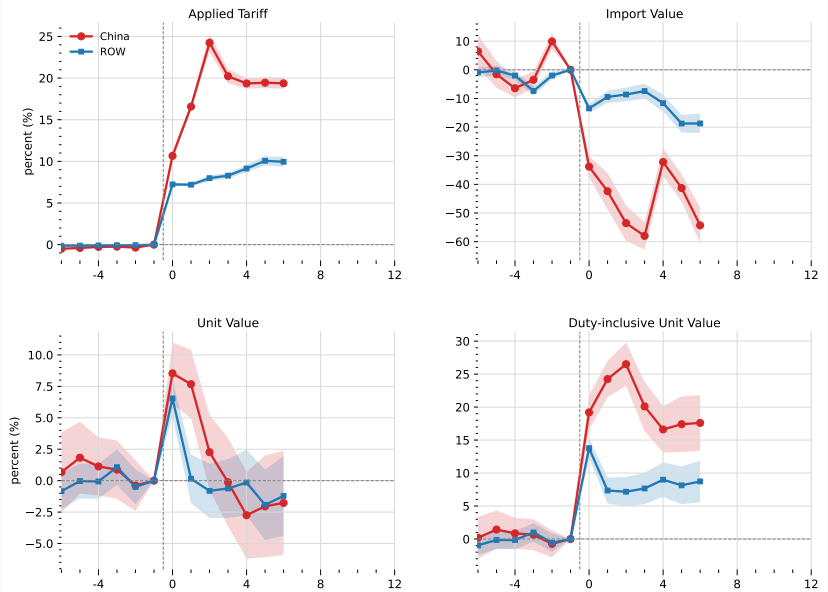
Event Study – Imports

← Index



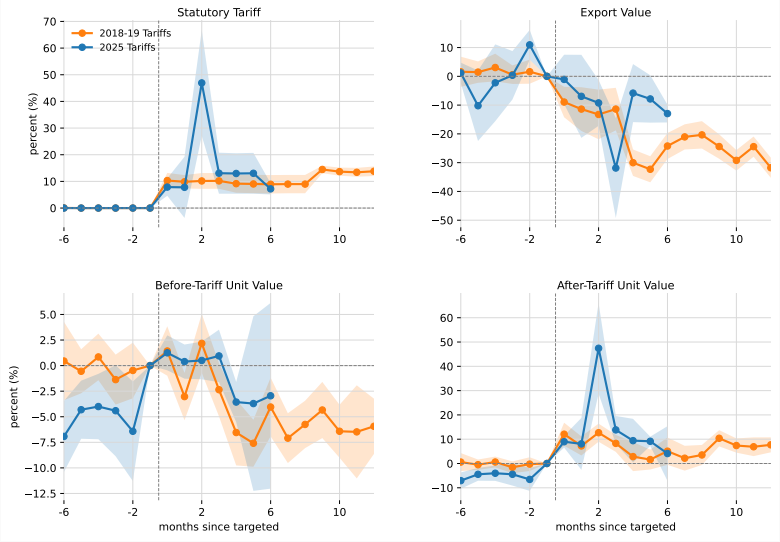
Event Study – Imports (CHN vs ROW)

← Index



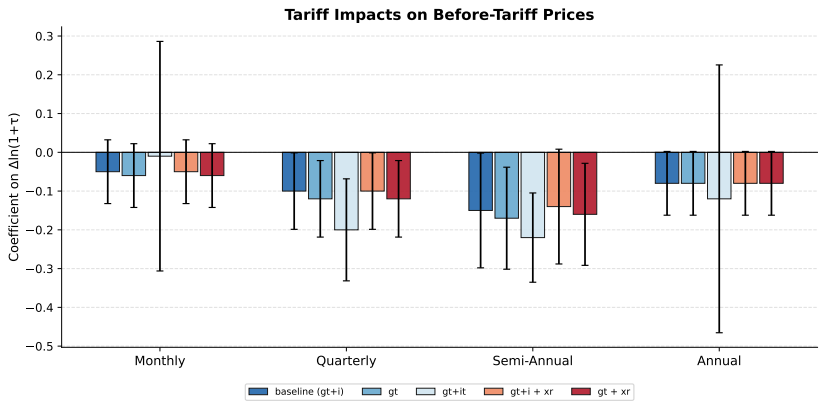
Event Study: Exports

▸ Imports



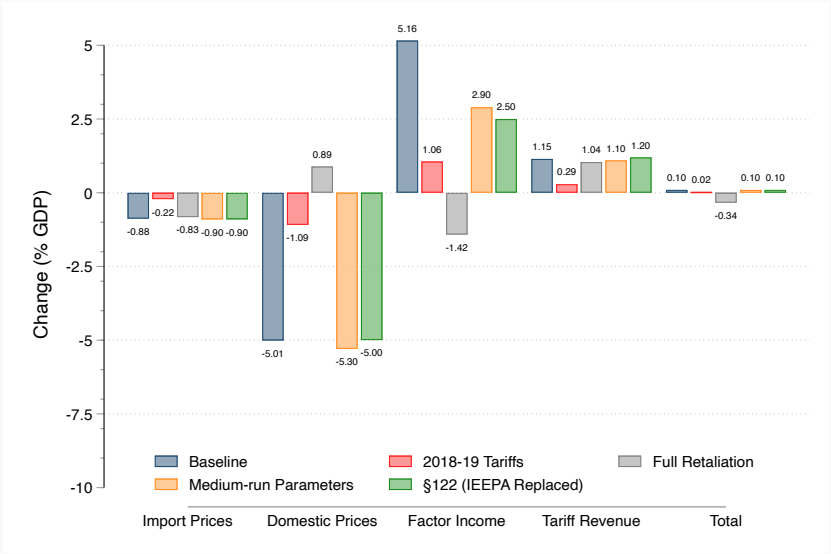
Pass-Through: Imports

← Index



Welfare Scenarios (with ToT)

← Index

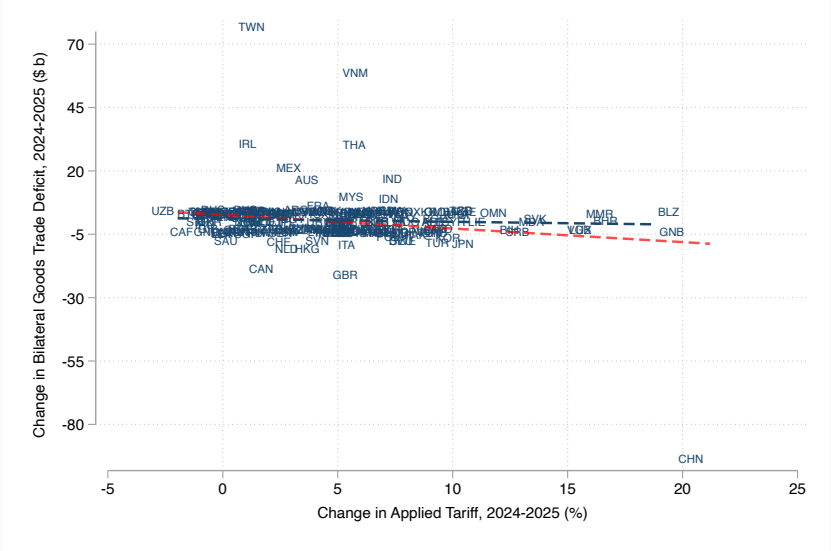


Welfare Scenarios (no ToT)

← Index

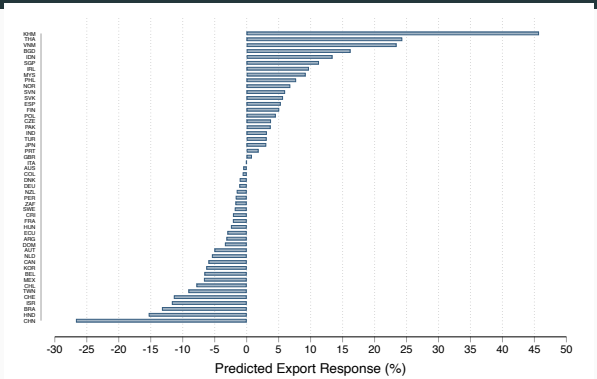
Bilateral Deficits vs Applied Tariff Changes

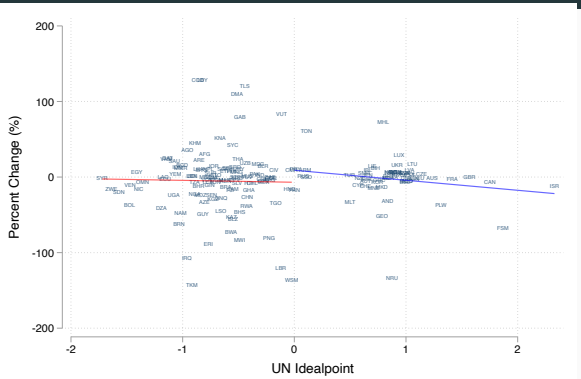
← Index



Geopolitical Winners and Losers

← Index



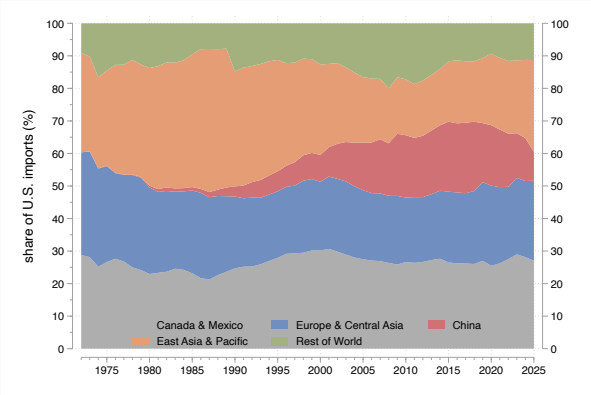


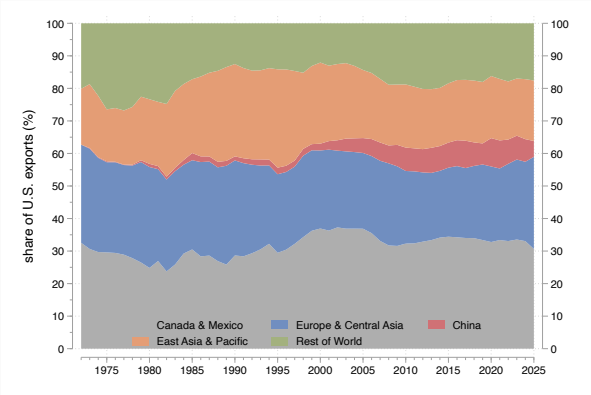
$$\Delta \ln y_{igt} = \alpha_{st} + \beta_i^1 \Delta \ln\left(1 + \tau_{igt}^{\text{stat}}\right) + \beta_i^2 \Delta \ln\left(1 + \tau_{CHN,gt}^{\text{stat}}\right) + \beta_i^3 \sum_{j \neq i,\, CHN} \Delta \ln\left(1 + \tau_{jgt}^{\text{stat}}\right) + \epsilon_{igt}$$

$$\Delta \ln \hat{X}_i = \sum_{ig} \lambda_{ig} \left\{ \hat{\beta}_i^1 \Delta \ln\left(1 + \tau_{igt}^{\text{stat}}\right) + \hat{\beta}_i^2 \Delta \ln\left(1 + \tau_{CHN,gt}^{\text{stat}}\right) + \hat{\beta}_i^3 \sum_{j \neq i,\, CHN} \Delta \ln\left(1 + \tau_{jgt}^{\text{stat}}\right) \right\}$$

Import and Export Shares

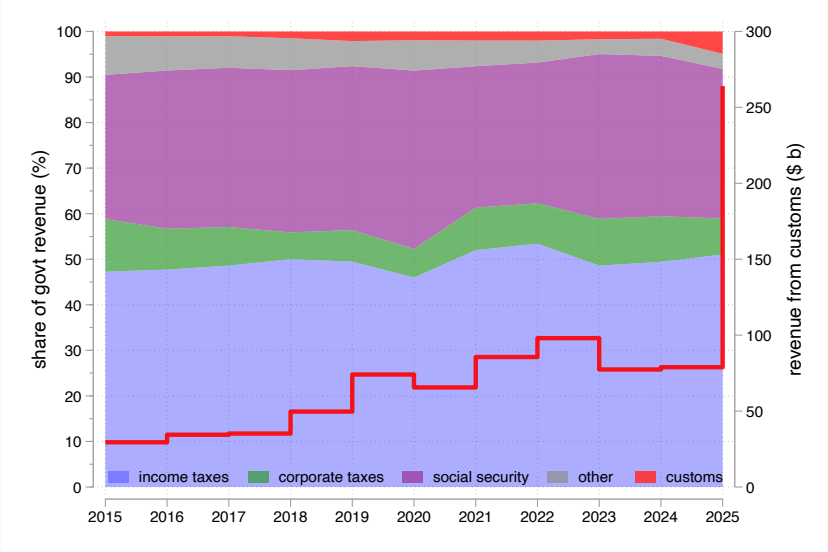
← Index





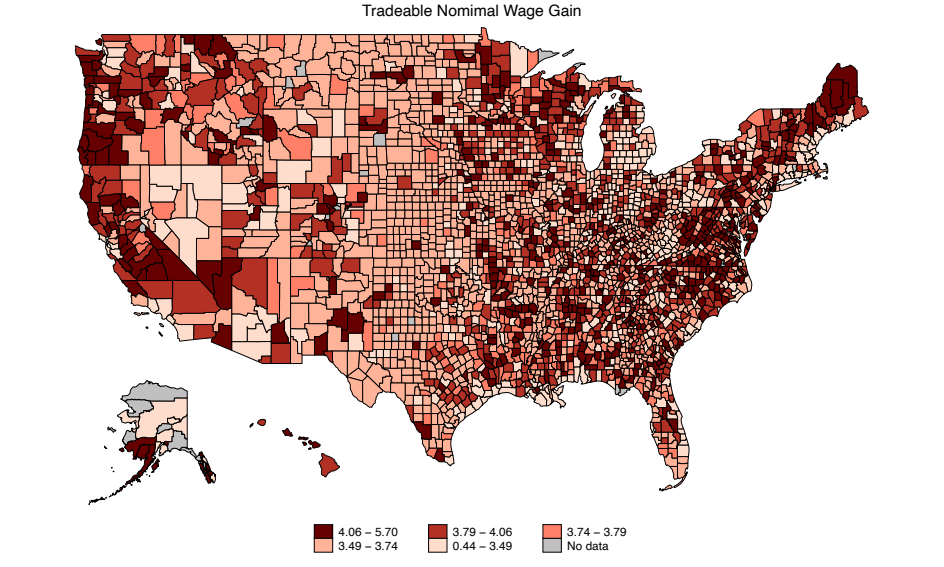
Federal Revenue

← Index



Nominal Wages by County

← Index



Targeted U.S. Imports by Region

← Index

Trump 1:

U.S. Imports and Tariffs: Region

	Imports $bn	Fraction Tariffed (%)		Avg Tariff on Tariffed (%)		Avg Tariff (%)	
Region	2017	2017	2019m12	2017	2019m12	2017	2019m12
China	518	41.5	60.2	6.3	18.8	2.6	11.3
Canada and Mexico	594	10.1	14.0	0.9	0.7	0.1	0.1
East Asia and Pacific	437	37.8	34.2	5.6	6.3	2.1	2.1
Europe and Central Asia	482	39.3	37.1	3.2	3.7	1.3	1.4
Latin America and Caribbean	113	26.2	20.7	2.2	2.9	0.6	0.6
South Asia	62	42.8	54.0	9.9	8.4	4.3	4.6
Middle East and North Africa	71	38.5	45.4	0.6	1.3	0.2	0.6
Sub-Saharan Africa	26	7.9	20.5	0.9	1.6	0.1	0.3
All Countries	2,302	31.1	34.0	4.6	8.7	1.4	3.0

Trump 2:

U.S. Imports and Tariffs: Region

	Imports $bn	Fraction Tariffed (%)		Avg Tariff on Tariffed (%)		Avg Tariff (%)	
Region	2024	2024	2025m12	2024	2025m12	2024	2025m12
China	441	65.0	95.1	16.3	33.3	10.6	31.7
Canada and Mexico	897	15.6	15.5	1.2	25.3	0.2	3.9
East Asia and Pacific	780	27.9	45.2	6.0	20.4	1.7	9.2
Europe and Central Asia	729	34.3	55.0	3.6	16.5	1.2	9.1
Latin America and Caribbean	160	27.1	42.3	2.4	16.8	0.7	7.1
South Asia	108	48.1	52.0	8.1	42.4	3.9	22.0
Middle East and North Africa	69	45.4	35.3	1.5	18.1	0.7	6.4
Sub-Saharan Africa	31	21.0	19.8	1.4	23.5	0.3	4.7
All Countries	3,214	32.0	42.6	7.4	22.6	2.4	9.6

Reduced Form – Imports

← Index

	(1) $\Delta \ln(1+\tau_{igt})$	(2) $\Delta \ln p^*_{igt} m_{igt}$	(3) $\Delta \ln m_{igt}$	(4) $\Delta \ln p^*_{igt}$	(5) $\Delta \ln p_{igt}$
$\Delta \ln(1+\tau^{\text{stat}}_{igt})$	0.64***				
	(0.08)				
$\Delta \ln(1+\tau_{igt})$		-1.39***	-1.26***	-0.13**	0.87***
		(0.19)	(0.20)	(0.06)	(0.06)
Fixed Effects	gt+i	gt+i	gt+i	gt+i	gt+i
1st-Stage F		69.9	69.9	69.9	69.9
R2	0.20	0.00	0.00	.	0.00
N	1,464,263	1,464,263	1,464,263	1,464,263	1,464,263

	(1) $\Delta \ln(1+\tau_{igt})$	(2) $\Delta \ln p^*_{igt} m_{igt}$	(3) $\Delta \ln m_{igt}$	(4) $\Delta \ln p^*_{igt}$	(5) $\Delta \ln p_{igt}$
$\Delta \ln(1+\tau^{\text{stat}}_{igt})$	0.42***				
	(0.06)				
$\Delta \ln(1+\tau_{igt})$		-1.81***	-1.71***	-0.10*	0.90***
		(0.50)	(0.54)	(0.06)	(0.06)
Fixed Effects	gt+i	gt+i	gt+i	gt+i	gt+i
1st-Stage F		52.4	52.4	52.4	52.4
R2	0.16	0.00	0.00	.	0.00
N	1,192,687	1,192,687	1,192,687	1,192,687	1,192,687

$$\Delta \ln y_{igt} = \alpha_{gt} + \alpha_i + \beta \Delta \ln(1+\tau_{igt}) + \epsilon_{igt}$$

Reduced Form – Exports

← Index

	(1) $\Delta \ln p^*_{US,igt} m^*_{igt}$	(2) $\Delta \ln m^*_{igt}$	(3) $\Delta \ln p^*_{US,igt}$	(4) $\Delta \ln p^*_{US,igt}(1+\tau^*_{igt})$
$\Delta \ln(1+\tau^*_{igt})$	-0.48**	-0.62***	0.15**	1.15***
	(0.19)	(0.18)	(0.07)	(0.07)
Fixed Effects	gt+i	gt+i	gt+i	gt+i
R2	0.00	0.00	0.00	0.00
N	1,631,678	1,631,678	1,631,678	1,631,678

	(1) $\Delta \ln p^*_{US,igt} m^*_{igt}$	(2) $\Delta \ln m^*_{igt}$	(3) $\Delta \ln p^*_{US,igt}$	(4) $\Delta \ln p^*_{US,igt}(1+\tau^*_{igt})$
$\Delta \ln(1+\tau^*_{igt})$	-0.31***	-0.30***	-0.00	1.00***
	(0.04)	(0.04)	(0.01)	(0.01)
Fixed Effects	gt+i	gt+i	gt+i	gt+i
R2	0.00	0.00	0.00	0.00
N	1,225,287	1,225,287	1,225,287	1,225,287

Welfare Impact of 2025 Tariffs

← Index

	2025 Tariffs (without ToT Effects)				
	Import Prices	Domestic Prices	Factor Income	Tariff Revenue	Total
	(1)	(2)	(3)	(4)	(5)
Change ($ b)	-254	-503	410	323	-38
Change (% GDP)	-0.85	-1.69	1.37	1.08	-0.13

	2025 Tariffs (with ToT Effects)				
	Import Prices	Domestic Prices	Factor Income	Tariff Revenue	Total
	(1)	(2)	(3)	(4)	(5)
Change ($ b)	-262	-1494	1538	344	29
Change (% GDP)	-0.88	-5.01	5.16	1.15	0.10

Aggregate Outcomes

← Index

2025 Tariffs (without ToT Effects)

CPI	PPI	Real Wage (T)	Real Wage (NT)	Real GDP	$\frac{\text{Trade}}{\text{GDP}}$
(1)	(2)	(3)	(4)	(5)	(6)
2.6%	0.0%	-4.3%	-0.1%	1.5%	-1.4 p.p.

2025 Tariffs (with ToT Effects)

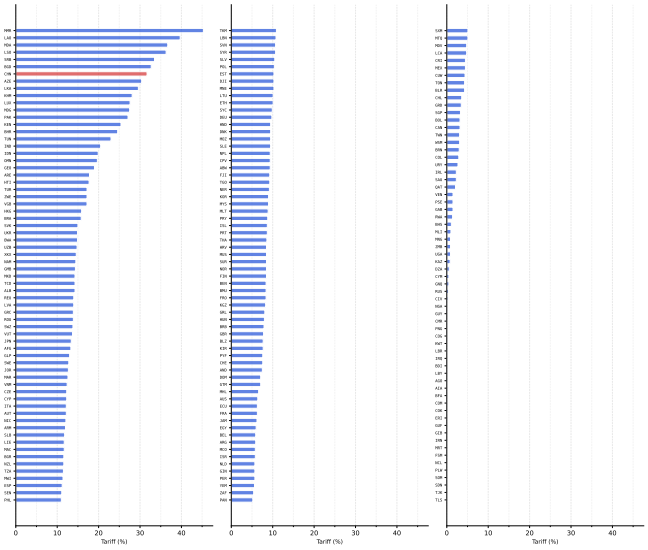
CPI	PPI	Real Wage (T)	Real Wage (NT)	Real GDP	$\frac{\text{Trade}}{\text{GDP}}$
(1)	(2)	(3)	(4)	(5)	(6)
6.2%	4.3%	-2.5%	0.1%	1.3%	-1.2 p.p.

Observed Changes

CPI	PPI	Real Wage (T)	Real Wage (NT)	Real GDP	$\frac{\text{Trade}}{\text{GDP}}$
(1)	(2)	(3)	(4)	(5)	(6)
2.8%	3.0%	2.0%	0.9%	2.0%	-1.1 p.p.

Country Tariffs

← Index



Targeted Imports – Military Use

← Index

	U.S. Imports and Tariffs: Region						
	Imports $bn	Fraction Tariffed (%)		Avg Tariff on Tariffed (%)		Avg Tariff (%)	
Region	2024	2024	2025m12	2024	2025m12	2024	2025m12
China	441	65.0	95.1	16.3	33.3	10.6	31.7
NATO	954	33.5	40.2	2.7	17.6	0.9	7.1
Defense Treaty/Treaty-Like	349	15.9	31.6	4.6	18.9	0.7	6.0
Quad	255	45.5	62.5	3.8	24.2	1.7	15.1
Newly Desig. Major Non-Nato Ally	23	48.9	41.2	0.5	11.0	0.2	4.5
Rest Of World	1,193	20.0	35.5	5.8	22.7	1.2	8.1
All Countries	3,214	32.0	42.6	7.4	22.6	2.4	9.6

Targeted Imports – ATP Classes

← Index

U.S. Imports and Tariffs: Technology Class

	Imports $bn	Fraction Tariffed (%)		Avg Tariff on Tariffed (%)		Avg Tariff (%)	
Technology Class	2024	2024	2025m12	2024	2025m12	2024	2025m12
Advanced Materials	4	11.0	49.0	16.4	16.2	1.8	7.9
Aerospace	55	6.2	15.2	6.3	14.9	0.4	2.3
Biotechnology	106	0.1	3.4	12.8	7.3	0.0	0.2
Electronics	124	24.6	38.7	5.2	19.5	1.3	7.6
Flexible Manufacturing	45	42.8	55.0	5.8	20.5	2.5	11.3
Information & Communications	297	4.6	5.2	11.3	19.4	0.5	1.0
Life Science	140	4.2	14.8	8.0	17.2	0.3	2.6
Nuclear Technology	5	9.6	6.9	6.2	12.6	0.6	0.9
Opto-Electronics	30	15.4	45.3	9.6	19.4	1.5	8.8
Weapons	3	31.5	55.2	8.5	22.3	2.7	12.3
ATP	809	9.8	13.6	7.0	18.7	0.7	2.5
Non-ATP	2,405	39.4	58.0	7.4	23.1	2.9	13.4
All Products	3,214	32.0	42.6	7.4	22.6	2.4	9.6

Targeted Imports – Sectors

← Index

	U.S. Imports and Tariffs: Sectors						
	Imports $bn	Fraction Tariffed (%)		Avg Tariff on Tariffed (%)		Avg Tariff (%)	
Sectors	2024	2024	2025m12	2024	2025m12	2024	2025m12
Agriculture	241	22.5	47.2	6.5	16.4	1.5	7.7
Minerals & Energy	252	70.8	1.3	0.2	1.5	0.1	0.0
Chemicals & Plastics	495	20.9	33.3	7.7	19.1	1.6	6.4
Apparel, Textiles & Footwear	169	79.1	90.1	14.9	31.1	11.8	28.1
Metals	169	36.7	62.3	11.3	38.9	4.1	24.2
Machinery & Electronics	1,005	22.6	33.5	8.7	22.3	2.0	7.5
Transport Equipment	437	39.3	67.1	4.6	19.1	1.8	12.8
Furniture & Misc. Mfg	447	21.6	53.5	10.1	20.4	2.2	10.9
All Products	3,214	32.0	42.6	7.4	22.6	2.4	9.6

Pass-Through – Exports

← Index

	(1) $\Delta \ln p_{igt}$	(2) $\Delta \ln p_{igt}$	(3) $\Delta \ln p_{igt}$	(4) $\Delta \ln p_{igt}$	(5) $\Delta \ln p_{igt}$
$\Delta \ln(1+\tau^*_{igt})$	-0.00	0.00	-0.02	-0.00	0.00
	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)
$\Delta \ln(xr_{it})$				-0.00	-0.00
				(0.00)	(0.00)
Fixed Effects	gt+i	gt	gt+it	gt+i	gt
R2	0.00	0.00	0.00	0.00	0.00
N	1,225,287	1,225,289	1,225,241	1,225,287	1,225,289

Elasticity Estimates

← Index

Tariff Episode	σ	ω^*	η	κ	σ^*
2018-19 Tariffs	1.45	0.11	1.38	1.21	2.54
	(0.22)	(0.06)	(0.42)	(0.36)	(0.45)
2025 Tariffs	1.91	0.06	1.90	1.12	2.54
	(0.51)	(0.05)	(0.18)	(0.21)	(0.45)

IV Combined – Testing Welfare Predictions

← Index

	Weighted		Unweighted	
	with ToT	without ToT	with ToT	without ToT
	(1)	(2)	(3)	(4)
Tariff Instrument	0.0013	0.0024	-0.0029	-0.0030
	(0.0041)	(0.0045)	(0.0006)	(0.0006)
p-value	0.75	0.60	0.00	0.00
N	78999	78999	78999	78999

PPI/XPI IV Tests

← Index

	PPI	PPI	PPI	XPI	XPI	XPI
	(1)	(2)	(3)	(4)	(5)	(6)
2025 Tariffs (without ToT Effects)						
Tariff Instrument	0.0002	0.0004	0.0004	0.0001	0.0005	0.0008
	(0.0002)	(0.0007)	(0.0003)	(0.0003)	(0.0016)	(0.0007)
p-value	0.37	0.56	0.16	0.79	0.77	0.23
N	79	79	79	30	30	30
Instrument	Export Tariff	Import Tariff	Input Tariff	Export Tariff	Import Tariff	Input Tariff
2025 Tariffs (with ToT Effects)						
Tariff Instrument	0.0002	0.0003	0.0004	0.0001	0.0003	0.0008
	(0.0001)	(0.0006)	(0.0002)	(0.0002)	(0.0013)	(0.0006)
p-value	0.18	0.62	0.13	0.80	0.79	0.21
N	79	79	79	30	30	30
Instrument	Export Tariff	Import Tariff	Input Tariff	Export Tariff	Import Tariff	Input Tariff

Welfare Impact (with Labor Mobility)

← Index

	2025 Tariffs (without ToT Effects)				
	Import Prices	Domestic Prices	Factor Income	Tariff Revenue	Total
	(1)	(2)	(3)	(4)	(5)
Change ($ b)	-248	81	-288	306	-150
Change (% GDP)	-0.83	0.27	-0.97	1.02	-0.50

	2025 Tariffs (with ToT Effects)				
	Import Prices	Domestic Prices	Factor Income	Tariff Revenue	Total
	(1)	(2)	(3)	(4)	(5)
Change ($ b)	-261	-1281	1361	342	84
Change (% GDP)	-0.87	-4.30	4.56	1.15	0.28

Welfare Impact (2018–19 Tariffs)

← Index

	2018-19 Tariffs (without ToT Effects)				
	Import Prices	Domestic Prices	Factor Income	Tariff Revenue	Total
	(1)	(2)	(3)	(4)	(5)
Change ($ b)	-42	-94	78	57	-2
Change (% GDP)	-0.21	-0.47	0.39	0.28	-0.01

	2018-19 Tariffs (with ToT Effects)				
	Import Prices	Domestic Prices	Factor Income	Tariff Revenue	Total
	(1)	(2)	(3)	(4)	(5)
Change ($ b)	-44	-218	211	58	4
Change (% GDP)	-0.22	-1.09	1.06	0.29	0.02