Economic Analysis of U.S. Tariffs Announced in March-April 2025 (Updated to Reflect Product Exclusions, Retaliation Measures, and Baseline Trade Shifts)

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Economic Analysis of U.S. Tariffs Announced in March-April 2025

(Updated to reflect product exclusions, retaliation measures, and baseline trade shifts) *

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30th April 2025

Abstract

This paper examines the economic impacts of U.S. tariff increases announced over March–April 2025 using GTAP-FIN, a dynamic global general equilibrium model. We simulate three scenarios: (1) U.S. tariff increases without retaliation; (2) retaliation by all trading partners except Australia, Japan, and South Korea; and (3) retaliation coupled with U.S. fiscal consolidation via tariff revenue. Across all scenarios, U.S. real GDP declines, driven by deep short-run employment losses, long-run capital stock contractions, and persistent allocative efficiency losses. In the no retaliation case, improved U.S. terms of trade buoy U.S. real consumption outcomes relative to the contractions in real GDP. However, this benefit is reversed under retaliation, which lowers U.S. export prices and consumption. Fiscal consolidation amplifies U.S. consumption losses but mitigates investment declines. Australia is modestly affected, benefiting from improved terms of trade and investment in the retaliation scenarios. For China, heavy tariff exposure results in sustained terms of trade and consumption losses, although outcomes improve marginally with U.S. fiscal consolidation. Globally, regions most exposed to U.S. tariffs see the sharpest consumption declines, particularly under the no retaliation scenario. The analysis does not capture the heightened investor uncertainty arising from the unclear policy rationale behind the tariffs, suggesting that adverse economic impacts may exceed those estimated in this paper.

JEL codes: F13, F47, C68, D58

Keywords: U.S. tariffs, Trump tariffs, "Liberation Day" tariffs, retaliation.

**** This paper updates modelling reported in CoPS Working Paper No. G-353. It accounts for U.S. electronic product exclusions, motor vehicle manufacture exemptions, more detailed treatment of retaliation measures, and imposition of baseline movements in U.S. import sourcing shares.***

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Overview

In March and April 2025, the United States implemented significant tariff increases, particularly targeting Chinese goods. China and Canada swiftly implemented retaliatory tariffs, and it is likely that other regions will follow. These policy changes have far-reaching implications for the U.S. economy and its global trading partners.

This paper investigates the economic consequences of these tariff increases using a model of the global economy. The analysis builds on two earlier working papers, incorporating updated tariff schedules, revised assumptions regarding retaliation, and baseline adjustments to U.S. import patterns.

We consider three scenarios: (i) a no retaliation case, where the U.S. raises tariffs and other countries do not respond; (ii) a retaliation case, in which many of the U.S.' major trading partners impose tariffs on imports of U.S. goods; and (iii) a retaliation + fiscal consolidation case, where the U.S. government uses tariff revenue to raise the national savings rate.

Across all scenarios, the U.S. economy experiences a decline in real GDP. These losses arise from a combination of short-run labour market disruptions, reduced investment, and economic inefficiencies created by the tariffs. Under the no retaliation scenario, the U.S. experiences a modest improvement in its terms of trade, which partially offsets the negative effects on real consumption of the fall in U.S. real GDP. However, when trading partners retaliate, the terms of trade gain is reversed and real consumption declines more significantly.

China, as a major target of the U.S. tariff increases, experiences adverse outcomes in each scenario. In the no retaliation case, its terms of trade deteriorate, reducing real national income and consumption. Under retaliation, China's real consumption losses are larger, due both to its own retaliatory measures and to broader declines in global investment returns.

Australia, which does not impose retaliatory tariffs, is relatively insulated from negative impacts. The U.S. accounts for a modest share of Australian exports, and Australia benefits from modest increases in investment and terms of trade, particularly under the retaliation and fiscal consolidation scenarios.

Other trading partners, including the European Union, experience mixed outcomes. Short-run results are influenced by the reallocation of global investment flows, while long-run outcomes reflect changes in terms of trade and global capital accumulation. For most regions, the average real consumption outcome over the simulation period is negative under the no retaliation scenario, but less so under retaliation and fiscal consolidation, due to improvements in terms of trade and investment conditions.

Executive summary

Overview

- We use GTAP-FIN to investigate the economic effects of U.S. tariff increases implemented by the Trump administration over March and April 2025.
- This paper is the second of two updates on our 8th April 2025 working paper investigating the Trump administration's tariff announcements (CoPS Working Paper G-352, https://www.copsmodels.com/ftp/workpapr/g-352.pdf).
- The first update is reported in CoPS Working Paper G-353 (https://www.copsmodels.com/ftp/workpapr/g-353.pdf). Relative to the modelling reported in G-352, the first update:
    - Accounts for additional U.S. tariffs imposed on imports of Chinese products. U.S. tariffs on Chinese products now rise by 145 percentage points relative to baseline.
    - Expands the set of non-retaliating regions to Australia, Japan and South Korea.
    - Sets U.S. tariffs on imports of Chinese motor vehicles, iron and steel and aluminium at the general China rate, rather than the general commodity-specific rate.
    - Imposes U.S. tariffs on imports from Canada that are differentiated by commodity and sets Canadian retaliatory tariffs based upon posted rates by HS8 commodity.
    - Excludes the "reciprocal" tariffs. Hence, U.S. imports for most commodities and countries receive an additional 10 percentage points of duty rate. The exceptions are China, Canada, Mexico, and the aforementioned commodities.
- Relative to the modelling reported in G-353, this second update:
    - Takes account of U.S. exclusions from the list of tariffed commodities covering electronic products, and inputs of steel, aluminium and parts to the motor vehicle sector.
    - Implements a specific set of retaliatory measures, covering particular commodities and regions. This distinguishes the treatment of retaliation in the two previous papers, which largely assumed that retaliating regions responded with retaliatory tariffs equivalent to those imposed by the U.S.
    - Imposes baseline shocks to U.S. import sourcing shares to match U.S. census data.
- Our analysis is isolated to investigating the economic effects of the tariffs. We note that the questionable coherence of the policy's motivating rationale, together with the frequent changes to the policy, have raised investor uncertainty. We do not model the impact of heightened investor uncertainty. We note that this is likely to provide another channel of significant adverse impacts from the tariffs, additional to those modelled herein.

- GTAP-FIN is a dynamic computable general equilibrium (CGE) model of the global economy suitable for baseline forecasting and policy analysis. Implementations of the model can be any regional and sectoral aggregation from the model's associated 160 region x 65 sector master database and baseline shock file. For this paper, we aggregate the model's 160 regions to 34 regions. We aggregate the model's 20 service sectors to 10 sectors, while retaining full details of the model's 45 primary and secondary sectors. Hence, the GTAP-FIN implementation for this paper contains 55 sectors and 34 regions.

- The starting point for the development of GTAP-FIN is the comparative static global model GTAP. To extend this into a dynamic framework with forecasting and policy analysis capabilities, GTAP-FIN introduces several enhancements:

  (1) Stock – flow linkages: We incorporate accounting relationships that connect stock variables (e.g., capital stocks) to relevant flow variables (e.g., investment) from previous periods.
  (2) Industry-specific capital stocks: Unlike the standard GTAP model, which assumes instantaneous capital mobility across sectors within each region, GTAP-FIN has an investment framework that models capital stocks as industry-specific within each region.
  (3) Regional labor market dynamics: GTAP-FIN's labor market theory provides for short-run wage rigidity and a gradual transition to long-run wage flexibility. This allows short-run labor market pressures to generate short-run movements in employment rates. In the long-run, regional labor markets adjust via flexible wages to return regional employment rates to baseline forecast levels.
  (4) Global financial market connections: Embedded in GTAP-FIN is a financial module that models international financial assets and liabilities at the regional level, and integrates the modelling of financial stocks and flows with the modelling of regional investment, savings, and current account balances.
  (5) Consumption dynamics: GTAP-FIN's regional consumption theory allows for exogenous determination of private and public consumption spending over historical periods and provides for gradual convergence of propensities to consume over long time periods.

- We use the GTAP v.11 database supplemented by additional data to support the model's financial theory. The GTAP data represents a global trading equilibrium for the year 2017. Because GTAP-FIN includes modelling of international financial assets and liabilities, we must supplement the GTAP data with international financial data. We use financial data from the IMF on the international assets and liabilities of each region, together with U.S. data from the BEA and the U.S. Treasury on the regional composition of U.S. international asset holdings and the ownership of U.S. international liabilities.

- We generate a baseline solution for GTAP-FIN covering the period 2018 – 2040. This covers an historical period for which statistics on selected key macroeconomic outcomes are available (2018-2022), and a forecast period (2023 – 2040) for which independent forecasts for some macroeconomic and demographic variables are available over varying time periods. To generate the baseline, we impose on the model observed outcomes (for the historical period) and forecast values (for the forecast period) for a variety of exogenous variables. Broadly, these variables include: real regional GDP, regional employment, regional population, regional investment, regional consumption, trade tariffs, commodity-specific regional sourcing shares for U.S. imports, and convergence rates for regional productivity.
- We examine three policy scenarios:
    - The "**no retaliation**" scenario: The U.S. raises 2025 tariffs relative to baseline, and other countries do not retaliate.
    - The "**retaliation**" scenario: The U.S. raises 2025 tariffs relative to baseline levels, prompting retaliatory tariff increases from most trading partners. Our modelling of retaliation is guided by region- and commodity-specific statements from government. For example, a subset of regions - Australia, Japan and South Korea - are excluded from retaliation, consistent with public announcements that they will not respond with reciprocal tariffs. Chinese retaliatory tariffs are set at lower rates than those imposed by the U.S., reflecting the lower announced levels of these rates.
    - The "**retaliation + fiscal consolidation" scenario**": Like the retaliation scenario, but the U.S. government uses the revenue raised from the tariffs to damp consumption spending.
- Appendix Table A1 reports the changes (above baseline) in the levels of U.S. tariffs following the March-April 2025 rate increases. Our baseline simulation already includes announced tariff increases prior to December 2024. Hence, for example, the average U.S. tariff on imports from China in 2025 of our baseline is approximately 18%. Table A1 reports the change in the rate of the U.S. tariffs on Chinese imports of approximately 145 percentage points. Hence, the levels of U.S. tariffs on Chinese imports in the policy simulation are approximately 163%.
- Appendix Table A2 reports the changes (above baseline) in the levels of tariffs imposed by U.S. trading partners in retaliation to the U.S. tariffs. Again, our baseline simulation already includes announced tariff changes on imports of U.S. products by the U.S.' trading partners prior to December 2024. For example, the average Chinese tariffs on imports from the U.S. in 2025 of our baseline is approximately 15%. Table A2 reports the change in the rate of Chinese tariffs on U.S. imports of approximately 125 percentage points. Hence, the levels of Chinese tariffs on U.S. imports in the policy simulation are approximately 140%.

- Table E1 summarises key macroeconomic results for the U.S., Australia, China and the European Union. Our model is dynamic, generating year-on-year results for 2025-2040. In Table E1 we report results for three years (2025, 2032 and 2040). This provides insights into short-run impacts before wages and capital stocks have time to adjust to the tariff shocks (2025); long-run impacts, describing the economy after wages and capital stocks have adjusted (2040); and medium-run impacts, describing a point in the transition between short- and long-runs (2032). As a summary measure, Table E1 also reports the average for all years between 2025 and 2040 inclusive.

Impacts on the U.S Economy

- The U.S. tariffs have an adverse impact on U.S. real GDP under every scenario. In the **no retaliation** scenario, the real GDP loss averages -1.3 per cent across the simulation period. In the short-run, this reflects a negative deviation in employment (-1.3% in 2025) and the allocative efficiency losses generated by the tariffs. In the long-run, the negative deviation in U.S. real GDP reflects a negative deviation in the U.S. capital stock (-1.9% in 2040) together with the tariff-induced allocative efficiency losses in production and consumption.
- In the **no retaliation** scenario, U.S. real consumption spending falls relative to baseline. The fall is steepest in the short-run (-1.0 per cent in 2025), partially recovers over the medium-run (-0.03% in 2032), but deepens again in the long-run (-0.23% in 2040). Over the full period, the average U.S. real consumption deviation is -0.17%. The U.S. real consumption deviation lies above the U.S. real GDP deviation throughout the simulation period. This reflects a rise in the U.S. terms of trade.
- In the **no retaliation** scenario, the U.S. terms of trade improve relative to baseline. The U.S. terms of trade deviation is 2.1 per cent in 2025, 3.3 per cent in 2032, and 3.4 per cent in 2040. Over the full period, the U.S.' average terms of trade improvement is 3.2%. This reflects the trade-restricting effects of the U.S. tariffs. The tariffs raise the relative price of imports in the U.S. market, inducing substitution by U.S. economic agents towards U.S.-produced products. This reduces U.S. import volumes, and with them, U.S. export volumes.

Table E1: Summary results for selected macroeconomic variables (% deviation from baseline)

	No retaliation				Retaliation				Retaliation + fiscal consolidation			
	2025	**2032**	**2040**	**Ave.**	**2025**	**2032**	**2040**	**Ave.**	**2025**	**2032**	**2040**	**Ave.**
U.S.												
Real consumption	-1.03	-0.03	-0.23	-0.17	-1.62	-0.73	-0.93	-0.88	-2.44	-1.45	-1.41	-1.58
Real GDP	-1.37	-1.22	-1.52	-1.28	-1.65	-1.33	-1.62	-1.41	-1.72	-1.19	-1.24	-1.25
Terms of trade	2.06	3.26	3.43	3.15	-1.25	-0.83	-0.75	-0.88	-1.97	-1.35	-1.07	-1.41
Real investment	-4.67	-3.10	-2.99	-3.27	-4.35	-2.97	-2.83	-3.15	-3.75	-1.51	-0.59	-1.69
Employment	-1.31	-0.02	0.00	-0.18	-1.65	-0.03	0.00	-0.23	-1.73	-0.01	0.00	-0.23
Capital stock	0.00	-1.23	-1.93	-1.18	0.00	-1.22	-1.87	-1.15	0.00	-0.87	-0.95	-0.75
Australia												
Real consumption	0.09	-0.06	-0.08	-0.05	0.28	0.08	0.05	0.10	0.39	0.15	0.15	0.19
Real GDP	0.11	0.06	0.07	0.06	0.20	0.16	0.19	0.16	0.28	0.28	0.39	0.29
Terms of trade	-0.03	-0.19	-0.30	-0.18	0.88	0.42	0.24	0.46	1.10	0.52	0.34	0.58
Real investment	0.95	0.26	0.16	0.32	1.68	0.70	0.53	0.80	2.39	1.41	1.41	1.55
Employment	0.16	-0.01	0.00	0.01	0.28	0.00	0.00	0.03	0.39	0.00	0.00	0.05
Capital stock	0.00	0.16	0.18	0.14	0.00	0.38	0.48	0.34	0.00	0.64	0.96	0.60
China												
Real consumption	-0.35	-0.41	-0.42	-0.41	-0.70	-0.65	-0.70	-0.67	-0.64	-0.62	-0.68	-0.63
Real GDP	-0.18	-0.10	-0.13	-0.12	-0.50	-0.34	-0.39	-0.37	-0.46	-0.25	-0.26	-0.28
Terms of trade	-1.13	-1.30	-1.15	-1.26	-0.83	-0.94	-0.82	-0.91	-0.71	-0.84	-0.74	-0.81
Real investment	0.33	-0.12	-0.20	-0.08	0.09	-0.24	-0.36	-0.22	0.40	0.10	0.03	0.13
Employment	-0.19	-0.01	0.00	-0.04	-0.42	-0.01	0.00	-0.07	-0.36	-0.01	0.00	-0.06
Capital stock	0.00	0.01	-0.08	-0.01	0.00	-0.05	-0.17	-0.07	0.00	0.12	0.09	0.09
European Union												
Real consumption	0.02	-0.14	-0.13	-0.13	-0.04	-0.10	-0.07	-0.09	0.00	-0.03	0.02	-0.02
Real GDP	0.07	0.07	0.09	0.07	0.10	0.15	0.22	0.15	0.15	0.32	0.53	0.33
Terms of trade	0.00	-0.14	-0.16	-0.13	0.14	0.04	0.02	0.05	0.20	0.08	0.04	0.09
Real investment	1.11	0.32	0.25	0.39	1.35	0.72	0.62	0.79	2.10	1.70	1.82	1.79
Employment	0.10	0.00	0.00	0.00	0.19	0.00	0.00	0.02	0.27	0.01	0.00	0.04
Capital stock	0.00	0.18	0.22	0.16	0.00	0.33	0.47	0.30	0.00	0.65	1.09	0.63

- Our model anticipates an average reduction in U.S. import volumes across the simulation period of approximately -11% (not reported in Table E1, see Table 4.1). Our macroeconomic closure, which links nominal consumption spending to nominal net national income, implies that the balance of trade / GDP ratio is largely tied down. Hence, the fall in U.S. import volumes generates a fall in U.S. export volumes. The deviation in U.S. export volumes average approximately -14% across the simulation period (Table 4.1). The size of the export contraction exceeds the size of the import contraction because the U.S. balance of trade is in deficit in the baseline. The contraction in U.S. import volumes slightly damps U.S. import prices, while the contraction in U.S. export volumes allows U.S. export prices to rise. The net outcome is the terms of trade improvement reported in Table E1.

- The U.S. terms of trade gain evaporates under the **retaliation** scenario. This reflects the damage done by retaliatory tariffs to the prices that U.S. exporters receive when selling in foreign markets. Across the fifteen years of the policy simulation, the U.S. terms of trade loss under the **retaliation** scenario averages -0.88% relative to baseline.
- The terms of trade loss under the **retaliation** scenario results in deepening of the negative deviations in U.S. real consumption relative to the **no retaliation** scenario. The U.S. real consumption loss averages approximately -0.88 per cent across the simulation period under the **retaliation** scenario, 0.70 percentage points lower than under the **no retaliation** scenario.
- The 2025 negative employment deviation under the **retaliation** scenario (-1.7 per cent) is deeper than under the **no retaliation** scenario (-1.3 per cent). This is due to the deeper terms of trade loss under the **retaliation** scenario, which causes a greater rise in the real producer cost of labour, relative to the **no retaliation** scenario.
- The U.S. experiences sharp falls in real investment under both the no retaliation and retaliation scenarios. This is caused by the trade taxes, which reduce the post tax returns from employing capital, and raise the cost of inputs to capital formation. The decrease in U.S. investment (and with it, the U.S. capital stock) is smaller under the **retaliation** case than the **no retaliation** case. In general, when other regions retaliate with higher tariffs of their own, investment demand falls within these regions. Relative to the **no retaliation** case, the resulting reduction in global investment demand reduces required rates of return to maintain the global balance between savings and investment. This lifts U.S. investment in the **retaliation** case relative to the **no retaliation** case.
- The third set of results in Table E1 reports the effects of the **retaliation + fiscal consolidation** scenario. Under the **no retaliation** and the **retaliation** scenarios, nominal U.S. consumption (private and public) is a fixed proportion of nominal net national income. This is similar to the U.S. government recycling much of the tariff revenue via lump sum transfer to U.S. households, while also keeping constant the ratio of real public and real private consumption. Under the **retaliation + fiscal consolidation** scenario, we assume that the federal government uses the tariff revenue to raise the national savings rate. This is implemented by a rise in the national savings rate calibrated to the value of the additional tariff revenue.
- A caution in interpreting the **retaliation + fiscal consolidation** scenario is that it adds an additional policy decision (a reduction in the U.S. federal government deficit) to the tariff policy decision. The U.S. federal government could engineer a decrease in the federal deficit via any number of instruments independent of the tariff increase. However, given that the Trump administration has linked tariffs to revenue raising aims in several public statements, there is some justification for considering this third scenario as part of the potential effects of the tariffs.

- The rise in the national savings rate under the **retaliation + fiscal consolidation** scenario causes the negative deviation in U.S. real consumption to be deeper than under the **retaliation** scenario. This simply reflects the damping of consumption by the higher national savings rate.
- A corollary of the deeper fall in U.S. consumption under the **retaliation + fiscal consolidation** case is a movement towards surplus in the U.S. balance of trade relative to the **retaliation** case. Under the **retaliation** case, the average deviation in U.S. export and import volumes is -19% and -18% respectively across the simulation period. Under the **retaliation + fiscal consolidation** case, these figures are -17% and -19%. The smaller contraction in export volumes, and the larger contraction in import volumes, represents a movement towards surplus in the U.S. balance of trade. This causes the deviation in the U.S. terms of trade to lie below its outcome under the **retaliation** scenario.
- The increase in U.S. savings under the **retaliation + fiscal consolidation** case raises the global savings pool and with it, global investment and capital. This explains the smaller contractions in U.S. real investment and capital stocks under the **retaliation + fiscal consolidation** scenario relative to the **retaliation** scenario.

Impacts on the Australian economy

- The impacts on Australia under the **no retaliation** case are small. This reflects the relatively low importance of the U.S. as a destination for Australian exports. In 2025 of the baseline, the U.S. share in Australian exports is only 5.2%. The U.S. is a relatively more important source for Australian imports (13%), but the primary route via which U.S. tariffs affect Australia is via the exposure of Australia's exports to the U.S. to tariffs imposed by the U.S.
- In 2025, Australia experiences a small boost to economic activity. This is largely driven by the increase in real investment (+0.95%). The contraction in U.S. real investment (-4.7%) causes required rates of return to fall to maintain the global savings/investment balance. This lifts real investment in Australia.
- The 2025 increase in Australian real investment under the **no retaliation** case causes a positive deviation in employment (+0.16%). In the first year of the simulation, this raises Australia's real GDP and with it, Australia's national income and real consumption spending (+0.09%).
- Following the initial investment-driven lift in employment, Australia's employment gradually returns to baseline. The initial increase in Australia's real investment attenuates over time, as Australia's capital stock rises. The initial investment spike, by raising GNE relative to GDP, buoys Australia's terms of trade in the short-run, relative to the outcome that would have prevailed for the terms of trade taking account only of the direct effects of the U.S. tariffs. With

the investment deviation attenuating over time, this source of the initial uplift in Australia's terms of trade also attenuates. Hence, in the later years of the simulation, we are left with the primary influences on Australia's terms of trade being the direct effects of the U.S. tariffs on Australian exports to the U.S., and indirect effects via impacts on Australia's major trading partners. This accounts for the deepening of the negative deviation in Australia's terms of trade in 2032 and 2040.

- In the medium- to long-run, Australia's real consumption experiences a small negative deviation under the **no retaliation** case. This reflects the negative terms of trade deviation experienced by Australia over this time frame. Australia experiences a small positive deviation in real GDP (+0.06 in 2032, rising to +0.07 by 2040). This reflects the rise in Australia's capital stock over this period (up by 0.16% and 0.18% in 2032 and 2040). GTAP-FIN accounts for foreign claims on the income from this additional capital. Hence, despite the increase in real GDP, the terms of trade loss generates negative outcomes for Australian real consumption in the medium- to long-run under the **no retaliation** case.
- The second set of results for Australia in Table E1 report the effects of the U.S. tariffs jointly with retaliation by other regions. Under this **retaliation** scenario, Australia experiences a material increase in its terms of trade. Australia's terms of trade gain under the retaliation scenario averages 0.46 per cent across the simulation period. When other regions raise barriers to imports of U.S. products, the U.S. is encouraged to divert exports to Australia. This lowers the price of U.S. imports in the Australian market, improving Australia's terms of trade.
- In the initial year, relative to the **no retaliation** scenario, the rise in Australia's terms of trade in the **retaliation** scenario generates higher deviations in employment (+0.28 per cent), real investment (1.7%), real GDP (+0.20%) and real consumption (+0.28%).
- Following the initial investment spike, the enduring terms of trade gain under the retaliation scenario generates an enduring positive deviation in Australia's real consumption. Australia's real consumption is 0.08% above baseline in 2032 and 0.05% above baseline in 2040. Across the simulation period, Australia's real consumption is, on average, 0.10% above baseline under the **retaliation** scenario.
- The third set of results in Table E1 report impacts on Australian macroeconomic variables of retaliation together with use by the U.S. of tariff revenue for fiscal consolidation. Relative to the **retaliation** scenario, this **retaliation + fiscal consolidation** scenario generates a rise in Australia's real investment and capital stock. This reflects the increase in global savings caused by the U.S. movement towards surplus. This raises investment in Australia, and in Australia's trading partners.

- Australia experiences an improvement in its terms of trade under the **retaliation + fiscal consolidation** scenario. This is a corollary of the U.S. terms of trade decline noted above. The terms of trade increase, together with tax revenue collected from returns on the larger capital stock, raises Australia's real consumption spending in the **retaliation + fiscal consolidation** scenario relative to the **retaliation** scenario.

Impacts on China's economy

- Over March-April 2025, imports of Chinese products were subject to the largest increases in U.S. tariffs. This reduces China's terms of trade. Under the **no retaliation** scenario, on average, China's terms of trade are projected to be 1.3% below baseline over 2025-2040.
- The negative deviation in China's terms of trade causes a reduction in its real national income, and with it, a reduction in real consumption. China's real consumption loss under the **no retaliation** scenario averages -0.41% over 2025-40.
- Under the **retaliation** scenario, China's terms of trade improve relative to the **no retaliation** scenario. This is caused by the restriction in the volume of China's trade caused by imposition by China of additional tariffs on U.S. imports.
- Despite the relative improvement in China's terms of trade under the **retaliation** scenario, China's real consumption loss is larger. Under the **no retaliation** scenario, China's real consumption loss averages -0.41% over 2025-40. The average real consumption loss deepens to -0.67% over 2025-40 under the **retaliation** scenario. This reflects two sources of adverse impact on China's real national income. First, the imposition of tariffs by China imposes allocative efficiency losses on China, reducing its real GDP outcome relative to the **no retaliation** case. Second, imposition of tariffs by the rest of the world on U.S. imports depresses world capital returns relative to the **no retaliation** case. This reduces net foreign income receipts by China in the **retaliation** case relative to the **no retaliation** case.
- Relative to the **retaliation** case, under the **retaliation + fiscal consolidation** case, outcomes for China's real consumption improve. This reflects a relative improvement in China's terms of trade between the two scenarios. China's terms of trade loss under the **retaliation + fiscal consolidation** scenario averages -0.81% over 2025-2040, whereas it averages -0.91% over the same period under the **retaliation** scenario. The relative improvement of China's terms of trade between the two scenarios is the corollary of the relative deterioration in the U.S.' terms of trade between the two scenarios.

Impacts on the European Union's economy

- The European Union is subject to the U.S.' 10% base tariff, together with the commodity specific duties covering steel, aluminium products, and motor vehicles. Under the **no retaliation** scenario, the E.U. experiences a modest positive deviation in economic activity in 2025. This is due to the redirection of global investment away from North America, which generates a positive deviation in real investment in the E.U. of +1.1% in 2025. This generates positive deviations in 2025 employment (+0.10%), real GDP (+0.07%) and real consumption (+0.02%) in the E.U.
- In the **no retaliation** scenario, E.U. real consumption declines relative to baseline over the medium- to long-run. In 2032, E.U. real consumption is 0.14% below baseline, and is 0.13% below baseline by 2040. Averaged over the full simulation period, E.U. real consumption is 0.13% below baseline. This reflects the fall in the E.U.'s terms of trade over the medium to long-run. The U.S. tariffs reduce average prices received by E.U. exporters. The impact of this on the terms of trade is offset in the short-run by the temporary fillip to E.U. investment, which temporarily buoys its terms of trade. With the E.U. investment deviation attenuating over time, the terms of trade experience a net negative deviation over the medium- to long-term.
- Under the **retaliation** scenario, when compared with the **no retaliation** scenario, the E.U.'s macroeconomic outcomes deteriorate in the first year, but improve over the medium- to long-run. Unlike China, which retaliates with high tariffs commensurate with the levels imposed by the U.S, when the E.U. retaliates it does so with comparatively modest rates, again commensurate with the rates imposed by the U.S.
- The E.U.'s retaliatory tariffs restrict E.U. trade. This raises the E.U.'s terms of trade in the **retaliation scenario** relative to the **no retaliation** scenario. Because the E.U.'s retaliatory tariffs are sufficiently low, the net impact on E.U. real consumption of their adverse allocative efficiency effect and their favourable terms of trade effect is positive. Hence, the average deviation in E.U. real consumption under the **retaliation** scenario (-0.09% p.a.) is higher than under the **no retaliation** scenario (-0.13% p.a.).
- In general, under the **retaliation + fiscal consolidation** scenario, the E.U. experiences higher positive deviations in key macroeconomic indicators than it does under the **retaliation** scenario. This reflects the higher terms of trade deviation experienced by the E.U. under the **retaliation + fiscal consolidation**. As discussed in the context of the Australian and Chinese results, the corollary of the U.S. terms of trade deterioration under the **retaliation + fiscal consolidation** scenario is a favourable movement in the terms of trade for the U.S.' trading partners.

Impacts on other regions

- Table E2 reports percentage deviations in real consumption by region, classified by scenario and time period.

Table E2: Real consumption by region (% deviation from baseline)

	No retaliation				Retaliation				Retaliation + fiscal consolidation			
	2025	**2032**	**2040**	**Ave.**	**2025**	**2032**	**2040**	**Ave.**	**2025**	**2032**	**2040**	**Ave.**
Asia Pacific	0.36	0.02	0.04	0.08	0.33	0.21	0.16	0.24	0.38	0.28	0.29	0.34
European Union	0.02	-0.14	-0.13	-0.13	-0.04	-0.10	-0.07	-0.09	0.00	-0.03	0.02	-0.02
Australia	0.09	-0.06	-0.08	-0.05	0.28	0.08	0.05	0.10	0.39	0.15	0.15	0.19
Japan	-0.02	-0.17	-0.17	-0.16	-0.01	-0.15	-0.13	-0.13	0.02	-0.13	-0.11	-0.11
South Korea	-0.03	-0.22	-0.24	-0.21	0.20	-0.05	-0.04	-0.03	0.28	-0.02	-0.05	0.00
Taiwan	-0.02	-0.26	-0.31	-0.25	-0.21	-0.32	-0.35	-0.32	-0.22	-0.31	-0.37	-0.32
China	-0.35	-0.41	-0.42	-0.41	-0.70	-0.65	-0.70	-0.67	-0.64	-0.62	-0.68	-0.63
Hong Kong	0.15	-0.07	-0.08	-0.06	-1.00	-0.98	-0.99	-0.99	-1.06	-1.02	-1.02	-1.03
Viet Nam	1.42	0.83	0.58	0.90	0.99	0.66	0.48	0.69	0.88	0.69	0.59	0.71
Singapore	-0.27	-0.53	-0.56	-0.52	-0.42	-0.14	-0.09	-0.17	-0.33	-0.05	0.00	-0.08
Thailand	0.19	-0.02	0.00	0.00	0.17	0.04	0.07	0.06	0.19	0.09	0.14	0.11
Malaysia	0.13	-0.01	-0.03	0.00	0.15	0.16	0.21	0.16	0.16	0.19	0.25	0.19
Indonesia	0.19	0.02	0.02	0.04	0.25	0.09	0.09	0.11	0.31	0.12	0.13	0.15
Philippines	0.33	0.06	0.09	0.10	0.31	0.29	0.32	0.31	0.35	0.38	0.47	0.41
India	0.23	0.01	0.00	0.03	0.20	0.07	0.05	0.08	0.26	0.13	0.13	0.15
U.S.A.	-1.03	-0.03	-0.23	-0.17	-1.62	-0.73	-0.93	-0.88	-2.44	-1.45	-1.41	-1.58
Canada	-0.43	-0.34	-0.34	-0.37	-0.96	-0.06	-0.04	-0.15	-0.80	0.08	0.13	0.00
Mexico	-0.23	-0.36	-0.32	-0.35	-0.04	0.49	0.69	0.44	0.06	0.67	0.90	0.62
Brazil	-0.01	-0.12	-0.12	-0.11	0.16	0.12	0.09	0.12	0.25	0.18	0.17	0.19
Latin America	-0.13	-0.23	-0.23	-0.22	-0.20	0.00	0.00	-0.03	-0.13	0.05	0.07	0.04
U.K.	0.08	-0.08	-0.06	-0.07	-0.13	-0.08	-0.04	-0.08	-0.07	0.07	0.17	0.07
Switzerland	-0.17	-0.31	-0.32	-0.31	-0.38	-0.41	-0.42	-0.41	-0.39	-0.44	-0.48	-0.44
M. East & Nth Afr.	-0.19	-0.12	-0.10	-0.12	-0.28	0.02	0.05	0.00	-0.26	0.06	0.11	0.05
Sub-Saharan Africa	0.05	-0.03	-0.02	-0.02	0.07	0.11	0.10	0.11	0.12	0.16	0.16	0.17
Russian Federation	0.05	0.07	0.08	0.07	0.00	0.05	0.07	0.05	0.00	0.05	0.08	0.05
Rest of World	-0.05	-0.12	-0.12	-0.12	-0.27	-0.15	-0.13	-0.16	-0.27	-0.11	-0.06	-0.12

- Under the **no retaliation** scenario, regions with higher U.S. tariff exposure, via either the level of the tariff imposed, or the share of exports destined for the U.S. market, tend to experience greater real consumption losses. This accounts for the comparatively high real consumption losses experienced by Singapore, Canada, Mexico, Switzerland, Taiwan, Latin America and South Korea.
- Relative to the **no retaliation** scenario, real consumption outcomes for many regions improve under the **retaliation** scenario. This reflects relative improvements in the terms of trade for retaliating regions when compared with the **no retaliation** case.

- Relative to the retaliation scenario, real consumption outcomes for many regions improve under the **retaliation + fiscal consolidation** scenario. Again, this reflects a relative improvement in the terms of trade of regions outside the U.S. as the fiscal consolidation moves the U.S. balance of trade towards surplus.

1 Introduction

In March and April 2025, the Trump administration implemented a round of substantial tariff increases. This paper investigates the macroeconomic impacts of these new tariffs using GTAP-FIN, a dynamic general equilibrium model of the global economy. It updates work reported in two Centre of Policy Studies working papers prepared after the tariff announcements: Working Paper G-352 and Working Paper G-353 (Giesecke and Waschik 2025a and 2025b).

The previous update (G-353, Giesecke and Waschik 2025b) extended the modelling reported in the initial working paper (G-352, Giesecke and Waschik 2025a) by:

- Accounting for additional U.S. tariffs imposed on imports of Chinese products.
- Expanding the set of non-retaliating regions to Australia, Japan and South Korea.
- Setting U.S. tariffs on imports of Chinese motor vehicles, iron and steel and aluminium at the general China rate, rather than the general commodity-specific rate.
- Imposing U.S. tariffs on imports from Canada that are differentiated by commodity and setting Canadian retaliatory tariffs based upon posted rates by HS8 commodity.
- Excluding the "reciprocal" tariffs, consistent with the announced pause in the application of these tariffs.

The present paper updates G-352 and G-353 further, taking account of new announcements, improved clarity on details of the U.S. tariff plan, retaliation announcements, and further development of the baseline forecast as it relates to U.S. import sourcing. In particular, the present paper builds on the previous two working papers by:

- Incorporating US tariff exclusions of most "Computer, electronic and optic" commodity imports and of some "Other machinery & equipment" commodity imports from China.
- Setting US tariffs on non-USMCA-compliant imports from Canada and Mexico consistent with the announced retaliatory tariffs applied by Canada on non-USMCA-compliant imports from the US.
- Setting Mexican retaliatory tariffs applied on imports of non-USMCA-compliant imports from the US consistent with Canadian retaliatory tariffs.
- Incorporating announced EU retaliatory tariffs that would be applied as of 16 May 2025 in the absence of progress on the removal of US tariffs applied on imports from the EU.
- Adjusting baseline U.S. import sourcing shares so that they are consistent with U.S. Census data in the year the tariffs are implemented.

- Exempting U.S. automakers from tariffs on steel and aluminium over the full simulation period, and on inputs of automotive components for the first two years of the simulation.

Our analysis focuses specifically on the economic effects of the tariff increases themselves, not the accompanying investor uncertainty. The policy announcements were accompanied by a rationale that has been widely viewed as incoherent, leading to heightened investor uncertainty. We do not quantify the effects of this additional uncertainty channel. It is likely that such uncertainty has compounded the economic costs of the tariffs, meaning that our estimates should be viewed as conservative.

GTAP-FIN extends the standard GTAP model into a dynamic forecasting and policy analysis tool by embedding stock–flow linkages, industry-specific capital formation, and regional financial integration. The version implemented in this paper aggregates the model's 160 regions into 34, and condenses 65 sectors into 55, retaining full details of tariffed commodities while aggregating service sector detail.

The remainder of this paper is structured as follows. Section 2 provides an overview of the GTAP-FIN model. Section 3 discusses the GTAP-FIN baseline. Section 4 discusses the tariff shocks and results. Section 5 concludes.

2 The GTAP-FIN model

2.1 Overview

The GTAP-FIN model is built using the standard GTAP model as a starting point (see Hertel 1997 and Corong et al. 2017). To the standard GTAP model, GTAP-FIN adds CoPS innovations described further below. A typical simulation of GTAP-FIN involves two model runs: a baseline simulation, and a policy simulation.[1] In the baseline closure:

- Year-on-year movements in regional real private (household) spending and real public (government) spending are exogenously determined in the early phase of the baseline (2018-2022) and set equal to observed movements over this period. For some regions, this period involves comparatively large moves in public / private consumption ratios because of the effects of the Covid-19 pandemic. Hence, following 2022, we gradually return region-specific public / private consumption ratios back to their GTAP 2017 database starting points. This reflects unwinding of Covid-19 stimulus measures.

[1] GTAP-FIN is solved using GEMPACK (see Horridge et al. 2018).

- After 2022 regional nominal consumption (private and public) is linked to nominal national income via an APC that, while largely given, adjusts through time in two ways: (i) via a process of gradual convergence in regional consumption propensities; and (ii) via a positive relationship between regional consumption propensities and regional wealth.
- Between 2018 and 2022, year-on-year movements in real investment in each region are exogenously determined at official values. Thereafter, regional investment responds to movements in regional rates of return relative to the global average rate of return. The associated investment financing needs of each region are met by endogenous movements in the international capital allocation decisions of global investors in each region.
- Regional capital supply is determined by the aforementioned determination of regional investment.
- Regional employment is determined by exogenous determination of the working age population.
- Between 2021 and 2024 we gradually adjust the U.S. import sourcing shares for each commodity so that they align with the 2024 values reported by the U.S. Census Bureau for major trading partners (China, Mexico, Canada, the E.U., Australia, Japan, Korea, Taiwan, Vietnam and the U.K.). These adjustments are implemented as cost-neutral, commodity-specific shifts in the technology parameters of the CES import aggregation function. As discussed below, the resulting movements in these technology parameters are imposed as exogenous shocks in the policy simulation, ensuring that the model's 2024 commodity-specific import sourcing shares for key trade partners match the observed data.

In the policy closure:

- The ratio of regional real private (household) spending and real public (government) spending is fixed at baseline levels. This means these two aggregates move together in percentage change terms.
- Regional nominal consumption (private and public) is linked to regional nominal national income via region-specific average propensities to consume out of national income that track their baseline forecast values. For the U.S., in the retaliation + fiscal consolidation scenario, this assumption is over-ridden by a shock to the U.S. savings rate commensurate with the additional tariff revenue.
- Regional investment responds to movements in regional rates of return relative to the global average rate of return. The associated investment financing needs of each region are met by endogenous movements in the international capital allocation decisions of global investors in each region.
- Regional capital supply is determined by the aforementioned determination of regional investment.

- Regional labor markets transition from a short-run sticky wage environment to a long-run full employment environment. In the short-run, regional real wages are sticky, allowing for short-run deviations in regional employment from baseline values. Thereafter, regional labor markets gradually transition to an environment in which regional wages are fully flexible, and regional employment returns to baseline values.
- Between 2021 and 2024, we impose as exogenous shocks the values endogenously calculated in the baseline for cost-neutral technological shifts in commodity-specific U.S. import aggregation functions. These shifts gradually adjust U.S. commodity-specific import sourcing shares for major trading partners, aligning them with observed data by 2024.

The GTAP-FIN model includes a number of important modifications to the standard GTAP model, developed in previous CoPS work. These include (i) sticky wages; (ii) sector specific capital; and (iii) a financial module. We expand on these additions below.

Sticky wages. The GTAP- FIN model contains the Dixon and Rimmer (2002) treatment of the labour market within a dynamic CGE model. Under this treatment, region-specific labour markets transition from a short-run environment in which real wages are sticky to a long-run environment in which real wages are fully flexible. This allows the labour market effects of a positive economic shock (like a productivity improvement) to be manifested over the short-run as gains in both employment and real wages, with a gradual transition to a long-run in which the gains are manifested in higher real wages as the economy returns to full employment.

Sector specific capital. In standard GTAP, capital within each region has no industry-specificity. That is, the aggregate regional capital stock in year t is free to flow between industries in year t. This is unsatisfactory for generating insights into both the short-run adjustment costs of policy changes and the transition paths to long-run outcomes. If a specific shock is particularly damaging to prospects for a specific industry, we want this manifested in the short-run as a steep drop in the rate of return and investment in the affected industry, not as an implausible and damage-mitigating instantaneous outflow of that industry's capital to other unrelated sectors. In the GTAP-FIN model, regional capital stocks are specific to each industry. Units of new industry-specific capital are assumed to be constructed with a technology that is common to all industries (consistent with the single capital-creator assumption of standard GTAP) but are allocated to specific industries on the basis of movements in relative rates of return across industries. This allows industry-specific capital stocks within each country/region to gradually adjust through time in response to movements in their rates of return.

Financial module. The starting point for GTAP-FIN's financial module was the notion of the Global Trust, which holds the foreign-owned capital of all countries, introduced in the dynamic version of the

GTAP model by Ianchovichina and McDougall (2012). In that extension, a country's wealth consists of shares in the Trust plus domestically-owned capital within its own borders. There are no direct bilateral financial relationships in the Ianchovichina and McDougall treatment. Each year a country devotes its savings to buying shares in the Trust and to financing a fraction of its domestic investment (capital creation). The remaining domestic investment is financed by the Trust. The net flow of funds from the Trust is positive for countries with a surplus of domestic investment over savings (current account deficit) and negative for countries with a surplus of saving over investment (current account surplus). The world rate of return on capital adjusts to ensure that the sum across all countries of the net flows of funds from the Trust is zero.

GTAP-FIN makes three improvements on Ianchovichina and McDougall's Global Trust (Dixon *et al*. 2021). First, GTAP-FIN introduces bilateral relationships. This is necessary if the model is to be used to analyse the effects of policies in which one country favours or discriminates between financial flows from other countries. Second, GTAP-FIN recognizes that financial flows from region r to region s can "terminate" in region s with a claim on s's physical capital, but can also be redirected by s to a third region k. This recognition is necessary for facilitating the use of available data on the financial assets and liabilities of regions. The data refer to financial claims by residents of one region, on residents of another region; not claims by residents of one region on the physical capital of another region. Third, GTAP-FIN uses a financial optimizing agent in each region to allocate the region's financial budget across domestic capital and financial assets in other regions. This replaces Ianchovichina and McDougall's cross-entropy approach to determining the allocation of a region's wealth between ownership of domestic capital and shares in the Global Trust. More detail on features of the asset-liability matrix integrated into the 2017 base period of the GTAP- FIN model is presented later in this section. See also Dixon *et al*. (2021).

2.2 The GTAP-FIN database

2.2.1 Overview

Section 2.2 describes the construction of the GTAP-FIN database. This comprises the GTAP database, plus additional data elements relevant to the model's financial theory. For discussion of the GTAP database, we refer the reader to Aguiar et al. (2022) and Corong et al. (2017). The core data element for the model's financial theory is the asset-liability matrix, described in Section 2.2.2.

2.2.2 Financial assets and liabilities

The GTAP-FIN model's financial module is based on that described in Dixon *et al.* (2021). Consistent with the theory described therein, the financial module is built around an asset-liability matrix. Table 2.1 provides an example of such a matrix, constructed by aggregating the 160-region asset-liability matrix in GTAP-FIN's master database to display data for the top fifteen economies by GDP and the rest of the world. An (s,d) entry in this table is the value at the start of 2017 of liabilities issued by region *s* that are held by region *d*. For example, Table 2.1 shows that U.S. financial liabilities (e.g. government bonds or shares in U.S. companies) held by Australian residents were worth $US0.49 trillion at the start of 2017. Similarly, Australian financial liabilities held by U.S. residents were worth $US0.62 trillion.

The *r*th diagonal entry in the table is the value of physical assets located in region *r*. For example, the table shows that at the start of 2017, physical assets in the U.S. were worth $US69.7t. As explained in Dixon *et al*. (2021), we assume that physical assets in region *r* are financed through *r*'s financial agent but are not necessarily owned by residents of region *r*. Foreign ownership of *r*'s physical capital is part of *r*'s foreign liabilities (the off-diagonal entries in *r*'s row of Table 2.1).

In Table 2.1, each region's net foreign assets can be calculated as the difference between its column and row sums. For the U.S., net foreign assets at the start of 2017 were -$US7.72t (=94.13t – 101.85t). That is, the U.S. had net foreign liabilities of $US7.72t. Each region's wealth can be calculated as the diagonal entry (*r*,*r*) plus the column-*r* sum less the row-*r* sum, that is the value of r's physical capital plus r's net foreign assets. For example, U.S. wealth at the start of 2017 was $US61.97t made up of physical capital in the U.S. worth $US69.69t plus net foreign assets worth -$US7.72t.

The shaded elements in Table 2.1 were either directly sourced from, or heavily determined by, independent data sources. The non-diagonal entries in the table were informed by U.S. BEA and Treasury data (for row 6 and column 6) or derived by a modified bi-proportional scaling procedure in which we set the starting point for the regional composition of each country's foreign liabilities to reflect the regional composition of world foreign assets.

We began with the off-diagonal row sum values in Table 2.1 for region r (*r*'s foreign liabilities) and the off-diagonal column sum values (*r*'s foreign assets) sourced from IMF data.[2] From these row and column sum values, we created an initial estimate for the off-diagonal values in Table 2.1, scaled to conform with the IMF row and column totals. This was done by assuming that the liabilities of each

[2] International Monetary Fund "International Financial Statistics (IFS)", International investment position, assets and liabilities. https://data.imf.org/?sk=4c514d48-b6ba-49ed-8ab9-52b0c1a0179b

region are held by other regions in proportion to each region's share in total global assets (i.e., in proportion to the column sum row shares).

Next, we assembled data to inform the non-diagonal entries for the U.S. (column and row 6), using a variety of U.S. Bureau of Economic Analysis and U.S. Treasury sources.[3] These sources provided estimates of the country-composition of U.S. holdings of foreign assets and the country-composition of the foreign holders of U.S. liabilities. These estimates formed the starting point for the values in column 6 and row 6 respectively. Particularly for smaller regions, these data, when compared with IMF IIP control totals, could imply unrealistically high shares for holdings of U.S. assets relative to other foreign assets, or unrealistically high shares of liabilities held by the U.S. relative to other regions. To overcome this, we took the average of the regional shares for the U.S. row and column implied by: (i) the method for creating initial off-diagonal values described in the aforementioned paragraph, and (ii) the U.S. BEA and Treasury data.

As noted earlier, the remaining non-diagonal entries in the table were derived by a modified bi-proportional scaling procedure in which we set the starting point for the regional composition of each country's foreign liabilities to reflect the regional composition of world foreign assets. Further details on data sources and estimating methods are in Dixon *et al*. (2021, Appendices 1 and 3).

[3] The Bureau of Economic Analysis and the U.S. Treasury Department publish data on the country composition of both U.S. direct and portfolio investment in foreign countries and foreign direct and portfolio investment within the U.S. U.S. direct investment abroad by country, and foreign direct investment within the U.S. by country, are available from BEA balance of payments and direct investment position data (https://apps.bea.gov/iTable/?ReqID=2&step=1). The U.S. Treasury Department publishes country-specific data on foreign portfolio investment in U.S. debt and equity instruments (https://ticdata.treasury.gov/Publish/shlhistdat.html) and U.S. holdings of foreign debt and equity securities (https://home.treasury.gov/data/treasury-international-capital-tic-system-home-page/tic-forms-instructions/securities-b-portfolio-holdings-of-us-and-foreign-securities).

3 Baseline Simulation

3.1 General inputs to GTAP-FIN baseline simulations.

3.1.1 Overview

The baseline simulation is calibrated to actual and forecast data for real GDP and other macroeconomic aggregates, population, working age population and greenhouse gas emissions for all GTAPv11 countries, as well as nominal GDP for the US. The baseline also reflects reductions in applied tariffs consistent with all preferential trade agreements that came into force after 2017, as well as those arising from the 2018-2020 U.S.-China trade war. The baseline simulation generally reflects actual data up to 2023 and forecast data beyond 2023, made either by forecasting organizations or by CoPS. For example, as explained in more detail below, we use IMF data for real GDP for 2018-2023. Then we use IMF forecasts for real GDP for 2024-2029.

3.1.2 Macroeconomic and demographic variables

Data and forecasts on real and nominal GDP were sourced from the IMF's World Economic Outlook for the years 2009-2029 for 196 countries, available from: *https://www.imf.org/en/Publications/SPROLLS/world-economic-outlook-databases#sort=%40imfdate%20descending*. The most recent issue available was October 2024. Beyond 2029, we forecast real GDP by the method described in subsection 3.1.5.

In the baseline simulation up to 2029, real GDP for each country/region in the GTAP-FIN aggregation is determined exogenously, using IMF WEO header NGDP_R (Gross domestic product, constant prices, expressed in billions of national currency units), with primary factor augmenting technological change in each region adjusting endogenously. In this way, the baseline simulation reflects actual changes in real GDP by region up to 2023, and forecast changes in real GDP over 2024-2029 thereafter. The baseline simulation is also calibrated to nominal GDP for the United States using IMF WEO header NGDPD - Gross domestic product, current prices (US$b). As a result, the GDP price deflator for the United States is the difference between nominal and real US GDP. For all countries/regions other than the U.S., nominal GDP and the GDP price deflator are endogenous in the baseline simulation. Beyond 2029, the real GDP and labor augmenting technological change in each region are swapped, with real GDP determined endogenously and labor augmenting technological change set exogenously – see subsection 3.1.5 for more detail.

Our baseline shocks also track real macroeconomic aggregates for household (private) and

government (public) consumption, as well as investment. We use historical data reported by the United Nations Department of Economic and Social Affairs in their National Accounts data, available from *https://unstats.un.org/unsd/snaama/Basic*. The latest release of the UN National Accounts data reports GDP expenditure components at constant 2015 prices (in US$) for the period 2007-2022. This allows us to reflect changes in real consumption, investment and government spending in the baseline up to 2022.

In the baseline simulation, we exogenously impose values for growth rates in regional population and employment. To inform our shocks to growth rates in regional employment, we use independent historical and forecast values for regional growth rates in working age population. These data are sourced from the United Nations Department of Economic and Social Affairs "World Population Prospects 2024", available from *https://population.un.org/wpp/downloads?folder=Standard%20Projections&group=Population*. The population is simply the sum of total population by single age, both sexes combined (thousands), while the working age population is the sum of the total population, both sexes combined over the ages 16-65.

3.1.3 Tariff rates.

Since we begin with the GTAPv11 database, the GTAP-FIN model begins with applied tariffs in 2017. As noted in Aguiar et al. (2022:6), "protection data (in the GTAPv11 database) are composed of bilateral tariff information contributed by the International Trade Centre" in Geneva, Switzerland. These data on bilateral tariffs by commodity are documented in Ngavozafy *et al.* (2020), which describes the International Trade Centre's database of tariff reduction schedules available through Market Access Map (see https://www.macmap.org/). This is a "global database of tariff reduction schedules in all free trade agreements, economic partnership agreements (EPAs) and other preferential programs in force" (Ngavozafy et al. (2020:1)) that covers the period 2014-2050. We follow instructions in Part 6 of Ngavozafy et al. (2020:17-20) to download the database of tariff reduction schedules and use these bilateral tariff rates by GTAP commodity to construct a time series of per cent changes in the power of the tariff on bilateral trade in the GTAP-FIN model baseline. By incorporating these shocks to the power of bilateral tariffs in the GTAP-FIN baseline, we ensure that the baseline reflects the impacts of changes in applied tariffs after 2017 in all trade agreements and other preferential programs in force over the simulation period.

The database of tariff reduction schedules reports some very small tariffs. For example, downloaded MAcMaps data report that tariffs applied by region VNM (Vietnam) on imports of commodity BPH (Basic pharmaceutical products) from region CAN (Canada) decreased from 0.022109 (ie: about 2.2%) in 2018 to 5.153e-21 in 2019. After 2019, this tariff is decreased in steps to 4.925e-22 by 2028

before being reduced to 0 in 2029. For GTAP-FIN, such small tariffs are a computational nuisance, so we reset all tariffs less than 0.000001 (ie: less than 0.0001%) to zero.

Bilateral tariffs were imposed by China and the United States between 2018-2020. As at the time of writing of this paper, these bilateral tariffs remain in place. However, the MAcMaps tariff schedules report bilateral tariffs on trade between China and the United States on all commodities of zero. Hence, we must supplement the baseline tariff shocks derived from the MAcMaps tariff reduction schedules with an additional set of tariff shocks to reflect the 2018-2020 China/US bilateral tariffs. We assume that these China/US tariffs remain in place for the duration of the baseline simulation, so that there are non-zero China/US tariff shocks only over the period 2018-2020. The China/US tariff shocks and the process by which these tariffs were calculated is described in CoPS Working Paper G-294 available from https://www.copsmodels.com/elecpapr/g-294.htm. A brief chronology of the China-US trade war is provided in Table 6 on p.56 of Working Paper G-294.

3.1.4 Greenhouse gas emissions.

Our baseline shocks track total greenhouse gas emissions (CO2, CH4, N2O), reported in Mt of CO2-equivalent emissions, downloaded from https://edgar.jrc.ec.europa.eu/dataset_ghg2024. These data are from the 2024 release of the European Commission's EDGAR Database (Emissions Database for Global Atmospheric Research). The EDGAR emissions data report annual total substance emissions by country over the period 1970-2023, allowing us to calibrate baseline emissions in the GTAP-FIN model using the annual per cent change over the period 2017-2023 in greenhouse gas emissions by country.

3.1.5 Long-run labor-saving technical change.

The final year of real GDP forecasts in our baseline shock inputs is 2029. For baseline simulations that extend beyond this period, we require region-specific inputs to labor-saving technical change in each region. We shock region-specific annual percentage changes in labor-augmenting technical change calculated to converge regional labor productivity gaps with the frontier region (the U.S.) at an annual convergence rate that closes one per cent of each region's labor productivity gap with the frontier region each year. The labour productivity growth rate for the frontier region (the U.S.) is set at 1.4 per cent per annum, consistent with CBO long-run forecasts.[4]

[4] See Table 3.1, https://www.cbo.gov/publication/60127#_idTextAnchor030.

3.2 Baseline simulation for the exploration of the economic consequences of the March - April U.S. tariffs.

Section 4 of this paper discusses a policy simulation of the U.S. tariffs announced over March and April 2025. In this section, we discuss the baseline closure and shocks for this policy simulation. Table 3.1 summarises the variables that are exogenous and shocked at various stages of the simulation. We refer the reader to Section 3.1 for a discussion of data sources.

Throughout the baseline, regional population (*pop*), labor supply (*lsreg*), and tariff rates (*tms*) are exogenous and shocked. These variables are exogenous in the standard closure, and thus no closure swaps are required to support their exogenous status. Real regional GDP is exogenous and shocked over the period 2018 – 2029. Real GDP is naturally an endogenous variable. Its exogenous status in the baseline is supported via the endogenous determination of regional labor productivity (*aflab*) over 2018-2029. Nominal U.S. GDP (*wgdp(usa)*) is exogenous and shocked over 2018-2029. With U.S. real GDP also determined exogenously over this period, this closure effectively determines the U.S. GDP deflator. To accommodate this, we exogenously determine nominal U.S. GDP by endogenously determining the average world factor price, *pfactwld*. This closure swap implicitly makes the U.S GDP deflator the model's numeraire over the period 2018-2029 and imposes outcomes on the U.S. GDP deflator equal to the difference between the exogenous shocks to U.S. nominal and real GDP.

Between 2018 and 2022 we have independent values for regional co2 emissions (*co2*), real private consumption (*cr*), real public consumption (*gr*), and real investment (*inv_exo*). These variables are normally endogenous in a standard closure. Hence, to determine them exogenously, we must endogenously determine relevant variables that are normally exogenously determined. To exogenously determine *co2*, we endogenously determine *aco2*, a region-specific shift in emissions per unit of emissions-generating activity. To exogenously determine *cr*, we endogenously determine *apc_nnp*, the ratio of private and public consumption to net national product. To exogenously determine *gr*, we endogenously determine *f_gr*, the ratio of public to private consumption in each region.

From 2030 onwards, we no longer have independent forecasts for regional real GDP or U.S. nominal GDP. Hence, between 2030 and 2040, real regional GDP and U.S. nominal GDP are determined endogenously. Regional labor productivity (*aflab*) is returned to the set of exogenous variables and shocked in each year. In returning nominal U.S. GDP to the set of endogenous variables, we now explicitly determine the percentage change in the U.S. GDP deflator (pgdp(usa)) exogenously and set it at 2 per cent each period.

The initial solution for our model draws on the GTAP database for 2017. The tariffs are imposed in 2025. One determinant of the economic consequences of the U.S. tariffs, particularly when they are imposed at differential rates across trading partners, are the proportions of each commodity import that the U.S. sources from each trading partner. We have an initial solution for these shares in the 2017 database, and model solution values for these shares over 2018-2025. The aforementioned baseline shocks influence these shares via changes in baseline tariff rates (like those relating to the U.S.-China trade war of 2018) and changes in the relative sizes of, and cost conditions within, regional economies. On their own, these shocks produce a solution for U.S. import sourcing shares for 2024 that are tolerably close to those reported by the U.S. Census Bureau. However, aware that these shares have a significant bearing on the measured economic effects of the U.S. tariffs, between 2021 and 2024 of the baseline we exogenously impose a gradual adjustment in these sourcing shares, on a commodity-specific basis, for the U.S.' major trading partners, so that they conform with 2024 U.S. Census Bureau values. The exogenous determination of these sourcing shares is accommodated in the baseline via cost-neutral movements in the technology variables governing the U.S.' commodity-specific CES import aggregation functions. The baseline values for these technology variables are imposed as exogenous shocks in the policy simulation, ensuring that U.S. import sourcing shares from its major trading partners align with official statistics for 2024.

4 Policy simulation: economic consequences of the Trump administration's March-April 2025 tariff increases.

4.1 Overview

How do we integrate the Trump administration's March-April 2025 tariff increases into the GTAP-FIN model? The tariffs that are applied in the baseline simulation described in section 3.1.3 reflect all available information on all trade distortions over the baseline simulation period, including the impacts of the US/China tariffs that were applied during the first Trump administration. We also ensure that by 2024 in the baseline, the U.S. import sourcing shares by commodity align with the 2024 values reported by the U.S. Census Bureau (https://usatrade.census.gov/index.php) for major trading partners (China, Mexico, Canada, the E.U., Australia, Japan, Korea, Taiwan, Vietnam and the U.K.). These adjustments are implemented as cost-neutral, commodity-specific shifts in the technology parameters of the CES import aggregation function. Compared to this GTAP-FIN baseline simulation that reflects trade tariffs and import flows into the US that existed before the current US administration's changes, we run a policy simulation that incorporates all tariff changes implemented by the current US administration. These tariff changes include tariffs applied to imports from Canada and Mexico to address the flow of illicit drugs and immigration; tariffs applied to imports from China, Hong Kong and Macau to address synthetic opioid supply chain in the People's Republic of China; the so-called "reciprocal" tariffs to rectify trade practices that contribute to large and persistent US goods trade deficits; and tariffs applied to US imports of strategic commodities including iron and steel, aluminum and motor vehicles. We begin with a detailed description of the tariffs applied by the US, followed by a discussion of retaliatory tariffs applied by the US' trading partners.

4.2 US tariffs

The first tariffs against US trading partners were announced with a series of three Executive Orders on 1 Feb. 2025 from the Executive Office of the President: Executive Order 14193, "Imposing Duties To Address the Flow of Illicit Drugs Across Our Northern Border"; Executive Order 14194, "Imposing Duties To Address the Situation at Our Southern Border"; and Executive Order 14195, "Imposing Duties To Address the Synthetic Opioid Supply Chain in the People's Republic of China".[5] EO14193 increased tariffs on all imports from Canada by 25 per cent, except energy or energy resources, which were subject to a 10 per cent increase in tariffs. EO14194 increased tariffs on all

[5] A complete list of and links to these Executive Orders is available from https://www.federalregister.gov/presidential-documents/executive-orders/donald-trump/2025.

imports from Mexico by 25 per cent, and EO14195 increased tariffs on all imports from China by 10 per cent. These tariff increases were all set to apply to imports on or after 4 February 2025. Subsequent Executive Orders EO14197 and EO14198 (dated 3 Feb. 2025) paused the tariff increases against Canada and Mexico until 4 March 2025.

On 10 Feb. 2025, the President issued Proclamations 10895 "Adjusting Imports of Aluminum into the United States" and 10896 "Adjusting Imports of Steel into the United States".[6] These Proclamations resulted in a 25 per cent increase in the tariff applied to imports of iron or steel or aluminum into the US from all countries, effective 12 March 2025.

Executive Orders 14231 and 14232 of 6 March 2025 amended EO 14193 and 14194 so that "Articles that are entered free of duty as a good of Canada or Mexico under the terms of general note 11 to the Harmonized Tariff Schedule of the United States (HTSUS)" were not subject to the additional 25 per cent tariff, "to minimize disruption to the United States automotive industry and automotive workers". But these Executive Orders were superseded by Proclamation 10908 "Adjusting Imports of Automobiles and Automobile Parts Into the United States" which was issued on 26 March 2025. This resulted in a 25 per cent increase in the tariff on all imports of passenger vehicles and light trucks from all countries on or after 3 April 2025. For imports of cars and parts from Canada and Mexico, it was only the US content of these imports that was exempt from the 25 per cent tariff, and only upon submission of documentation by importers and confirmation by U.S. Customs and Border Protection of the share of US content in each model imported into the US.

A large increase in tariffs applied to virtually all US trading partners was announced on 2 April 2025 with Executive Order 14257 "Regulating Imports With a Reciprocal Tariff To Rectify Trade Practices That Contribute to Large and Persistent Annual United States Goods Trade Deficits". The US Trade Representative describes the methodology that was used to calculate these "reciprocal" tariffs via the following formula:[7]

$$\Delta\tau_i = \frac{x_i - m_i}{\varepsilon \cdot \varphi \cdot m_i}$$

where $\Delta\tau_i$ is the change in the tariff rate charged on imports from country i; $\varepsilon = 4$ is the price elasticity of import demand[8]; $\varphi = 0.25$ is the elasticity of import prices with respect to tariffs; and x_i

[6] Presidential Proclamations can be accessed through the US Federal Register at https://www.federalregister.gov/documents/search?conditions%5Bpresidential_document_type%5D%5B%5D=proclamation&order=newest#.
[7] See https://ustr.gov/issue-areas/reciprocal-tariff-calculations.
[8] Import demand elasticities in the GTAP-FIN model are calibrated using the GTAPv11 Armington substitution elasticities. Most of these are larger than 4. For example, the GTAP Armington substitution elasticity on motor vehicles is 5.6.

and m_i represent total exports and total imports from country i, respectively. A complete list of the "reciprocal tariffs" is available from Annex 1 of EO 14257, available from https://www.whitehouse.gov/presidential-actions/2025/04/regulating-imports-with-a-reciprocal-tariff-to-rectify-trade-practices-that-contribute-to-large-and-persistent-annual-united-states-goods-trade-deficits/, and reproduced in the Appendix Table A4.

While it is not related to the evaluation of the tariff shock inputs (which rely only on $\Delta\tau_i$), we note that it appears that the motivation for the above equation is the assumption that, with given values for ε and φ, the equation finds a value for $\Delta\tau_i$ that closes the bilateral trade gap. This is unlikely for several reasons. In the US Trade Representative's document describing the calculation of the US administration's "reciprocal" tariffs, they assume "… that offsetting exchange rate and general equilibrium effects are small enough to be ignored". Given the size of the US economy, it is not valid to assume that exchange rate changes are small enough to be ignored, and given the scope of the tariff rate changes that are being applied across both commodities and regions, the general equilibrium effects of the US administration's "reciprocal" tariffs will like be considerable. As noted above, they also assume that the elasticity of import prices with respect to tariffs is parametric and equal to 0.25. Of course, the impact of tariffs on prices should be modelled endogenously, as it is in the GTAP-FIN model. The most critical problem with the equation is its failure to recognise that the U.S. overall trade deficit (which is the sum of the U.S.' bilateral deficits) is determined by the difference between U.S. GDP and GNE, and this will be largely unaffected by the tariffs unless the tariff revenue is used by the federal government to reduce its budget deficit. We consider this in the "+ fiscal consolidation" scenario.

The "reciprocal" tariffs in EO 14257 were announced on 2 April but subsequently amended through EO 14266 "Modifying Reciprocal Tariff Rates To Reflect Trading Partner Retaliation and Alignment" on 9 April 2025. All country-specific ad valorem rates of duty were suspended until 9 July 2025 until which time they were replaced with a 10 per cent increase in the tariff rate, with a few exceptions. Imports from Belarus, Cuba, North Korea and Russia were exempt from the 10 per cent tariff increase. Imports from Canada or Mexico continued to be impacted by the Executive Orders summarized earlier. Imports from China, Hong Kong and Macau were affected by "reciprocal" tariffs in EO 14257 along with other Executive Orders, to the point where tariffs on imports from China, Hong Kong and Macau were ultimately increased by 145 per cent. We also note that through Executive Order 14266 of 9 April 2025, "Modifying Reciprocal Tariff Rates To Reflect Trading Partner Retaliation and Alignment", tariffs on imports of many electronic commodities from China, Hong Kong and Macau were suspended for 90 days beginning on 10 April 2025. These product exclusions were announced in US Customs and Border Protection Cargo Systems Messaging Service # 64724565 "Reciprocal Tariff Exclusion for Specified Products" (see

https://content.govdelivery.com/bulletins/gd/USDHSCBP-3db9e55?wgt_ref=USDHSCBP_WIDGET_2).

On 29 April 2025, the President issued a Proclamation which amended Proclamation 10908 by exempting imports of iron and steel used in the production of automobiles and automobile parts from the 25 per cent increase in the tariff on imported iron and steel. This Proclamation also allows automakers a tariff offset of up to 3.75 per cent of the value of a U.S.-made car in the first year and 2.5 per cent in the second year.

We reflect these increases in the tariff rates charged by the US on imports in the GTAP-FIN policy simulation as follows. The tariffs on iron and steel are applied by increasing the tariff on GTAP commodity i_s "iron and steel" by 25 per cent. To reflect the tariff on aluminum, we need to consider the share of aluminum imports into the US of GTAP commodities oxt "other mining extraction", nfm "non-ferrous metals" and fmp "fabricated metal products", each of which is composed of primary, processed and fabricated products of aluminum and other metals including copper, lead, zinc, gold, silver and others, respectively. The 25 per cent tariff on imports of automobiles and automobile parts is applied to GTAP commodity mvh "motor vehicles", adjusted to reflect the recent exemption of imported iron and steel used in the production of motor vehicles from the 25 per cent increase in the tariff on imports of iron and steel, as well as the tariff offset. We follow this process for all countries except Canada and Mexico and China, Hong Kong and Macau.

We have been unable to find a detailed list of US tariffs applied to imports from Canada and Mexico, so for all US imports from Canada and Mexico except mvh "Motor Vehicles", we use the Canadian retaliatory tariffs applied to US imports. These are described in the "Retaliatory Tariffs" subsection below. For mvh, we use the GTAP-FIN model to approximate the share of US content that makes up Canadian and Mexican exports to the US that are not subject to the 25 per cent tariff on motor vehicles (33.2 and 24.3 per cent, for a "net tariff" on mvh of 16.70 and 18.92, respectively). These tariffs are then adjusted to reflect the exemption of i_s used to produce mvh and the tariff offset described above.[9]

For US imports from China, Hong Kong and Macau, we increase baseline GTAP-FIN tariffs by 145 per cent for all commodities except i_s "iron and steel"; oxt "other mining extraction", nfm "non-ferrous metals" and fmp "fabricated metal products"; and mvh "motor vehicles". For these

[9] To be consistent with the 29th April amendment to Proclamation 10908, we ensure that the source-specific tariffs on steel, aluminium, and auto parts do not feed into the costs of the U.S. motor vehicle sector. To do this, we implement shocks to tfm(i,"mvh","usa") for these three commodities that are calibrated to offset the cost impact of the source specific tariff shocks (i.e, the shocks to tms(i,s,"usa")) reported in Table A1. For inputs of imported mvh, this cost offset is operational for the first two years of the simulation, and then removed in the third year. In the retaliation + fiscal consolidation simulation, the APC shock is calibrated to take account of the tariff revenue foregone by these motor vehicle sector exemptions.

commodities, the tariff increase also reflects the 25 per cent tariff on iron, steel and aluminum (Proclamations 10895 and 10896) and motor vehicles (Proclamations 10908 and its 29th April amendment). The tariff increase on commodities ele "Computer, electronic and optic" and ome "Other machinery & equipment" is adjusted to reflect the reciprocal tariff exclusions for electronic products (EO 14266).

The complete list of increases in GTAP-FIN US tariffs is reported in Appendix Table A1.

4.3 Retaliatory tariffs

In the retaliation scenario, we must make a judgement about which countries are likely to respond with retaliatory tariffs. The Australian government has publicly stated that it will not retaliate (see https://www.dfat.gov.au/trade/trade-and-investment/latest-us-tariffs). Current developments suggest that Japan and South Korea are also unlikely to retaliate. For example, the New York Times (see https://www.nytimes.com/live/2025/04/08/business/trump-tariffs-china-stock-market) reports that Japan has already signalled a willingness to make concessions to avoid tariffs on its exports to the US, and South Korea has sent its trade minister to negotiate with US officials. Mexico has thus far avoided imposing retaliatory tariffs on US imports, but Mexican President Claudia Sheinbaum said they could not be ruled out (https://www.reuters.com/world/americas/mexico-would-like-avoid-imposing-reciprocal-tariffs-us-2025-04-07/).

Canada has already applied retaliatory tariffs in three sets of countermeasures. On 4 March Canada imposed 25 per cent tariffs on $30b of Canadian imports; On 13 March Canada applied 25 per cent tariffs on $29.8b of steel and aluminum imports; and on 9 April, Canada announced a 25 per cent tariff on non-USMCA compliant Canadian automobile imports from the US (see https://www.canada.ca/en/department-finance/programs/international-trade-finance-policy/canadas-response-us-tariffs.html?utm_campaign=fin-fin-unitedstates-tariffs-25-26&utm_medium=finhpfeature).

EU Member States have recently voted in favour of the European Commission's proposal to introduce trade countermeasures against the United States, with the EU starting to collect tariff revenue as of 15 April (see https://ec.europa.eu/commission/presscorner/detail/en/statement_25_1025). On 14 April 2025 the EU released Commission Implementing Regulation (EU) 2025/778 "on commercial rebalancing measures concerning certain products originating in the United States of America" (see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202500778#ntr1-L_202500778EN.001901-E0001). This regulation details commodities against which the EU "suspends, from 16 May 2025, the application to the trade of the United States of obligations under GATT 1994 in relation to import duty concessions and most-favoured-nation treatment in respect of

the products listed in Annexes II, III and IV". To reflect these EU retaliatory tariffs, we map the tariffs listed in the Annexes to EU Regulation 2025/778 from the listed HS8 commodities to the aggregated GTAP sectors in GTAP-FIN.

Wiley LLP reported that China announced a 125 per cent increase in its tariff on imports from the US on 11 April (see https://www.wiley.law/alert-Trump-Reduces-Global-Reciprocal-Tariffs-but-Increases-Them-for-China). The Chinese retaliatory tariffs also reflect the same exclusions in GTAP-FIN commodities ele "Computer, electronic and optic" and ome "Other machinery & equipment" as are reflected in the US tariffs on imports from China of commodities ele "Computer, electronic and optic" and ome "Other machinery & equipment".

The complete list of retaliatory tariffs is reported in Appendix Table A2. In the retaliation scenario, we assume that Australia, Japan, and South Korea do not retaliate. Besides the retaliatory tariffs imposed by Canada, the EU and China detailed above, we assume that all other countries impose retaliatory "reciprocal" duties on imports from the U.S. that match the tariff rates applied by the United States to their own exports. We have been unable to find a detailed list of proposed Mexican retaliatory tariffs, so for Mexican retaliatory tariffs against imports from the US, we use the Canadian retaliatory tariffs applied to US imports.

4.4 U.S. impacts

We analyse the U.S. macroeconomic consequences of the 2025 tariff increases under three policy scenarios: (i) no retaliation by trade partners, (ii) retaliation by a set of trade partners, and (iii) retaliation combined with fiscal consolidation by the U.S. federal government. The impacts are reported in Tables 4.1 – 4.3, which present deviations from baseline for key macroeconomic aggregates for the years 2025 – 2040, thus tracking the dynamic evolution of the U.S. economy in response to the tariff shocks. Each table also includes a final column reporting the simple average of the deviations over the simulation period.

In all scenarios, U.S. real GDP declines relative to baseline, reflecting the allocative inefficiencies induced by higher tariffs, together with impacts on labour and capital markets caused by tariff-induced changes in the costs and returns of employing primary factors.

Under the "no retaliation" scenario, the average deviation in U.S. real GDP is -1.3% across the simulation period. In the short-run, real GDP is adversely affected primarily by lower employment, which falls by -1.3% relative to baseline in 2025. In GTAP-FIN, gradual regional wage adjustment provides a re-equilibrating mechanism for the labour market. The implementation of the tariffs generates a short-run negative deviation in U.S. employment under the "no retaliation" scenario. Downward flexibility in the U.S. real wage gradually returns employment to baseline. By 2040, U.S.

employment has returned to baseline, and the U.S. real consumer wage is projected to be 1.7 per cent below baseline.

Beginning in 2025, the tariff increases generate a negative deviation in U.S. real GDP, which grows to -1.5 per cent below baseline by 2040. The negative deviation in U.S. real GDP has three causes: (i) the negative deviation in employment; (ii) the negative deviation in the capital stock; and (iii) allocative efficiency losses attributable to the deadweight costs of the tariff increases. The impact of the negative deviation in employment on real GDP is transitory, because employment gradually returns to baseline. Employment has largely returned to baseline by 2030, and is thus not a material contributor to the negative deviation in real GDP thereafter. Returns to labour represent approximately 56% of U.S. GDP at factor cost. Hence, focussing on the first year of the "no retaliation" case, the negative employment deviation contributes approximately -0.73 (≈ -1.31 x 0.56) percentage points to the real GDP deviations in these years.

The tariff increases exert three adverse impacts on U.S. capital formation. First, in the short-run, the negative deviation in employment raises the capital / labor ratio. This reduces capital returns, and thus reduces the short-run incentive to invest. This effect is isolated to the initial years of the simulation period during which the employment deviation is negative. Second, the tariffs raise the costs of intermediate inputs to U.S. businesses. This reduces the value of the marginal product of capital, lowering the long-run capital / labor ratio. Third, tariffs raise the cost of inputs to capital formation. This raises the long-run cost of capital, and thus lowers the long-run capital / labor ratio. By 2040, the U.S. capital stock is projected to be approximately 1.9 per cent below baseline. Returns to capital represent approximately 43% of U.S. GDP at factor cost. Hence, by 2040, the negative deviation in the U.S. capital stock is contributing approximately -0.83 (≈ -1.9 x 0.43) percentage points to the real GDP deviation in this year.

The third factor contributing to the negative deviation in U.S. real GDP is the allocative efficiency loss generated by the tariffs. By driving a wedge between the use value and the supply cost of imports, the import restrictions generate deadweight costs that can be measured in terms of the difference between the deviation in real GDP at market prices and the deviation in real GDP at factor cost. On average, the allocative efficiency losses caused by the tariffs contribute approximately -0.67 percentage points to the negative deviation in U.S. real GDP in each year of the simulation period.[10]

By raising the price of imports relative to domestic goods, the increase in tariffs reduces U.S. import volumes relative to GDP. In Table 4.1 we see that the deviation path for import volumes lies below

[10] We calculate the value of the contribution of the allocative efficiency distortion to the real GDP deviation as the difference between the deviation in real GDP and the contributions to the GDP deviation made by the employment and capital deviations.

the deviation path for real GDP throughout the simulation period. On average, across the whole simulation period, U.S. import volumes are projected to be 11 per cent below baseline. The negative deviation in import volumes means that a reduced volume of exports is required to finance imports. This accounts for the negative deviation in U.S. export volumes. On average, U.S. export volumes are projected to be 14% below baseline over the simulation period. The stronger contraction in exports reflects the U.S. trade deficit in the baseline, which necessitates a larger adjustment on the export side for a given trade balance outcome. The negative deviation in U.S. export volumes, together with the negative deviation in U.S. import volumes, generates a positive deviation in the ratio of U.S. export prices to U.S. import prices, that is, it raises the U.S. terms of trade. On average, over the simulation period, the U.S. terms of trade is projected to be 3.2 per cent higher than baseline.

As discussed in Section 2, we assume that the propensity to consume out of net national income in each region throughout the policy scenario is unchanged from baseline. Movements in net national income are determined by movements in GDP, the terms of trade, and net foreign income payments. Of these three factors, in the "no retaliation" scenario it is the movements in real GDP and the terms of trade that are the dominant determinants of the outcome for U.S. net national income. In Table 4.1, we see that, on average, U.S. real consumption deviation is -0.17 per cent. This is despite an average real GDP deviation of -1.3 per cent over the simulation period. The real consumption deviation lies above the real GDP deviation for two reasons. First, the negative capital deviation reduces the net foreign financing requirement for U.S. capital formation. This reduces net foreign income payments by the U.S., raising net national income relative to GDP and thus buoying the real consumption deviation relative to the real GDP deviation. Second, as discussed above, the increase in tariffs reduces U.S. import and export volumes, causing a positive deviation in the U.S.'s terms of trade. Again, the positive terms of trade deviation raises net national income relative to real GDP, and thus also raises the real consumption deviation relative to the real GDP deviation.

Table 4.2 reports impacts on key U.S. macroeconomic variables under the "retaliation" scenario. The favourable terms of trade effect evident under the "no retaliation" case is reversed under this scenario. Retaliatory tariffs imposed by other countries on U.S. exports reduce the prices received by U.S. exporters in foreign markets, resulting in a deterioration in the terms of trade. Across the simulation horizon, the average deviation in the U.S. terms of trade is -0.88% relative to baseline. This deterioration erodes U.S. real national income and thus results in a real consumption loss averaging -0.88% relative to baseline. The labour market impact is also more severe under retaliation, with a 2025 employment loss of -1.7%, compared to -1.3% under no retaliation. This is explained by an additional rise in the real producer cost of labour induced by the terms of trade loss.

Real investment in the U.S. contracts sharply under both the no retaliation and retaliation scenarios, driven by lower post-tax returns to capital and rising costs of capital formation. Interestingly, the

contraction is smaller in the retaliation case than in the no retaliation case. Retaliatory tariffs impose self-inflicted costs on the regions implementing the tariffs. This suppresses investment demand in these economies, thereby lowering the global required rate of return for maintaining the global savings-investment equilibrium. This moderates the contraction in U.S. investment relative to the no retaliation case.

The retaliation + fiscal consolidation scenario introduces an additional policy mechanism: the use of tariff revenue to increase national savings (i.e.: reduce the national deficit) rather than recycling it as lump-sum transfers to households. We note that, because a fiscal consolidation policy could be implemented independently of tariff reform, the inclusion of this additional policy choice as part of the tariff simulations should be viewed cautiously. However, given public statements by the Trump administration linking tariffs to revenue generation, we believe its inclusion is relevant to understanding the potential full implications of the U.S. tariffs.

Relative to the retaliation scenario, fiscal consolidation further damps real consumption, as higher savings imply reduced consumption. The resultant fall in real GNE relative to real GDP causes a movement towards surplus in the U.S. balance of trade. On average, under this scenario, export and import volumes deviate by -17% and -19% respectively, relative to baseline, indicating a move towards external surplus relative to the retaliation scenario. This shift, in turn, depresses the terms of trade more than under the retaliation scenario.

The U.S.' movement towards balance of trade surplus implies an increase in global savings relative to the retaliation scenario. This lifts global capital accumulation, which attenuates the contraction in U.S. investment and capital stock relative to the retaliation scenario. In this sense, fiscal consolidation partially offsets the domestic supply-side damage of the tariff policy by contributing to global capital deepening. This accounts for why the average deviation in real GDP under the fiscal consolidation scenario (-1.3%) is less severe than under the retaliation scenario (-1.4%).

4.5 Australia impacts

Tables 4.4 – 4.6 report the impact of the U.S tariff increases on a range of Australian macroeconomic variables. The results suggest that the macroeconomic impacts of the tariff increases on Australia are modest. This is largely due to Australia's relatively limited direct trade exposure to the United States. In the baseline, only approximately 5% of Australia's exports are destined for the U.S., while the U.S. accounts for a somewhat larger share of Australian imports (13%). The direct transmission of U.S. tariff policy to Australia occurs primarily through the export channel, where Australian products face higher barriers into the U.S. market. Because Australia's direct trade exposure to the U.S. is not high, impacts of U.S. tariffs on Australia are not comparatively high. However, global general equilibrium

effects, particularly changes in investment, capital flows, and terms of trade, also influence Australian outcomes, especially under the retaliation and fiscal consolidation scenarios.

Under the no retaliation scenario, the initial impact on Australia is slightly positive (Table 4.4). In 2025, Australia experiences a small boost to economic activity, driven primarily by a 0.95% increase in real investment relative to baseline. The contraction in U.S. real investment (-4.7%) reduces global demand for financial capital, thereby lowering required rates of return and making investment more attractive in other regions, including Australia. The short-run rise in Australian real investment causes real GNE to rise relative to real GDP, generating a short-run movement towards deficit in Australia's balance of trade. The resulting contraction in Australia's export volumes in 2025 (-0.54%) attenuates the direct damage to Australia's terms of trade from the U.S. tariffs. Hence, Australia experiences only a slight negative terms of trade deviation in 2025 (-0.03%), which later deepens as the investment deviation attenuates. Investment activity is comparatively labour intensive, so Australia experiences a small positive deviation in 2025 employment (0.16%) despite the terms of trade fall. This in turn increases real GDP and national income in 2025. Real consumption spending also rises modestly (+0.09%) in the first year of the simulation, reflecting the short-run gains in employment.

Over time, however, these short-run gains attenuate. The initial investment spike leads to capital accumulation, which eventually slows the rate of additional investment. Employment reverts toward baseline as the short-run investment stimulus attenuates and real wages adjust. Meanwhile, Australia's terms of trade begin to deteriorate. In the early years of the simulation period, the positive investment deviation generates a negative export deviation, which buoys the terms of trade. But as the investment deviation attenuates, the dominant impact on Australia's terms of trade becomes the direct effects of the U.S. tariffs, both via reduced access to the U.S. market and spillovers through reduced activity in Australia's major trading partners.

These terms of trade losses translate into slightly negative consumption outcomes. Although real GDP remains above baseline throughout the simulation (+0.06% on average), real consumption falls on average relative to baseline over the same period (-0.05% on average). This reflects the distinction between GDP and national income. Given that employment returns to baseline over the short-run, the dominant contributor to the positive real GDP deviation over the period is the positive deviation in the capital stock (+0.14% on average). However, much of the post-tax returns from this additional capital accrues to foreign capital owners, and thus makes a smaller contribution to the national income outcome (and thus real consumption outcome) than it does to the real GDP outcome. This leaves the decline in Australia's terms of trade as the main determinant of the real consumption outcome over the simulation period, explaining the modest average consumption loss despite the positive real GDP deviation.

Table 4.5 reports impacts on Australian macroeconomic variables under the retaliation scenario. Under this scenario, Australia is among the regions not imposing retaliatory tariffs on U.S. products. This asymmetry creates a trade diversion effect, whereby the U.S., now facing higher tariffs in other markets, redirects some of its exports to Australia. This leads to an improvement in Australia's terms of trade, averaging +0.46% across the simulation period.

This terms of trade gain translates into a stronger initial macroeconomic response in 2025 relative to the no retaliation scenario. Employment increases by 0.28%, investment by 1.7%, real GDP by 0.20%, and real consumption by 0.28%. Unlike the temporary boost observed under the no retaliation case, the benefits under the retaliation scenario are more persistent, owing to the enduring nature of the terms of trade gain. Real consumption remains elevated throughout the simulation horizon, with an average increase of +0.10% over the entire period.

Table 4.6 reports outcomes for Australian macroeconomic variables under the retaliation + fiscal consolidation scenario. This scenario produces additional gains for Australia, driven by shifts in global savings and investment flows. U.S. fiscal consolidation increases the global pool of savings, thereby reducing international required rates of return and stimulating investment in other regions, including Australia. As a result, Australia's real investment and capital stock deviations are higher compared to the retaliation scenario.

Australia also experiences a further improvement in its terms of trade under the third scenario. The deterioration in the U.S. terms of trade under fiscal consolidation yields an additional terms of trade gain for Australia as a counterparty to U.S. trade. The higher terms of trade deviation, together with additional tax revenue from returns on the expanded capital stock, causes the deviation in Australia's real national income to be higher under the fiscal consolidation scenario than the retaliation scenario. Consequently, Australian real consumption spending is higher under the retaliation + fiscal consolidation scenario than under the retaliation scenario.

4.6 China impacts

Table 4.7 reports outcomes for selected Chinese macroeconomic variables under the no retaliation scenario. The imposition of tariffs by the U.S. generates a terms of trade loss for China, because part of the incidence of the tariffs falls on the prices received by Chinese exporters. This accounts for the negative deviation in China's terms of trade reported in Table 4.7. China's terms of trade deviation is -1.1 per cent in the year the tariffs are implemented, declines to -1.3% by 2030, and ends the simulation period at -1.2%. On average, China's terms of trade are projected to be 1.3 per cent below baseline over 2025-2040.

As discussed in Section 4, regional real consumer wages are modelled as sticky in the short-run. A negative deviation in the terms of trade implies that producer prices fall relative to consumer prices. With real consumer wages sticky in the short-run, this causes the real producer wage to rise in the short-run. This generates a negative deviation in employment in China during the initial years of the policy simulation. The negative employment deviation is deepest in 2025 (-0.19%). Thereafter, wage flexibility gradually returns employment in China to its baseline level. This accounts for the growing negative deviation in China's real consumer wage, which ends the simulation period 0.34% below baseline.

The negative deviation in China's terms of trade reduces China's real national income and thus depresses real consumption relative to baseline. Under the no retaliation scenario, China's real consumption is 0.41% below baseline, on average, over the simulation period.

Under the retaliation scenario (Table 4.8), China joins other regions in raising tariffs on imports from the U.S. (see Table A2). The imposition of these retaliatory tariffs has a dual effect. On the one hand, the restriction in bilateral trade volumes leads to a modest improvement in China's terms of trade relative to the no retaliation case. On the other hand, it creates allocative efficiency losses within China's economy. This causes China's macroeconomic performance to deteriorate further under the retaliation scenario, despite the terms of trade gain relative to the no retaliation scenario. Relative to the no retaliation scenario, under which the average real consumption loss is -0.41%, this loss deepens to -0.67% under the retaliation scenario. This reflects two mechanisms. First, the imposition of retaliatory tariffs imposes allocative efficiency losses on the Chinese economy, distorting relative prices and leading to suboptimal production and consumption decisions. These efficiency costs depress real GDP relative to the no retaliation case. Second, the global impact of widespread retaliation reduces world capital returns. Since China maintains a positive net foreign asset position, lower global returns translate into reduced net factor income from abroad, further weakening real national income. The combined effect of these forces outweighs the marginal improvement in the terms of trade, leading to a deeper consumption loss under retaliation.

Under the retaliation + fiscal consolidation scenario, the U.S. uses the tariff revenue to raise national savings. As discussed earlier, relative to the retaliation scenario, this represents a movement towards surplus in the U.S. balance of trade. This causes a deterioration in the U.S. terms of trade relative to the retaliation scenario. As a counterparty in U.S. trade, this represents an improvement in China's terms of trade compared with the retaliation scenario. Under the retaliation + fiscal consolidation scenario, China's terms of trade deviation averages -0.81%, an improvement from the -0.91% average in the retaliation case. This relative improvement in the terms of trade supports a modest improvement in China's real consumption relative to the retaliation scenario, although it remains below baseline. On average, China's real consumption loss relative to baseline is -0.63 per cent under the retaliation +

fiscal consolidation scenario, an improvement of 0.04 percentage points relative to the retaliation scenario.

4.7 European Union impacts

Tables 4.10 – 4.12 report the macroeconomic consequences of the 2025 U.S. tariff increases for the European Union under the three policy scenarios. As in other regions, results are reported as deviations from baseline for the period 2025 to 2040.

Under the no retaliation scenario, the European Union is subject to the base U.S. tariff of 10%, as well as the additional commodity-specific duties on steel, aluminium, and motor vehicles. Despite these restrictions, the E.U. experiences a modest increase in economic activity in 2025. This is primarily attributable to the global reallocation of investment away from North America, which generates a redirection of financial capital flows toward the European Union. In 2025, real investment in the E.U. is projected to be 1.1% above baseline, which supports positive deviations in employment (+0.10%), real GDP (+0.07%), and real consumption (+0.02%).

These gains are short-lived. Over the medium- to long-term, the positive investment deviation attenuates as the E.U. capital stock deviation grows. As the short-run investment stimulus fades, the direct effects of the U.S. tariffs on the E.U.'s export earnings begin to dominate. As a result, the E.U.'s terms of trade deteriorate, reflecting lower prices received by E.U. exporters due to reduced access to the U.S. market. This deterioration in the terms of trade reduces real national income and real consumption. E.U. real consumption declines 0.14% below baseline by 2032 and to 0.13% below baseline by 2040. Averaged over the full simulation period, real consumption is projected to be 0.13% below baseline. Although real GDP remains close to baseline over the simulation period, the distinction between GDP and national income is again important, with the terms of trade loss acting as the primary driver of the long-run consumption loss.

Table 4.11 presents results for the retaliation scenario. Under this policy setting, the European Union, together with other countries, imposes retaliatory tariffs on imports from the U.S. Unlike China, which implements high retaliatory tariffs, the E.U.'s retaliation is comparatively restrained, matching the moderate tariff rates imposed by the U.S. Despite their modest size, the E.U.'s retaliatory tariffs reduce allocative efficiency by distorting production and consumption decisions within the E.U. economy. However, the E.U.'s retaliatory measures also restrict the E.U.s external trade, raising the E.U.'s terms of trade relative to the no retaliation case. This cushions the negative impact of the allocative inefficiencies. Because the E.U.'s retaliatory tariffs are comparatively modest, the impact of the efficiency losses on the net national income of the E.U. are outweighed by the terms of trade gain

over the longer term. As a result, the average real consumption loss under the retaliation scenario (-0.09%) is smaller than under the no retaliation scenario (-0.13%).

Table 4.12 reports the macroeconomic outcomes for the European Union under the retaliation + fiscal consolidation scenario. In this case, the U.S. government directs the tariff revenue to national savings rather than household transfers, resulting in an increase in global savings and a corresponding movement toward surplus in the U.S. balance of trade. This policy change induces a deterioration in the U.S. terms of trade relative to the retaliation-only case. As a major trading partner of the U.S., the E.U. experiences a corresponding improvement in its terms of trade, which enhances its real national income relative to the retaliation scenario.

The stronger terms of trade position leads to higher positive deviations in E.U. macroeconomic indicators under this third scenario. Real investment rises relative to the retaliation scenario, reflecting the increase in the global savings pool funded by the U.S. decision to increase its savings rate. This helps finance an increase in real investment in the E.U., explaining why the deviations in the E.U.'s capital stock and real GDP are above their levels under the retaliation scenario. Although allocative efficiency losses from the E.U.'s own retaliatory tariffs persist, the stronger terms of trade gain under the retaliation + fiscal consolidation scenario improves E.U. real consumption relative to the previous scenarios.

4.8 Impacts on other regions

Tables 4.13 – 4.18 report impacts on real consumption and real GDP for all regions under each of the three scenarios. Regional results vary considerably depending on the level of the U.S. tariff directed at the region, the share of the region's exports directed toward the U.S. market, and the broader general equilibrium effects of retaliation and fiscal consolidation.

Under the no retaliation scenario, the magnitude of real consumption losses across regions is correlated with their direct exposure to U.S. tariffs. Regions that face large increases in U.S. tariffs, either because of high tariff rates or because a large share of their exports is destined for the U.S., tend to experience more significant adverse effects. Regions such as Singapore, Canada, Mexico, Switzerland, Taiwan, Latin America and South Korea exhibit comparatively large real consumption losses. These losses are driven by deteriorating terms of trade and reduced national income, stemming from constrained access to the U.S. market and declining returns from export activity. Singapore and Switzerland experience a secondary source of impact, arising from being relatively important sources of supply for international trade margins. With international trade volumes lower, these regions experience reduced demand for the international margin services they provide. Conversely, regions with limited direct trade with the U.S. experience smaller real consumption deviations, although they

may still be affected indirectly via linkages with trading partners that experience larger direct impacts from the U.S. tariffs.

Regions that compete with China as sources of import supply in the U.S. market also experience improvements in their terms of trade and real consumption outcomes. This reflects the sizeable decrease in the relative price of their goods against competing Chinese goods in the U.S. market in a tariff environment in which Chinese products are subject to very high tariff rates while their own products are subject to rates of around 10%. This accounts for the real consumption gains experienced by Vietnam, the Philippines, Asia Pacific, Indonesia, India, Malaysia and Thailand. Russia is among the regions experiencing an increase in real consumption, because it is exempted from the U.S. tariffs (see Appendix A1).

Relative to the no retaliation scenario, real GDP outcomes for most regions deteriorate under the retaliation scenario. This reflects the allocative efficiency losses and damping of capital accumulation in these regions created by the retaliatory tariffs. However, despite the adverse movement in real GDP relative to no retaliation, real consumption outcomes for many regions improve under the retaliation scenario. This reflects relative improvements in the terms of trade for retaliating regions when compared with the no retaliation case.

The retaliation + fiscal consolidation scenario introduces further differentiation in regional outcomes. The U.S. move toward fiscal consolidation increases global savings, reducing global required rates of return and encouraging investment and capital accumulation. Additionally, the U.S. shift towards a trade surplus, results in improved terms of trade for many non-U.S. regions. The expansion in global capital accumulation, funded by the U.S. movement towards trade surplus, causes regional GDP to be higher in every region under the retaliation + fiscal consolidation scenario, relative to the retaliation scenario. The deterioration in U.S. terms of trade, together with the expansions in real GDP, improve real consumption outcomes (relative to the retaliation scenario) for all regions other than the U.S., Hong Kong and Switzerland. Even so, for the latter two regions, the average fall in real consumption relative to the retaliation scenario is small (-0.04% and -0.02% respectively).

5 Concluding remarks

This paper has used the GTAP-FIN model to examine the macroeconomic impacts of the March–April 2025 U.S. tariff increases under three scenarios: no retaliation; retaliation by all trading partners except Australia, Japan, and South Korea; and retaliation combined with fiscal consolidation in the U.S. It updates our two previous papers on this topic (Giesecke and Waschik 2025a and 2025b) in two ways. First, it revises U.S. tariff increases and retaliatory tariff measures by U.S. trading partners to account for new policy announcements since 15th April 2025. Second, it imposes adjustments to U.S. import sourcing shares in the baseline simulation to align them with official data. Our results show adverse impacts on U.S. real GDP, investment, and employment across all scenarios, with real consumption outcomes varying depending on the interaction between terms of trade effects and fiscal settings. Australia experiences modest but positive economic outcomes under the retaliation scenarios, reflecting improvements in the terms of trade and capital inflows. For China and other regions with high exposure to U.S. tariffs, losses in real consumption are evident, particularly in the absence of retaliatory measures. It is important to note that our modelling abstracts from the potential effects of heightened investor uncertainty generated by the questionable rationale behind the tariff policy and its frequent revisions. This likely represents an additional channel of adverse impacts, and suggests that our results may understate the full economic cost of the tariffs. Future work will extend the current analysis in three directions: (a) updating the tariff shocks as further detail emerges regarding their levels, commodity coverage, and country targets; (b) refining the retaliation scenario in line with confirmed policy responses from U.S. trading partners; and (c) incorporating an additional layer of model inputs to capture the effects of investor uncertainty.

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Appendix A1: U.S. tariffs: changes in the levels of U.S. tariff rates in 2025 (additional tariff, relative to baseline)

	Asia Pacific	European Union	Australia	Japan	South Korea	Taiwan	China	Hong Kong	Viet Nam	Sing-apore	Thailand	Malaysia	Indonesia	Phil-ippines	India	U.S.A.	Canada	Mexico	Brazil	Latin America	U.K.	Switzer-land	Middle East & Nth Africa	Sub-Saharan Africa	Russian Fed¬eration	Rest of World
Paddy rice	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wheat	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	22.64	22.64	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Cereal grains nec	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.43	0.43	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Vegetables, fruit, nuts	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	3.49	3.49	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Oil seeds	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	8.03	8.03	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Sugar cane, sugar beet	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Plant-based fibers	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Crops nec	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	9.20	9.20	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Bovine cattle, sheep and goats	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Animal products nec	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	15.38	15.38	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Raw milk	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	25.00	25.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wool, silk & other raw textile prods	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Forestry	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Fishing	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Coal	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Oil	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Gas	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other mining	10.37	10.37	10.37	10.37	10.37	10.37	139.80	139.80	10.37	10.37	10.37	10.37	10.37	10.37	10.37	0.00	2.15	2.15	10.37	10.37	10.37	10.37	10.37	10.37	0.00	10.37
Bovine meat products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other meat products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	9.84	9.84	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Vegetable oils and fats	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	7.71	7.71	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Dairy products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	25.00	25.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Processed rice	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	23.17	23.17	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Sugar	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	21.01	21.01	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Food products nec	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	12.83	12.83	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Beverages and tobacco products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	21.38	21.38	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Textiles	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	11.52	11.52	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wearing apparel	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	24.55	24.55	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Leather products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	24.02	24.02	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wood products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	18.18	18.18	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Paper products, publishing	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	7.18	7.18	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Petroleum, coal products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Chemical products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	2.98	2.98	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Basic pharmaceutical products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Rubber and plastic products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	7.26	7.26	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Non-metallic mineral products	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	2.00	2.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Iron & steel	25.00	25.00	25.00	25.00	25.00	25.00	150.00	150.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	22.75	22.75	25.00	25.00	25.00	25.00	25.00	25.00	0.00	25.00
Non-ferrous metal products	14.37	14.37	14.37	14.37	14.37	14.37	146.46	146.46	14.37	14.37	14.37	14.37	14.37	14.37	14.37	0.00	18.39	18.39	14.37	14.37	14.37	14.37	14.37	14.37	0.00	14.37
Fabricated metal products	11.49	11.49	11.49	11.49	11.49	11.49	141.66	141.66	11.49	11.49	11.49	11.49	11.49	11.49	11.49	0.00	20.73	20.73	11.49	11.49	11.49	11.49	11.49	11.49	0.00	11.49
Computer, electronic and optic	10.00	10.00	10.00	10.00	10.00	10.00	33.67	33.67	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	9.96	9.96	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Electrical equipment	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	3.75	3.75	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other machinery & equipment	10.00	10.00	10.00	10.00	10.00	10.00	138.38	138.38	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	1.62	1.62	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Motor vehicles and parts	25.00	25.00	25.00	25.00	25.00	25.00	150.00	150.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	16.70	18.92	25.00	25.00	25.00	25.00	25.00	25.00	0.00	25.00
Other transport equipment	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.53	0.53	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other manufacturing	10.00	10.00	10.00	10.00	10.00	10.00	145.00	145.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	14.68	14.68	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00

Appendix A2: Retaliatory tariffs: changes in the levels of tariffs on imports of U.S. goods in 2025 (additional tariff, relative to baseline)

	Asia Pacific	European Union	Australia	Japan	South Korea	Taiwan	China	Hong Kong	Viet Nam	Sing-apore	Thailand	Malaysia	Indonesia	Phil-ippines	India	U.S.A.	Canada	Mexico	Brazil	Latin America	U.K.	Switzer-land	Middle East & Nth Africa	Sub-Saharan Africa	Russian Fed¬eration	Rest of World
Paddy rice	10.00	0	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wheat	10.00	0.03	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	22.64	22.64	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Cereal grains nec	10.00	22.10	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.43	0.43	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Vegetables, fruit, nuts	10.00	0.73	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	3.49	3.49	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Oil seeds	10.00	1.13	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	8.03	8.03	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Sugar cane, sugar beet	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Plant-based fibers	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Crops nec	10.00	4.40	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	9.20	9.20	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Bovine cattle, sheep and goats	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Animal products nec	10.00	3.14	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	15.38	15.38	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Raw milk	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	25.00	25.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wool, silk & other raw textile prods	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Forestry	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Fishing	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Coal	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Oil	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Gas	10.00	0	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other mining	10.37	0.26	0.00	0.00	0.00	10.37	125.00	125.00	10.37	10.37	10.37	10.37	10.37	10.37	10.37	0.00	2.15	2.15	10.37	10.37	10.37	10.37	10.37	10.37	0.00	10.37
Bovine meat products	10.00	3.05	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other meat products	10.00	3.11	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	9.84	9.84	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Vegetable oils and fats	10.00	1.45	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	7.71	7.71	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Dairy products	10.00	1.04	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	25.00	25.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Processed rice	10.00	25.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	23.17	23.17	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Sugar	10.00	21.11	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	21.01	21.01	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Food products nec	10.00	6.43	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	12.83	12.83	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Beverages and tobacco products	10.00	1.59	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	21.38	21.38	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Textiles	10.00	6.26	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	11.52	11.52	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wearing apparel	10.00	24.31	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	24.55	24.55	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Leather products	10.00	13.22	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	24.02	24.02	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Wood products	10.00	19.04	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	18.18	18.18	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Paper products, publishing	10.00	4.22	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	7.18	7.18	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Petroleum, coal products	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Chemical products	10.00	4.83	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	2.98	2.98	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Basic pharmaceutical products	10.00	0.00	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Rubber and plastic products	10.00	9.46	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	7.26	7.26	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Non-metallic mineral products	10.00	3.35	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	2.00	2.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Iron & steel	25.00	13.48	0.00	0.00	0.00	25.00	125.00	125.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	22.75	22.75	25.00	25.00	25.00	25.00	25.00	25.00	0.00	25.00
Non-ferrous metal products	14.37	6.34	0.00	0.00	0.00	14.37	125.00	125.00	14.37	14.37	14.37	14.37	14.37	14.37	14.37	0.00	18.39	18.39	14.37	14.37	14.37	14.37	14.37	14.37	0.00	14.37
Fabricated metal products	11.49	12.42	0.00	0.00	0.00	11.49	125.00	125.00	11.49	11.49	11.49	11.49	11.49	11.49	11.49	0.00	20.73	20.73	11.49	11.49	11.49	11.49	11.49	11.49	0.00	11.49
Computer, electronic and optic	10.00	0.43	0.00	0.00	0.00	10.00	29.03	29.03	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	9.96	9.96	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Electrical equipment	10.00	3.20	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	3.75	3.75	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other machinery & equipment	10.00	0.62	0.00	0.00	0.00	10.00	119.30	119.30	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	1.62	1.62	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Motor vehicles and parts	25.00	0.02	0.00	0.00	0.00	25.00	125.00	125.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	0.00	11.76	11.76	25.00	25.00	25.00	25.00	25.00	25.00	0.00	25.00
Other transport equipment	10.00	2.10	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	0.53	0.53	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00
Other manufacturing	10.00	7.47	0.00	0.00	0.00	10.00	125.00	125.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	14.68	14.68	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.00

Appendix A3: Sectoral and regional mapping

We report below the regional and sectoral mapping, connecting the aggregation used in this paper to the 160 region x 65 sector master database.

```
! Section 1
! One line for each new sector
= = = = = =
pdr  &
wht  &
gro  &
v_f  &
osd  &
c_b  &
pfb  &
ocr  &
ctl  &
oap  &
rmk  &
wol  &
frs  &
fsh  &
coa  &
oil  &
gas  &
oxt  &
cmt  &
omt  &
vol  &
mil  &
pcr  &
sgr  &
ofd  &
b_t  &
tex  &
wap  &
lea  &
lum  &
ppp  &
p_c  &
chm  &
bph  &
rpp  &
nmm  &
i_s  &
nfm  &
fmp  &
ele  &
eeq  &
ome  &
mvh  &
otn  &
omf  &
utilities &
cns  &
trd  &
afs  &
```

```
TranStoreWh &
OthServ &
osg &
edu  &
hht  &
dwe &
= = = = = =
!
! Section 2
! One line for each old sector
! Old sector at left, corresponding new sector on right
= = = = = =
pdr  & pdr
wht  & wht
gro  & gro
v_f  & v_f
osd  & osd
c_b  & c_b
pfb  & pfb
ocr  & ocr
ctl  & ctl
oap  & oap
rmk  & rmk
wol  & wol
frs  & frs
fsh  & fsh
coa  & coa
oil  & oil
gas  & gas
oxt  & oxt
cmt  & cmt
omt  & omt
vol  & vol
mil  & mil
pcr  & pcr
sgr  & sgr
ofd  & ofd
b_t  & b_t
tex  & tex
wap  & wap
lea  & lea
lum  & lum
ppp  & ppp
p_c  & p_c
chm  & chm
bph  & bph
rpp  & rpp
nmm  & nmm
i_s  & i_s
nfm  & nfm
fmp  & fmp
ele  & ele
eeq  & eeq
ome  & ome
mvh  & mvh
otn  & otn
omf  & omf
ely  & utilities
gdt  & utilities
```

```
wtr  & utilities
cns  & cns
trd  & trd
afs  & afs
otp  & TranStoreWh
wtp  & TranStoreWh
atp  & TranStoreWh
whs  & TranStoreWh
cmn  & OthServ
ofi  & OthServ
ins  & OthServ
rsa  & OthServ
obs  & OthServ
ros  & OthServ
osg  & osg
edu  & edu
hht  & hht
dwe     & dwe
= = = = = =
!
! Section 3
! One line for each new region
= = = = = =
pac & Asia Pacific
EU27 & European Union
aus & Australia
jpn & Japan
kor & Republic of Korea
twn & Taiwan Province of China
chn & China
hkg & China, Hong Kong SAR
vnm & Viet Nam
sgp & Singapore
tha & Thailand
mys & Malaysia
idn & Indonesia
phl & Philippines
ind & India
usa & United States of America
can & Canada
mex & Mexico
bra & Brazil
LatinAmer & Latin America
gbr & United Kingdom of Great Britai
che & Switzerland
MENA & Middle East and North Africa
SSA & Sub Saharan Africa
rus & Russian Federation
RestofWorld & Rest of World
= = = = = =
!
! Section 4
! One line for each old region
! Old region at left, corresponding new region on right
= = = = = =
aus & aus
nzl & pac
xoc & pac
chn & chn
```

hkg & hkg
jpn & jpn
kor & kor
mng & pac
twn & twn
xea & pac
brn & pac
khm & pac
idn & idn
lao & pac
mys & mys
phl & phl
sgp & sgp
tha & tha
vnm & vnm
xse & pac
afg & pac
bgd & pac
ind & ind
npl & pac
pak & pac
lka & pac
xsa & pac
can & can
usa & usa
mex & mex
xna & RestofWorld
arg & LatinAmer
bol & LatinAmer
bra & bra
chl & LatinAmer
col & LatinAmer
ecu & LatinAmer
pry & LatinAmer
per & LatinAmer
ury & LatinAmer
ven & LatinAmer
xsm & LatinAmer
cri & LatinAmer
gtm & LatinAmer
hnd & LatinAmer
nic & LatinAmer
pan & LatinAmer
slv & LatinAmer
xca & LatinAmer
dom & LatinAmer
hti & LatinAmer
jam & LatinAmer
pri & LatinAmer
tto & LatinAmer
xcb & LatinAmer
aut & EU27
bel & EU27
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hrv & EU27
cyp & EU27
cze & EU27
dnk & EU27
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fin & EU27
fra & EU27
deu & EU27
grc & EU27
hun & EU27
irl & EU27
ita & EU27
lva & EU27
ltu & EU27
lux & EU27
mlt & EU27
nld & EU27
pol & EU27
prt & EU27
rou & EU27
svk & EU27
svn & EU27
esp & EU27
swe & EU27
gbr & gbr
che & che
nor & RestofWorld
xef & RestofWorld
alb & RestofWorld
srb & RestofWorld
blr & RestofWorld
rus & rus
ukr & RestofWorld
xee & RestofWorld
xer & RestofWorld
kaz & RestofWorld
kgz & RestofWorld
tjk & RestofWorld
uzb & RestofWorld
xsu & RestofWorld
arm & RestofWorld
aze & RestofWorld
geo & RestofWorld
bhr & MENA
irn & MENA
irq & MENA
isr & MENA
jor & MENA
kwt & MENA
lbn & MENA
omn & MENA
pse & MENA
qat & MENA
sau & MENA
syr & MENA
tur & MENA
are & MENA
xws & MENA
dza & MENA
egy & MENA
mar & MENA
tun & MENA
xnf & MENA
ben & SSA
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bfa & SSA
cmr & SSA
civ & SSA
gha & SSA
gin & SSA
mli & SSA
ner & SSA
nga & SSA
sen & SSA
tgo & SSA
xwf & SSA
caf & SSA
tcd & SSA
cog & SSA
cod & SSA
gnq & SSA
gab & SSA
xac & SSA
com & SSA
eth & SSA
ken & SSA
mdg & SSA
mwi & SSA
mus & SSA
moz & SSA
rwa & SSA
sdn & SSA
tza & SSA
uga & SSA
zmb & SSA
zwe & SSA
xec & SSA
bwa & SSA
swz & SSA
nam & SSA
zaf & SSA
xsc & SSA
xtw & RestofWorld
= = = = = =
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Appendix A4: White House “reciprocal” tariff rates (“Annex 1”)

Country	Reciprocal Tariff, Adjusted
Algeria	30%
Angola	32%
Bangladesh	37%
Bosnia and Herzegovina	35%
Botswana	37%
Brunei	24%
Cambodia	49%
Cameroon	11%
Chad	13%
China	34%
Côte d'Ivoire	21%
Democratic Republic of the Congo	11%
Equatorial Guinea	13%
European Union	20%
Falkland Islands	41%
Fiji	32%
Guyana	38%
India	26%
Indonesia	32%
Iraq	39%
Israel	17%
Japan	24%
Jordan	20%
Kazakhstan	27%
Laos	48%
Lesotho	50%
Libya	31%
Liechtenstein	37%
Madagascar	47%
Malawi	17%
Malaysia	24%
Mauritius	40%
Moldova	31%
Mozambique	16%
Myanmar (Burma)	44%
Namibia	21%
Nauru	30%
Nicaragua	18%
Nigeria	14%
North Macedonia	33%
Norway	15%
Pakistan	29%
Philippines	17%
Serbia	37%
South Africa	30%
South Korea	25%
Sri Lanka	44%
Switzerland	31%
Syria	41%
Taiwan	32%
Thailand	36%
Tunisia	28%
Vanuatu	22%
Venezuela	15%
Vietnam	46%
Zambia	17%
Zimbabwe	18%

Source: https://www.whitehouse.gov/wp-content/uploads/2025/04/Annex-I.pdf

Table 2.1: Assets and liabilities at the start of 2017 ($U.S. trillion)

Asset agents: / *Liability agents:*	1 Australia	2 Japan	3 South Korea	4 China	5 India	6 USA	7 Canada	8 Mexico	9 Brazil	10 UK	11 Russia	12 France	13 Germany	14 Italy	15 Spain	16 Rest of world	Total
1 Australia	4.80	0.11	0.02	0.08	0.01	0.62	0.02	0.00	0.01	0.23	0.02	0.12	0.14	0.04	0.03	0.96	7.19
2 Japan	0.06	23.46	0.04	0.19	0.01	1.40	0.04	0.00	0.02	0.56	0.05	0.29	0.35	0.11	0.08	2.36	29.03
3 South Korea	0.01	0.04	7.45	0.03	0.00	0.36	0.01	0.00	0.00	0.08	0.01	0.04	0.05	0.02	0.01	0.33	8.41
4 China	0.05	0.23	0.03	40.63	0.01	0.96	0.04	0.00	0.02	0.48	0.04	0.25	0.30	0.09	0.06	2.03	45.22
5 India	0.01	0.04	0.01	0.03	7.75	0.30	0.01	0.00	0.00	0.08	0.01	0.04	0.05	0.02	0.01	0.33	8.66
6 USA	0.49	3.15	0.47	2.75	0.25	69.69	2.49	0.57	0.39	3.55	0.21	1.34	1.83	0.42	0.36	13.90	101.85
7 Canada	0.01	0.06	0.01	0.04	0.00	1.99	5.09	0.00	0.00	0.13	0.01	0.07	0.08	0.03	0.02	0.54	8.09
8 Mexico	0.00	0.02	0.00	0.01	0.00	0.81	0.00	5.53	0.00	0.03	0.00	0.02	0.02	0.01	0.00	0.13	6.59
9 Brazil	0.01	0.06	0.01	0.04	0.00	0.36	0.01	0.00	5.19	0.13	0.01	0.07	0.08	0.03	0.02	0.55	6.58
10 UK	0.16	0.73	0.10	0.52	0.04	3.03	0.11	0.00	0.06	7.41	0.13	0.80	0.96	0.30	0.21	6.47	21.04
11 Russia	0.01	0.05	0.01	0.04	0.00	0.16	0.01	0.00	0.00	0.11	6.52	0.06	0.07	0.02	0.01	0.46	7.54
12 France	0.09	0.40	0.06	0.29	0.02	1.11	0.06	0.00	0.03	0.85	0.07	8.63	0.53	0.17	0.11	3.58	16.01
13 Germany	0.09	0.41	0.06	0.29	0.02	1.17	0.06	0.00	0.03	0.86	0.08	0.45	14.24	0.17	0.12	3.63	21.66
14 Italy	0.03	0.15	0.02	0.11	0.01	0.37	0.02	0.00	0.01	0.32	0.03	0.17	0.20	7.84	0.04	1.37	10.72
15 Spain	0.03	0.15	0.02	0.11	0.01	0.37	0.02	0.00	0.01	0.33	0.03	0.17	0.21	0.06	4.50	1.38	7.41
16 Rest of world	0.66	3.05	0.43	2.20	0.17	11.44	0.47	0.02	0.25	6.42	0.57	3.36	4.05	1.26	0.87	81.22	116.41
Total	6.51	32.10	8.72	47.36	8.30	94.13	8.47	6.13	6.04	21.55	7.79	15.86	23.17	10.57	6.45	119.26	422.40

Table 3.1: Exogenous and shocked variables in the baseline

Variable	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-40
pop	*	*	*	*	*	*	*	*	*	*	*	*	*
lsreg	*	*	*	*	*	*	*	*	*	*	*	*	*
wgdp("usa")	*	*	*	*	*	*	*	*	*	*	*	*	
qgdp	*	*	*	*	*	*	*	*	*	*	*	*	
tms	*	*	*	*	*	*	*	*	*	*	*	*	*
co2	*	*	*	*	*								
cr	*	*	*	*	*								
gr	*	*	*	*	*								
inv_exo	*	*	*	*	*								
pgdp("usa")													*
aflab													*

Table 4.1: United States – Main macroeconomic variables (no retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	-1.37	-1.10	-1.06	-1.05	-1.09	-1.14	-1.18	-1.22	-1.27	-1.31	-1.35	-1.39	-1.43	-1.46	-1.49	-1.52	-1.28
Employment	0.00	-1.31	-0.62	-0.36	-0.20	-0.13	-0.09	-0.05	-0.02	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.18
Capital	0.00	0.00	-0.28	-0.49	-0.68	-0.84	-0.98	-1.11	-1.23	-1.34	-1.44	-1.54	-1.63	-1.71	-1.79	-1.86	-1.93	-1.18
Real consumer wage	0.00	-0.65	-0.96	-1.14	-1.24	-1.31	-1.35	-1.41	-1.45	-1.48	-1.51	-1.53	-1.56	-1.58	-1.60	-1.63	-1.65	-1.38
Real private consumption	0.00	-1.03	-0.38	-0.15	-0.04	-0.01	-0.01	-0.01	-0.03	-0.05	-0.08	-0.10	-0.13	-0.16	-0.18	-0.20	-0.23	-0.17
Real investment	0.00	-4.67	-3.80	-3.58	-3.37	-3.26	-3.20	-3.14	-3.10	-3.07	-3.05	-3.04	-3.03	-3.02	-3.01	-3.00	-2.99	-3.27
Real public consumption	0.00	-1.03	-0.38	-0.15	-0.04	-0.01	-0.01	-0.01	-0.03	-0.05	-0.08	-0.10	-0.13	-0.16	-0.18	-0.20	-0.23	-0.17
Export volumes	0.00	-11.1	-13.0	-14.1	-14.3	-14.5	-14.5	-14.5	-14.4	-14.4	-14.4	-14.4	-14.4	-14.3	-14.3	-14.3	-14.3	-14.1
Import volumes	0.00	-12.2	-11.0	-11.0	-10.9	-10.8	-10.8	-10.8	-10.8	-10.8	-10.9	-10.9	-10.9	-10.9	-10.9	-10.9	-10.9	-11.0
GDP deflator	0.00	2.23	3.07	3.43	3.59	3.68	3.72	3.74	3.74	3.74	3.74	3.73	3.73	3.72	3.71	3.70	3.69	3.56
Private consumption deflato	0.00	1.85	2.63	2.94	3.08	3.15	3.17	3.18	3.18	3.18	3.17	3.16	3.15	3.14	3.12	3.11	3.10	3.02
Terms of trade	0.00	2.06	2.60	2.98	3.10	3.17	3.21	3.24	3.26	3.28	3.30	3.32	3.34	3.36	3.39	3.41	3.43	3.15

Table 4.2: United States – Main macroeconomic variables (retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	-1.65	-1.34	-1.23	-1.19	-1.21	-1.25	-1.28	-1.33	-1.37	-1.42	-1.46	-1.50	-1.53	-1.56	-1.59	-1.62	-1.41
Employment	0.00	-1.65	-0.88	-0.51	-0.28	-0.16	-0.11	-0.06	-0.03	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.23
Capital	0.00	0.00	-0.26	-0.48	-0.67	-0.83	-0.97	-1.10	-1.22	-1.32	-1.42	-1.51	-1.59	-1.67	-1.74	-1.81	-1.87	-1.15
Real consumer wage	0.00	-0.83	-1.26	-1.52	-1.66	-1.74	-1.79	-1.85	-1.89	-1.92	-1.95	-1.98	-2.00	-2.03	-2.05	-2.07	-2.09	-1.79
Real private consumption	0.00	-1.62	-1.15	-0.91	-0.78	-0.72	-0.71	-0.71	-0.73	-0.75	-0.78	-0.80	-0.83	-0.86	-0.88	-0.90	-0.93	-0.88
Real investment	0.00	-4.35	-3.86	-3.63	-3.37	-3.21	-3.11	-3.02	-2.97	-2.93	-2.91	-2.89	-2.87	-2.86	-2.85	-2.84	-2.83	-3.15
Real public consumption	0.00	-1.62	-1.15	-0.91	-0.78	-0.72	-0.71	-0.71	-0.73	-0.75	-0.78	-0.80	-0.83	-0.86	-0.88	-0.90	-0.93	-0.88
Export volumes	0.00	-18.3	-18.5	-19.1	-19.3	-19.4	-19.4	-19.4	-19.3	-19.3	-19.3	-19.3	-19.2	-19.2	-19.2	-19.2	-19.2	-19.2
Import volumes	0.00	-18.4	-18.1	-18.3	-18.1	-18.1	-18.2	-18.3	-18.4	-18.4	-18.5	-18.6	-18.6	-18.7	-18.7	-18.8	-18.8	-18.4
GDP deflator	0.00	-0.28	-0.08	0.14	0.27	0.34	0.36	0.35	0.33	0.30	0.27	0.24	0.21	0.18	0.15	0.12	0.10	0.19
Private consumption deflato	0.00	-0.28	-0.07	0.11	0.23	0.28	0.29	0.27	0.24	0.21	0.18	0.14	0.11	0.08	0.05	0.02	-0.01	0.12
Terms of trade	0.00	-1.25	-1.18	-0.97	-0.88	-0.84	-0.83	-0.83	-0.83	-0.83	-0.83	-0.83	-0.82	-0.80	-0.79	-0.77	-0.75	-0.88

Table 4.3: United States – Main macroeconomic variables (retaliation + fiscal consolidation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	-1.72	-1.37	-1.24	-1.16	-1.14	-1.15	-1.17	-1.19	-1.21	-1.22	-1.24	-1.24	-1.25	-1.25	-1.24	-1.24	-1.25
Employment	0.00	-1.73	-0.92	-0.51	-0.25	-0.12	-0.06	-0.03	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.23
Capital	0.00	0.00	-0.23	-0.41	-0.55	-0.67	-0.75	-0.82	-0.87	-0.91	-0.94	-0.96	-0.97	-0.97	-0.97	-0.96	-0.95	-0.75
Real consumer wage	0.00	-0.86	-1.32	-1.58	-1.70	-1.76	-1.79	-1.81	-1.81	-1.81	-1.81	-1.80	-1.79	-1.78	-1.77	-1.76	-1.75	-1.68
Real private consumption	0.00	-2.44	-2.01	-1.81	-1.63	-1.54	-1.49	-1.47	-1.45	-1.44	-1.44	-1.43	-1.43	-1.42	-1.42	-1.41	-1.41	-1.58
Real investment	0.00	-3.75	-3.26	-2.84	-2.42	-2.10	-1.86	-1.67	-1.51	-1.36	-1.23	-1.11	-0.99	-0.88	-0.78	-0.68	-0.59	-1.69
Real public consumption	0.00	-2.44	-2.01	-1.81	-1.63	-1.54	-1.49	-1.47	-1.45	-1.44	-1.44	-1.43	-1.43	-1.42	-1.42	-1.41	-1.41	-1.58
Export volumes	0.00	-15.7	-15.6	-16.2	-16.6	-16.9	-17.1	-17.2	-17.3	-17.4	-17.5	-17.6	-17.6	-17.7	-17.7	-17.7	-17.8	-17.1
Import volumes	0.00	-19.5	-19.3	-19.5	-19.2	-19.1	-19.0	-19.0	-19.0	-19.0	-18.9	-18.9	-18.9	-18.9	-18.9	-18.8	-18.8	-19.0
GDP deflator	0.00	-1.28	-1.15	-0.92	-0.69	-0.51	-0.40	-0.32	-0.27	-0.24	-0.22	-0.21	-0.20	-0.20	-0.20	-0.21	-0.21	-0.45
Private consumption deflato	0.00	-1.25	-1.10	-0.91	-0.69	-0.53	-0.43	-0.37	-0.33	-0.31	-0.29	-0.29	-0.28	-0.29	-0.30	-0.30	-0.32	-0.50
Terms of trade	0.00	-1.97	-1.98	-1.78	-1.64	-1.52	-1.45	-1.40	-1.35	-1.31	-1.28	-1.24	-1.20	-1.17	-1.13	-1.10	-1.07	-1.41

Table 4.4: Australia – Main macroeconomic variables (no retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	0.11	0.05	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06
Employment	0.00	0.16	0.03	-0.01	-0.02	-0.02	-0.02	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Capital	0.00	0.00	0.06	0.09	0.11	0.13	0.14	0.15	0.16	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.14
Real consumer wage	0.00	0.08	0.09	0.09	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.04
Real private consumption	0.00	0.09	0.00	-0.04	-0.06	-0.06	-0.07	-0.06	-0.06	-0.07	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.08	-0.05
Real investment	0.00	0.95	0.55	0.43	0.36	0.32	0.29	0.28	0.26	0.25	0.23	0.22	0.20	0.19	0.18	0.17	0.16	0.32
Real public consumption	0.00	0.09	0.00	-0.04	-0.06	-0.06	-0.07	-0.06	-0.06	-0.07	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.08	-0.05
Export volumes	0.00	-0.54	-0.34	-0.26	-0.20	-0.15	-0.12	-0.09	-0.07	-0.04	-0.02	-0.01	0.00	0.01	0.02	0.03	0.04	-0.11
Import volumes	0.00	0.36	0.05	-0.07	-0.14	-0.18	-0.21	-0.23	-0.25	-0.27	-0.28	-0.30	-0.31	-0.32	-0.33	-0.34	-0.35	-0.20
GDP deflator	0.00	0.22	-0.02	-0.10	-0.15	-0.18	-0.20	-0.22	-0.23	-0.24	-0.25	-0.26	-0.26	-0.27	-0.27	-0.28	-0.28	-0.19
Private consumption deflator	0.00	0.18	-0.04	-0.11	-0.15	-0.18	-0.19	-0.19	-0.20	-0.20	-0.21	-0.21	-0.22	-0.22	-0.22	-0.22	-0.22	-0.16
Terms of trade	0.00	-0.03	-0.05	-0.08	-0.09	-0.12	-0.15	-0.17	-0.19	-0.21	-0.23	-0.24	-0.26	-0.27	-0.28	-0.29	-0.30	-0.18

Table 4.5: Australia – Main macroeconomic variables (retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	0.20	0.14	0.12	0.12	0.12	0.13	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19	0.19	0.16
Employment	0.00	0.28	0.12	0.04	0.00	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Capital	0.00	0.00	0.11	0.18	0.24	0.29	0.32	0.35	0.38	0.40	0.42	0.44	0.45	0.46	0.47	0.48	0.48	0.34
Real consumer wage	0.00	0.14	0.20	0.22	0.22	0.21	0.21	0.20	0.19	0.19	0.18	0.18	0.18	0.18	0.17	0.17	0.17	0.19
Real private consumption	0.00	0.28	0.22	0.15	0.12	0.10	0.09	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.10
Real investment	0.00	1.68	1.29	1.08	0.93	0.84	0.78	0.74	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.53	0.80
Real public consumption	0.00	0.28	0.22	0.15	0.12	0.10	0.09	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.10
Export volumes	0.00	-0.79	-0.58	-0.39	-0.22	-0.08	0.04	0.13	0.21	0.28	0.34	0.39	0.43	0.47	0.50	0.53	0.55	0.11
Import volumes	0.00	1.21	1.01	0.85	0.74	0.66	0.61	0.59	0.56	0.54	0.52	0.50	0.49	0.47	0.46	0.45	0.43	0.63
GDP deflator	0.00	1.29	1.17	1.05	0.95	0.87	0.81	0.78	0.75	0.72	0.70	0.68	0.66	0.65	0.64	0.63	0.61	0.81
Private consumption deflato	0.00	1.04	0.94	0.84	0.76	0.70	0.66	0.64	0.62	0.60	0.59	0.57	0.56	0.56	0.55	0.54	0.53	0.67
Terms of trade	0.00	0.88	0.78	0.69	0.61	0.55	0.50	0.46	0.42	0.39	0.36	0.34	0.31	0.29	0.27	0.26	0.24	0.46

Table 4.6: Australia – Main macroeconomic variables (retaliation + fiscal consolidation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	0.28	0.22	0.20	0.20	0.22	0.24	0.26	0.28	0.29	0.31	0.33	0.34	0.36	0.37	0.38	0.39	0.29
Employment	0.00	0.39	0.19	0.09	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Capital	0.00	0.00	0.15	0.27	0.37	0.45	0.52	0.58	0.64	0.69	0.74	0.78	0.82	0.86	0.89	0.93	0.96	0.60
Real consumer wage	0.00	0.19	0.29	0.34	0.36	0.36	0.37	0.37	0.38	0.38	0.39	0.39	0.40	0.41	0.41	0.42	0.43	0.37
Real private consumption	0.00	0.39	0.32	0.26	0.21	0.19	0.17	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.19
Real investment	0.00	2.39	1.98	1.80	1.63	1.53	1.47	1.43	1.41	1.40	1.39	1.39	1.39	1.39	1.39	1.40	1.41	1.55
Real public consumption	0.00	0.39	0.32	0.26	0.21	0.19	0.17	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.19
Export volumes	0.00	-1.15	-0.93	-0.72	-0.51	-0.33	-0.18	-0.05	0.06	0.15	0.23	0.30	0.36	0.42	0.47	0.51	0.55	-0.05
Import volumes	0.00	1.68	1.49	1.32	1.18	1.08	1.02	0.98	0.95	0.93	0.91	0.90	0.88	0.88	0.87	0.87	0.87	1.05
GDP deflator	0.00	1.69	1.56	1.42	1.27	1.15	1.07	1.01	0.96	0.92	0.89	0.87	0.84	0.83	0.81	0.80	0.79	1.05
Private consumption deflato	0.00	1.36	1.26	1.14	1.02	0.92	0.86	0.81	0.77	0.74	0.72	0.70	0.68	0.67	0.66	0.65	0.64	0.85
Terms of trade	0.00	1.10	0.95	0.84	0.75	0.67	0.61	0.56	0.52	0.49	0.46	0.43	0.41	0.39	0.37	0.35	0.34	0.58

Table 4.7: China – Main macroeconomic variables (no retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	-0.18	-0.17	-0.14	-0.12	-0.11	-0.11	-0.10	-0.10	-0.10	-0.11	-0.11	-0.12	-0.12	-0.12	-0.13	-0.13	-0.12
Employment	0.00	-0.19	-0.17	-0.12	-0.08	-0.05	-0.03	-0.02	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04
Capital	0.00	0.00	0.03	0.04	0.04	0.03	0.02	0.02	0.01	0.00	-0.01	-0.03	-0.04	-0.05	-0.06	-0.07	-0.08	-0.01
Real consumer wage	0.00	-0.10	-0.18	-0.24	-0.28	-0.31	-0.32	-0.33	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.30
Real private consumption	0.00	-0.35	-0.43	-0.43	-0.42	-0.42	-0.41	-0.41	-0.41	-0.41	-0.41	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42	-0.41
Real investment	0.00	0.33	0.08	0.02	-0.02	-0.05	-0.08	-0.10	-0.12	-0.14	-0.15	-0.16	-0.17	-0.18	-0.19	-0.19	-0.20	-0.08
Real public consumption	0.00	-0.35	-0.43	-0.43	-0.42	-0.42	-0.41	-0.41	-0.41	-0.41	-0.41	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42	-0.41
Export volumes	0.00	-3.02	-2.31	-2.07	-1.89	-1.78	-1.67	-1.59	-1.52	-1.47	-1.43	-1.40	-1.37	-1.34	-1.32	-1.30	-1.28	-1.67
Import volumes	0.00	-2.34	-2.57	-2.61	-2.61	-2.61	-2.59	-2.57	-2.54	-2.52	-2.50	-2.47	-2.45	-2.42	-2.39	-2.37	-2.34	-2.49
GDP deflator	0.00	-1.23	-1.57	-1.63	-1.66	-1.67	-1.65	-1.64	-1.62	-1.59	-1.57	-1.54	-1.52	-1.50	-1.47	-1.45	-1.43	-1.55
Private consumption deflato	0.00	-1.10	-1.39	-1.42	-1.44	-1.44	-1.43	-1.41	-1.39	-1.37	-1.35	-1.32	-1.30	-1.28	-1.26	-1.24	-1.22	-1.34
Terms of trade	0.00	-1.13	-1.31	-1.35	-1.35	-1.35	-1.33	-1.32	-1.30	-1.28	-1.26	-1.24	-1.22	-1.20	-1.18	-1.17	-1.15	-1.26

Table 4.8: China – Main macroeconomic variables (retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	-0.50	-0.44	-0.39	-0.36	-0.34	-0.34	-0.33	-0.34	-0.34	-0.35	-0.35	-0.36	-0.37	-0.37	-0.38	-0.39	-0.37
Employment	0.00	-0.42	-0.29	-0.18	-0.11	-0.07	-0.04	-0.02	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07
Capital	0.00	0.00	0.01	0.01	0.00	-0.01	-0.02	-0.03	-0.05	-0.06	-0.08	-0.09	-0.11	-0.13	-0.14	-0.15	-0.17	-0.07
Real consumer wage	0.00	-0.21	-0.36	-0.45	-0.51	-0.54	-0.56	-0.58	-0.59	-0.60	-0.60	-0.61	-0.61	-0.61	-0.61	-0.61	-0.61	-0.54
Real private consumption	0.00	-0.70	-0.70	-0.67	-0.65	-0.65	-0.65	-0.65	-0.65	-0.66	-0.67	-0.67	-0.68	-0.69	-0.69	-0.70	-0.70	-0.67
Real investment	0.00	0.09	-0.04	-0.07	-0.11	-0.15	-0.19	-0.22	-0.24	-0.26	-0.28	-0.30	-0.32	-0.33	-0.34	-0.35	-0.36	-0.22
Real public consumption	0.00	-0.70	-0.70	-0.67	-0.65	-0.65	-0.65	-0.65	-0.65	-0.66	-0.67	-0.67	-0.68	-0.69	-0.69	-0.70	-0.70	-0.67
Export volumes	0.00	-3.08	-2.55	-2.29	-2.08	-1.95	-1.83	-1.74	-1.67	-1.61	-1.57	-1.53	-1.49	-1.46	-1.44	-1.42	-1.40	-1.82
Import volumes	0.00	-2.31	-2.42	-2.42	-2.43	-2.44	-2.45	-2.45	-2.45	-2.44	-2.44	-2.42	-2.41	-2.39	-2.38	-2.36	-2.34	-2.41
GDP deflator	0.00	-0.16	-0.33	-0.37	-0.40	-0.41	-0.40	-0.38	-0.36	-0.34	-0.32	-0.30	-0.27	-0.25	-0.23	-0.21	-0.19	-0.31
Private consumption deflato	0.00	-0.08	-0.19	-0.20	-0.21	-0.21	-0.19	-0.18	-0.15	-0.13	-0.11	-0.09	-0.06	-0.04	-0.02	0.00	0.01	-0.12
Terms of trade	0.00	-0.83	-0.94	-0.96	-0.97	-0.97	-0.96	-0.95	-0.94	-0.93	-0.91	-0.90	-0.88	-0.87	-0.85	-0.83	-0.82	-0.91

Table 4.9: China – Main macroeconomic variables (retaliation + fiscal consolidation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	-0.46	-0.39	-0.33	-0.29	-0.27	-0.26	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.26	-0.28
Employment	0.00	-0.36	-0.24	-0.14	-0.09	-0.05	-0.03	-0.02	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.06
Capital	0.00	0.00	0.04	0.06	0.09	0.10	0.11	0.11	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.09
Real consumer wage	0.00	-0.18	-0.30	-0.37	-0.41	-0.44	-0.45	-0.47	-0.47	-0.48	-0.48	-0.48	-0.48	-0.48	-0.47	-0.47	-0.47	-0.43
Real private consumption	0.00	-0.64	-0.64	-0.61	-0.60	-0.60	-0.60	-0.61	-0.62	-0.63	-0.64	-0.64	-0.65	-0.66	-0.67	-0.67	-0.68	-0.63
Real investment	0.00	0.40	0.29	0.28	0.23	0.19	0.15	0.13	0.10	0.08	0.07	0.05	0.04	0.04	0.03	0.03	0.03	0.13
Real public consumption	0.00	-0.64	-0.64	-0.61	-0.60	-0.60	-0.60	-0.61	-0.62	-0.63	-0.64	-0.64	-0.65	-0.66	-0.67	-0.67	-0.68	-0.63
Export volumes	0.00	-3.51	-3.00	-2.74	-2.50	-2.31	-2.15	-2.02	-1.91	-1.82	-1.75	-1.68	-1.62	-1.57	-1.52	-1.48	-1.44	-2.06
Import volumes	0.00	-2.04	-2.14	-2.13	-2.15	-2.17	-2.19	-2.19	-2.19	-2.19	-2.19	-2.17	-2.16	-2.14	-2.11	-2.09	-2.07	-2.15
GDP deflator	0.00	0.21	0.05	0.00	-0.06	-0.11	-0.13	-0.14	-0.14	-0.14	-0.13	-0.11	-0.10	-0.08	-0.07	-0.05	-0.03	-0.06
Private consumption deflator	0.00	0.25	0.14	0.13	0.08	0.04	0.03	0.03	0.03	0.04	0.05	0.06	0.07	0.09	0.11	0.12	0.14	0.09
Terms of trade	0.00	-0.71	-0.81	-0.82	-0.84	-0.85	-0.85	-0.85	-0.84	-0.84	-0.83	-0.82	-0.80	-0.79	-0.77	-0.76	-0.74	-0.81

Table 4.10: European Union – Main macroeconomic variables (no retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	0.07	0.03	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.07
Employment	0.00	0.10	-0.01	-0.03	-0.03	-0.02	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital	0.00	0.00	0.07	0.10	0.12	0.14	0.16	0.17	0.18	0.19	0.19	0.20	0.21	0.21	0.21	0.22	0.22	0.16
Real consumer wage	0.00	0.05	0.05	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Real private consumption	0.00	0.02	-0.12	-0.15	-0.16	-0.16	-0.15	-0.15	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.13	-0.13	-0.13	-0.13
Real investment	0.00	1.11	0.65	0.51	0.41	0.37	0.35	0.33	0.32	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.39
Real public consumption	0.00	0.02	-0.12	-0.15	-0.16	-0.16	-0.15	-0.15	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.13	-0.13	-0.13	-0.13
Export volumes	0.00	-0.42	-0.21	-0.12	-0.06	-0.02	0.00	0.02	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.10	0.11	0.00
Import volumes	0.00	0.03	-0.13	-0.17	-0.19	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.18
GDP deflator	0.00	0.11	-0.14	-0.21	-0.25	-0.27	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.27	-0.27	-0.27	-0.27	-0.27	-0.24
Private consumption deflator	0.00	0.06	-0.14	-0.19	-0.22	-0.23	-0.23	-0.23	-0.23	-0.23	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.21	-0.20
Terms of trade	0.00	0.00	-0.07	-0.10	-0.12	-0.13	-0.14	-0.14	-0.14	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.16	-0.16	-0.13

Table 4.11: European Union – Main macroeconomic variables (retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	0.10	0.06	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.20	0.21	0.22	0.15
Employment	0.00	0.19	0.05	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Capital	0.00	0.00	0.08	0.14	0.19	0.23	0.27	0.30	0.33	0.35	0.37	0.39	0.41	0.43	0.44	0.46	0.47	0.30
Real consumer wage	0.00	0.10	0.12	0.13	0.14	0.14	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.17
Real private consumption	0.00	-0.04	-0.11	-0.12	-0.12	-0.11	-0.11	-0.11	-0.10	-0.10	-0.09	-0.09	-0.08	-0.08	-0.07	-0.07	-0.07	-0.09
Real investment	0.00	1.35	1.07	0.96	0.86	0.80	0.77	0.74	0.72	0.70	0.69	0.68	0.67	0.65	0.64	0.63	0.62	0.79
Real public consumption	0.00	-0.04	-0.11	-0.12	-0.12	-0.11	-0.11	-0.11	-0.10	-0.10	-0.09	-0.09	-0.08	-0.08	-0.07	-0.07	-0.07	-0.09
Export volumes	0.00	-0.05	0.04	0.12	0.21	0.28	0.35	0.40	0.45	0.49	0.53	0.56	0.59	0.62	0.65	0.68	0.70	0.42
Import volumes	0.00	0.40	0.31	0.29	0.29	0.30	0.32	0.33	0.34	0.35	0.36	0.38	0.39	0.40	0.41	0.41	0.42	0.36
GDP deflator	0.00	0.81	0.73	0.70	0.66	0.64	0.63	0.63	0.62	0.62	0.62	0.62	0.62	0.62	0.61	0.61	0.61	0.65
Private consumption deflato	0.00	0.69	0.64	0.63	0.60	0.59	0.59	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.57	0.57	0.59
Terms of trade	0.00	0.14	0.09	0.07	0.06	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.05

Table 4.12: European Union – Main macroeconomic variables (retaliation + fiscal consolidation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Real GDP	0.00	0.15	0.13	0.16	0.20	0.24	0.27	0.30	0.32	0.35	0.38	0.41	0.43	0.46	0.48	0.51	0.53	0.33
Employment	0.00	0.27	0.12	0.08	0.05	0.05	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Capital	0.00	0.00	0.12	0.23	0.33	0.42	0.50	0.58	0.65	0.72	0.78	0.84	0.89	0.95	1.00	1.05	1.09	0.63
Real consumer wage	0.00	0.14	0.20	0.23	0.26	0.28	0.31	0.34	0.37	0.40	0.42	0.44	0.46	0.48	0.50	0.52	0.54	0.37
Real private consumption	0.00	0.00	-0.05	-0.05	-0.05	-0.04	-0.03	-0.03	-0.03	-0.03	-0.02	-0.01	0.00	0.00	0.01	0.02	0.02	-0.02
Real investment	0.00	2.10	1.91	1.88	1.79	1.74	1.72	1.71	1.70	1.71	1.72	1.73	1.74	1.76	1.78	1.80	1.82	1.79
Real public consumption	0.00	0.00	-0.05	-0.05	-0.05	-0.04	-0.03	-0.03	-0.03	-0.03	-0.02	-0.01	0.00	0.00	0.01	0.02	0.02	-0.02
Export volumes	0.00	-0.19	-0.14	-0.05	0.07	0.18	0.29	0.37	0.45	0.53	0.61	0.68	0.74	0.81	0.87	0.92	0.98	0.45
Import volumes	0.00	0.59	0.53	0.54	0.55	0.57	0.59	0.61	0.63	0.66	0.68	0.71	0.73	0.76	0.79	0.81	0.84	0.66
GDP deflator	0.00	1.07	1.02	0.99	0.93	0.88	0.84	0.81	0.78	0.76	0.75	0.73	0.72	0.71	0.69	0.69	0.68	0.81
Private consumption deflato	0.00	0.90	0.88	0.86	0.81	0.77	0.74	0.71	0.69	0.67	0.66	0.64	0.63	0.62	0.61	0.60	0.59	0.71
Terms of trade	0.00	0.20	0.16	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.09

Table 4.13: Real GDP by region (no retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Asia Pacific	0.00	0.16	0.12	0.10	0.09	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.16	0.16	0.13
European Union	0.00	0.07	0.03	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.07
Australia	0.00	0.11	0.05	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06
Japan	0.00	0.04	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.05
South Korea	0.00	0.02	-0.02	-0.02	0.00	0.01	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02
Taiwan	0.00	0.05	0.04	0.03	0.02	0.02	0.02	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.03
China	0.00	-0.18	-0.17	-0.14	-0.12	-0.11	-0.11	-0.10	-0.10	-0.10	-0.11	-0.11	-0.12	-0.12	-0.12	-0.13	-0.13	-0.12
Hong Kong	0.00	0.11	0.12	0.16	0.19	0.22	0.25	0.27	0.29	0.31	0.32	0.32	0.33	0.33	0.33	0.33	0.33	0.26
Viet Nam	0.00	0.70	0.66	0.54	0.43	0.34	0.29	0.32	0.34	0.36	0.37	0.38	0.38	0.39	0.39	0.39	0.39	0.42
Singapore	0.00	-0.03	-0.07	-0.05	-0.04	-0.03	-0.03	-0.02	-0.02	-0.03	-0.04	-0.05	-0.05	-0.06	-0.07	-0.08	-0.09	-0.05
Thailand	0.00	0.07	0.05	0.06	0.07	0.09	0.10	0.11	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.11
Malaysia	0.00	0.09	0.08	0.08	0.08	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09
Indonesia	0.00	0.08	0.06	0.05	0.05	0.06	0.06	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.08
Philippines	0.00	0.11	0.09	0.09	0.10	0.11	0.14	0.15	0.17	0.18	0.19	0.20	0.21	0.21	0.22	0.23	0.23	0.16
India	0.00	0.11	0.07	0.06	0.06	0.06	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
U.S.A.	0.00	-1.37	-1.10	-1.06	-1.05	-1.09	-1.14	-1.18	-1.22	-1.27	-1.31	-1.35	-1.39	-1.43	-1.46	-1.49	-1.52	-1.28
Canada	0.00	-0.22	-0.14	-0.17	-0.07	-0.02	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-0.02
Mexico	0.00	0.00	0.00	-0.04	0.00	0.03	0.06	0.08	0.09	0.11	0.12	0.12	0.13	0.14	0.14	0.14	0.14	0.08
Brazil	0.00	0.05	-0.01	-0.02	-0.01	-0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Latin America	0.00	0.02	-0.02	-0.02	-0.01	-0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
U.K.	0.00	0.14	0.07	0.07	0.07	0.08	0.09	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.10
Switzerland	0.00	-0.01	0.00	0.02	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04
Middle East & Nth Africa	0.00	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.06
Sub-Saharan Africa	0.00	0.09	0.07	0.06	0.06	0.07	0.07	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08
Russian Federation	0.00	0.09	0.07	0.07	0.07	0.07	0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.12	0.12	0.12	0.13	0.10
Rest of World	0.00	0.08	0.05	0.05	0.05	0.06	0.07	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.08

Table 4.14: Real GDP by region (retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Asia Pacific	0.00	0.09	0.08	0.08	0.08	0.09	0.10	0.11	0.12	0.12	0.13	0.13	0.13	0.12	0.12	0.12	0.11	0.11
European Union	0.00	0.10	0.06	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.20	0.21	0.22	0.15
Australia	0.00	0.20	0.14	0.12	0.12	0.12	0.13	0.15	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19	0.19	0.16
Japan	0.00	0.13	0.09	0.08	0.09	0.10	0.12	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.19	0.19	0.20	0.14
South Korea	0.00	0.14	0.08	0.06	0.07	0.09	0.11	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.16	0.17	0.17	0.13
Taiwan	0.00	-0.19	-0.16	-0.14	-0.12	-0.10	-0.08	-0.06	-0.05	-0.05	-0.04	-0.04	-0.03	-0.03	-0.03	-0.03	-0.03	-0.07
China	0.00	-0.50	-0.44	-0.39	-0.36	-0.34	-0.34	-0.33	-0.34	-0.34	-0.35	-0.35	-0.36	-0.37	-0.37	-0.38	-0.39	-0.37
Hong Kong	0.00	-0.83	-0.64	-0.51	-0.43	-0.38	-0.35	-0.33	-0.31	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.31	-0.31	-0.39
Viet Nam	0.00	0.32	0.30	0.24	0.19	0.14	0.13	0.16	0.19	0.21	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.22
Singapore	0.00	-0.45	-0.35	-0.30	-0.27	-0.25	-0.23	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.23	-0.23	-0.23	-0.24	-0.26
Thailand	0.00	-0.02	-0.04	-0.04	-0.03	-0.01	0.00	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.01
Malaysia	0.00	-0.05	-0.04	-0.03	-0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.03
Indonesia	0.00	0.07	0.05	0.04	0.05	0.05	0.06	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.07
Philippines	0.00	-0.02	-0.01	0.00	0.02	0.03	0.06	0.07	0.09	0.10	0.11	0.12	0.13	0.13	0.14	0.14	0.15	0.08
India	0.00	0.04	0.02	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.04
U.S.A.	0.00	-1.65	-1.34	-1.23	-1.19	-1.21	-1.25	-1.28	-1.33	-1.37	-1.42	-1.46	-1.50	-1.53	-1.56	-1.59	-1.62	-1.41
Canada	0.00	-1.07	-0.55	-0.47	-0.33	-0.26	-0.22	-0.20	-0.19	-0.18	-0.18	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.29
Mexico	0.00	-0.52	-0.39	-0.36	-0.29	-0.24	-0.20	-0.17	-0.16	-0.15	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.15	-0.21
Brazil	0.00	0.04	0.02	0.01	0.01	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03
Latin America	0.00	-0.24	-0.18	-0.14	-0.11	-0.09	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.09	-0.09	-0.10	-0.10
U.K.	0.00	-0.02	-0.02	0.02	0.05	0.07	0.09	0.10	0.11	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.15	0.09
Switzerland	0.00	-0.16	-0.11	-0.07	-0.03	-0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.00
Middle East & Nth Africa	0.00	-0.07	-0.03	-0.01	0.00	0.02	0.03	0.03	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.05	0.05	0.03
Sub-Saharan Africa	0.00	0.03	0.04	0.06	0.07	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.08
Russian Federation	0.00	0.09	0.07	0.07	0.07	0.08	0.09	0.10	0.11	0.11	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.11
Rest of World	0.00	-0.05	-0.02	0.01	0.03	0.05	0.07	0.08	0.09	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.08

Table 4.15: Real GDP by region (retaliation + fiscal consolidation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Asia Pacific	0.00	0.11	0.12	0.12	0.14	0.16	0.18	0.21	0.22	0.24	0.25	0.27	0.28	0.29	0.30	0.31	0.32	0.22
European Union	0.00	0.15	0.13	0.16	0.20	0.24	0.27	0.30	0.32	0.35	0.38	0.41	0.43	0.46	0.48	0.51	0.53	0.33
Australia	0.00	0.28	0.22	0.20	0.20	0.22	0.24	0.26	0.28	0.29	0.31	0.33	0.34	0.36	0.37	0.38	0.39	0.29
Japan	0.00	0.18	0.14	0.15	0.17	0.20	0.22	0.25	0.27	0.29	0.31	0.34	0.36	0.38	0.40	0.42	0.44	0.28
South Korea	0.00	0.21	0.14	0.13	0.14	0.16	0.19	0.20	0.22	0.23	0.25	0.26	0.28	0.29	0.30	0.32	0.33	0.23
Taiwan	0.00	-0.14	-0.09	-0.04	0.00	0.04	0.08	0.10	0.13	0.15	0.17	0.19	0.20	0.22	0.24	0.25	0.26	0.11
China	0.00	-0.46	-0.39	-0.33	-0.29	-0.27	-0.26	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.26	-0.28
Hong Kong	0.00	-0.82	-0.59	-0.42	-0.30	-0.21	-0.15	-0.10	-0.06	-0.02	0.01	0.04	0.07	0.09	0.11	0.13	0.15	-0.13
Viet Nam	0.00	0.28	0.28	0.25	0.24	0.22	0.23	0.27	0.30	0.33	0.36	0.38	0.40	0.42	0.44	0.45	0.47	0.33
Singapore	0.00	-0.34	-0.21	-0.12	-0.05	0.00	0.05	0.08	0.12	0.15	0.18	0.20	0.23	0.25	0.28	0.30	0.32	0.09
Thailand	0.00	0.01	-0.01	0.02	0.04	0.07	0.10	0.12	0.14	0.16	0.18	0.20	0.22	0.23	0.25	0.26	0.27	0.14
Malaysia	0.00	-0.03	0.00	0.03	0.06	0.09	0.12	0.14	0.16	0.18	0.19	0.21	0.22	0.24	0.25	0.26	0.27	0.15
Indonesia	0.00	0.10	0.08	0.08	0.09	0.10	0.12	0.13	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.20	0.21	0.15
Philippines	0.00	0.00	0.02	0.04	0.08	0.11	0.15	0.18	0.21	0.23	0.26	0.28	0.31	0.33	0.36	0.38	0.40	0.21
India	0.00	0.07	0.06	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.16	0.17	0.17	0.18	0.13
U.S.A.	0.00	-1.72	-1.37	-1.24	-1.16	-1.14	-1.15	-1.17	-1.19	-1.21	-1.22	-1.24	-1.24	-1.25	-1.25	-1.24	-1.24	-1.25
Canada	0.00	-0.93	-0.41	-0.32	-0.19	-0.11	-0.05	-0.03	0.00	0.03	0.05	0.07	0.09	0.11	0.13	0.15	0.17	-0.08
Mexico	0.00	-0.47	-0.32	-0.29	-0.20	-0.13	-0.07	-0.03	0.01	0.04	0.07	0.10	0.13	0.16	0.19	0.21	0.23	-0.02
Brazil	0.00	0.11	0.08	0.08	0.08	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.16	0.17	0.17	0.17	0.13
Latin America	0.00	-0.20	-0.14	-0.08	-0.04	-0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.01
U.K.	0.00	0.06	0.08	0.14	0.19	0.24	0.27	0.29	0.31	0.33	0.36	0.38	0.40	0.42	0.44	0.46	0.48	0.30
Switzerland	0.00	-0.11	-0.05	0.03	0.09	0.15	0.20	0.22	0.25	0.28	0.30	0.33	0.35	0.37	0.39	0.40	0.42	0.23
Middle East & Nth Africa	0.00	-0.04	0.01	0.04	0.07	0.09	0.12	0.13	0.15	0.17	0.19	0.20	0.22	0.23	0.24	0.25	0.26	0.15
Sub-Saharan Africa	0.00	0.06	0.08	0.11	0.13	0.15	0.16	0.18	0.19	0.20	0.21	0.22	0.22	0.23	0.23	0.24	0.24	0.18
Russian Federation	0.00	0.12	0.10	0.10	0.12	0.14	0.15	0.17	0.19	0.21	0.22	0.24	0.25	0.26	0.27	0.29	0.30	0.19
Rest of World	0.00	-0.02	0.03	0.08	0.13	0.17	0.21	0.23	0.25	0.28	0.30	0.32	0.34	0.36	0.38	0.39	0.41	0.24

Table 4.16: Real consumption by region (no retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Asia Pacific	0.00	0.36	0.30	0.16	0.08	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.08
European Union	0.00	0.02	-0.12	-0.15	-0.16	-0.16	-0.15	-0.15	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.13	-0.13	-0.13	-0.13
Australia	0.00	0.09	0.00	-0.04	-0.06	-0.06	-0.07	-0.06	-0.06	-0.07	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.08	-0.05
Japan	0.00	-0.02	-0.15	-0.18	-0.18	-0.18	-0.18	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.16
South Korea	0.00	-0.03	-0.19	-0.23	-0.23	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.23	-0.23	-0.23	-0.23	-0.24	-0.21
Taiwan	0.00	-0.02	-0.19	-0.22	-0.25	-0.26	-0.26	-0.26	-0.26	-0.27	-0.27	-0.28	-0.28	-0.29	-0.30	-0.30	-0.31	-0.25
China	0.00	-0.35	-0.43	-0.43	-0.42	-0.42	-0.41	-0.41	-0.41	-0.41	-0.41	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42	-0.41
Hong Kong	0.00	0.15	-0.03	-0.05	-0.06	-0.07	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.06
Viet Nam	0.00	1.42	1.45	1.30	1.16	1.01	0.90	0.86	0.83	0.79	0.76	0.73	0.70	0.66	0.63	0.61	0.58	0.90
Singapore	0.00	-0.27	-0.49	-0.52	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.54	-0.54	-0.55	-0.55	-0.56	-0.56	-0.52
Thailand	0.00	0.19	0.05	0.00	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.00
Malaysia	0.00	0.13	0.04	0.01	0.00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.03	-0.03	-0.03	0.00
Indonesia	0.00	0.19	0.12	0.07	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.04
Philippines	0.00	0.33	0.24	0.14	0.09	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.10
India	0.00	0.23	0.12	0.06	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.03
U.S.A.	0.00	-1.03	-0.38	-0.15	-0.04	-0.01	-0.01	-0.01	-0.03	-0.05	-0.08	-0.10	-0.13	-0.16	-0.18	-0.20	-0.23	-0.17
Canada	0.00	-0.43	-0.39	-0.50	-0.42	-0.37	-0.35	-0.34	-0.34	-0.34	-0.34	-0.34	-0.34	-0.35	-0.35	-0.35	-0.34	-0.37
Mexico	0.00	-0.23	-0.28	-0.47	-0.47	-0.44	-0.40	-0.38	-0.36	-0.34	-0.33	-0.33	-0.32	-0.32	-0.32	-0.32	-0.32	-0.35
Brazil	0.00	-0.01	-0.11	-0.13	-0.13	-0.13	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.11
Latin America	0.00	-0.13	-0.22	-0.24	-0.24	-0.24	-0.24	-0.23	-0.23	-0.22	-0.22	-0.22	-0.22	-0.23	-0.23	-0.23	-0.23	-0.22
U.K.	0.00	0.08	-0.04	-0.08	-0.09	-0.09	-0.09	-0.08	-0.08	-0.08	-0.08	-0.07	-0.07	-0.07	-0.07	-0.07	-0.06	-0.07
Switzerland	0.00	-0.17	-0.29	-0.31	-0.32	-0.32	-0.32	-0.31	-0.31	-0.31	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.31
Middle East & Nth Africa	0.00	-0.19	-0.16	-0.15	-0.14	-0.13	-0.13	-0.12	-0.12	-0.11	-0.11	-0.11	-0.11	-0.11	-0.10	-0.10	-0.10	-0.12
Sub-Saharan Africa	0.00	0.05	0.01	-0.01	-0.03	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
Russian Federation	0.00	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.07
Rest of World	0.00	-0.05	-0.14	-0.15	-0.14	-0.14	-0.13	-0.13	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12

Table 4.17: Real consumption by region (retaliation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Asia Pacific	0.00	0.33	0.49	0.40	0.31	0.26	0.23	0.21	0.21	0.20	0.19	0.19	0.18	0.18	0.17	0.17	0.16	0.24
European Union	0.00	-0.04	-0.11	-0.12	-0.12	-0.11	-0.11	-0.11	-0.10	-0.10	-0.09	-0.09	-0.08	-0.08	-0.07	-0.07	-0.07	-0.09
Australia	0.00	0.28	0.22	0.15	0.12	0.10	0.09	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.10
Japan	0.00	-0.01	-0.12	-0.15	-0.16	-0.16	-0.16	-0.15	-0.15	-0.15	-0.14	-0.14	-0.14	-0.13	-0.13	-0.13	-0.13	-0.13
South Korea	0.00	0.20	0.02	-0.04	-0.05	-0.05	-0.05	-0.05	-0.05	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.03
Taiwan	0.00	-0.21	-0.34	-0.33	-0.33	-0.33	-0.33	-0.32	-0.32	-0.32	-0.33	-0.33	-0.33	-0.34	-0.34	-0.35	-0.35	-0.32
China	0.00	-0.70	-0.70	-0.67	-0.65	-0.65	-0.65	-0.65	-0.65	-0.66	-0.67	-0.67	-0.68	-0.69	-0.69	-0.70	-0.70	-0.67
Hong Kong	0.00	-1.00	-1.08	-1.02	-0.99	-0.98	-0.98	-0.98	-0.98	-0.98	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99
Viet Nam	0.00	0.99	1.05	0.96	0.87	0.77	0.70	0.68	0.66	0.63	0.61	0.59	0.56	0.54	0.52	0.50	0.48	0.69
Singapore	0.00	-0.42	-0.32	-0.26	-0.23	-0.20	-0.18	-0.16	-0.14	-0.13	-0.12	-0.12	-0.11	-0.10	-0.10	-0.10	-0.09	-0.17
Thailand	0.00	0.17	0.07	0.04	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.06
Malaysia	0.00	0.15	0.09	0.10	0.11	0.12	0.14	0.15	0.16	0.17	0.17	0.18	0.19	0.20	0.20	0.21	0.21	0.16
Indonesia	0.00	0.25	0.20	0.14	0.11	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.11
Philippines	0.00	0.31	0.41	0.34	0.31	0.29	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.32	0.31
India	0.00	0.20	0.16	0.11	0.09	0.08	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.08
U.S.A.	0.00	-1.62	-1.15	-0.91	-0.78	-0.72	-0.71	-0.71	-0.73	-0.75	-0.78	-0.80	-0.83	-0.86	-0.88	-0.90	-0.93	-0.88
Canada	0.00	-0.96	-0.33	-0.28	-0.16	-0.11	-0.08	-0.06	-0.06	-0.06	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.04	-0.15
Mexico	0.00	-0.04	0.17	0.13	0.22	0.30	0.38	0.44	0.49	0.53	0.56	0.59	0.62	0.64	0.66	0.68	0.69	0.44
Brazil	0.00	0.16	0.17	0.14	0.12	0.11	0.11	0.11	0.12	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.12
Latin America	0.00	-0.20	-0.12	-0.08	-0.05	-0.03	-0.02	-0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	-0.03
U.K.	0.00	-0.13	-0.14	-0.13	-0.11	-0.10	-0.09	-0.08	-0.08	-0.07	-0.07	-0.06	-0.06	-0.05	-0.05	-0.04	-0.04	-0.08
Switzerland	0.00	-0.38	-0.43	-0.42	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.42	-0.42	-0.42	-0.42	-0.42	-0.41
Middle East & Nth Africa	0.00	-0.28	-0.09	-0.03	-0.01	0.00	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.00
Sub-Saharan Africa	0.00	0.07	0.13	0.13	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.11
Russian Federation	0.00	0.00	0.02	0.03	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.05
Rest of World	0.00	-0.27	-0.25	-0.21	-0.19	-0.17	-0.16	-0.15	-0.15	-0.14	-0.14	-0.14	-0.14	-0.13	-0.13	-0.13	-0.13	-0.16

Table 4.18: Real consumption by region (retaliation + fiscal consolidation) (% deviation from baseline)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Average
Asia Pacific	0.00	0.38	0.61	0.51	0.41	0.35	0.32	0.30	0.28	0.28	0.27	0.27	0.27	0.28	0.28	0.28	0.29	0.34
European Union	0.00	0.00	-0.05	-0.05	-0.05	-0.04	-0.03	-0.03	-0.03	-0.03	-0.02	-0.01	0.00	0.00	0.01	0.02	0.02	-0.02
Australia	0.00	0.39	0.32	0.26	0.21	0.19	0.17	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.19
Japan	0.00	0.02	-0.09	-0.11	-0.12	-0.12	-0.12	-0.13	-0.13	-0.12	-0.12	-0.12	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11
South Korea	0.00	0.28	0.09	0.02	0.00	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.03	-0.03	-0.04	-0.04	-0.04	-0.05	0.00
Taiwan	0.00	-0.22	-0.34	-0.33	-0.32	-0.31	-0.31	-0.31	-0.31	-0.32	-0.32	-0.33	-0.33	-0.34	-0.35	-0.36	-0.37	-0.32
China	0.00	-0.64	-0.64	-0.61	-0.60	-0.60	-0.60	-0.61	-0.62	-0.63	-0.64	-0.64	-0.65	-0.66	-0.67	-0.67	-0.68	-0.63
Hong Kong	0.00	-1.06	-1.13	-1.06	-1.03	-1.01	-1.01	-1.01	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.03
Viet Nam	0.00	0.88	0.96	0.89	0.83	0.76	0.71	0.70	0.69	0.67	0.66	0.65	0.63	0.62	0.61	0.60	0.59	0.71
Singapore	0.00	-0.33	-0.21	-0.14	-0.12	-0.09	-0.07	-0.06	-0.05	-0.04	-0.03	-0.03	-0.02	-0.02	-0.01	-0.01	0.00	-0.08
Thailand	0.00	0.19	0.11	0.09	0.08	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.13	0.14	0.11
Malaysia	0.00	0.16	0.10	0.12	0.14	0.15	0.17	0.18	0.19	0.20	0.21	0.22	0.22	0.23	0.24	0.25	0.25	0.19
Indonesia	0.00	0.31	0.25	0.19	0.15	0.13	0.12	0.12	0.12	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.15
Philippines	0.00	0.35	0.50	0.44	0.41	0.38	0.39	0.38	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45	0.47	0.41
India	0.00	0.26	0.23	0.18	0.16	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.13	0.13	0.13	0.15
U.S.A.	0.00	-2.44	-2.01	-1.81	-1.63	-1.54	-1.49	-1.47	-1.45	-1.44	-1.44	-1.43	-1.43	-1.42	-1.42	-1.41	-1.41	-1.58
Canada	0.00	-0.80	-0.15	-0.11	0.00	0.05	0.07	0.08	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.12	0.13	0.00
Mexico	0.00	0.06	0.32	0.30	0.40	0.49	0.58	0.63	0.67	0.71	0.75	0.78	0.80	0.83	0.85	0.88	0.90	0.62
Brazil	0.00	0.25	0.26	0.22	0.20	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.17	0.17	0.19
Latin America	0.00	-0.13	-0.05	0.00	0.02	0.03	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.04
U.K.	0.00	-0.07	-0.05	-0.01	0.01	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.13	0.14	0.16	0.17	0.07
Switzerland	0.00	-0.39	-0.42	-0.41	-0.40	-0.40	-0.41	-0.42	-0.44	-0.44	-0.45	-0.45	-0.46	-0.46	-0.47	-0.47	-0.48	-0.44
Middle East & Nth Africa	0.00	-0.26	-0.05	0.02	0.04	0.05	0.06	0.06	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.11	0.05
Sub-Saharan Africa	0.00	0.12	0.20	0.19	0.18	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.17
Russian Federation	0.00	0.00	0.01	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.05
Rest of World	0.00	-0.27	-0.23	-0.18	-0.15	-0.13	-0.11	-0.11	-0.11	-0.10	-0.10	-0.09	-0.08	-0.08	-0.07	-0.07	-0.06	-0.12