

# **THE IMPACT OF CHINA PNTR REPEAL AND INCREASED TARIFFS ON THE US ECONOMY AND AMERICAN JOBS**

**A REPORT PREPARED FOR THE US-CHINA  
BUSINESS COUNCIL**

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# EXECUTIVE SUMMARY

The US has reaped substantial benefits from increased trade with China in the two decades since China was granted Permanent Normalized Trade Relations (PNTR) status upon accession to the World Trade Organization (WTO).<sup>1</sup> The tariffs imposed by the Trump administration in 2018 using Section 301 of the 1974 Trade Act reversed the decades-long trend of greater US-China trade integration and, according to multiple assessments, including a [previous study by Oxford Economics in 2021](#), hurt US output and jobs.

USCIB commissioned Oxford Economics to build upon our previous study and estimate the economic impact of an escalation of existing tariff measures in the form of revoking China’s PNTR status, a scenario that has been put forward by some in Congress and by three of the leading Republican presidential candidates. In this report, we present the impacts of two such scenarios, one where the US raises tariffs on Chinese imports but faces no retaliation from China (“US tariff-only scenario”) and another which combines the US tariff increase with Chinese policy retaliation, with all other global trade relations remaining at the status quo (“Chinese retaliation scenario”). Below is a high-level overview of estimated impacts relative to our baseline projection which assumes no changes in tariff policy but incorporates the current and expected macroeconomic situation.<sup>2</sup>

*Summary of key findings of our model-based analysis:*

	Net impact to US GDP in 2022 prices	Peak impact on US Employment
<b>2017–2019 trade war</b>	\$121 billion loss by 2019	245,000 fewer jobs
<b>2021 OE-USCIB trade war scenario</b>	\$1.9 trillion loss over 5-yr horizon	732,000 fewer jobs
<b>Current study—US tariff-only scenario</b>	\$1.6 trillion loss over 5-yr horizon	744,000 fewer jobs
<b>Current study—Chinese retaliation scenario</b>	\$1.9 trillion loss over 5-yr horizon	801,000 fewer jobs

**The sixfold increase in US tariffs on imports of Chinese goods since 2018 has reduced both US jobs and output.** The deteriorating commercial relationship between the US and China has cut the share of US exports bound for China from 8.6% to 7.5% of total exports between 2017 and 2023. Oxford Economics estimates the losses over the 2018–19 trade war period alone to be about 245,000 jobs (peak impact on a net basis) and \$121 billion in output in today’s prices (0.5% of GDP).

<sup>1</sup> [https://1997-2001.state.gov/regions/eap/fs-china\\_pntr-wto\\_000524.html](https://1997-2001.state.gov/regions/eap/fs-china_pntr-wto_000524.html)

<sup>2</sup> The Oxford Economics baseline forecast for the US includes an expected economic slowdown and recession in early 2024, incorporating the current high-inflation and high-interest rate environment.

**Further increases to tariffs following a repeal of China’s PNTR status would harm American businesses and consumers and cost up to 744,000 American jobs by 2025** compared to our baseline forecast of no additional tariffs in 2025 beyond existing tariffs today. The US unilaterally raising current tariffs from 19% to 61% would significantly raise prices in the US. We find that US industry, which accounts for the bulk of imports from China, would see input costs rise by 4%, reducing US competitiveness vis-à-vis global peers who would not face any tariff increases. The price of US consumer goods would rise an additional 1.2% in 2024.

**An escalation of US tariffs would likely trigger retaliatory measures from China, causing additional US jobs and output losses, pushing the peak impact to 801,000 net job losses by 2025.** We assume Chinese tariffs on US exports could rise back to pre-WTO tariffs on top of revoking existing Section 301 retaliatory tariff exclusions, implying a jump from 21% currently to 38%. Our modelling exercise highlights that this would make US businesses less competitive in the Chinese market, resulting in a permanent loss of revenue and pressuring businesses to slash jobs and investment plans.

**While some initial pressures would abate as the US economy adjusts, additional tariffs would drive a lasting drop in productivity in both modeled scenarios, leading to permanent US job and output losses.** In the likely case of Chinese retaliation, the reduction in US-China trade would cause a cumulative loss of \$1.9 trillion in real GDP from 2024–28, with households losing an estimated \$11,100 in real income.<sup>3</sup> Despite a recovery from the peak impact in 2025, reduced competition and less efficient allocation of resources would leave a lasting scar on the US economy. We estimate US output would permanently remain 1.4% lower, and there would be 300,000 fewer American jobs on a net basis compared to our baseline forecast (i.e. no additional tariffs beyond existing tariffs today).

**Most US industries, but especially consumer-facing ones, would suffer from increased tariffs.** Relative to our baseline projection, we forecast a broad-based downturn across US industries in both modeled tariff escalation scenarios, with the magnitude of decline depending on the trade intensity of the sector and the amount of exposure to the Chinese market. While most consumer-facing service industries would encounter headwinds from falling domestic demand, some manufacturing sectors would see output decline by as much as 4.4% if China retaliated.

**The economic impact of higher tariffs varies between US states.** Nevada, Florida and Arizona would be among the states hit hardest in terms of GDP and jobs, due to the higher importance of consumer sectors in these states. For example, Florida’s GDP would be 1.6% lower by 2025 in the US tariff-only scenario vs. the baseline, with a net loss of 56,000 jobs. Key manufacturing areas of the US would also experience some of the most severe declines, particularly those states with significant automotive, other transport equipment, and machinery industries. This includes Washington and many states in the Midwest and South. Indiana, Kansas, Michigan and Ohio would lose a combined 75,000 jobs on a net basis by 2025 under the US tariff-only scenario. In the Chinese retaliation scenario, the job losses in these four states would increase to 83,000 in 2025.

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<sup>3</sup> All figures are quoted in 2022 prices

# 1. INTRODUCTION

Skepticism toward China has increased among Americans over the two years since we issued our first report commissioned by USCBC. Surveys from the Pew Research Center indicate 83% of Americans now have an unfavorable opinion of China (up from 73% in 2020), mostly driven by geopolitical concerns and lack of reciprocity in business partnerships.<sup>4</sup> The continued negative views of China are also reflected in American politics: despite President Biden’s occasional criticism of the tariffs increased by his predecessor, they have mostly stayed in place. Moreover, the Biden administration has gone further, imposing significant export controls that restrict the export of high-end “dual use” technologies. As the tariff measures imposed by the Trump administration in 2018 are under a mandatory four-year statutory review by the Biden administration, US policymakers are debating the future of the US-China trade relationship, weighing the economic benefits of the relationship against arguments for a tougher approach to China.

The impacts of past US-China trade integration have been extensively studied in business and academia and summarized in detail in previous reports by Oxford Economics in collaboration with USCBC.<sup>5</sup> These and other studies mostly agree that that the sourcing of manufacturing inputs and consumer goods from China has lowered US consumer prices,<sup>6</sup> increased the competitiveness of American multinationals, and created jobs in the US, generating a net economic benefit to the US economy.

The data also clearly illustrates the decline in the US-China commercial relationship since the beginning of subsequent tariff actions: US trade with China peaked in 2017, with the share of US goods exports going to China reaching 8.6% and the share of US goods imports from China reaching 21.6%. However, beginning in 2018, increasing protectionism has caused bilateral trade flows between the US and China to decline significantly, drastically reducing the benefits this trade generates to the US economy.

The latest research by Oxford Economics and the International Monetary Fund finds that the ongoing US-China trade reductions has not turned into a global trend yet. Indeed, global trade has not been visibly curbed by the US-China tariffs, but rather

## \$196 bn

The US exported \$154 billion worth of goods and \$42 billion worth of services to China in 2022 (in nominal terms)



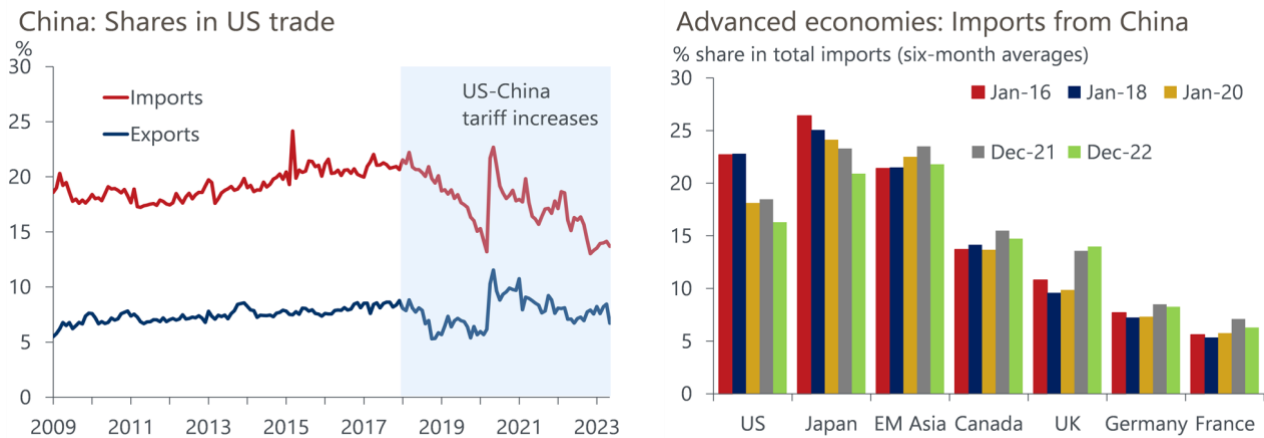
<sup>4</sup> <https://www.pewresearch.org/global/2023/04/12/americans-are-critical-of-chinas-global-role-as-well-as-its-relationship-with-russia/>

<sup>5</sup> See Oxford Economics (2017). The US-China Trade Relationship; and Oxford Economics (2021). The US-China Relationship at a Critical Juncture.

<sup>6</sup> See Jaravel and Sager, What are the Price Effects of Trade? Evidence from the U.S. and Implications for Quantitative Trade Models (2019, Washington: Board of Governors of the Federal Reserve System).

has been reallocated to both other advanced economies as well as emerging Asian economies, which now trade more with both China and the US (see Fig. 1).

**Fig. 1: US trade ties with China**



Source: Oxford Economics/Haver Analytics

Despite the falling share of trade between the US and China (Chinese shares in US exports and imports fell to 7.5% and 16.5%, respectively, by the end of 2022), the US-China commercial relationship remains a crucial pillar to manufacturing supply chains, US production and exports, as well as corresponding jobs: the US exported \$154 billion in goods and \$42 billion in services to China in 2022 (in nominal terms).

The reduction in trade and investment flows between China and the US is also expected to hamper technological and knowledge spillovers between the two economies. Indeed, concerns over China’s goals for technology research and development, particularly in areas where commercial technology could have military uses, have in part contributed to the trade slow down. Oxford Economics has explored this phenomenon in its own separate research on decoupling and concluded that a full technology decoupling could reduce US economic growth by 0.1% every year in the future. These findings are consistent with studies from the IMF, which finds even larger impacts and warns these could still underestimate the true costs of US-China decoupling on both economies.

While the economic benefits of US-China trade have been widely discussed, the political discourse on the US-China relationship has increasingly focused on the displacement of workers in the US manufacturing sector and, more recently, on Chinese acquisition of highly advanced technology from the US, focused especially on semiconductors, which could threaten US technological and geopolitical leadership. A key reason this has led to concerns is China’s state-led capitalist economic model, which allows vast subsidies to advanced industries in order to gain competitiveness-of scale, and its little understood political motivations, which

in some people's view may not adhere to the typical understanding of the current rules-based international order.

All this is happening against the economic backdrop of a fragile recovery resulting from the Covid-19 pandemic and post-pandemic supply chain pressures that led to soaring inflation and subsequent tightening of credit conditions over the past 18 months. While the US economy has so far held up better than other advanced economies around the world, the consensus among forecasters that it will likely fall into recession toward the end of 2023 and early 2024, which is reflected in the Oxford Economics baseline forecast that serves as benchmark for this analysis.

This research highlights the economic harm that the US economy would likely suffer, both in terms of jobs and innovation, from a further escalation of trade protectionism if additional trade tariffs are levied between the US and China. The rest of this paper briefly summarizes the evolution of the US-China tariff actions since 2017 and its likely impacts (Section 2), then explores a downside scenario of increased bilateral tariffs (Section 3), highlighting estimated economic impacts for the US national and state-level economies.

## 2. EVOLVING US-CHINA TRADE POLICY

### 2.1 LINGERING CONCERNS OVER TRADE WITH CHINA

Amid rising concerns that growing US-China trade integration was eroding the American industrial base, and waning trust in China's economic and political practices on the global marketplace, the Office of the United States Trade Representative (USTR) in August 2017 initiated an investigation into China's policies and practices related to technology transfer, intellectual property and innovation under Section 301 of the Trade Act of 1974. The outcome of this investigation established a basis for several rounds of tariff increases, marking the beginning of the US-China trade war, which was laid out in detail in our [previous report](#) for USCBC. This section provides an updated summary of the ongoing tariff policies and presents estimates provided by other studies regarding its impact.

### 2.2 UNFOLDING OF PROTECTIONIST POLICIES AND CHINA TARIFFS

Initially, the Trump administration imposed broad-based measures that affected all trading partners, including China:

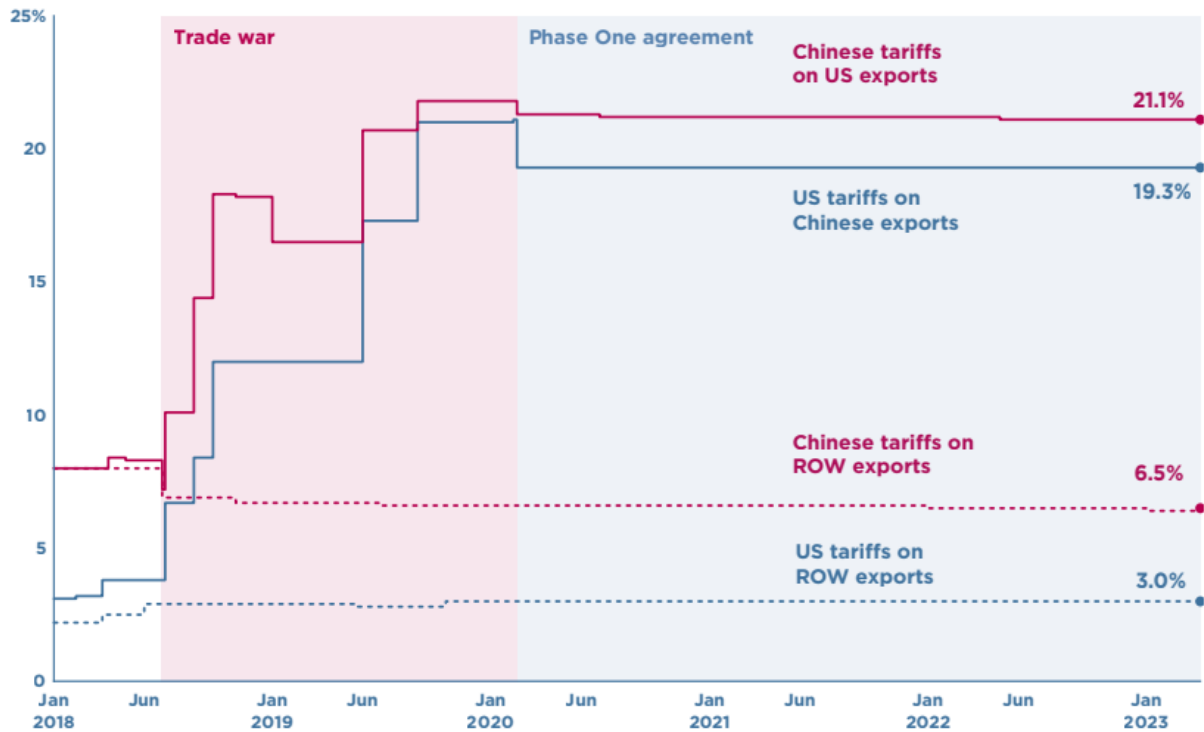
- 30% anti-dumping duties on solar panels and washing machines.
- 25% tariff on steel and aluminum products justified on national security grounds.

These tariffs were subsequently modified over the 2018–2020 period to include a wider range of products, lifting the average tariff on all imports (excluding China) from 2.2% to 3.0% (see Fig. 2). This reflects a more protectionist trend in US trade policy since 2017.

In addition to these broad-based measures, the USTR launched a more targeted Section 301 investigation into US-China trade, resulting in successively higher tariffs on a wide range of imported products from China (also shown in Fig. 2). China retaliated in kind to the US tariffs, leading to an overall increase in bilateral tariffs of 18.2% in the US (on Chinese exports) and 13.3% in China (on US exports) between 2018 and 2020. While the Phase One Agreement in 2020 has kept a lid on a further escalation of trade tariffs, no meaningful progress has been made to lower tariffs to a more business-friendly level. Moreover, as illustrated in the chart in Fig. 2, China complemented its tariff increases on US exports with tariff decreases on all other countries' exports—China's average tariff on all imports (excluding US) dropped from 8.0% in 2017 to 6.5% in 2023—weakening US industries' competitive position in the Chinese market even further.



**Fig. 2: Timeline of US-China tariff actions on bilateral imports<sup>7</sup>**



Source: Peterson Institute for International Economics (2023)

Year	Acting country	Policy description	Cumulative tariff change
2018	US	25% tariffs on Chinese exports of machinery 10% on Chinese exports of industrial supplies	+8.9% on Chinese exports
		Chinese policy response/retaliation	+10.2% on US exports
2019	US	Increase in tariff on industrial supplies from China from 10% to 25% 15% tariffs on consumer goods exports from China	+17.9% on Chinese exports
		Chinese policy response/retaliation	+13.8% on US exports
2020	US	Phase One Agreement	+18.2% on Chinese exports
		Chinese policy response/retaliation	+13.3% on US exports

<sup>7</sup> Information and graphic taken from the Peterson Institute of International Economics (PIIE), see <https://www.piie.com/research/piie-charts/us-china-trade-war-tariffs-date-chart>

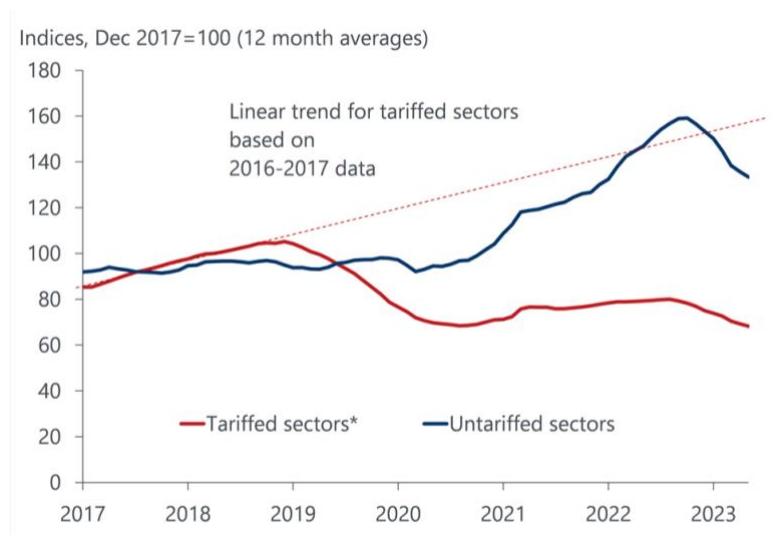
### 2.3 THE IMPACT OF PREVIOUS TARIFF INCREASES ON THE US ECONOMY

The most obvious sign of the economic fallout can be found in the bilateral trade relationship, which has seen a dramatic change since 2016/2017:

- US exports to China fell 18% during the early trade war from 2017 to 2019.
- US imports from China fell 11% over the same period.
- Foreign investment from China into the US has dropped markedly since 2017, while international investors have reduced exposure to China.<sup>8</sup>

Taking stock of the trade fallout in 2023, we note US imports of tariffed Chinese goods are now down more than 30% (in nominal terms) since the US administration imposed the Section 301 tariffs, and around 50% lower than the level implied by a linear trend (extrapolated from 2016–2017 pre-tariff data, see Fig. 3). At the same time, US imports of non-tariffed goods have risen substantially, reflecting both the underlying dynamism of trade with China and the unintended consequences of targeted trade barriers.

**Fig. 3: Estimated impact of previous tariff measures on US imports from China**



Source: Oxford Economics/Haver Analytics

Overall, the tariffs imposed by the US and China have sharply reduced bilateral trade between the two economies and have weighed on their respective economies via price and supply chain knock-on effects. And when accounting for US subsidiaries' sales in the Chinese market, total US business exposure to China is

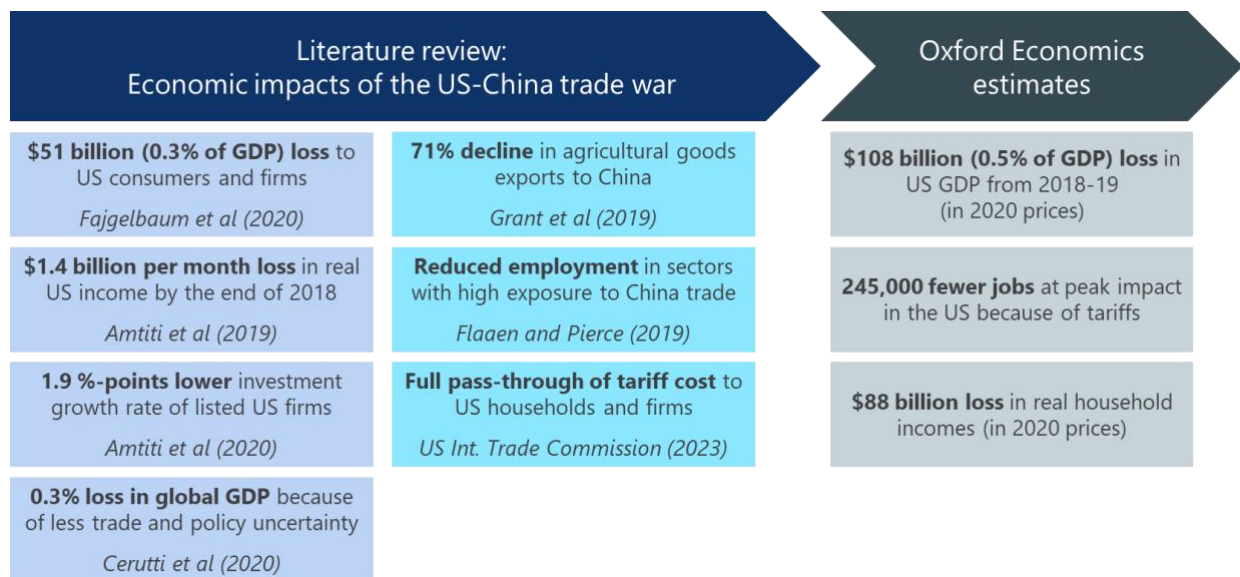
<sup>8</sup> FDI from China to the US has collapsed since 2017, see [Rhodium Group](#). Moreover, according to UNCTAD data, the global share of greenfield FDI going to China fell from around 40% in the early 2010s to just 9% in 2022.

estimated to be four times larger than exports alone, highlighting the scale of the economic risk linked to US-China decoupling.<sup>9</sup>

It is difficult to assess whether the Trump administration’s stated policy goal of reducing the US trade deficit has been achieved. While a slight narrowing in the US trade deficit with China is evident, the US trade deficit with the rest of the world has widened. As highlighted in our previous study for USCBC, several factors might be behind this trend:

- Higher tariffs that likely reduced US industrial competitiveness globally.
- The strong US dollar (making imports relatively cheap for Americans but US exports expensive for other countries);
- Strong rebound of US demand post-Covid, partially driven by expansionary US fiscal policy.

A wide range of studies have sought to quantify the economic impact of the past US-China tariff actions on the US economy. While focusing on different aspects of the tariff transmission, they all conclude that the tariffs have lowered US GDP growth, welfare and employment.<sup>10, 11, 12, 13, 14, 15, 16</sup>



<sup>9</sup> <https://libertystreeteconomics.newyorkfed.org/2020/05/the-investment-cost-of-the-us-china-trade-war/>

<sup>10</sup> Fajgelbaum et al., *The Return to Protectionism* (2020, The Quarterly Journal of Economics).

<sup>11</sup> Amtiti et al., *The Impact of the 2018 Trade War on U.S. Prices and Welfare* (2019, NBER working paper 25672).

<sup>12</sup> Amtiti et al., *The Effect of the U.S.-China Trade War on U.S. Investment* (2020, NBER working paper 27114).

<sup>13</sup> See Grant et.al, *The 2018–2019 Trade Conflict: A One Year Assessment and Impacts on U.S. Agricultural Exports* (2019, Choices, Quarter 4).

<sup>14</sup> Flaen and Pierce, *Disentangling the Effects of the 2018–2019 Tariffs on a Globally Connected U.S. Manufacturing Sector* (2019, Washington: Board of Governors of the Federal Reserve System).

<sup>15</sup> US International Trade Commission, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries* (2023).

<sup>16</sup> Cerutti et al., (2020, IMF Working Paper).

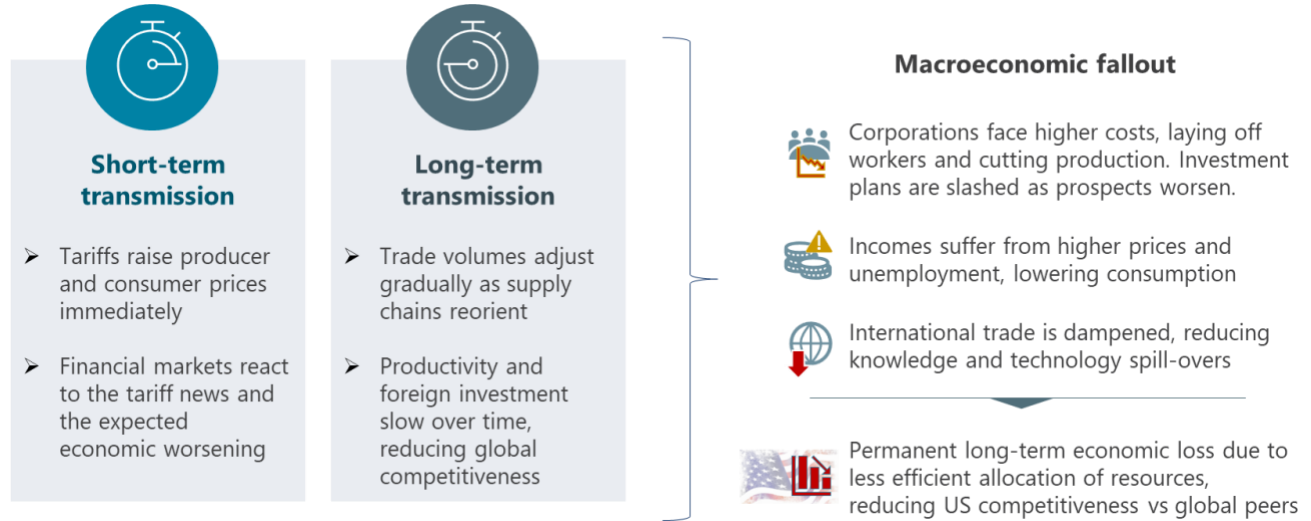
## 3. PNTR TARIFF ESCALATION SCENARIOS AND THEIR ECONOMIC IMPACTS

With no signs that US-China tensions are easing, concerns are growing that US policy toward China could entail further escalation of tariffs. To assess what this could mean for the US economy, we have modeled a scenario in which the US unilaterally repeals China’s PNTR status. We assume PNTR repeal would result in withdrawal of all existing exclusions to Section 301 tariffs as well as moving all US imports of Chinese goods to tariff rates similar to those applied to countries without normalized US trade relations—currently North Korea, Cuba, Russia and Belarus (US Harmonized Tariff Schedule Column 2). These Column 2 tariffs would add to existing Section 301 tariffs rather than merely replacing them. In a second scenario, we model a Chinese policy retaliation assuming China follows the US in removing its current tariff exclusions and then moves all products to pre-WTO tariff rates, up from China’s existing tariffs retaliating against the US Section 301 tariffs.

We quantify these results using the Oxford Global Economic Model (GEM) in conjunction with the Global Analysis and Trade Project (GTAP) model. Our state-level results are then derived by mapping the macroeconomic results from GTAP and GEM to the Oxford Economics Global Industry Model (GIM) and US Regional Model. These models can produce a continuous series of economic impacts over time rather than just pre/post figures. As such, when we state impacts in future years, those refer to losses or gains relative to our baseline forecast for the same future year, which does not assume any change in current tariff policy between the US and China (but considers current and expected macroeconomic and financial trends such as the high interest rate environment and a likely US recession in 2024). Moreover, the stated impacts are presented on a net basis, meaning they consider the net effect of losses and gains due to the tariff policy change.

The effects of tariff policy changes vary over time. To facilitate interpretation of results, we broadly categorize impacts into short-term developments (showing up in economic data immediately, i.e. in the first year, which is 2024) and long-term developments that evolve more gradually over time (we assumed these build up to their maximum impact over a timeframe of five years or by 2028). Fig. 4 illustrates the key drivers for both.

**Fig. 4: Transmission of tariff policy changes through the US economy**



### 3.1 US TARIFF-ONLY SCENARIO: MOVING CHINESE EXPORTS TO COLUMN 2 RATES

This first China PNTR repeal scenario explores the isolated impact of an increase in US tariffs on Chinese exports, with no retaliatory measures from China.

There are two main components to the tariff increase considered in our modelling:

1. *Reinstating the Section 301 tariffs exempted by exclusions.* A part of the Trade Act of 1974, Section 301 grants the US administration certain rights in investigating and addressing certain foreign trade practices.<sup>17</sup> The US had previously used Section 301 to establish a number of punitive tariffs against exports from China, however, certain exclusions were made based on requests submitted by US importers, the Covid-19 fallout and other reasons.
2. *In addition, moving all tariffs to Column 2 tariff rates.* While US Harmonized Tariff Schedule Column 1 designates duty rates applied to countries with normal trade relations, Column 2 tariffs describe countries where such relations are absent, currently covering Cuba, North Korea, Russia and Belarus.<sup>18</sup>

Since Column 2 rates vary by product, Oxford Economics has created a mapping system that allows aggregation of products to reflect economic sectors and their corresponding weighted average tariff rates.<sup>19</sup> The resulting tariff measures can be roughly split into two main categories:

<sup>17</sup> <https://crsreports.congress.gov/product/pdf/IF/IF11346>.

<sup>18</sup> [https://help.cbp.gov/s/article/Article-310?language=en\\_US](https://help.cbp.gov/s/article/Article-310?language=en_US).

<sup>19</sup> A more detailed table showing manufacturing sub-sectors is available in the Appendix.

61%

Moving Chinese exports to Column 2 tariff rates would raise the overall average tariff on Chinese products to 61%, with knock-on impacts for businesses and households.

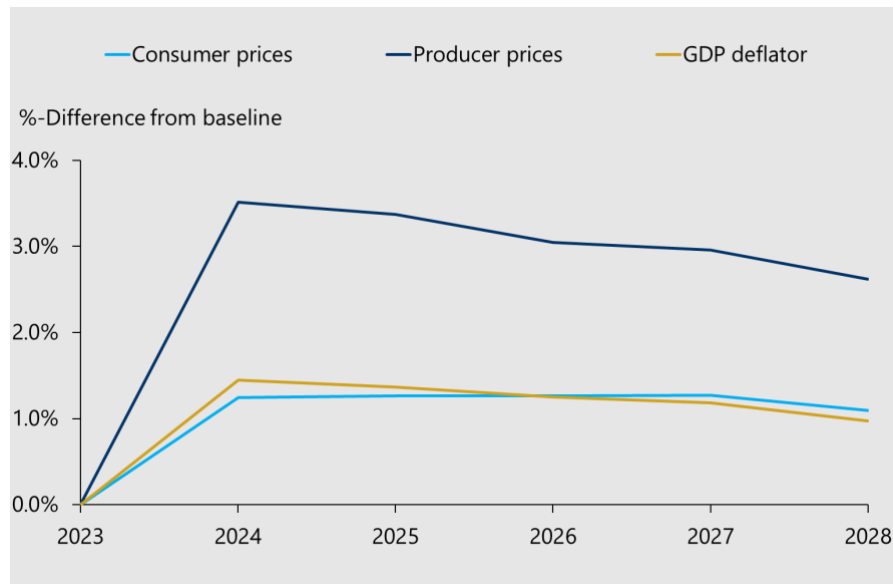
- **11% tariff boost:** Impact on US imports of Chinese products falling under the agriculture, forestry and fishing category.
- **42% tariff boost:** Impact on US imports of Chinese products falling under the manufacturing category.
- This would take the total average tariff applied to Chinese non-fuel goods exports to the US from currently 19% to roughly 61%

### 3.1.1. US TARIFF-ONLY SCENARIO: MACROECONOMIC IMPACTS

Our scenario assumes tariff increases caused by China’s PNTR status repeal take effect in January 2024. We compare the scenario outcomes to our baseline forecast which assumes no changes in current tariff policies.

Given the sizeable share of Chinese exports for US industry and private consumption, businesses and consumers would face an immediate uptick in inflation as a result of higher import prices, making their day-to-day purchases less affordable. We estimate consumer prices would be 1.2% higher than our baseline forecast, pushing CPI inflation to 4% in 2024. Producer prices meanwhile would rise 3.5% above baseline, resulting in 5% PPI inflation in 2024.

**Fig. 5: Price impact under the US tariff-only scenario**



Source: Oxford Economics

The economy would feel the peak impact from these cost pressures in 2025. The sharp increase in prices would decrease US households’ disposable income by an estimated \$270 billion (1.4%) relative to our baseline. At the same time, imposing new tariffs would roil financial markets, leading to declines in equity prices that also

weigh on household wealth. Overall, declining real income and negative wealth effects would reduce consumer spending by \$420 billion (1.6%) in 2025.<sup>20</sup>

The policy would prove particularly hard on US producers, who, as noted, would see the prices of key inputs rise considerably overnight. Though supply chains would reorient themselves slowly over time, in the short run businesses would have little choice but to pay higher prices, eroding their international competitiveness. As a result, US exports would fall 2.1% below baseline by 2025. This gap is estimated to widen to 3.1% by 2028.

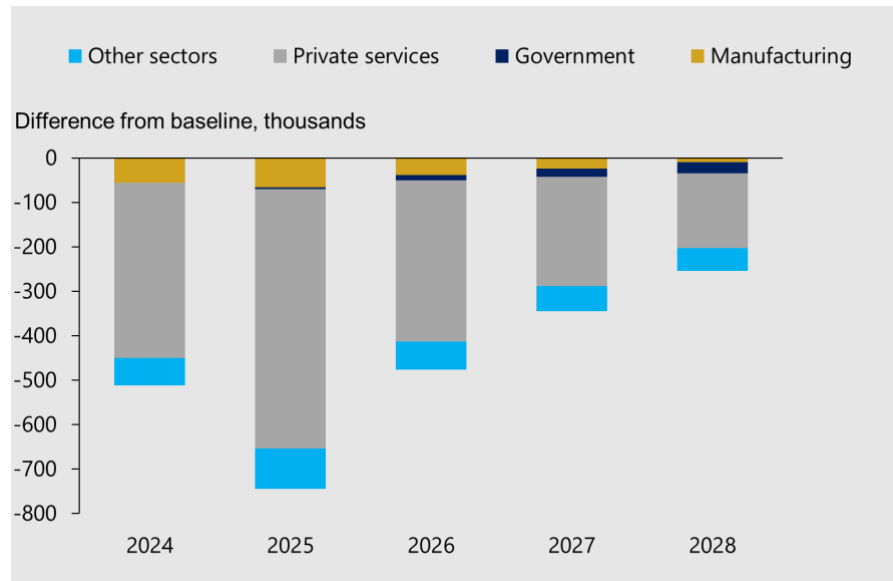
The combination of weaker domestic and international demand would result in a sharp decline in business investment and hiring; by 2025 private business investment would be 4.1% below our baseline forecast, and employment would be 744,000 jobs below baseline (both in net terms). The bulk of the employment loss would be accounted for by the services sector. Relative to sector size, manufacturing and “other sectors” (including oil and gas, utilities and construction) would suffer the most in the near term.

## 744,000 jobs

Column 2 tariff rates would destroy 744,000 jobs in the US economy by 2025 and (after some recovery) 254,000 jobs by 2028



**Fig. 6: Employment impact under the US tariff-only scenario**



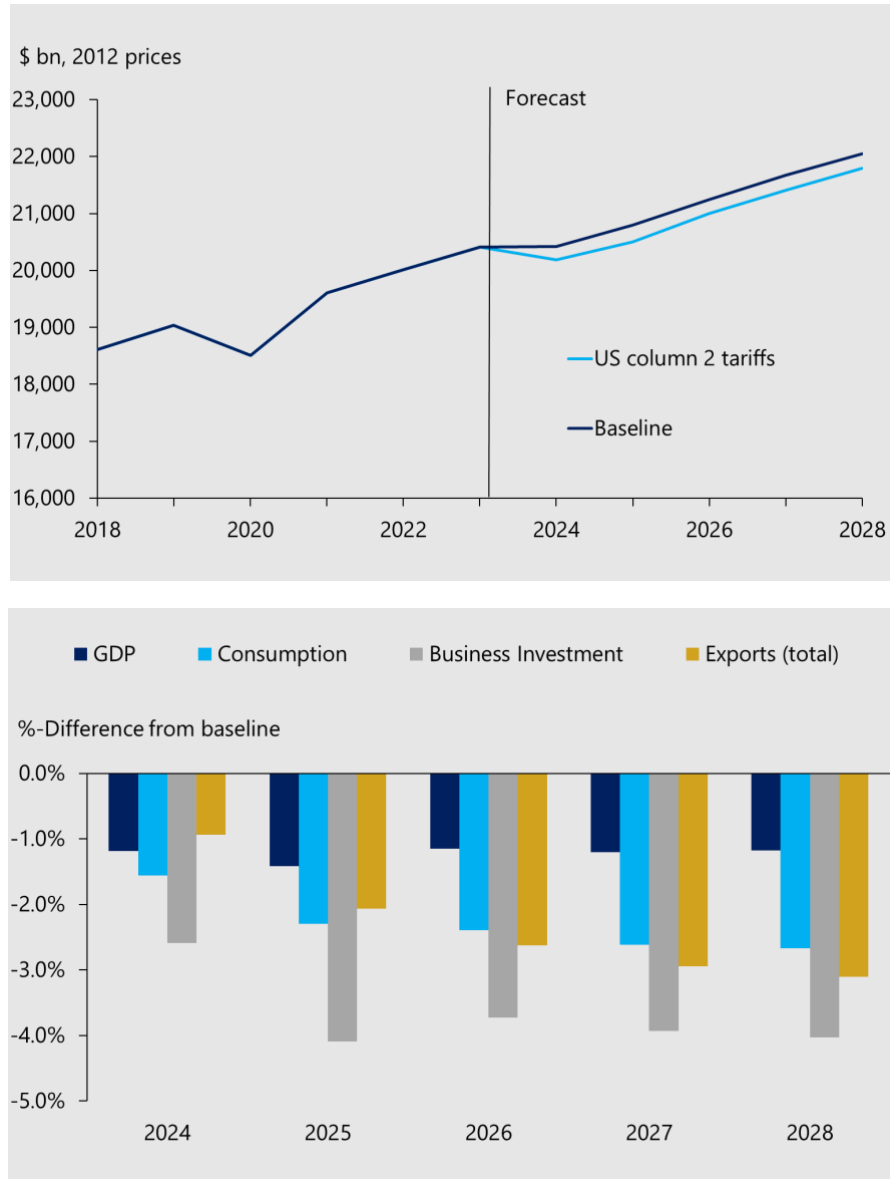
Source: Oxford Economics

Weaker spending by households and firms, as well as weaker exports, would lead to an overall decline in US GDP of 1.4% by 2025 compared to our baseline without the tariffs. Over time, firms would adjust their supply chains to source inputs from new suppliers, which would ease price pressures. However, the negative fallout

<sup>20</sup> All numbers are stated in current (2022) prices.

from the tariffs would be persistent. Exposure to competition from international trade leads to greater efficiency among firms in a given industry and also tends to force less efficient firms out of the market, resulting in economy-wide benefits as labor and capital are increasingly allocated to the most efficient producers.<sup>21</sup> Trade barriers, such as tariffs, would short-circuit this process, leading to permanently lower economic growth in the long run.

**Fig. 7: US GDP (and components) impact under the US tariff-only scenario**



Source: Oxford Economics

<sup>21</sup> See, for example, Melitz, Mark J. "[The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity](#)." *Econometrica*, Vol 71, No. 6. November 2003.



**\$1.6 trillion**

The cumulative cost to the US economy by 2028 from imposing Column 2 tariffs on China in terms of GDP shortfall (in 2022 prices)



So, while the US economy would rebound somewhat from the initial disruption of the tariffs, the policy ultimately would leave lasting scars: by 2028, US GDP would still be \$330 billion below baseline in real terms, and employment would still be 254,000 lower than it would otherwise have been. The result is that even five years on, households would be worse off, with average annual household income in 2028 \$1,900 lower at current prices. Moreover, this gap would be *permanent*, as potential GDP growth would recover to its projected baseline level (which assumes no further tariff changes) by 2028 but would fail to narrow the gap opened up by the tariff policy.

In total, the policy would prove costly for the US: we estimate a cumulative GDP loss of \$1.6 trillion over five years. The cost to households in terms of lost income would be roughly \$8,700 per household on average during that span.

### 3.1.2. US TARIFF-ONLY SCENARIO: US NATIONAL-LEVEL INDUSTRY IMPACTS

A closer look at the sectoral composition of the GDP fallout resulting from the US tariff increases reveals that most sectors would be adversely affected by the tariff increase. While individual sector outcomes depend on the trade intensity, trade exposure to China, and domestic competitiveness vis-à-vis other foreign economies, a few patterns emerge from the results:

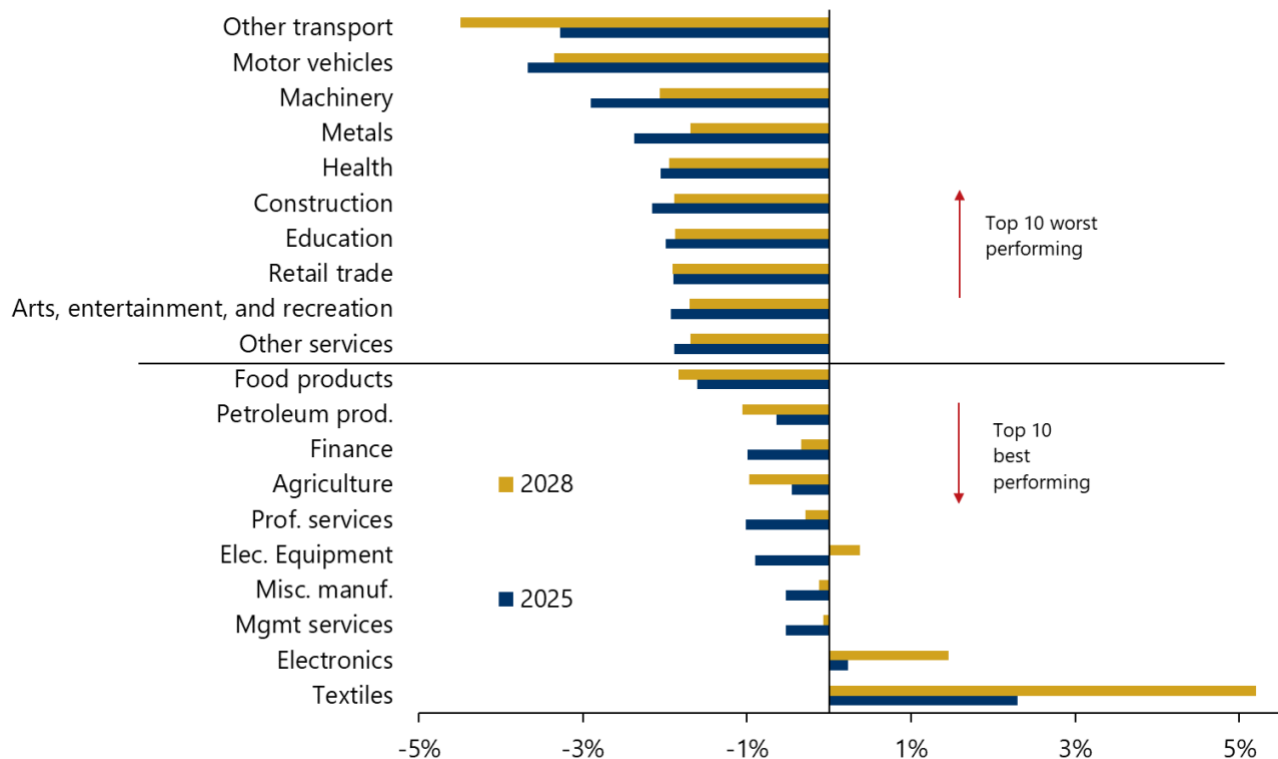
- **The worst affected sectors would be heavy manufacturing and transport manufacturing industries, including auto.** This reflects a combination of high tariffs on US imports from China and significant import dependence on Chinese intermediate inputs, which cannot be easily or cost-efficiently sourced elsewhere. The resulting combination of rising input costs and high domestic production costs would make it difficult for these firms to remain globally or even domestically competitive and thus encourages resources to re-allocate to other, more cost-efficient sectors.
- **Consumer-oriented service industries would experience a broad-based decline compared to our baseline forecast,** suffering from the erosion in household incomes, which likely leads to lower consumption. The same argument applies to construction-related industries, which would see a decline due to lower household and business investments.
- **Business service sectors would be among the least impacted sectors, especially in the long term.** This is because as goods industries are taxed, tradable services industries become relatively more competitive, attracting resources such as capital and labor from goods-producing industries.
- **Agriculture would not see much of an impact in a US tariff-only (without Chinese retaliation) scenario, either.** While the spillovers from the broad-based economic slowdown would reduce demand to some

extent and higher equipment prices increase production costs somewhat, this would not be sufficient to meaningfully reduce competitiveness or consumer demand for agricultural products. However, output prices would rise, increasing the burden to US consumers.

- Textiles and electronics sectors would see an increase in domestic production, but at a cost to US consumers** who would have to pay higher prices for domestically produced goods from these industries. The estimated output expansion in US electronics and textile industries seems counterintuitive at first, because of high import tariffs they would need to pay on imports from China, resulting in a substantial additional cost burden. However, the increased US tariffs on imports from China would also shield those previously uncompetitive sectors from Chinese competition, helping them to capture a larger share of domestic demand. With much higher output prices, selling products abroad would be increasingly difficult for textiles and electronics while China would likely be able to replace much of their lost electronics and textiles exports to the US with sales to other countries.

**Fig. 8: Sector-specific GDP impacts in the US as a response to tariff increases**

US sectoral GDP impact compared to baseline, sorted by 2024-28 cumulative impact from worst to best



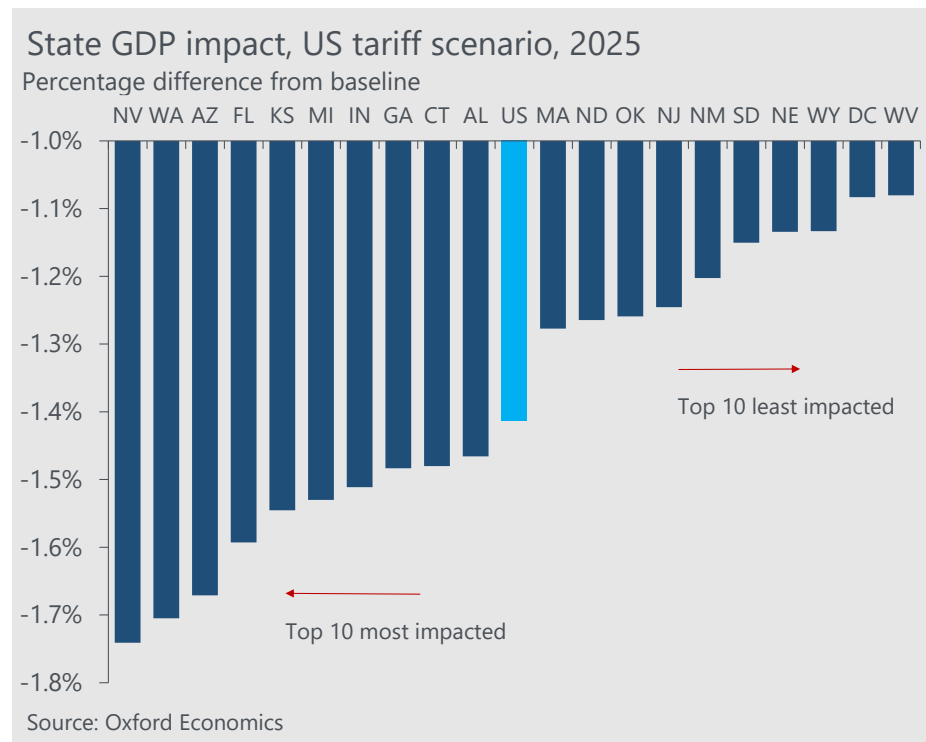
Source: Oxford Economics

### 3.1.3. US TARIFF-ONLY SCENARIO: US STATE-LEVEL IMPACTS

The raising of US tariffs on China will have uneven impacts across US states but lead to a loss of economy activity in all US states. We have modeled state-level impacts through a top-down approach that reflects the industrial structure of state economies. This captures differences in exposure to sectors that are more/less severely affected in the scenario and also the relative performance of state sectors against the US average over the forecast horizon.

Figure 9 shows the 10 states most and least affected in terms of the change in GDP relative to the baseline forecast without tariff changes in 2025 (the trough of the scenario).

**Fig. 9: State GDP impacts in the US tariff-only scenario**



The states that are hardest hit by 2025 can be categorized into two main groups. The first are those that have a greater dependency on consumer services (e.g., retail, arts and entertainment, accommodation and food services) and construction activity and are therefore affected by weaknesses in those sectors under the scenario. This group includes Nevada, which suffers the largest decline of 1.7% relative to baseline GDP, followed by Arizona (-1.7%) and Florida (-1.6%), compared with the overall US figure of -1.4%. The second group consists of those exposed to weaker manufacturing activity, particularly those with significant automotive, other transport equipment and machinery manufacturing sectors. This includes Washington, Alabama and the Midwest states of Kansas, Michigan and

**-1.7%**

Peak loss in real GDP in most affected states Nevada and Arizona (in 2025), driven by weak consumer and construction sectors.



Indiana. The increase in US tariffs would therefore add to the challenges faced in the manufacturing heartlands of the US.

Arizona has one of the most significant electronics sectors in the US. The state is a hub for semiconductors manufacturing, with more plants currently under construction by Intel and TSMC. Despite electronics being one of best performing sectors in the scenario, and indeed slightly boosted compared to the baseline in 2025, it is not enough to prevent Arizona from being one of the most negatively impacted states.

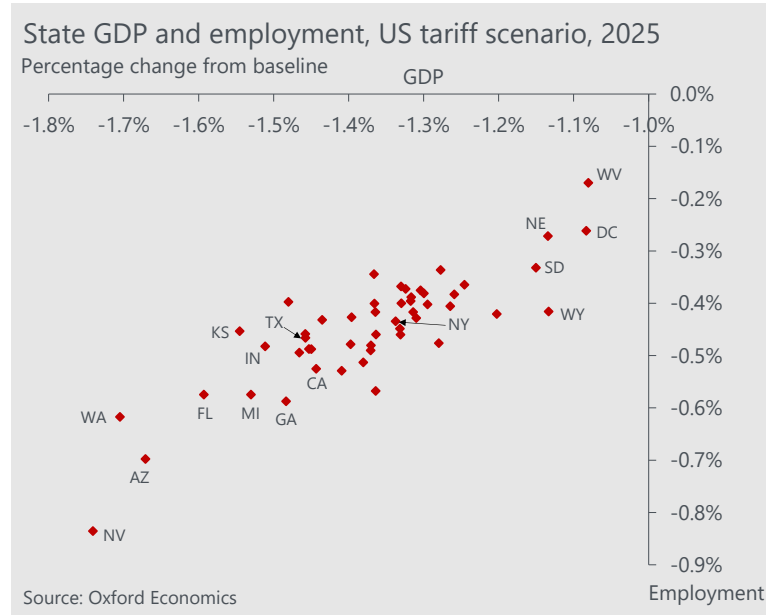
The most resilient areas are those with large government sectors, such as DC and West Virginia, which are both 1.1% down relative to the baseline in 2025. States such as Wyoming, Oklahoma, and North Dakota also perform relatively well due to their large agriculture sectors (which hold up well in the short term) and the smaller contribution of consumer services to their economies.

US agriculture GDP is 0.5% below baseline by 2025 in the scenario. The states suffering the severest proportional declines are generally in the South and Midwest, including South Carolina, North Carolina, Alabama, Kansas, Nebraska and Iowa, with declines of 0.6%-0.7% compared to baseline. California has by far the largest agriculture sector, accounting for around 17% of activity in the US, and the state suffers the largest absolute decline in agriculture, with GDP \$130 million below baseline by 2025. This is followed by other states with large agricultural sectors, including Nebraska, Minnesota, Texas and Kansas.

The relatively strong performance of professional and business services in the scenario contribute to New Jersey and Massachusetts being among the least impacted states. In addition, construction and consumer services hold up better in these two states compared to the US in the scenario.

The California and Texas economies are disproportionately affected by the imposition of US tariffs. A number of California sectors suffer sharper falls in activity (relative to the baseline) than the US average, including construction, real estate and retail. California also has a relatively small government sector, which means although government GDP is resilient in the scenario, it is less able to support overall activity in the state. In Texas, the small government sector is also a factor in the state's underperformance, along with relatively large construction and wholesale sectors. New York's economy meanwhile is less affected than the US average, due to the relatively low presence of construction and manufacturing activity, and greater concentrations of high-value services such as professional and business services and finance.

**Fig. 10: Comparison of state GDP and employment impacts**



## 96,000 jobs

Column 2 tariff rates would destroy 96,000 jobs in California by 2025, equivalent to 0.5% of its workforce. Florida is second most impacted, with 56,000 lost jobs.



As with GDP, all states suffer an employment decline relative to the baseline in the US tariff-only scenario by 2025. The most severely affected states with respect to GDP suffer the biggest employment losses. Nevada employment is down 0.8% on the baseline (equivalent to 13,000 jobs), followed by Arizona (-0.7%, -23,000 jobs) and Washington (-0.6%, -23,000 jobs). Florida's 0.6% employment decline compared to the baseline is the second largest in absolute number of jobs, at 56,000.

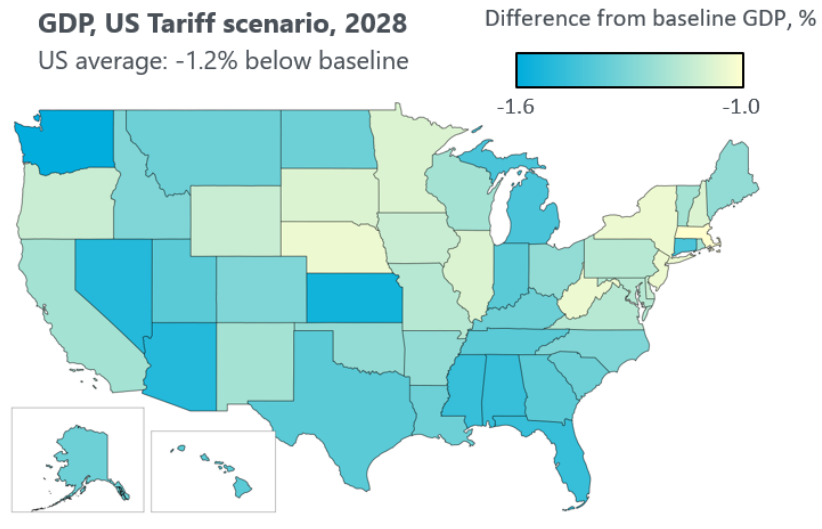
Consumer sectors such as retail and accommodation and food services, which face the biggest hits to GDP in the scenario, tend to have lower productivity (more people employed per unit of activity). This magnifies the falls in employment in states such as Nevada and Florida.

The Midwest states of Indiana, Kansas and Michigan, hit hard due to their reliance on manufacturing activity, lose a combined 48,000 jobs by 2025 under the scenario, while Southern states such as Alabama, Mississippi and Tennessee also suffer disproportionately due to the importance of manufacturing to their economies.

California is one of the most severely affected states in terms of employment, with payrolls falling 0.5% against the baseline, equivalent to 96,000 jobs by 2025. Texas' decline of 0.5% relative to the baseline is equivalent to 66,000 jobs.

By contrast, the most resilient states such as West Virginia, Wyoming as well as the District of Columbia see employment decline by only around 0.3% relative to the baseline by 2025.

**Fig. 11: State GDP impacts in the US tariff-only scenario**



The state picture broadly remains the same by 2028. Consumer- and construction-dependent states such as Nevada, Arizona and Florida remain among the most impacted, as do those more reliant on manufacturing activity, such as Indiana, Kansas and Michigan in the Midwest, and Southern states such as Mississippi. The District of Columbia and West Virginia are still among the least affected areas in 2028 due to their large government sectors.

Agriculture and mining GDP slows from 2025 to 2028 compared to other sectors, meaning some resilient states such as North Dakota, Wyoming and Oklahoma fall back toward the middle of the rankings. At the same time, finance and professional and business services widen their performance advantage over other sectors post-2025. This helps to lift New York and Illinois to be in the top 10 best performing states and contributes to Massachusetts becoming the most resilient state by 2028. California's performance improves by 2028 such that the impact of the scenario on state GDP is broadly equal to the US average. This is due to the growing strength of professional and business services, and electronics manufacturing through to 2028, both of which have a heavy presence in California.

### 3.2 CHINESE RETALIATION SCENARIO: REINSTATING PRE-WTO RATES

There is another scenario to consider: one in which the US follows the same policy as described in the previous scenario (i.e., an increase of all tariff rates to Column 2 following China's PNTR repeal), but in addition, China retaliates with its own tariff measures, which, based on policy moves of the past five years, appears highly likely.

Again, we consider two main components to the tariff increase, including both the lifting of existing Section 301 retaliatory tariff exclusions and the additional tariff

increase above China's existing tariffs retaliating against the US Section 301 tariffs. Our methodology in terms of mapping the granular product groups to more aggregate economic sectors remains the same as in scenario 1.

1. *Reinstating excluded retaliatory tariffs originally imposed as a response to US Section 301 tariffs.* As a response to the US Section 301 tariffs, which were triggered throughout 2018–19, China had retaliated in kind to roughly match the US tariff increases. Some products had been excluded from the original tariff list, which we assume would be reinstated.
2. *In addition, moving all tariffs to pre-WTO tariff rates.* These tariff rates correspond to China's highly protectionist stance prior to opening up to world trade by joining the WTO in 2001.

This would result in the following average weighted tariff increases in China:

- **8% tariff increase:** Impact on exports from the United States to China falling under the agriculture, forestry and fishing category. We think it is reasonable to assume a lower Chinese tariff increase on crops because China has no immediate interest in curbing its vital food supplies too drastically and has traditionally been a larger purchaser of US grains and soybeans.
- **19% tariff increase:** Impact on exports from the United States falling under the manufacturing category. The tariff increase on high-tech goods is assumed to be lower, again reflecting China's less likely interest in limiting those imports.
- This would take the total average tariff applied to US non-fuel goods exports from currently 21% to roughly 38%.

### 3.2.1. CHINESE RETALIATION SCENARIO: MACROECONOMIC IMPACTS

Looking at the combined effects of the US tariff increase and Chinese retaliation, the shape and nature of the economic losses are similar to the first scenario, but the magnitudes are larger for both domestic demand and trade. The retaliatory measures from China make US goods less competitive in the Chinese market, further cutting US exports, which fall an additional 0.3% by 2025 relative to the US tariff-only scenario, with the gap magnifying to 0.5% by 2028.

Meanwhile, though inflationary pressures in the US are unaffected by the Chinese retaliation, the announcement of the Chinese tariffs shakes financial markets, further weighing on consumer and business sentiment. As a result, we estimate the private sector to cut investment by 4.5% in 2025. By 2028, US businesses would have invested \$768 billion less than in the baseline scenario, and an additional hit of \$80 billion compared to the US tariff-only scenario. Consumer spending, the largest component of US GDP, would also take a direct hit from weaker equity

# 38%

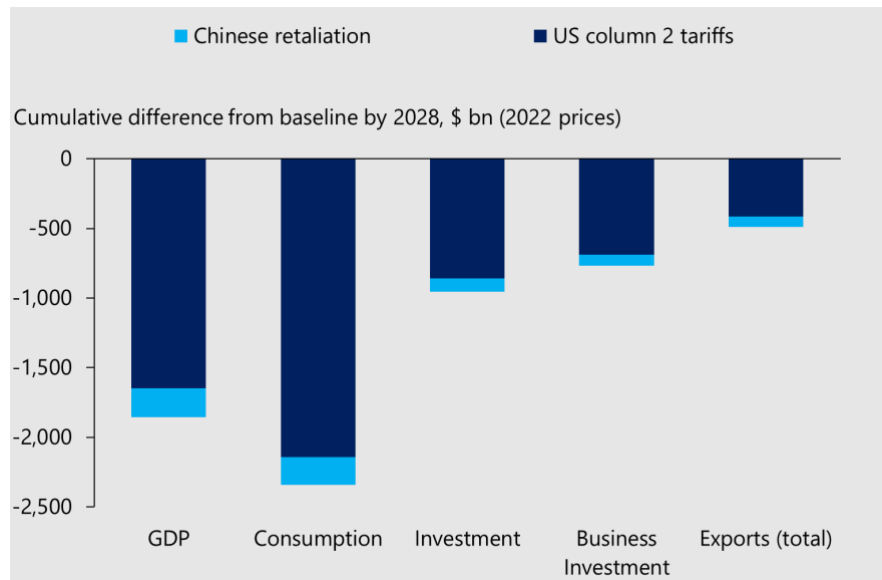
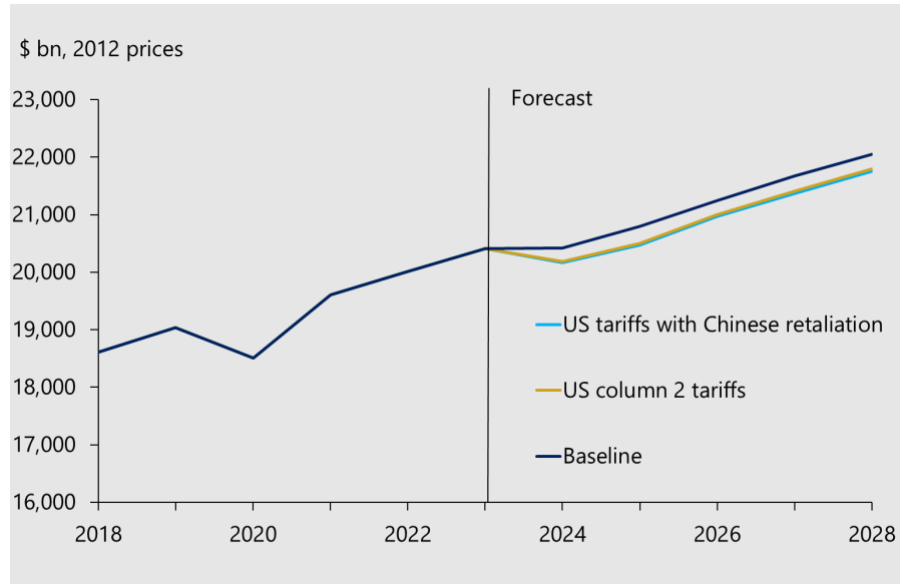
A likely Chinese policy retaliation could raise the overall average tariff on US exports to 38%, severely constraining market access for US companies in China.

prices (via the wealth effect, as a large part of US household savings are in stocks) as well as reduced consumer confidence—on top of losses stemming from higher unemployment shown below.

**Fig. 12: US GDP (and components) impact under Chinese retaliation**

**\$1.9 trillion**

The cumulative cost to the US economy by 2028 from an expected Chinese retaliation, in terms of GDP shortfall (in 2022 prices)



Source: Oxford Economics

In aggregate, Chinese retaliation would create a more pronounced drop in US real GDP, equivalent to \$385 billion (in 2022 prices) by 2028. On a cumulative basis, US real GDP would be \$1.9 trillion lower over the next five years relative to our baseline forecast—an incremental loss of \$300 billion compared to the scenario without Chinese retaliation.



## 801,000 jobs

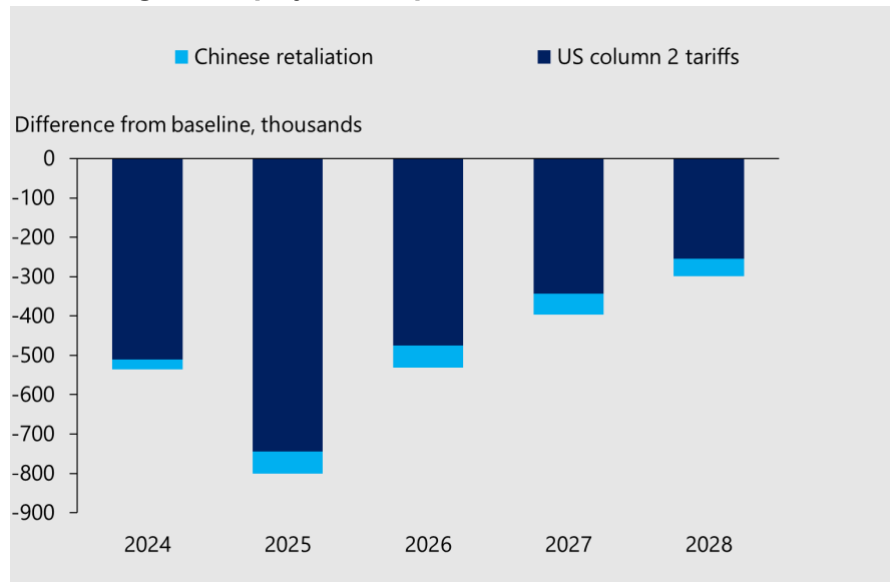
If China chose to retaliate against US tariffs, this would raise the job destruction in the US economy to 801,000 jobs by 2025 and (after some recovery) 300,000 jobs by 2028.



As a result of the weaker economy, employment would fall further below our no-tariff-change baseline projection, with a peak impact of 801,000 fewer jobs (on a net basis) created by 2025. The long-term reduction in employment would be larger than a scenario without Chinese retaliation, with 300,000 fewer jobs (on a net basis) compared to the baseline in 2028—an additional loss of 46,000 jobs (on a net basis) above the US tariff escalation scenario.

We estimate that compared to our baseline forecast, households' personal disposable income would be cut by an estimated \$241 billion (1.2%) in 2024, which grows to \$321 billion by 2028, reducing consumer spending and savings accordingly. This equates to a cumulative loss in the scenario of \$11,100 per US household at today's prices over the 2024–2028 period.

**Fig. 13: Employment impact under Chinese retaliation**



Source: Oxford Economics

The relatively larger declines in trade and investment also lead to greater damage: the long-run drop in US GDP (compared to baseline) widens to 1.4% in the Chinese retaliation scenario vs 1.2% in a scenario without retaliation.

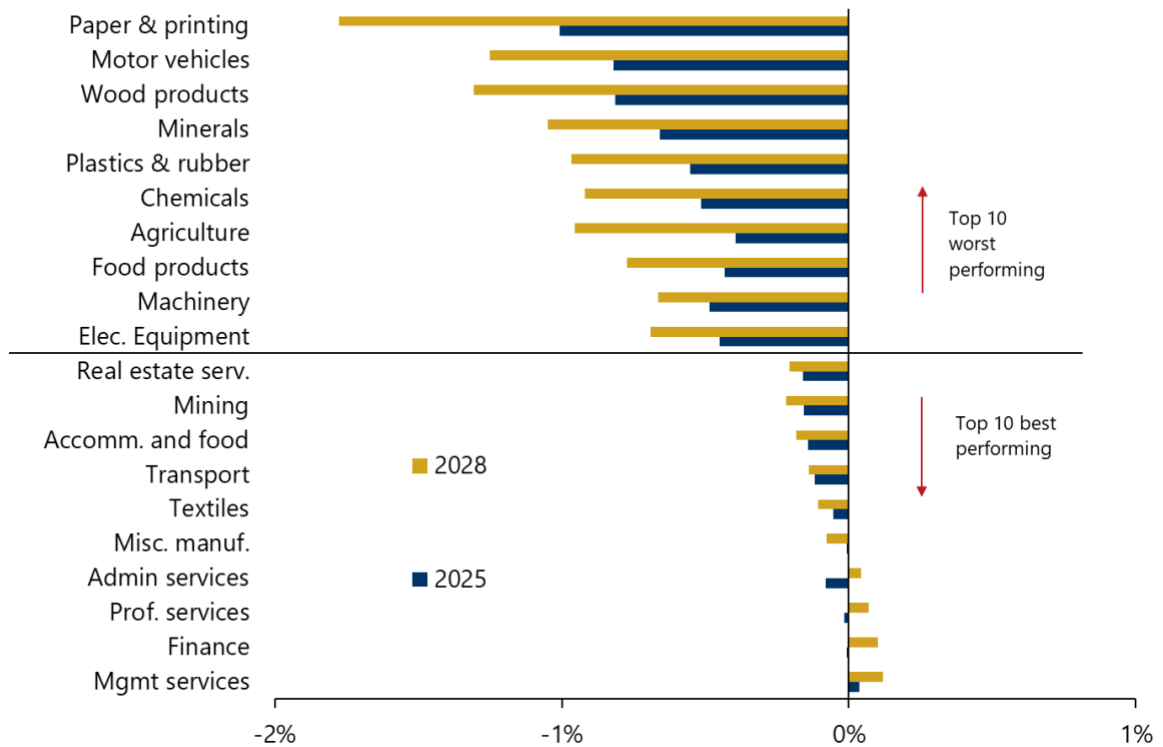
### 3.2.2. CHINESE RETALIATION SCENARIO: US NATIONAL-LEVEL INDUSTRY IMPACTS

The simulation of a Chinese policy retaliation highlights an additional, broad downturn across most sectors on top of the US tariff increase described in the previous scenario, thereby further aggravating the overall impacts on the US economy. While the additional trade barriers are generally harmful to all sectors, tariffs on US exports to China ripple through the economy in a slightly different way than import tariffs discussed in scenario 1—and get worse over time:

- **Service sectors would feel relatively little additional impact by the Chinese policy retaliation modeled in scenario 2**, since the Chinese tariffs would only affect goods industries in the US. While lower domestic demand would cause some headwinds in the near term, market access and competitiveness would not be constrained across service sectors—this is also reflected by the increase in total US services exports.
- **The worst affected sectors would face high additional tariff barriers (paper products 27%, wood products 53%, motor vehicles 29%)** and would consequently lose a significant part of their international sales as those products become uncompetitive in the Chinese market (16%, 10%, and 6% of respective exports go to China). In the absence of sufficiently higher demand for US products elsewhere in the world, some export revenue would be permanently lost.
- **The negative impact on agriculture doubles in 2025 and continues to build thereafter**, as removing much of Chinese demand for US agricultural products increasingly weighs on production. Agricultural exports to China are estimated to fall 32% (compared to just 8% in scenario 1).

**Fig. 14: Sector-specific US GDP impacts under the Chinese retaliation scenario**

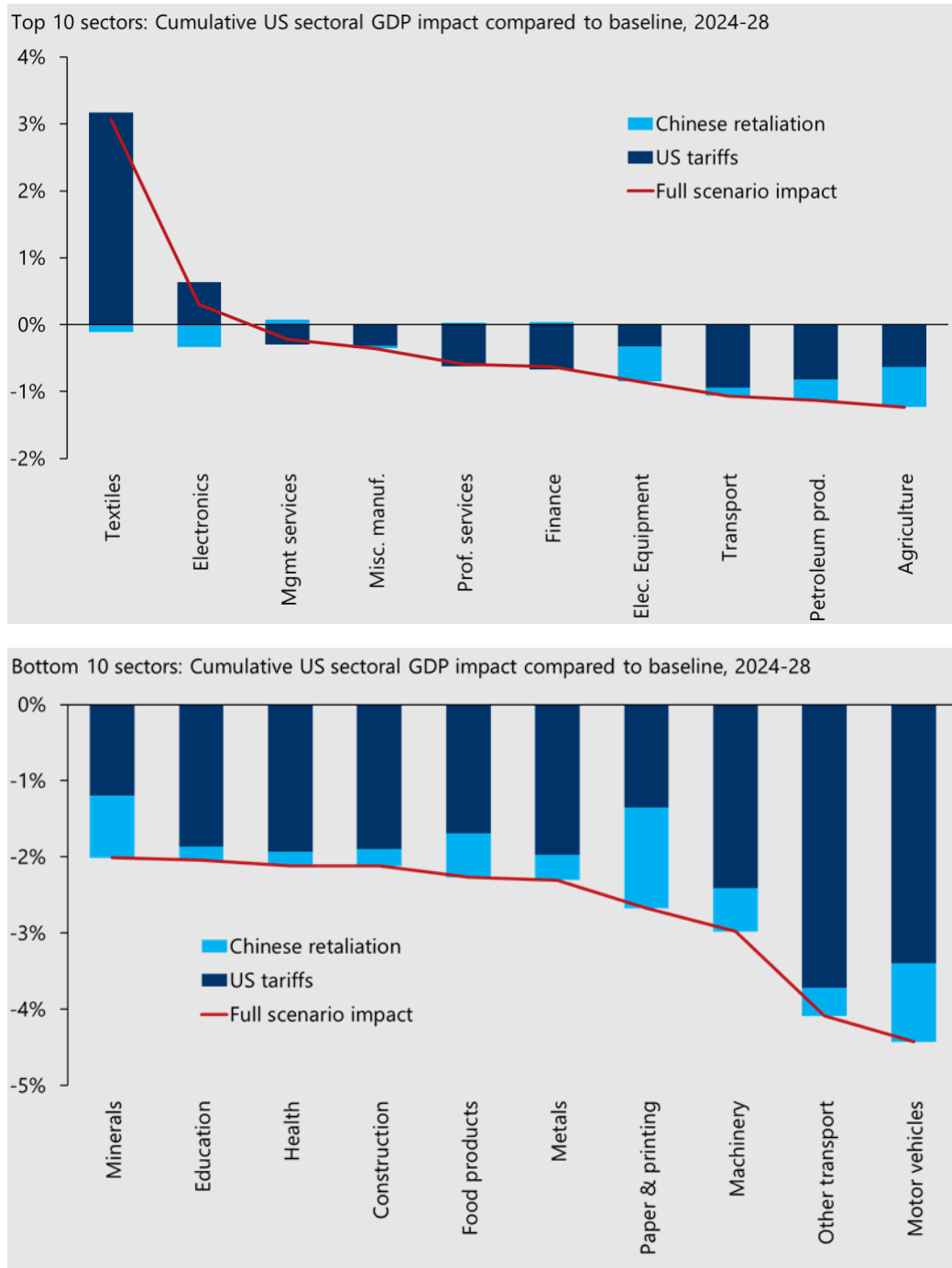
US sectoral GDP impact compared to US tariff only scenario, sorted by 2024-28 cumulative impact from worst to best



Source: Oxford Economics

When we aggregate both scenarios (Fig. 12), we find that the Chinese policy retaliation reduces some of the positive sector outcomes in the US (textiles and electronics) while substantially aggravating the impact on most manufacturing and agriculture sectors.

**Fig. 15: Sector-specific GDP impacts in the US across tariff scenarios**



Source: Oxford Economics

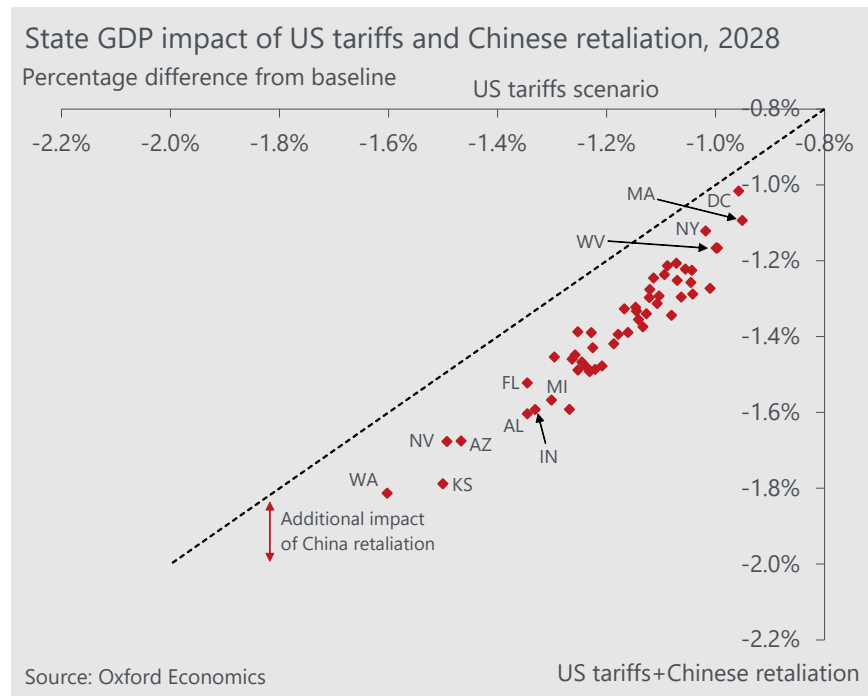
**3.2.3. CHINESE RETALIATION SCENARIO: US STATE-LEVEL IMPACTS**

Chinese retaliation compounds the negative impact on economic activity in every US state. As in the US tariff-only scenario, we expect those states that are reliant on consumer sectors and construction, such as Nevada, Florida and Arizona, to be among the most severely affected relative to the baseline. Nevada remains one of the hardest hit states in the Chinese retaliation scenario, with GDP down 1.7% on the baseline by 2028, which is 0.2 percentage points lower than under the US tariff-only scenario. States with a heavy reliance on manufacturing activity also suffer greater than average losses to GDP, including Washington (1.8% decline on the baseline), Kansas, Indiana, Michigan and Alabama.

In contrast, DC and West Virginia are among the most resilient economies in the scenario, supported by their large government sectors. Massachusetts, New York and New Jersey also hold up well in the Chinese retaliation scenario, largely due to the strong presence of professional and business services in these states. New York’s economy is also shielded by its low share of construction and manufacturing activity.

The impact on the California economy is close to the US average by 2028, while Texas is disproportionately affected due to its small government sector and the relatively large contribution of construction and wholesale activity in the state.

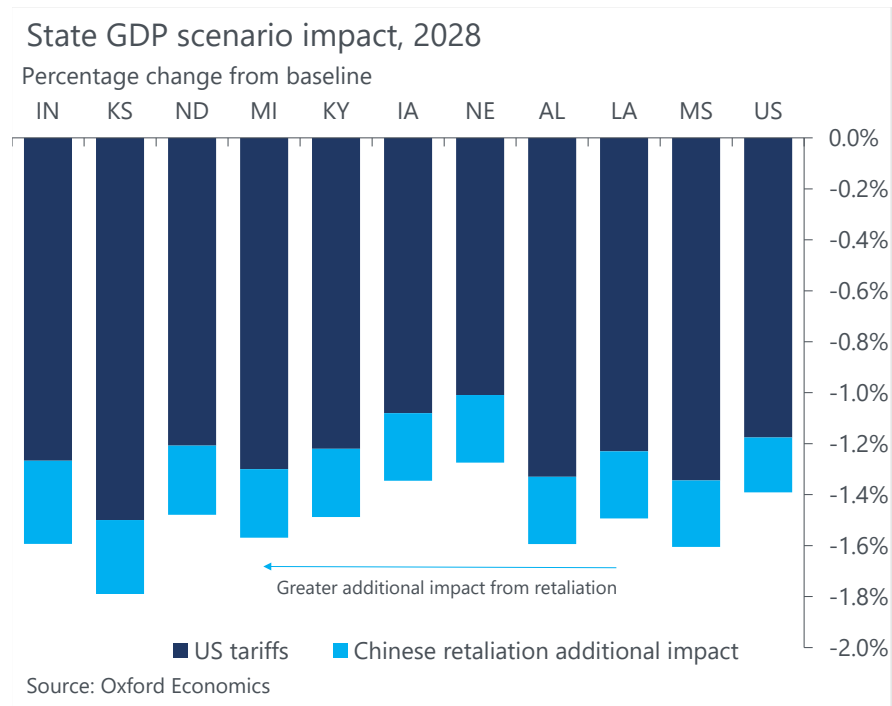
**Fig. 16: Comparison of state GDP impacts between the US tariff and Chinese retaliation scenarios**



Despite the similarity in the overall state picture in the Chinese retaliation scenario and the US tariff-only scenario, there are differences in the scale of additional challenges faced if China retaliates. As we have seen in the industry analysis, a wide range of manufacturing sectors would be disproportionately affected by Chinese retaliation, but particularly automotive, other transport equipment, wood products and paper products. In contrast, service sectors would be relatively unaffected. Chinese retaliation would therefore have more negative consequences for states in the Midwest and South that are part of the manufacturing heartland of the US, such as Indiana, Kansas, Michigan, Alabama and Mississippi.

Agriculture would also be disproportionately affected by Chinese retaliation compared to the US tariff-only scenario, and this consequently has a greater impact on states with a greater dependency on agricultural activity. This includes Midwest and Southern states such as Kansas, North Dakota, Kentucky, Iowa and Alabama.

**Fig. 17: States that suffer the greatest additional losses over and above the US tariff-only scenario due to Chinese retaliation**



## 37,000 jobs

Additional job losses in California by 2028 due to Chinese retaliation policies (on top of scenario 1 job losses)



All states suffer additional employment losses under the Chinese retaliation scenario over and above the US tariff-only scenario. The areas with the biggest declines in employment compared to the baseline are those that suffer the largest hits to GDP. Nevada employment suffers a 0.5% loss against the baseline by 2028 (equivalent to over 8,000 jobs), followed by Arizona (-0.4%, -13,000 jobs) and Washington (-0.4%, -16,000 jobs).

The Midwest states of Indiana, Kansas, and Michigan, and Southern states such as Alabama and Mississippi, also experience relatively severe employment losses in the Chinese retaliation scenario, due to their dependency on manufacturing.

California's employment decline of 0.2% compared to the baseline is equivalent to 37,000 jobs, the largest absolute decline of all US states.

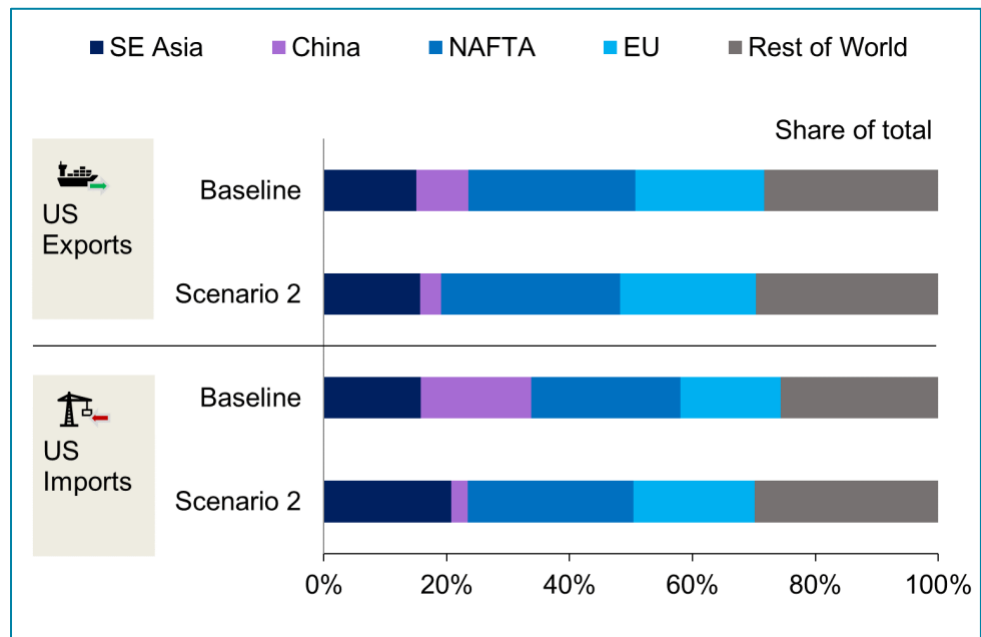
### 3.3 IMPLICATIONS FOR BILATERAL AND GLOBAL TRADE PATTERNS

The two tariff scenarios modeled in this report reveal significant shifts in the geography of imports and exports for both the US and China. This section summarizes the high-level changes implied by our GTAP modelling, whereby the allocation and diversion of trade flows are mostly driven by international cost competitiveness and customer and business preference structures.

Tariffs raise the cost of trade between affected countries, making export industries less competitive and reducing the benefits achieved by sourcing inputs abroad. Therefore, as a result of the US-China tariffs, other countries would take a larger role in supplying US imports, while US industries would also find other export destinations where the price of their products aren't subject to tariffs.

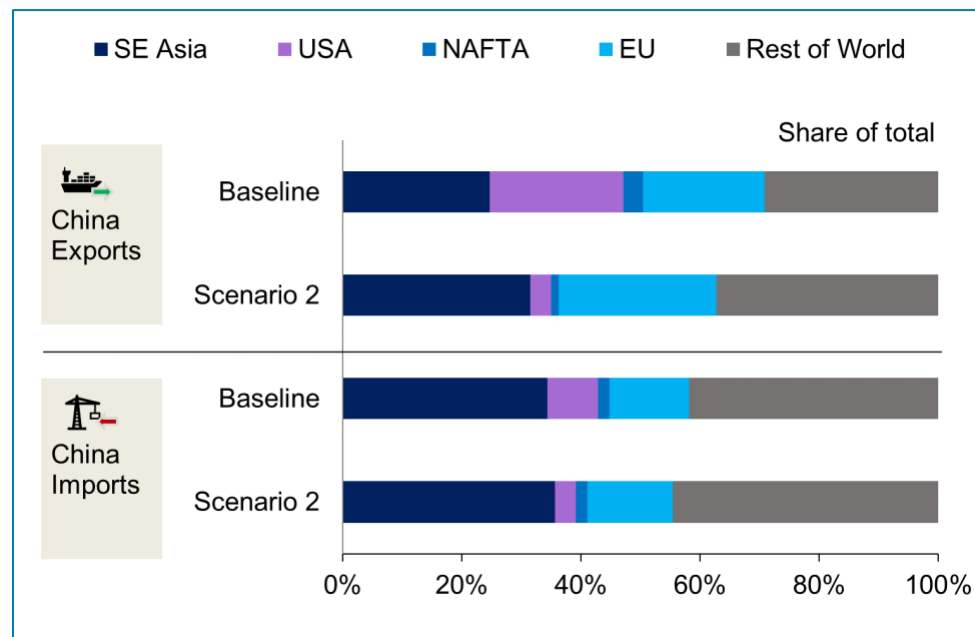
Our GTAP modelling suggests that American and Chinese trade relationships would reorient significantly (taking into account both US tariffs and Chinese retaliation):

- The US would drastically reduce its import reliance on China. According to GTAP, this flow would decrease by 86% as a result of the tariff increase (lowering China's share in US imports from 18% to 3%), with only food and commodity products relatively less affected.
- To partially offset this fall, the US would import more from all other regions globally, with Southeast Asia and Rest of World (including Latin America) seeing the biggest increase.



Source: Oxford Economics/GTAP

- On the export side, the US would more broadly lose access to the Asian market (since this is where China would likely divert the exports no longer bound for the US trade), while selling more of its products to neighboring NAFTA countries, the EU and the Rest of World.
- Conversely, China would drastically reduce its exports to the US and to NAFTA more generally. The share of all other regions would rise noticeably.
- The loss of US imports would prove less of a concern to China given that they account for a relatively small share of the market—and those are mostly replaced from the Rest of World bulk of countries.



Source: Oxford Economics/GTAP

Despite some trade diversion to other regions, the US and China would become more domestically-oriented economies—reflected in a falling trade/GDP ratio compared to the projected 2028 baseline figure:

- **US:** The share of total trade in GDP would fall from 35% to 33%.
- **China:** The share of total trade in GDP would fall from 34% to 32%.

Decreased trade openness would also reduce knowledge and technology spillovers (network effects stemming from joint ventures, R&D, commercial interactions, etc.) a deeply-studied phenomenon in global trade economics<sup>22</sup>, which we have also incorporated into our modelling (see detail in the Appendix).

<sup>22</sup> See, for instance: Grossman et al, *Trade, Knowledge Spillovers, and Growth* (1991, European Economic Review).



## 4. CONCLUSION

The analysis presented shows that tariffs and other restrictive policy measures imposed by the US government, such as revoking PNTR for China, come at a significant cost in lost US jobs and output. While the 2018 trade war and subsequent policy moves have been extensively analyzed in different studies, including a previous Oxford Economics study for USCBC, renewed tensions fueled by concerns over technological security and geopolitical influence are threatening to magnify the economic costs generated by previous protectionist moves. A further increase in tariffs would hurt the US-China economic relationship significantly, affecting US jobs and industry output permanently.

Based on our simulations, the imposition of Column 2 tariff rates would on average raise the cost of goods imported to the US from China, including key inputs to US manufacturing, by an additional 42%. As a result, American businesses would be forced to cut investment plans and lay off US workers, while raising output prices. Together, these factors would drag down US household incomes and consumption, further exacerbating the overall economic adversity to the US.

**Fig. 18: Summary of key findings**

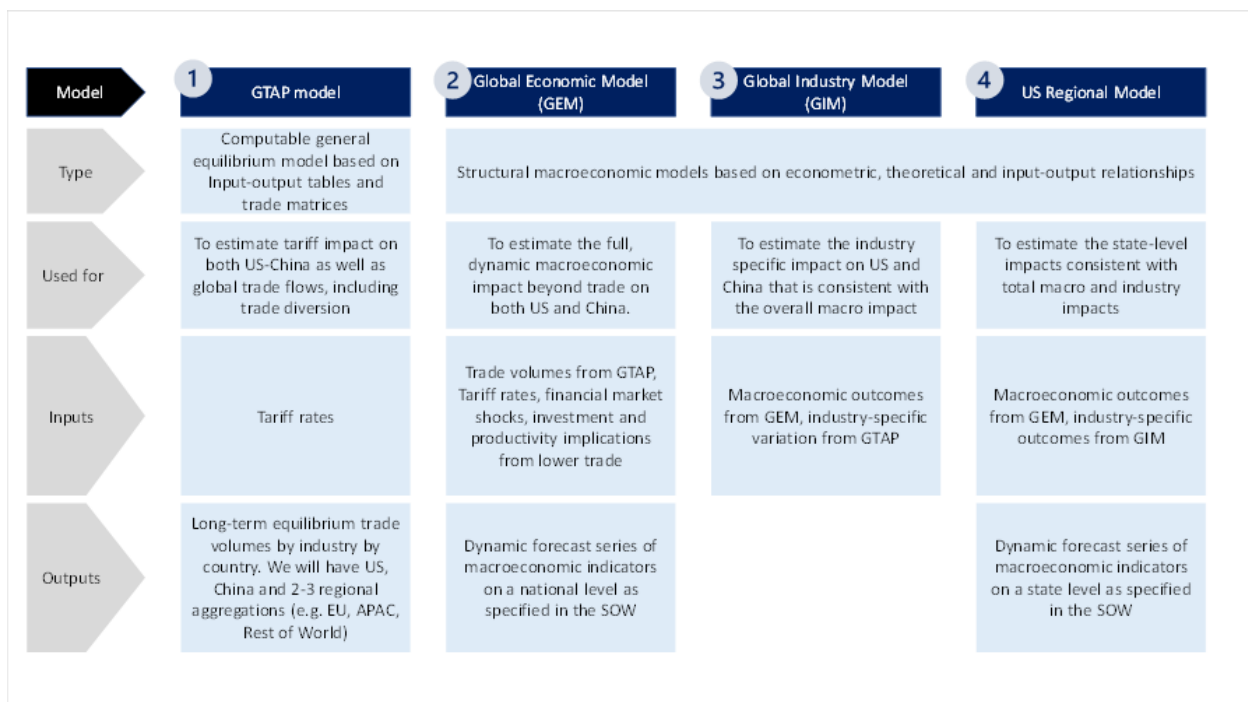
	Net impact to US GDP in 2022 prices	Peak impact on US Employment
<b>2017–2019 trade war</b>	\$121 billion lower by 2019	245,000 fewer jobs
<b>2021 OE-USCBC trade war scenario</b>	\$1.9 trillion lower over 5-yr horizon	732,000 fewer jobs
<b>Current study—US tariff-only scenario</b>	\$1.6 trillion lower over 5-yr horizon	744,000 fewer jobs
<b>Current study—Chinese retaliation scenario</b>	\$1.9 trillion lower over 5-yr horizon	801,000 fewer jobs

Clearly, the US-China commercial relationship has suffered significantly in recent years at the hands of protectionist policies and is now in danger of being further harmed. While the Biden administration has shown a willingness to calm the inflammatory rhetoric and protectionist measures of the preceding US administration, little progress has been made toward its stated goals of taking down trade barriers abroad that continue to penalize American businesses and households. Neither the Chinese nor Americans have indicated a willingness to budge.

Like our [earlier study](#) for USCBC on the Section 301 tariffs but on an even greater scale of impacts, this new study highlights that American industries and associated jobs—and hence the US economy and its growth—are at significant risk. This study also illustrates the harmful consequences of a further increase in tariffs between the two countries for the US, China and the world.

# APPENDIX: OXFORD ECONOMICS’ MODELLING FRAMEWORK TO DERIVE ECONOMIC IMPACTS OF TRADE TARIFFS

Oxford Economics (OE) has carried out this analysis using a unique four-step approach to capture a wealth of economic impacts ranging from trade diversion, output destruction and income compression to financial market responses and long-term productivity and knowledge transfers. In chronological order, the shocks were applied to the GTAP model, the OE Global Economic Model, the OE Global Industry Model and the OE Regional and Cities models. All of those models, as well as the corresponding mapping of shocks and outcomes, are described below.



## The GTAP Model

The Global Trade Analysis Project (GTAP) model, which is produced by the Center for Global Trade Analysis in Purdue University's Department of Agricultural Economics, is made up of a global database (140 economies/regions and up to 57 sectors) describing bilateral trade patterns, production, consumption, and the intermediate use of commodities and services, as well as a multi-region, multi-sector computable general equilibrium (CGE) model.

Sector (based on NACE Rev.2 classification)	US import tariff	China retaliation tariff
All sectors (weighted average tariff)	42%	17%
Agriculture, forestry, fishing and hunting	11%	8%
Mining	0%	0%
Utilities	0%	0%
Construction	0%	0%
Manufacturing	42%	19%
Computer and electronic product manufacturing & electrical equipment and appliance	29%	19%
Machinery manufacturing	49%	18%
Textile and textile product mills and apparel manufacturing	48%	32%
Chemical manufacturing & rubber and plastics	49%	16%
Furniture and related product and miscellaneous manufacturing	54%	53%
Primary metal and fabricated metal product manufacturing	47%	9%
Wood product manufacturing	50%	44%
Motor vehicles, bodies and trailers, and parts manufacturing	36%	29%
Nonmetallic mineral product manufacturing	44%	11%
Paper manufacturing and printing and related support activities	30%	27%
Other transportation equipment manufacturing	33%	17%
Food product manufacturing	15%	32%
Petroleum and coal products manufacturing	2%	2%

### **The Global Economic Model**

The Global Economic Model (GEM) is a fully integrated macroeconomic model of the world economy developed by Oxford Economics, including 85 countries and several regional economic blocs. The model uses time-series equations based on the error correction model (ECM) format, which captures long-term equilibrium relationships between variables, but also enhances short-term forecasting power through a dynamic section of each equation. In general, the model is Keynesian in the short run but Monetarist in equilibrium. This means that short-term shocks to demand generate economic cycles, and these can be influenced by fiscal and monetary policy, but over the long term, supply-side factors (such as the size of the labor force, the capital stock and productivity) determine the level of output.

### **The Global Industry Model**

Oxford Economics' Global Industry Model provides a framework for accessing our industry forecasts and building your own projections. The model is globally integrated and transparent so that changes are reflected throughout to show the impacts of key macro drivers across 77 countries and 100 sectors. Forecasts are fully consistent with the macroeconomic forecasts derived from our Global Economic Model. The Global Industry Model identifies and maps the supply chain linkages between economic sectors within countries and across regions, and connects them to the macroeconomic drivers of demand to provide a rigorous and consistent representation of sector output and investment.

## **The US Regional Model**

The US Regional Model utilizes a “top down” approach in that state economies are generally modeled against the US economy. This approach is adopted since the availability, detail, and timeliness of data for higher-level geographies tends to be more reliable, which allows state forecasts to be anchored to the national outlook. The structure of the US Regional Model means forecasts for a particular variable are finalized and then used as a driver for subsequent variables. For example, state GDP by industry forecasts are produced first, which then help drive state employment by industry forecasts through projections of industry-level productivity. Employment forecasts then help determine unemployment, and so on. State forecasts for particular variables are often expressed or modeled relative to the US forecast for that variable, generating the relative performance of states against each other and the US.

## **Scenario modelling**

The scenarios presented in this report were generated using all of the above models. The effects of tariffs on trade flows and prices were first determined using the GTAP model, which is better suited to understanding the static (equilibrium) effects of changes in tariff barriers on trade flows and prices. The Oxford GEM in contrast is better suited at capturing how macroeconomic variables interact in a dynamic setting, including feedback loops between the real economy, financial markets, and policy. The final results reflect the interaction of the output from the GTAP model being inserted into the GEM (along with other shocks to financial market stress and total factor productivity) to produce time-series results for the US, China, and the rest of the world economy. Those results were then mapped to the OE Global Industry and Regional models to derive the implied sector-level and state-level results from the global macro analysis.

Note that the state modelling for GDP uses econometrically estimated equations. A key component of these equations is the historical relationship between the performance of state GDP for a particular sector and the same sector’s performance at the US level. Some industries in some states will have more pronounced movements compared to aggregate, national level outcomes, while other industries/states will have less pronounced movements. The equations implicitly capture the average of all factors affecting the relationship over the historical long run, which could be trade-related dynamics but could also be linked to other factors (e.g., relative skills mix between states and the US).

## **ABOUT OXFORD ECONOMICS**

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college. Since then, we have become one of the world's foremost independent global advisory firms providing reports, forecasts, and analytical tools on more than 200 countries, 250 industrial sectors, and 7,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social, and business impact.

Headquartered in Oxford, England, with regional centers in New York, London, Frankfurt, and Singapore, Oxford Economics has offices around the globe. We employ 500 full-time staff, including more than 350 professional economists, industry experts, and business editors. Our global team is highly skilled in a full range of research techniques and thought leadership capabilities, from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics.

Oxford Economics is a key adviser to corporate, financial, and government decision-makers and thought leaders around the globe.

## **ABOUT THE US-CHINA BUSINESS COUNCIL**

The US-China Business Council (USCBC) is a private, nonpartisan, nonprofit organization of over 270 American companies that do business with China. Founded in 1973, USCBC has provided unmatched information, advisory, advocacy, and program services to its members for five decades. Through its offices in Washington, DC, Beijing, and Shanghai, USCBC is uniquely positioned to serve its members' interests in the United States and China.

USCBC's mission is to expand the US-China commercial relationship to the benefit of its membership and, more broadly, the US economy. It favors constructive, results-oriented engagement with China to eliminate trade and investment barriers and develop a rules-based commercial environment that is predictable and transparent to all parties.

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## **November 2023**

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