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Trade Diversion Since the U.S.- China Trade War

Introduction

The U.S. has progressively increased its protectionist stance since 2017. Over this period, the U.S. has launched a full-fledged trade war with China by imposing higher tariffs on the latter's exports. Trade frictions between the two economic giants have escalated since May 2018, with retaliation from China and a gradual increase in the breadth and depth of tariffs imposed bilaterally.

Trade Diversion Since the U.S.-China Trade War

BY SHAHANA MUKHERJEE

The U.S. has progressively increased its protectionist stance since 2017. Over this period, the U.S. has launched a full-fledged trade war with China by imposing higher tariffs on the latter's exports. Trade frictions between the two economic giants have escalated since May 2018, with retaliation from China and a gradual increase in the breadth and depth of tariffs imposed bilaterally.

The economic costs of a trade war on global trade and growth have historically been significant, and the current situation is no different. While higher tariffs on China can potentially undermine its appeal as a global manufacturing hub, the tariffs have also created incentives for a reorganization of existing supply chains, which can culminate in altered trade dynamics for countries affected by China's position in global value chains. While this can potentially translate into trade costs for countries that are placed lower than China in supply chains, it can give way to trade gains for direct competitors, which stand to benefit from a possible shift in trade flows away from China.

This paper examines the change in U.S. imports from China and the rest of the world in the wake of the trade war and attempts to quantify the extent of trade diversion that has taken place because of higher U.S. tariffs on China since 2018.¹

The following trends emerge. One, since the imposition of higher U.S. tariffs on China, U.S. imports of tariffed goods from China have declined by a sharp 28% from

January to August 2019, from a year earlier.² Two, even though the U.S. has imported fewer tariffed goods from China, its imports from other major trading partners such as the European Union and Mexico, among others, have risen substantially over this period, so its total imports of tariffed goods from the world have declined by only a narrow margin of 2%. Three, there is evidence in support of trade diversion, especially for goods on the tariff list, as China's market share in U.S. imports has been reduced since 2018 whereas that of the EU and Mexico, among others, has increased over the same period. Four, based on a set of assumptions, Moody's Analytics finds that the potential gains from trade diversion are likely to be the highest for the EU, Mexico and Taiwan, with the largest gains coming from higher electrical and other machinery, transport equipment, and chemical exports in 2019.

A shift in trade patterns

The U.S. and China are key trading partners and together account for a significant share of global trade.³ China retained its position as the top trading partner for the U.S. in 2018 and accounted for 13.7% of the latter's total trade with the world as of September 2019.⁴ While China was the top source country for U.S. imports in 2018, accounting for 21.2% of U.S. imports, it was the third-largest market for U.S. exports and received 7.2% of the latter's exports.

While the U.S. has historically been a net importing country, its trade deficit with China has increased over time, with a near fivefold increase from 2001 to 2018 (see Chart 1). Motivated by the need to secure allegedly better trade deals and to adjust the trade imbalance in favour of the U.S., President Donald Trump launched a full-fledged trade war on China in July 2018. Since then, the U.S. has consistently raised tariffs on its imports from China through multiple rounds. The first round was an additional 25% tariff imposed on US\$34 billion worth of imports, followed by a second round of 25% tariffs on Chinese exports

¹ The full effects of trade diversion triggered by the U.S.-China trade war should also account for source countries that have benefitted from higher tariffs imposed by China on U.S.-sourced imports. This paper, however, focuses on examining the implications from altered trade flows for China and its competitors, following the higher U.S. tariffs. Refer to Moody's Analytics research articles "Trade Troubles on the Farm" and "Surprise Trade War Winners: Brazil Soy Farmers" for a discussion of other aspects related to the U.S.-China trade war.

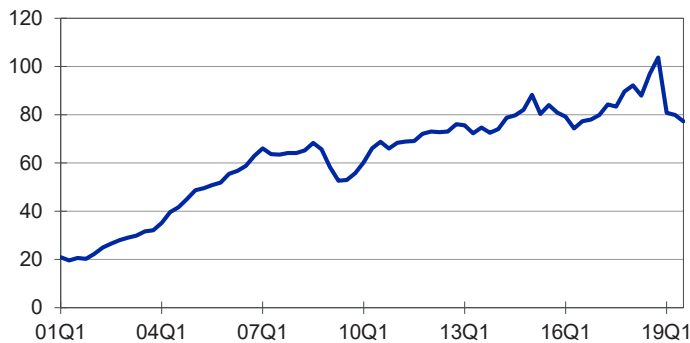
² All products are classified into two distinct and non-overlapping groups, with reference to the existence of U.S. tariffs on China. 'Tariffed' goods, in this context and henceforth, refers exclusively to all products that are subject to the targeted higher U.S. tariffs on China. These products, when exported by other (non-China) trading partners, do not face similar (elevated) tariffs in the U.S. market. Similarly, 'non-tariffed' goods refers to the set of all products that are not subject to the higher U.S. tariffs on China. The sets of 'tariffed' and 'non-tariffed' goods, as defined above, are therefore defined exclusively with reference to the U.S. tariffs on China and do not vary across U.S. trading partners. Finally, our subset of 'tariffed' goods, as defined above, does not account for the higher U.S. tariffs levied on selected products imported from other markets (for example, it does not account for the U.S. tariffs levied on steel and aluminum exports by the European Union).

³ The U.S. and China collectively accounted for 20.7% of world exports and 22.9% of world imports of goods and services in 2018, according to the World Trade Organization. https://www.wto.org/english/news_e/pr837_e.htm

⁴ This refers to total trade in goods and services (September 2019, year to date) and is based on statistics reported by the U.S. Census Bureau. <https://www.census.gov/foreign-trade/statistics/highlights/top/top1812yr.html>

Chart 1: Persistent Trade Gap With China

U.S. trade deficit, \$ bil, SA



Sources: BEA, Moody's Analytics

worth US\$16 billion. The third round of tariffs (which came into effect in September 2018) imposed an additional 10% on US\$200 billion worth of goods imports from China, with an increase of up to 25% on these goods imposed in June 2019.⁵ As of November 2019, Chinese exports worth US\$550 billion are subject to higher tariffs levied by the U.S., whereas U.S. exports worth US\$185 billion are subject to similar tariffs imposed by China.

Even with the higher tariffs in place, the U.S. continued to be China's main export destination in 2018 and received 18% of China's total exports. However, the sustained increase in the breadth and depth of tariffs imposed on China since May 2018 has weakened its aggregate trade position and encouraged a gradual shift in trade away from China and in favour of other source countries.

Quantifying trade diversion

To assess the extent of trade diversion that may have taken place since the onset of the U.S.-China trade war, Moody's Analytics collects monthly data on U.S. imports from China and other main source countries for all products at the eight-digit level of Harmonized Tariff Schedule classification. Next, all products are identified that are subject to higher U.S. tariffs (as of August 30, 2019), using the information released by the Office

⁵ There is a provision for some exceptions to the tariffs through a product exclusion process.

of the U.S. Trade Representative.⁶ This information is combined with the product-level import data to estimate U.S. imports of 'goods on the tariff list' (or 'tariffed goods') from China and other partners since 2018.⁷

China's exports to the U.S. have been on a downward trend since October 2018, following the imposition of the third round of higher tariffs that came into effect in September 2018 (see Chart 2).⁸ The composition of its U.S.-bound exports has also changed, as it has exported fewer goods on the tariff list since 2018, with its share of total exports falling from 46% in June 2018 to 33% in August 2019.

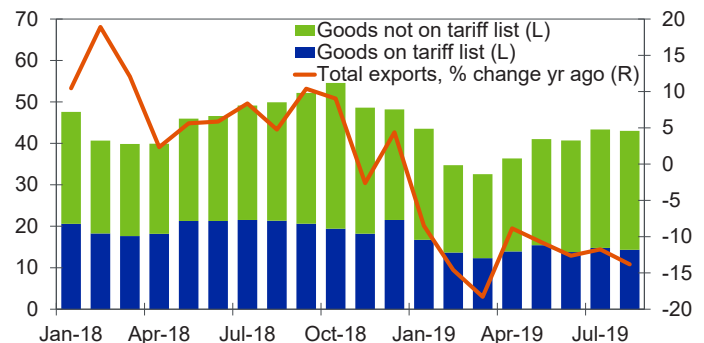
⁶ This comprises all products covered under Lists 1, 2 and 3 (Section 301) released by the USTR.

⁷ As stated earlier, 'tariffed goods' in this paper refers exclusively to all products that are subject to the higher U.S. tariffs. These products, when exported by other (non-China) trading partners, do not face similar (higher) tariffs in the U.S. market. Similarly, 'non-tariffed' goods refers to the set of all products that are not subject to the higher U.S. tariffs on China. Moreover, our subset of 'tariffed goods' does not account for the higher U.S. tariffs levied on selected products imported from other markets (for example, it does not account for the U.S. tariffs levied on steel and aluminum exports by the European Union).

⁸ All calculations are based on import values which reflect the landed value of imports (at the first port of arrival) and exclude any value-addition from U.S. import duties.

Chart 2: China's Declining Exports to U.S.

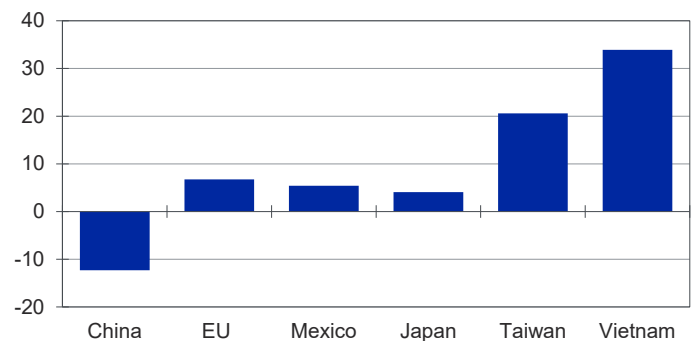
Goods exports, \$ bil



Sources: Census Bureau, Moody's Analytics

Chart 3: U.S. Imports More From Others

U.S. goods imports, YTD, Aug 2019, % change yr ago



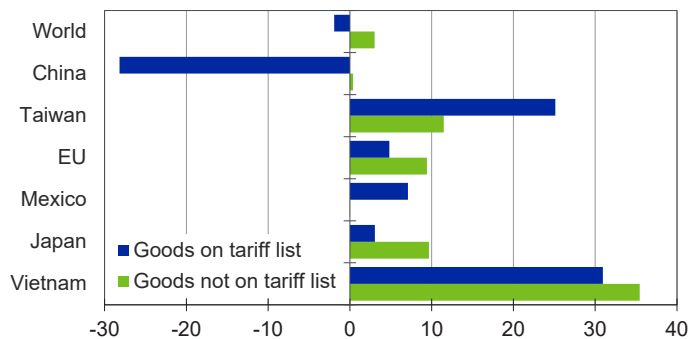
Sources: Census Bureau, Moody's Analytics

The trend in U.S. imports has also changed since the onset of the trade war. While U.S. imports from China declined by 12.3% from January to August 2019, from a year earlier, U.S. total imports declined by a negligible 0.03%, as imports from other regions such as the EU and Mexico picked up (see Chart 3). A further classification by commodity group identifies the source of this change. While China's exports of tariffed goods declined by a sharp 28.2% in 2019 from a year earlier, the U.S. imported more of these goods from other partners such as the EU, Mexico, Taiwan and Vietnam (see Chart 4). This translated into a substantial pickup in the exports of tariffed goods from these regions (see Chart 5).

An interesting feature of this reallocation is that, while Mexico and, to a lesser extent, Taiwan have benefitted primarily from increased exports of tariffed goods

Chart 4: Imports From China Plunge

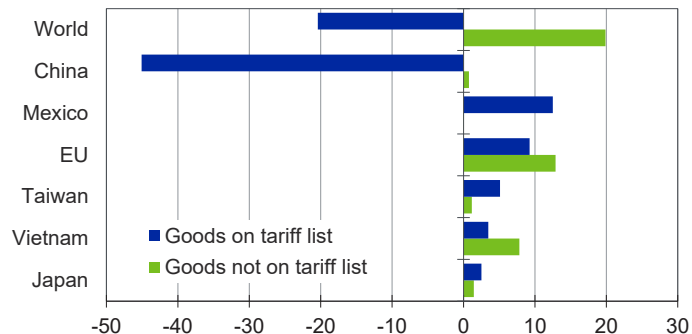
U.S. imports, YTD, Aug 2019, % change yr ago



Sources: Census Bureau, U.S. Trade Representative, Moody's Analytics

Chart 5: Mexico and EU Exports Surge

U.S. imports, YTD, Aug 2019, \$ bil, change yr ago



Sources: Census Bureau, Moody's Analytics

to the U.S., the EU has benefitted more from increased exports of non-tariffed goods. Moreover, Vietnam has made significant gains in the U.S. market for both types of goods, which is in accordance with the overall trend of Vietnam being an important beneficiary of the U.S.-China trade war.

The data show that the extent of the shift in trade flows is substantial. While China's share of U.S. imports of tariffed goods has declined from 15% in 2018 to 11%, import shares of other source countries have increased over this period (see Chart 6). Moreover, that a meaningful shift in import shares is observed only for goods affected by higher U.S. tariffs further supports the possibility that the observed diversion in trade flows was motivated by the higher U.S. tariffs on China (see Chart 7). Finally, a look at the industry-level breakdown of China's tariffed goods exports to the U.S. highlights that, while all affected industries exported less in 2019, electrical and other machinery exports, along with chemical and transport equipment exports declined the most following the imposition of higher tariffs (see Chart 8).

Potential trade diversion effects

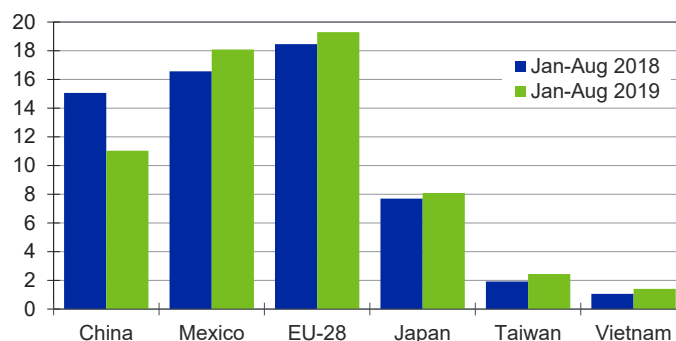
Trade flows of goods affected by the higher U.S. tariffs have shifted away from China and towards other source countries since the onset of the trade war. However, the magnitude of trade diversion is contingent on various factors. This section quantifies the potential size of trade diversion

to identify which country has benefited the most from altered trade flows. As before, this analysis is based on bilateral U.S. goods imports data at the eight-digit level, covers all goods included in (tariff) Lists 1, 2 and 3, and compares trade flows from January to August 2019 with those observed in 2018.⁹

This analysis is based on observed increases in U.S. imports from other source countries and rests on the following set of assumptions. First, Moody's Analytics assumes that any observed decrease in U.S. imports of tariffed goods from China (from 2018 to 2019) is because of the higher tariffs on Chinese goods. Second, for a trading partner and a given commodity, it is assumed that trade diversion has taken place only if the U.S. import value (from the respective trading partner) has increased from 2018.¹⁰ Third, for the subset

Chart 6: China Loses Market Share...

Source country share in U.S. imports of tariffed goods, %



Sources: Census Bureau, Moody's Analytics

of commodities that satisfy this criteria, Moody's Analytics estimates the value of trade gains/diversion (due to the higher U.S. tariffs) as the increase in U.S. imports over and above the previous year's annual trend/growth rate.¹¹ Commodities that experienced contraction from 2017 to 2018, and commodities for which the current increase in U.S. imports could not match the previous year's increase (in percentage terms) are likely to have experienced recent declines in their U.S. import shares and were excluded from consideration.

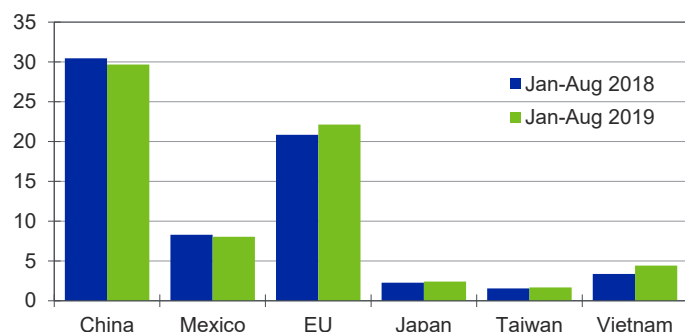
⁹ This analysis is based on goods imported by the U.S. in both 2018 and 2019. For any partner country, tariffed or non-tariffed goods imported in only one of the two years lack a reference base and are therefore excluded from aggregation.

¹⁰ This assumption ensures that we identify and exclude the effect of trade losses observed at the commodity level, which could occur either because of increased domestic supply of these commodities (that is, reduced import demand from the U.S.), and/or other trade partners benefiting from the demand shift away from China.

¹¹ This precondition assumes that for commodities that have been exported more by other source countries in 2019, existing suppliers in each country were able to retain their respective import shares from 2018 and experience the natural rate of increase in U.S.-bound exports, regardless of U.S.-China trade tensions. While this can potentially be restrictive, as the natural course of U.S. imports in 2019 is likely to vary across commodities and source countries, we find it important to preserve the last observed trend growth rate and set this as a minimum requirement to obtain a conservative estimate of trade gains.

Chart 7: ...But Keeps Grip on Other Goods

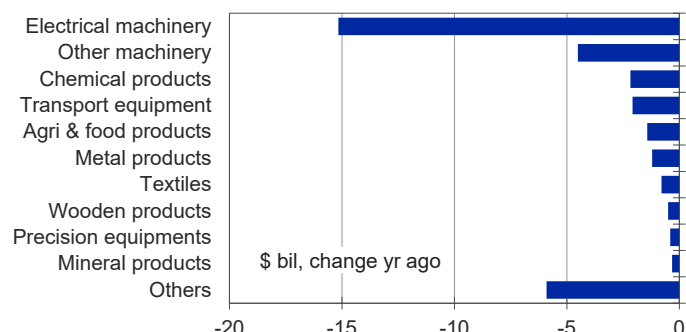
Source country share in U.S. imports of non-tariffed goods, %



Sources: Census Bureau, Moody's Analytics

Chart 8: China's Broad-Based Decline

U.S. tariffed goods imports from China, YTD, Aug 2019



Sources: Census Bureau, Moody's Analytics

Finally, trade gains as per the outlined approach have been computed at the eight-digit commodity level.

Based on these assumptions, trade diversion effects from January to August 2019 are estimated to be around \$21 billion (see Chart 9). Considering that China's exports of tariffed goods to the U.S. fell by nearly \$45 billion over this period, these estimates suggest that about 47% of this loss was diverted towards other countries. While the realized trade diversion can potentially be larger in magnitude, these estimates provide important insights into regional and sectoral gains.

Some of the top U.S. trading partners such as the EU and Mexico have experienced the largest gains from trade diversion, which suggests that, in addition to offering similar import baskets relative to China, prevailing trade agreements are likely to have facilitated the reallocation.

Specifically, for the period under consideration, Moody's Analytics finds that the EU, Mexico and Taiwan have benefitted the most from trade diversion following the higher U.S. tariffs on China, but there is considerable variation in the sectoral gains across these markets.

While a significant share of gains from trade diversion for the EU has come from higher exports of electrical machinery, chemical products and transport equipment, gains for Mexico have been more evenly distributed, with a notable increase in transport equipment, machinery and agricultural exports. In comparison, trade diversion for Taiwan has been primarily from higher electrical and other machinery exports. Additionally, gains for Japan have come from higher transport equipment and machinery exports, and Vietnam has benefitted from increased exports of other machinery, metal and

agricultural products. Finally, the gains from trade diversion by an industry-level classification highlight that the largest gains for China's competitors came from higher machinery, transport equipment and chemical exports, which is broadly consistent with China's observed net trade losses (see Chart 10).¹²

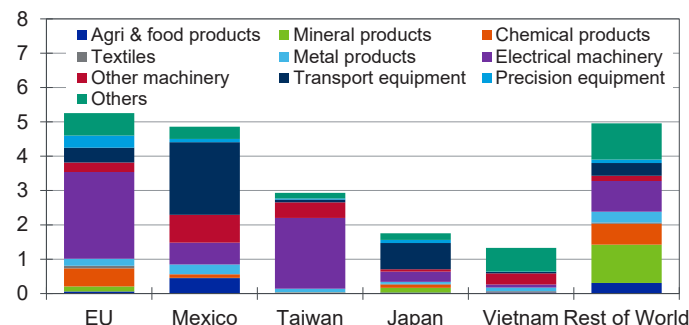
Conclusion

Trade tensions between the U.S. and China steadily escalated since 2017, with significant implications for global trade. Since the imposition of higher tariffs on China, U.S. imports of tariffed goods from China have declined by 28% from January to August 2019, from a year earlier,

¹² We do not scale our industry-level estimates of trade diversion based on the observed degree of China's trade loss, as the actual or realized trade loss for China (due to the U.S. tariffs) is expected to be larger in magnitude, considering that the long-term trend growth rate of China's exports was disrupted and reversed in 2019.

Chart 9: Benefits From Trade Diversion

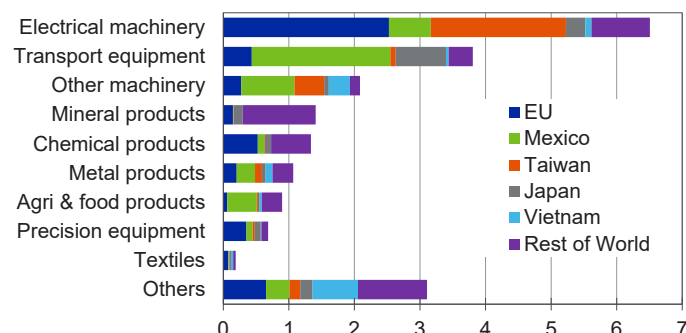
YTD, Aug 2019, \$ bil



Sources: Census Bureau, Moody's Analytics

Chart 10: Trade Diversion Effects

Sectoral classification, YTD, Aug 2019, \$ bil



Sources: Census Bureau, Moody's Analytics

but the U.S. has sourced more of these goods from other partners such as the EU, Mexico and Taiwan. As a result, total U.S. imports of tariffed goods have declined by a narrow margin of 2% over this period. Further, there is evidence in support of

trade diversion, especially for goods on the tariff list, as there is a notable decline in China's import share, whereas that of the EU and Mexico has increased over this period. Finally, based on a set of assumptions, Moody's Analytics finds that the

benefits from trade diversion are likely to be the highest for the EU, Mexico and Taiwan, with the largest gains coming from higher electrical and other machinery, transport equipment and chemical exports.

About the Author

[Shahana Mukherjee](#) is an economist at Moody's Analytics in Sydney. Shahana is responsible for covering national and metropolitan economies across the Asia-Pacific region. Her expertise lies in the area of applied macroeconomics and panel data analysis. She is a Fellow (PhD) in Economics from the Indian Institute of Management Bangalore, India. She has previously worked as an assistant professor of economics at the Meghnad Desai Academy of Economics in India.

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