ACC ECONOMICS AND STATISTICS

AN ASSESSMENT OF THE IMPACT OF RETALIATORY TARIFFS ON US CHEMICAL EXPORTS TO CHINA: JOBS LOST AND ECONOMIC HARM

*China's retaliatory tariffs on $11 billion in U.S. chemicals and plastics exports put nearly **55,000 American jobs** and **$18 billion** in domestic activity at risk as a result of reduced demand for those products*

Background

In 2017, the Office of the United States Trade Representative (USTR) published its findings from an investigation into unfair trade practices by the Chinese under Section 301 of the Trade Act of 1974[i]. Based on the findings from that report, on April 3, 2018, the US administration released a list of approximately 1,300 products that were under consideration for a proposed 25% tariffs. The tariffs proposed would be levied on US imports of those products from China. The USTR has since published three new lists: List 1[ii], List 2[iii], and List 3. The value of the US imports listed in List 1 is $34 billion, $16 billion in List 2, and $200 billion in List 3. Together, $250 billion worth of imports from China will face tariffs. The Administration has threatened to impose tariffs on all imports from China, which equaled $505 billion in 2017.

LIST 1: The first list includes 818 products. Effective July 6, 2018, these products when imported from China are levied a 25% tariff. Out of 818 products impacted by the first list, only one product falls into the chemicals sector. The product is a reagent (2845.90). Last year, the US imported $3.6 million worth of this product from China. Imports from China represented 6% of the total $63 million of the product imported to the US in 2017.

LIST 2: While the US chemicals and plastics sector was largely spared in the first list, the sector is heavily targeted in the second. More than half (54%) of the proposed tariff lines are products in the chemical and plastics industry. Effective August 23, 2018, the products on USTR List 2 face a 25% tariff rate when imported from China. There are 152 tariff lines that directly impact US chemicals imports in USTR List 2. Almost all of the products (147 of the 152 lines) are plastics and plastic products. The value of these imports from China was $2.2 billion in 2017.

LIST 3: On July 10, 2018, the USTR published a list of another $200 billion worth of Chinese imports that will face 10% or 25% tariffs[iv]. Effective September 24, 2018, the goods listed on USTR List 3 face an additional 10% tariff when imported from China until January 1, 2019, when the tariff rate will increase to 25%. This list covers thousands of products including 1,364 chemicals and plastics products. The value of these imports from China was $13.2 billion in 2017 – about 7% of the $200 billion total.

Considering the 1,364 chemicals and plastics products that were listed by the USTR, 282 of the products are not even imported from China (based on 2017), and 77 of those products are not imported from any foreign supplier at all. Considering the products that were removed from the final list, 44 out of 141 are products where 100% of foreign supply originates from China.

The chemicals and plastic products listed in the $200 billion USTR list are inputs into US manufacturing processes. The imposed tariffs will significantly disadvantage and reduce the competitiveness of US manufacturers.

On July 20, the US threatened tariffs on all imports from China, which was equal to $505 billion in 2017.

Retaliation to US Section 301 Tariffs on Goods Imported from China

In response to every US announcement of tariffs on Chinese imports, the Chinese Ministry of Commerce has responded with plans to impose retaliatory tariffs on an equivalent value of goods imported from the US. (Note: The estimated impact of the tariffs on US exports is based generally on the export value in 2017 and does not take into account whether exports of the particular product are expected to grow over time. Another way to think of this is in terms of "lost potential".)

In response to the USTR's first two lists of tariffs (US List 1 and US List 2) on $50 billion in US imports from China, the Chinese also published two lists of 25% tariffs on $50 billion worth of US exports.

LIST 1 ($34B): There are 545 products on List 1, none of which are US chemical and plastic products. China began imposing 25% tariffs on those products on July 6.

LIST 2 ($16B): On August 8, the Chinese government announced a revised List 2[v] of 25% tariffs on US exports. These tariffs were implemented on August 23. Of the 333 products listed, 40 are chemicals and plastic products with an export value of $2.0 billion in 2017. (Prior to the revision, there were 114 products listed including 54 chemicals and plastics with an export value of $5.4 billion in 2017). Thirteen of the products are plastic products including HDPE and LLDPE amongst others. (LDPE was on the previous list but was dropped in the August 8, 2018 revision.) The total export value of the plastic products on the tariff List 2 was $862 million in 2017. If Chinese demand for US chemical and plastic products were to remain stable despite the price increase resulting from the 25% tariff tax, the Chinese government would collect $500 million in duties.

LIST 3 ($60B): In response to the USTR's July 10 announcement that it plans to impose tariffs on an additional $200 billion worth of Chinese imports, the Chinese announced retaliatory tariffs on $60 billion worth of US exports. The tariffs are presented in 4 lists with different tariff rates per list: 5%, 10%, 20%, and 25%. Across all lists, there are total 5,207 product lines impacted, 987 of which are chemicals and plastic products. There are 132 lines for plastics. ACC estimates that the value of the chemicals and plastics exports exposed to these tariffs was approximately $8.8 billion in 2017. About $2.9 billion of that total is related to plastics exports. On September 18, the Chinese Ministry of Commerce announced rates of either 5% or 10%. A 5% rate applies to products on the 5% and 10% lists and a 10% rate applies to the products on the 20% and 25% lists. These tariffs become effective September 24, 2018.

Chinese Retaliatory Tariffs on List 3 ($60 billion US Exports):

	tariff	# of products listed	# chems	# plastics	% chems	% plastics
List 1	25%	2,493	344	44	14%	2%
List 2	20%	1,078	184	33	17%	3%
List 3	10%	974	190	31	20%	3%
List 4	5%	662	269	24	41%	4%
Total Goods		**5,207**	**987**	**132**	**19%**	**3%**
2017 Export Value		**$60B**	**$8.8B**	**$2.9B**	**15%**	**5%**

Economic Impact in US Chemical Industry and US economy from Export Demand Loss in China due to Sec 301 Retaliatory Tariffs

The Chinese tariffs on US chemical and plastics exports will lead to a reduction in demand for those exports. Depending on the elasticity of demand (responsiveness) for US products in China, the retaliatory tariffs could result in substantial losses for American producers, their employees, and for the communities that depend on the economic activity that the chemicals and plastics industry generates.

- In the baseline case (the scenario where, initially, Chinese importers are more challenged to find alternative sources to US products), we estimate that the loss in US chemicals and plastics exports to China would be equivalent to **$1.6 billion annually**.

- In the worst case scenario (where Chinese customers can more readily adjust their supply chains to substitute for US sourced-goods), the loss to US chemical and plastics exports could reach **$6.1 billion annually**.

For reasons to be outlined in this paper, **the worst case scenario is entirely possible**, especially in the longer term. As the US Administration continues to erect costly barriers to accessing global supply chains and foreign customer markets, the Chinese government is actively working towards directing industrial capacity expansions in their own domestic economy and eliminating tariff and other barriers to doing business with other (non-US) foreign partners[1].

[1] For example, China has recently agreed to the Second Amendment of the Asia Pacific Trade Agreement (APTA) that covers 10,312 goods in total. As part of that agreement, China committed to reduce or eliminate tariffs on more than 8,500 goods imported from partners in the Asia Pacific region. The reductions and eliminations began to take effect on July 1, 2018. This significantly reduces the costs of inter Asia Pacific business (resulting in a relative increase in the cost of US-China business) and further promotes economic integration in that region. The goods covered in the APTA include chemicals and other products negatively impacted by the US initiated Section 301 tariffs. As a result, when US-made goods become more expensive due to tariffs, China will be positioned to more easily replace imports from the US with goods made domestically or by Asian Pacific partners. As the US has receded, China has stayed involved in trade negotiations with other partners, especially in the Asia Pacific region. The US ability to lead and influence in the areas of non-tariff barriers to trade with China and the entire Asia Pacific region has been diminished. More info: http://english.mofcom.gov.cn/article/newsrelease/significantnews/201807/20180702762648.shtml

ACC has communicated to the Administration that there will likely be collateral damage. As detailed in this report, related to the consequential loss in demand for chemicals and plastics products alone, there will be **jobs and output lost across the country**.

As US-China trade tensions rise, China is actively eliminating barriers to supply and customers elsewhere. This will soften the blow to Chinese firms and consumers and offers a safer economic path to expansion and prosperity. In the United States, the economic stability and freedom of manufacturers and consumers are being threatened on many fronts. Continued employment of comparative advantages and long, cross-border supply chains that enable vertical specialization in North America is threatened with the potential NAFTA withdrawal, for example. Disintegration in the supply chains that have kept US companies competitive in the global marketplace is a real possibility. US manufacturers will struggle to survive given these immense costs.

Considering the retaliatory tariffs that have been announced so far (both those already in effect and those proposed by the Chinese), $10.8 billion in US chemical and plastics exports are exposed to increased duty rates ranging from 5% to 25%.

As China has already taken action to reduce tariffs among its regional partners and cultivate new trade relationships, it is not unreasonable to expect that Chinese businesses will sharply lower its demand for US chemicals in the long term.

- The loss in demand due to retaliatory tariffs on US chemical exports to China will reduce the competitiveness of chemical manufacturers in the US and, as a result, output and job losses in the chemical industry will accrue due to lost demand for chemistry.

- This lost manufacturing activity will be felt upstream as suppliers to the industry face reduced demand for their output and it will be felt in the local communities where workers spend their wages. Upstream includes direct suppliers to the industry of raw materials, utilities, equipment, services, etc.

- Direct suppliers to the chemical industry make purchases of other industries' output to create the goods and services that they sell to chemical manufacturers. Thus, indirectly, additional jobs and economic activity that is supported along the chemical industry supply chain will also be lost.

Additionally, there will be broad spread impacts to local economies (payroll-induced impacts) when chemical industry workers and suppliers lose jobs and consequently must reduce their spending in the community.

- Using the IMPLAN model[2], ACC estimates that in the chemical industry alone, **more than 8,000 direct jobs** could be lost due to lower demand for US chemical exports to China.

- Another **46,000 jobs** along the supply chain and jobs supported by workers' wages are also at risk.

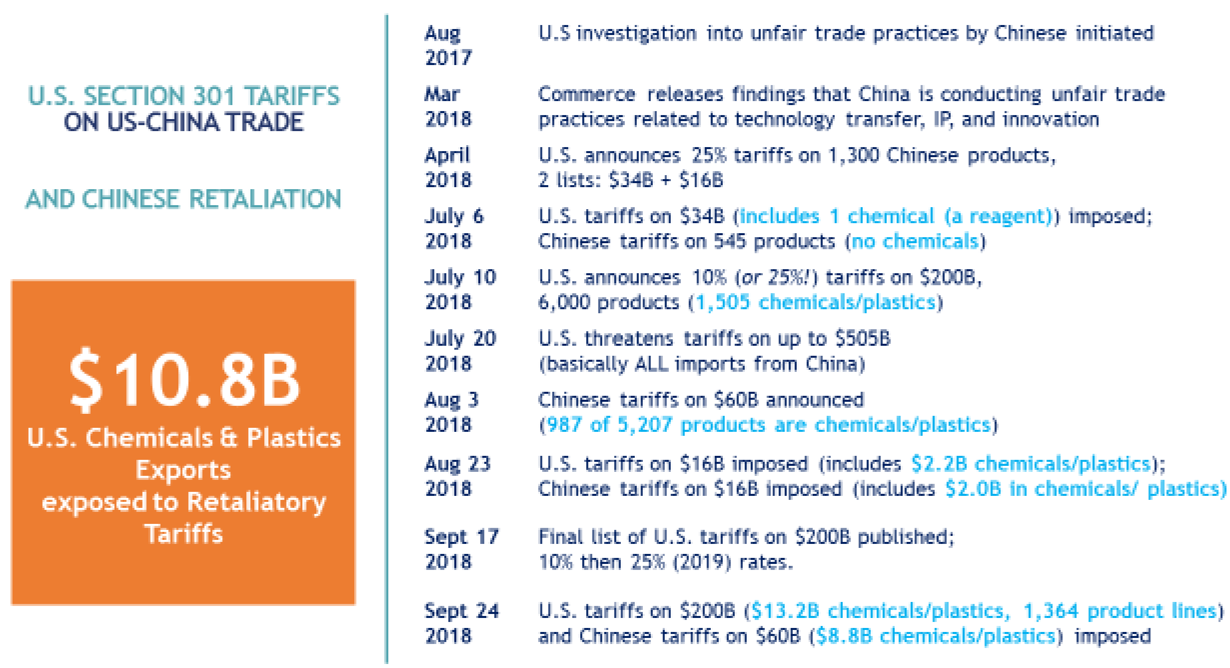
All told, retaliatory tariffs on US chemical and plastics exports to China put nearly **55,000 American jobs** and total of **$18 billion** in domestic activity at risk.

[2] The IMPLAN model is an industry standard input-output model that accounts for both the direct and indirect economic impact of an industry. For more details and methodology, see: implan.com.

Table 1: Economic Impact in US Chemical Industry (direct) and US economy (indirect, payroll-induced spending) from Export Demand Loss in China due to Sec 301 Retaliatory Tariffs ($2018)

Impact Type	Jobs at Risk		Lost Payroll ($ Billion)		Lost Output ($ Billion)	
	Relatively Inelastic Response, near-term	Relatively Elastic Response, longer-term	Relatively Inelastic Response, near-term	Relatively Elastic Response, longer-term	Relatively Inelastic Response, near-term	Relatively Elastic Response, longer-term
Direct (Chemical and Plastics)	2,184	8,243	$0.2	$0.7	$1.6	$6.1
Indirect (Supply Chain)	6,073	22,933	$0.5	$1.8	$2.1	$7.8
Payroll-Induced Spending	6,189	23,369	$0.3	$1.2	$1.0	$3.8
Total Impact	**14,446**	**54,545**	**$1.0**	**$3.8**	**$4.7**	**$17.7**

Section 301 Tariffs and Actions Timeline, updated October 17, 2018:



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