



Before the
Office of the United States Trade Representative
Washington, D.C.

In re:

Section 301 investigation of China's Acts,
Policies, and Practices Related to Technology Transfer,
Intellectual Property, and Innovation.
Notice of determination, request for comments,
and notice of public hearing

Docket No. USTR-2018-0026

COMMENTS OF
INTERNET ASSOCIATION

Internet Association represents over 40 of the world's leading internet companies. IA's mission is to foster innovation, promote economic growth, and empower people through the free and open internet. We support policies that promote and enable internet innovation -- ensuring that information flows freely across national borders, uninhibited by restrictions that are fundamentally inconsistent with the transnational, free, and decentralized nature of the internet.

American-based internet companies are a significant driver of the U.S. economy and U.S. exports. Our industry represents an estimated 6 percent of U.S. GDP, totaling nearly \$967 billion, and accounts for nearly 3 million American jobs. Many of these jobs depend on internet-driven exports. Digital trade alone has added up to 2.4 million jobs to the U.S. economy.

In China, many U.S. internet companies are either blocked from operating or are severely restricted. China's ongoing intellectual property rights violations, forced technology transfer policies, and state interventions harm U.S. companies, workers, and consumers. Barriers to digital trade in China continue to present significant challenges to U.S. exporters. China is forcing U.S. cloud service providers to transfer valuable U.S. intellectual property, surrender use of their brand names, and hand over operation and control of their business to a Chinese company in order to operate in the Chinese market, effectively barring U.S. cloud service providers from fairly operating or competing in China.

While we have serious concerns about China's trade practices and support the U.S. government's efforts to address them, the imposition of new tariffs will harm U.S. consumers, cost U.S. jobs, and undermine U.S. technology companies in the fight for global leadership in the digital economy, without helping the underlying investigation.

The objective of USTR's Section 301 investigation is to preserve the U.S. as the world's leader in high-tech industries and jobs by combating unfair Chinese trade practices. But tariffs on the impacted products will directly increase the cost and difficulty of growing the internet economy in the U.S. and will raise costs for the small and large U.S. businesses that rely upon the internet to export to global customers. Although aimed at combating the Chinese, these tariffs will undermine its exact goal by hurting U.S. tech industries and therefore helping Chinese companies, including China's tech giants.



Tariffs remain the wrong solution to real problems. The U.S. government should not undertake policies that stifle growth. Tariffs are hidden, regressive taxes that will be paid by the U.S. consumer in the form of higher product prices. This will impact the ability of U.S. companies to invest in future technology. Instead of punishing China for its trade violations, tariffs will penalize hard-working Americans across the country.

Increasing tariffs on U.S. technology companies will diminish American technology companies' leadership role. For these reasons, we ask that the Administration refrains from imposing duties on the following key technology products and instead work with Internet Association and the member companies we represent on alternative approaches to strengthening U.S. leadership on these critical issues.

Removal of subheading 8517.62.00 from the proposed product list.

HTS 8517.62.00 covers “machines for the reception, conversion, and transmission or regeneration of voice, images or other data, including switching and routing apparatus.” This is the keystone tariff line for internet connectivity, as the products covered by this tariff line enable devices and other machines to connect with one another. This is the heart of the internet.

Increasing tariffs on this line would put a significant drag on U.S. companies -- including many small businesses -- manufacturing connected devices in the United States. It also would put a tax on U.S. consumers seeking to connect to the internet or use internet-enabled technologies. Consider a data center (or an internet service provider's switching station) – the infrastructure that the internet depends on. For the thousands of servers in a data center to connect with each other, and for the data center to connect with the outside world, U.S. companies need to use optical transceivers, line cards, gateways, modems, routers, and other transmission devices to enable that connectivity. These are examples of the types of products covered by HTS 8517.62.00.

On the consumer side, the proposed duties would apply to a massive range of internet-connected consumer devices largely developed by U.S. companies. First, consumers and small businesses will see a direct increase in the costs of accessing the internet, since duties are proposed on modems and routers. Second, virtually all of the internet-connected products (except for cell phones themselves) that consumers use to manage tasks, play video games, monitor their health, etc., including streaming devices, e-readers, smart speakers, wireless headphones, smartwatches, home security cameras, and fitness trackers, will be hit with increased costs if tariffs are imposed on HTS 8517.62.00.

Not only will American households feel the impact of tariffs on HTS 8517.62.00, but the global leaders in these consumer tech categories, which are primarily U.S. companies, will become less competitive on a global basis as the additional duties give their foreign competitors a significant cost advantage over U.S. goods in key export markets.

Removal of subheading 8473.30.11 from the proposed product list.

Products classified as HTS 8473.30.11 include most of the core inputs to data centers and other U.S. technical infrastructure, including memory modules and other printed circuit board assemblies (PCBAs). PCBAs are present in all computers, servers, and phones, as well as almost all electronic devices. Taxing these components through increased tariffs would make it far more difficult to build and operate data centers and other technical facilities in the U.S. and would massively damage U.S. leadership on cloud technologies.



Components covered by HTS 8473.30.11 are not key to China's Made in 2025 strategy. Printed circuit boards are located down the value chain and are heavily commoditized inputs -- typically produced via automated processes on assembly lines -- that U.S. firms rely upon to do final assembly and testing of servers in the U.S. This is where the real value-add and IP comes in. If the cost of importing PCBAs increases, we are likely to see many of these U.S. manufacturers shift their facilities overseas, costing the U.S. important jobs and expertise in the process.

Imposing duties on these products would undermine U.S. leadership in cloud services. Commercial enterprises, start-ups, universities, and a wide range of other institutions across the globe are actively migrating to cloud computing to meet their information technology needs, and they are turning to U.S. cloud providers in the process. The global cloud services market segment is expected to reach \$300 billion by 2020. But companies from China and other countries are poised to take over this market if U.S. companies falter. Tariffs that hit U.S. cloud services providers will undermine U.S. leadership in this area and allow for foreign competitors to become the front-runners in this critical industry.

Data centers are key employers of highly skilled workers in the U.S. Increased duties would kill off U.S. jobs and decrease economic growth, especially in struggling communities. The average data center adds \$32.5 million in economic activity to its local community each year.¹ These data centers are located across the United States, in communities that have experienced economic turnarounds because of investment and follow-on effects from building data centers. During construction, each data center adds \$9.9 million in revenue for state and local governments, while employing an average of 1,688 workers.

The impact of these duties will extend far beyond the tech sector. Future U.S. economic growth in nearly every sector relies on internet innovations like cloud computing. And U.S. cloud providers are among the strongest American exporters, supporting tens of thousands of high-paying American jobs and making a strong contribution towards a positive balance of trade.

Data centers have been key drivers of economic transformation across the United States, making it possible for our farmers, manufacturers, and other traditional businesses to transform their operations for the future and expand their customer base. For example, farmers in Iowa and elsewhere are increasingly using smart devices and analytics software to virtualize their crops and ultimately increase their yields and efficiency. Cloud-based data centers store and process this data.²

The growth of this industry depends upon the ability of U.S. tech firms to rapidly build U.S. data centers in new areas of the country with next-generation equipment so that small and large businesses can experience lower latency and faster, higher-quality performance. For example, when a new data center comes online, nearby businesses can expect to see a 30-80 percent reduction in latency for applications served in that region.

Sudden changes in costs through new tariffs would massively disrupt the construction of new data centers in the U.S. While the additional duties seem highly technical in nature, the reality is that they will make it more difficult for U.S. companies to design and build data centers. In this sector, every day matters. Data centers are massive, complex facilities with numerous purpose-built hardware components that need to come together at the right time so that U.S. providers can build and operate data centers at the scale needed for the U.S. to lead the market.

¹ U.S. Chamber, "Data Centers – Jobs and Opportunities in Communities Nationwide", June 15, 2017

² <https://www.intel.com/content/www/us/en/big-data/lessons-from-the-field.html>



A data center typically consists of thousands of server machines connected to a local network. Each machine within a data center consists of a wide range of purpose-built hardware modules, including CPUs, RAM and memory modules, baseboard management controllers, network interface cards, boot firmware, flash and persistent storage, and other components. Optical transceivers, line cards, and other transmission devices enable interconnection between the thousands of machines within a given data center and between servers and telecommunications networks. Power distribution boards, battery packs, and rack monitoring units help keep U.S. data centers running at optimal conditions, while other equipment provides the skeleton of the data center, including racks and rack shelves, rack fillers, rectifiers, and server trays.

This may sound complex, but it's only scratching the surface of all the equipment that needs to come together to make the 'cloud' work for U.S. consumers and businesses. The know-how and the expertise that comes with using these inputs, assembling and manufacturing them into servers, networks, and data centers comes from U.S. workers and U.S. manufacturing facilities.

In order to build data centers and state-of-the-art hardware in the US, American manufacturers and tech companies typically source some of the commodity products that are used in the construction of servers -- like printed circuit board assemblies and memory modules -- from China.

Forcing U.S. data center providers to reconfigure their supply chains and stop sourcing certain inputs from China would result in severe economic harm to U.S. providers and jeopardize U.S. leadership in the cloud market. In many cases, shifting production could take years giving foreign competitors a massive unearned opportunity to undercut and out-innovate U.S. counterparts. This is because U.S. providers have worked with specific manufacturing partners that have engaged in lengthy processes to build and qualify factories in certain locations, and have chosen specific vendors that can audit and validate the properties of server boards, networking equipment, and other key inputs. These are not fungible processes that can be shifted to a new location in a short period of time.

The more likely scenario is that companies that are currently doing manufacturing and final assembly of servers and other cloud infrastructure in the U.S. would move those manufacturing facilities overseas to avoid the impact of tariffs. This would result in the loss of thousands of U.S. jobs as well as valuable expertise and know-how that comes from homegrown manufacturing, assembly, and testing of cloud infrastructure.

If the Administration imposes additional duties on HTS 8473.30.11, it will substantially increase costs for U.S. businesses that are using data centers to transform their businesses and become exporters. It will help foreign competitors displace local tech champions. And it will incentivize data center growth outside the U.S., driving the revenue and jobs associated with this \$300 billion market to other countries.

Removal of Augmented Reality and Virtual Reality Products, Components, and Accessories (HTS 8471.80.10, 8471.60.10, and 4202.19.00) from the proposed product list.

Products classified as HTS 8471.80.10, 8471.60.10, and 4202.19.00 make up augmented reality and virtual reality (AR/VR) products, components, and accessories. The imposition of duties on these products would significantly impact the profitability of the innovative U.S. companies who develop and sell them, stifling their growth and undermining their ability to invest and innovate to drive the industry forward and grow U.S. market share.



Industries across the US are just beginning to adopt AR/VR products for use in advanced research, worker training, healthcare, commerce, communications and many other high-value economic and social uses. If duties are imposed on U.S. companies' products, competitors in Asia and the EU would gain a significant competitive advantage in the U.S. market that they would use to wrest industry leadership from the United States.

The duties would also have a significant negative impact on the highly-skilled U.S. workers who are employed in this nascent U.S. industry. It is a sensitive time for the industry as consumers decide whether to adopt this emerging technology. The duties would significantly raise the costs of AR/VR products, frustrating the U.S. industry's efforts to encourage adoption by reducing prices, and hurting sales. The resulting lower installed hardware base would discourage independent app developers and software designers from creating new content for the products of U.S. AR/VR companies, making it harder to compete against Asian and European products with higher sales levels and exacerbating the harm from the duties themselves.

It is not realistic for U.S. AR/VR companies to source their products from the United States or from third countries outside of China, as the necessary production facilities do not currently exist. It would take a minimum of 1-2 years to establish such operations, and it would cost significant amounts of capital that U.S. companies could otherwise invest in research and development and creating additional U.S. jobs. In addition, given the cutting-edge and rapidly changing nature of AR/VR products, the resultant delay in bringing new U.S. products to the market would be extremely harmful to U.S. competitiveness. This harm, in turn, would benefit Chinese AR/VR companies, contrary to the goals of the Section 301 investigation.

In addition to the lines listed above the following tariff lines are problematic for internet companies. We respectfully request that USTR remove the following items from the list of products subject to the proposed additional duties:

Consumer products

- 4202.92.10 Insulated food or beverage bags with outer surface of sheeting of plastic
- 8525.80.30 Television cameras
- 8525.80.50 Television cameras, digital cameras, and video camera recorders
- 8504.40.95 Static converters (for example, rectifiers)
- 8544.42.20 Insulated electric conductors used for telecommunications
- 8507.20.80 Lead-acid storage batteries other than of a kind used for starting piston engines or as the primary source of power for electric vehicles
- 8415.82.01 Air conditioning machines incorporating a refrigerating unit
- 4819.10.00 Cartons, boxes and cases of corrugated paper or paperboard
- 4823.90.86 Articles of paper pulp, paper, paperboard, cellulose wadding or webs of cellulose fibers
- 8525.80.30 Television cameras
- 8531.90.90 Parts of electric sound or visual signaling apparatus

Items used to support of data centers

- 8414.59.65 Other fans, nesoi
- 8471.50.01 Processing units
- 8471.60.90 Other input or output units of digital ADP machines
- 8471.70.50 ADP magnetic disk drive storage units
- 8473.30.51 Parts and accessories of the ADP machines of heading 8471, not incorporating a CRT, nesoi
- 8473.30.91 Parts and accessories of the ADP machines of heading 8471, incorporating a CRT, nesoi
- 8504.40.60 Power supplies suitable for physical incorporation into automatic data processing machines



- 8504.40.70 Power supplies for automatic data processing machines
- 8504.40.85 Static converters for telecommunication apparatus
- 8504.40.95 Static converters
- 8504.90.20 Printed circuit assemblies of power supplies for ADP machines or units thereof of heading 8471
- 8523.21.00 Cards incorporating a magnetic stripe
- 8523.49.40 Recorded optical media, for reproducing representations of instructions, data, sound, & image
- 8537.10.91 Electric control desks and cabinets
- 8544.42.20 Insulated electric conductors
- 8544.42.90 Insulated electric conductors



Post-Hearing Addendum

Internet Association thanks the panel for the additional questions on alternate sourcing and consumer impact during the hearing on August 22, 2018. After consulting with our member companies, please find our response below, which is focused on goods covered by HTS 8473.3011 and HTS 8517.62.

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U.S. production of printed circuit board assemblies (**HTS 8473.30.11**) is extremely limited. Our members have actively explored the possibility of sourcing these products from U.S. suppliers and have found that it is not feasible, as they have not located any U.S. companies capable of providing these products in the volumes required to meet the industry's needs. The few companies that do manufacture these products in the United States are doing so in small volumes primarily for limited production runs where a very quick turnaround time is needed, such as NPI (new product introduction) and NPD (new product development) runs.

Overall, U.S. government data indicates that approximately 68% of all imports under HTSUS subheading 8473.3011 come from China, with a few other low-cost regions in Asia making up the majority of the remainder. The import data is not sufficiently disaggregated to provide more specific information on PCBA imports in particular.

It would be time-consuming and resource-intensive to shift production of PCBAs and other key server components (HTS 8473.30.51 and 8473.30.91) out of China to another country. Our members estimate that it would take a minimum of 9-12 months, as they would need to locate and qualify new factories, get new assembly lines up and running, and spend at least three months running reliability classification and QA testing. Setting up new transportation routes, negotiating pricing, and implementing additional logistics steps would add further time to this exercise.

Tariffs and alternate sourcing plans would also increase costs for U.S. firms, which would ultimately be passed along to U.S. consumers and businesses. A recent study estimates that a 25 percent tariff on PCBAs would increase prices by more than 6 percent and reduce consumption by nearly 12 percent in 2019.³ Another recent study found: "The biggest negative effect of the proposed tariffs would be on the wide array of businesses, nonprofits, and government organizations that rely on cloud computing as an essential part of their business."⁴

³<https://prod1.cta.tech/CTA/media/policyImages/Estimated-Impacts-of-Proposed-Tariffs-on-Imports-from-China-Printed-Circuit-Assemblies-and-Wireless-Telecommunications-Accessories.pdf>

⁴http://www2.itif.org/2018-china-cloud-tariffs.pdf?_ga=2.68781138.256301967.1536073457-903730194.1528122039



At the same time, not all of these increased costs would likely be passed on to consumers and businesses. Instead, U.S. cloud providers would also take cost-cutting steps to absorb some of the cost increases from tariffs or production moves.⁵ This may lead some smaller businesses with less flexible budgets to lay off workers, while other larger U.S. companies would likely reduce their investment in new data center builds and/or reduce their levels of investment in research and development. Under either scenario, these steps would make it more difficult for U.S. firms to stay ahead of international competitors.

Ultimately, U.S. firms are in fierce competition with foreign providers in the market for cloud services, which is projected to grow \$400 billion by 2020. U.S. firms earned roughly two-thirds of the share of the global market as of the first quarter of 2018, but other firms around the world, including Alibaba Cloud, are investing heavily in cloud computing and are threatening to match or overtake U.S. providers in key markets.⁶ Applying new tariffs to U.S. data center inputs at this point would threaten to stanch the growth and competitiveness of U.S. firms while giving a leg up to foreign competitors.

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The situation is similar for connected devices and consumer technology products (**HTS 8517.62**). Again, it would be very difficult and time-consuming for most U.S. firms to switch their sourcing for goods in this category out of China. It typically takes 6-9 months for a larger-scale U.S. firm to shift production of connected devices from China to another country, assuming that a given contract manufacturer has space available at non-Chinese locations. In many cases, particularly with newer products, such space is not immediately available, meaning that several months of waiting time will be added on to the original transfer time, resulting in delays of a year or more. Since a manufacturer's capabilities are usually site specific, it could take an additional several months to shift sites if it is necessary for a manufacturer outside China to upgrade its capabilities in order to produce the relevant item. In addition, some manufacturing partners will charge contractual penalties to U.S. firms for breaking obligations to build products in a given location.

Members have indicated that there are few opportunities to shift production of connected devices and consumer technology products to the U.S., given the scale of production required by U.S. firms. Shifting to U.S. production would be cost prohibitive if U.S. manufacturers need to pay increased tariffs on some of the underlying parts of these devices, such as PCBAs and memory modules, which are covered by HTS 8473.3011.

The impact to consumers from increased tariffs on goods covered by HTS 8517.62 is even clearer. If tariffs are imposed on this category, a recent study shows that it will increase costs for U.S. consumers by nearly \$3.2 billion annually -- up to a 22% cost increase for each device.⁷

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For the reasons provided above, we strongly urge USTR to remove products covered by HTS 8473.30.11, 8473.30.51, 8473.30.91 and 8517.62 from the final list of products that will be subject to increased duties.

⁵http://www2.itif.org/2018-china-cloud-tariffs.pdf?_ga=2.68781138.256301967.1536073457-903730194.1528122039

⁶http://www2.itif.org/2018-china-cloud-tariffs.pdf?_ga=2.68781138.256301967.1536073457-903730194.1528122039

⁷<https://prod1.cta.tech/CTA/media/policyImages/Estimated-Impacts-of-Proposed-Tariffs-on-Imports-from-China-Printed-Circuit-Assemblies-and-Wireless-Telecommunications-Accessories.pdf>