

EXHIBIT 111

DIGITAL TRADE

Why does the US hate digital trade?



Sam Lowe

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Last week, the US announced it is dropping its support of WTO e-commerce negotiations over rules that would have facilitated cross-border data flows, reduced national rules for data localization, and stopped the forced transfer of source code. The US turnaround is inward-looking, panders to domestic politics, and gives implicit permission to other governments including China to similarly turn against such rules.

All politics is ultimately domestic. Everyone in trade policy gets this, even if it is annoying.

But the really annoying thing with US trade policy at the moment is that its proponents keep trying to pretend its protectionist measures have a higher purpose.

Take the US negotiations with the European Union for a Global Agreement on Sustainable Steel and Aluminum (GSA). As per Alan Beattie's excellent Trade Secrets column, everyone knows that the US administration doesn't really care about the "Sustainable"

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element and is mainly trying to win votes in Ohio.

And, reluctantly, much of the world will go along with US annoyingness — to a point. The EU, for example, will humor the US on the GSA, but will not go so far as to be made complicit. (By which I mean, if it has to play along, the EU wants to do so in a way that allows it to argue its measures are compatible with the EU's WTO obligations, whereas the US wants a rule-breaking buddy.)

Anyhow, US domestic politics have struck again.

Last week, the US announced it is dropping its support of rules allowing the free cross-border data flows, prohibiting national requirements for data localisation, and prohibiting the forced transfer of software source code in the context of the WTO e-commerce negotiations.

As the European Centre for International Political Economy's Hosuk Lee-Makiyama noted, this decision means, at least on this issue, the US is aligning itself with China in opposition to EU, Japan, Singapore, Australia and New Zealand [*Ed: Also the United Kingdom*].

So why?

We may as well start with the real reason: to appease the Left of Biden's party and Elizabeth Warren in particular.

Senator Warren said: "Big Tech lobbyists are trying to use trade deals to undermine the Biden administration's

The missing trade in US trade policy



Keith M. Rockwell

17 January 2023

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efforts to promote competition, and it's welcome news that [USTR] Ambassador Tai is rejecting that effort at the WTO."

The Information Technology & Innovation Foundation's Nigel Cory has written a [good thread](#) outlining why this argument is disingenuous. In summary, it is largely displacement activity — the US can regulate how it likes (with some obligations to, for example, treat domestic and foreign firms equally), it just hasn't because there's no consensus on how to regulate a lot of these things.

I would also add that these criticisms ignore the fact that US [and everyone else's] digital trade commitments come quite heavily caveated. Take the US-Mexico-Canada provisions on source code. Yes, it prevents the US, Mexico, and Canada from arbitrarily requiring firms to hand over source code as a condition of market entry, but it acknowledges that there are lots of legitimate reasons why a regulator or enforcement agency [see **bold**] might need to have access:

Article 19.16: Source Code

1. No Party shall require the transfer of, or access to, a source code of software owned by a person of another Party, or to an algorithm expressed in that source code, as a condition for the import, distribution, sale or use of that software, or of products containing that software, in its territory.
2. **This Article does not preclude a regulatory body or judicial authority of a Party from requiring a person of another Party to preserve and make available the source code of software, or an algorithm expressed in that source code, to the regulatory body for a specific**

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28 September 2021

investigation, inspection, examination, enforcement action, or judicial proceeding, subject to safeguards against unauthorized disclosure.

There are also more general national security exemptions and the like, which countries can [and do] fall back on. I wrote [a whole paper on this](#) for the City of London Corporation, focusing on FTA financial services digital provisions.

But if all you care about is domestic policies with no thought to how your actions impact on your wider international objectives, removing US support for digital provisions in the context of a negotiation (e-commerce) that probably isn't going anywhere anyway could be conceived as relatively low cost. But it really does require ignoring the first half of the previous sentence, which I'll discuss further below.

However, we must also acknowledge that the commercial and policy focus on AI has somewhat changed the digital trade discussion, particularly regarding source code.

My basic hypothesis is that up until now, it has been pretty easy for many governments of open economies to sign up to digital trade provisions because they didn't require any policy change.

For example, the UK just signed up to a load of deals (Australia, New Zealand, CPTPP) with prohibitions on forced data localisation, placing duties on data flows, and forcing firms to hand over source code [with the fun caveat of [the New Zealand deal](#)] without any issue because the UK doesn't do, and has no intention to do, any of those things.

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But AI. As we discussed in a previous edition of *Most Favoured Nation*, we now know that the source code provisions of the EU-UK Trade and Cooperation Agreement did have a minor impact on the design of the EU's new AI act.

As per a EURACTIV report: "In an internal note dated 9 April 2021, the trade department thanked the digital policy department for having amended the requirements on technical documentation but asked for further changes regarding the conformity assessment of the quality management systems, specifically on the provision related to the external vetting of notified bodies – authorised independent auditors."

"The trade department requested that the wording on the provision of the source code should be narrowed down, removing a reference to 'full' access and specifying that it would only be provided to assess the conformity of a high-risk system to avoid an excessively broad interpretation."

"Similarly, the trade department requested to eliminate the reference to granting 'full' access to the source code for a market surveillance authority to assess whether an AI system deemed at high-risk to cause harm complies with the AI Act's obligations."

"At the same time, the trade policy officers asked that the notified body and public authority be bound by confidentiality obligations when a source code is disclosed."

"All the requested changes made it into the final draft the European Commission published later that month."

So in this instance, did trade rules impact on domestic regulatory policy? Yes. But did it prevent the EU from

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regulating, or even regulating in a way that annoys "Big Tech"? Umm, no.



Association of Foreign Press Correspondents in
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If you break down the changes requested in the example above, it boils down to ensuring the source code sharing provisions are narrowed down a bit so it is only required when necessary and that public bodies shouldn't then go and publish the source code on the internet.

But yeah, given that previously there was no consequence whatsoever for a government like the US, EU, Japan, UK, etc. signing up to digital provisions in free trade agreements, it's no surprise that they are now starting to get a bit more scrutiny. I suppose the main point to make about the example above is that the FTA provisions actually improved the proposal by making it more focused.

Back to the main point of this: why is the US' change of heart annoying? Well, as above, because it's entirely inward-looking. The wider consequence of the US actions is that it has given implicit permission to governments such as China to adopt (or continue applying) a similar approach. Does the US really want its firms to be required to share source code as a condition of market access to China? Probably not. Has the US got a leg to stand on when it inevitably objects? Now, probably not.

*[This article, slightly edited for house style, was first published on 27 Oct., 2023, in **Most Favoured Nation**, Sam Lowe's trade policy newsletter.]*

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EXHIBIT 112



[Blog Posts](#) [Nov 30](#)

Unraveling the Impact of USTR's WTO Reversal on Cybersecurity and Global Trade

Cross border data flows play a critical role for effective cybersecurity risk management and the [decision](#) by the Office of the United States Trade Representative (USTR) to remove its support for policies in the World Trade Organization (WTO) E-commerce Joint Statement Initiative is in opposition with positions the U.S. government has taken for decades. The Coalition to Reduce Cyber Risk ("CR2") reaffirms the critical importance of cross border data flows for cybersecurity risk management.

USTR's decision to withdraw support for disciplines that promote data flows and protect against data localization measures is in direct conflict with [earlier commitments](#) made by the Biden administration. The administration had stated it wanted to build a connected economy and pursue "standards on cross-border data flows and data localization ... in order to ensure small and medium sized enterprises can benefit" from a rapidly growing digital economy. The decision also reverses support for such positions across Democratic and Republican administrations going back decades.

Prohibitions on data flows not only undermine digital trade directly, but they also inhibit the ability of security professionals to secure the digital ecosystem and the broader economy. This in turn will have damaging impact on the broader digital economy because, [as stated in the United States-Mexico-Canada Agreement \(USMCA\)](#) "threats to cybersecurity undermine confidence in digital trade"



[CONNECTED. HOW INTERNATIONAL DATA FLOWS ENABLE STRONGER CYBERSECURITY](#) we

elucidate through case studies how the promise of a safe and secure digital ecosystem is premised upon data flows that support cybersecurity activities. These include:

- [Preventing Credential Harvesting Attacks & Account Compromise](#)

EXHIBIT 113



U.S. Chamber of Commerce

How Reversal on Digital Trade Threatens U.S. Workers, Businesses

USTR announced it was abandoning the longstanding U.S. approach to digital trade rules. Here's how this decision will impact American companies and workers.

John G. Murphy

Senior Vice President, Head of International, U.S. Chamber of Commerce

Published

October 27, 2023

The administration's policy reversal on digital trade this week was shrouded in little known acronyms, but the impact on American companies and the workers they employ will be swift and painful.

This past week the Office of the U.S. Trade Representative (USTR) announced it was abandoning the longstanding U.S. approach to digital trade rules. USTR officials in Geneva announced the U.S. withdrawal of its previous proposals on data flows, data localization, and source code being discussed in World Trade Organization (WTO) negotiations on e-commerce. A USTR spokesman

stated that the move was made “to provide enough policy space” for debates about digital trade to unfold.

In reality, this move will directly harm American workers, invite unfair treatment of U.S. companies, and threaten our competitiveness. Unsurprisingly, it drew powerful bipartisan criticism from Congress and condemnation from the U.S. Chamber and a wide range of business groups.

Capitulating to Fringe Views: The move represents a capitulation to fringe views that misread what digital trade rules do. In reality, these rules form a breakwall against the rising tide of global digital protectionism, particularly the egregious digital measures imposed by authoritarian regimes.

Strong digital trade rules also prevent countries around the world from using regulation to lock out American companies and their workers from their markets. In no way do they impede fair regulation.

U.S. the Top Beneficiary: American businesses of all sizes and sectors have benefitted mightily from the [digital trade revolution](#), and their leadership in harnessing data to create and transform products and services has made them the envy of the world. Among other things, these rules have:

- Opened international markets for American service providers, manufacturers, and agri-food companies that rely on the global reach of a range of U.S. services and technology providers to succeed;
- Helped small and medium-sized businesses to launch, grow, scale up, and access new markets; and
- Advanced the export of digital-delivered services, which in 2022 accounted for more than 67% of all U.S. services exports and 20% of all U.S. exports.

At Odds with the Law: The trade rules that make this possible — and that USTR is proposing to abandon — won overwhelming support in Congress when it approved the U.S.-Mexico-Canada Agreement (USMCA). In fact, 90% of the House and Senate voted for this agreement, which has been the law of the land for more than three years.

These same rules are enshrined in the U.S.-Japan Digital Trade Agreement. Between these two agreements, the digital trade rules that USTR abandoned this week have governed U.S. trade with three of our top four trading partners for years—benefitting many Americans and harming none.

Congressional Anger: Unsurprisingly, congressional leaders decried the move. Senate Finance Committee Chairman Ron Wyden (D-OR)—normally a staunch ally of the administration—[called](#) the move “a win for China, plain and simple... USTR’s unilateral decision to abandon any leverage against China’s digital expansionism, and to oppose policies championed by allies like Australia,

Japan, the U.K. and Korea, directly contradicts its mission as delegated by Congress. It may be time to reconsider the degree of that delegation going forward.”

Senate Finance Ranking Member Crapo (R-ID) and eight other committee Republicans joined in a blistering [statement](#), which reads in part: “Ambassador Tai makes clear in her speeches and through her actions that foreign countries are free to discriminate against U.S. companies and workers as long as these countries and USTR can concoct an excuse. Failing to stand up for America and against foreign discrimination—particularly from China—is contrary to the USTR mission.”

In a similar vein, Representatives Darin LaHood (R-IL) and Suzan DelBene (D-WA), Co-Chairs of the Digital Trade Caucus, slammed the move, [stated](#) that the was made “without the consent of Congress.”

This Isn’t Over: For the sake of the millions of American workers and the thousands of U.S. companies who benefit from digital trade, capitulating to foreign digital protectionism can never be acceptable. The U.S. Chamber is working with its members, other associations, and Congress to press the administration to change course.

About the authors



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John Murphy directs the U.S. Chamber’s advocacy relating to international trade and investment policy and regularly represents the Chamber before Congress, the administration, foreign governments, and the World Trade Organization.

Topics

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TRADE AGREEMENTS

EXHIBIT 114



U.S. Chamber of Commerce

Why Digital Trade Is Critical to the U.S. and Global Economies

The U.S. must work with allies and partners to push forward a vision for digital trade that can secure opportunities for American workers, small businesses, services industries, and others.

Jordan G. Heiber

Vice President, International Digital Economy Policy, U.S. Chamber of Commerce

Published

July 20, 2023

Pending decisions on the direction of digital trade policy represent a moment of promise and peril for the U.S. economy — and for the global economy as well.

On the positive side of the ledger, export opportunities for small businesses and for digitally tradeable services are expanding rapidly, with companies in all sectors poised to benefit. The United States is well positioned to build on its formidable advantages in these areas.

However, these opportunities are endangered by the spread of digital protectionism and discriminatory digital regulations. For the U.S., the challenge is acute: Digital protectionism often targets American firms.

But given how the spread of digital trade barriers threatens growth in every country, the challenge is by no means just an American one.

The U.S. Chamber called attention to these challenges in a recent study, [*The Digital Trade Revolution: How U.S. Workers and Companies Can Benefit from a Digital Trade Agreement*](#). The study underscores the promise of digital trade as a driver of dynamic growth and good jobs in the U.S. and abroad. With details on a host of industry sectors and state-by-state fact sheets, the report shows that most U.S. services exports now have the potential to be delivered to customers abroad digitally.

Consider these findings:

- The digital economy is expanding nearly **three times as rapidly** as the economy writ large.
- The bulk of **U.S. services exports** are digitally tradeable, but the potential for expansion of the digital delivery of services exports remains largely untapped.
- These exports, coming from every U.S. state (see our [50 state fact sheets](#)), supported more than **2 million U.S. jobs** in 2020.
- **Small business exporters** are among those with the most to gain from digital technologies that help them find customers, navigate complex customs rules, and guarantee cross-border payments.

Other economies are also benefiting from the digital trade revolution. As World Trade Organization (WTO) Director-General Dr. Ngozi Okojo-Iweala recently [remarked](#), “The growth in services delivered across borders via digital networks is strikingly visible in the trade data.” [WTO data](#) show:

- Global exports of **digitally delivered services grew by 8.1%** per year between 2005 and 2022, much faster than the 5.6% growth registered for goods exports.
- In 2022, the value of exports of these services, which cover everything from streaming games to consulting services provided by video, reached **\$3.82 trillion — a sum worth 12% of total goods and services trade**, up from 8% only a decade earlier.
- Digitally-delivered services have increased their footprint in global services trade to an impressive **54% of total global services exports** in 2022.

Unfortunately, barriers to digital trade are on the rise. The Information Technology & Innovation Foundation has [found](#) that “the number of data-localization measures in force around the world has more than doubled in four years. In 2017, 35 countries had implemented 67 such barriers. Now, 62 countries have imposed 144 restrictions— and dozens more are under consideration.” The experience of Chamber member companies affirms this trend and its widespread nature.

Left unchecked, the proliferation of these trade barriers threatens to deprive American workers and companies of the potential benefits of digital trade. The same holds for companies overseas as well.

To overcome these foreign trade barriers and secure the benefits of digital trade, the United States must recommit to high-standard trade rules for digital commerce, such as those the U.S. now has in place with Canada, Mexico, and Japan (three of our top four trading partners). Not only have these rules been in place for more than three years, Congress endorsed them by a nine-to-one margin when it approved the USMCA implementing bill that gave them the force of law. Despite this clear bipartisan endorsement, USTR has in recent months refused to advance these same rules in the Indo-Pacific Economic Framework negotiations.

The U.S. must work with allies and partners to push forward a vision for digital trade that can secure these opportunities for American workers, small businesses, services industries, and others. Those allies and partners certainly share the same goal: For all these reasons, it's time for the United States to reaffirm its commitment to digital trade.

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Jordan Heiber leads the Chamber's international privacy and data flow policy portfolio and manages a team responsible for the full suite of digital policy issues, including cybersecurity, artificial intelligence, and more.

Topics

INTERNATIONAL

TRADE AGREEMENTS

EXHIBIT 115



U.S. Chamber of Commerce

Widespread Bipartisan Concern with U.S. 'Surrendering' on Digital Trade

The Biden administration's withdrawal of support for important digital trade rules continues to undermine U.S. industry.

John G. Murphy

Senior Vice President, Head of International, U.S. Chamber of Commerce

Published

April 19, 2024

This week, U.S. Trade Representative (USTR) Katherine Tai appeared in front of the House Ways & Means and Senate Finance committees to answer questions regarding current U.S. trade policy. Of particular concern was [the Biden administration's decision to withdraw its support for digital trade rules](#), which has drawn the ire of many in Congress and is undermining U.S. industry.

What's at stake: The U.S. Chamber of Commerce's new [Digital Trade Revolution report](#) demonstrates how digital trade supports over 3 million U.S. jobs directly and indirectly. That's why we've urged the Biden administration to restore U.S. leadership on digital trade.

Instead, the administration's approach is putting at risk the ability of American companies—across industries and in every state—to spur growth and innovation at home and around the world.

Get informed: The U.S. Chamber recently transmitted a multi-association letter, signed by more than 40 organizations representing a broad cross-section of sectors, [urging the Biden administration to restore U.S. digital trade leadership](#). Transmitted ahead of Ambassador Tai's hearings this week with the House Ways and Means and Senate Finance committees, the letter outlines the business community's significant concerns with USTR's policy shifts. It “sets the record straight” on why strong digital trade protections are critical to firms of all sizes and sectors.

What Congress Is Saying

Here's how both Republicans and Democrats in the House and Senate echoed these concerns in this week's hearings:

U.S. Senate Finance Committee Chairman Ron Wyden (D-OR): “The United States needs to be a leader in setting the rules of the road for digital trade so our creators and innovators get a fair shake in foreign markets ... we must also push for digital trade rules that will protect the free and open internet, help small businesses, and push back on China's model of digital surveillance and censorship.”

U.S. House Way & Means Chairman Jason Smith (R-MO): “The United States should not sit idly by while our workers and companies are taken advantage of ... Unfortunately, it is clear the Biden Administration's focus has been misplaced. Rather than work to deliver for American workers, farmers, and small businesses, the Administration ... surrenders U.S. leadership on priorities like digital trade.”

U.S. Senate Finance Committee Ranking Member Mike Crapo (R-ID): “United States manufacturing, innovation, creative, and tech industries are second to none. If the Administration will not negotiate tariffs, it should at least help workers in these industries by negotiating critical rules on technical barriers to trade, intellectual property, and key digital trade provisions such as on non-discrimination and free data flows. Thus far, USTR has failed to do so in any of the so-called framework negotiations—and the trade agenda indicates this will continue. This benefits China, which is aggressively participating in international standards-setting bodies, pushing technology transfer and supporting data localization by countries.”

U.S. Senate Finance Trade Subcommittee Chair Tom Carper (D-DE): “In February this year, the American Civil Liberties Union, along with Freedom House and a number of other advocacy groups as well as academics, sent a letter expressing concern with the United States decision to withdraw from the key digital commitments at the World Trade Organization. That letter outlines the impact of digital trade across sectors and the importance of ensuring that the United States

has a seat at the table in order to help write the rules of the road both for creators and small and medium-sized businesses that must adapt to the changing digital landscape.”

U.S. Sen. John Thune (R-SD): “It seems like we have abdicated our role as a leader when it comes to digital trade, very quickly allowing China to step into the gap.”

U.S. Sen. Todd Young (R-IN): “I happen to believe and I think our committee has demonstrated on a broadly bipartisan basis that digital trade is increasingly important to our country. At this moment in history, however, our government has not acted as though it’s as important as this committee seems to believe. Under your leadership, USTR is diminishing our role in defending open digital trade rules, to put it pointedly.”

U.S. Sen. Chuck Grassley (R-IA): “Our competitors repeatedly seek to discriminate against U.S. companies and impede access to their markets. Yet, the Biden administration has pulled back from negotiations on digital service trades and rejected long-term, long-held bipartisan principles against discriminatory practices of our partners. USTR has abdicated its leadership role in this important issue. Why is USTR allowing other countries to set the rules that will put American companies at a disadvantage?”

U.S. Rep. Darin LaHood (R-IL): “This administration sends mixed messages on the global stage by walking back long-held bipartisan digital trade proposals outlined at the World Trade Organization without clearly articulating a policy path forward. Last November, Congresswoman DelBene and I led a co-lead bipartisan letter along with 36 House colleagues to you underscoring how your decision threatens American leadership and ultimately harms American businesses and workers.”

U.S. Rep. Suzan DelBene (D-WA): “I do worry we’re not doing enough to negotiate trade rules that are commercially meaningful, enforceable, supported by Congress, and reflective of the modern-day challenges we face as a nation.”

U.S. Rep. Brian Fitzpatrick (R-PA): “U.S. digital trade policy has consistently been a bipartisan issue in this chamber and in this Congress and the Congress remains committed to supporting the promotion of digital trade and the removal for foreign barriers to digital trade that directly harm our companies right here in the United States. Moreover, digital trade bolsters American leadership and encourages innovation and levels the playing field for U.S.-based companies and workers competing against foreign businesses while also promoting democracy abroad. Ambassador Tai, last year your office made the unilateral decision to withdraw support of the WTO’s digital trade principles. I believe this to be an unfortunate decision...it allows communist China to have more of a say over the global rules of the road for internet, for e-commerce and cross-border data rules and information access.”

U.S. Rep. Kevin Hern (R-OK): In an increasingly interconnected global community, access to free digital trade is critical to U.S. economic growth and innovation and preventing digital trade barriers has historically always been bipartisan... USTR has continuously failed to protect digital trade.”

U.S. Rep. Ron Estes (R-KS): “USTR has failed to insist on safeguards for digital trade, which will result in a loss of U.S. tax revenue to other countries. By acquiescing to forced tech transfers, localized operations, and data localization, the administration's consenting to WTO proposals that will send U.S. jobs and IP to foreign jurisdictions, decreasing our tax base.”

The Bottom Line

There is broad agreement: The USTR’s current approach to digital trade is putting U.S. leadership and jobs at risk. It is past time for a course correction that puts American companies and the workers they employ at the center of our trade policy.

About the authors



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John Murphy directs the U.S. Chamber’s advocacy relating to international trade and investment policy and regularly represents the Chamber before Congress, the administration, foreign governments, and the World Trade Organization.

Topics

INTERNATIONAL

TRADE AGREEMENTS

EXHIBIT 116



U.S. Chamber of Commerce

Setting the Record Straight on Foreign Trade Barriers

Whether USTR lists foreign trade barriers in its annual catalogue isn't a matter of aesthetic judgment, it's often a question of enforcing the law.

John G. Murphy

Senior Vice President, Head of International, U.S. Chamber of Commerce

Published

April 09, 2024

The United States Trade Representative's (USTR) decision to sharply narrow the aperture of its annual [National Trade Estimate \(NTE\) Report](#) on Foreign Trade Barriers has drawn more attention to this year's edition, issued in late March. However, some of USTR's comments on their "new approach" call for closer examination.

USTR has signaled that it deleted many foreign trade barriers that it had criticized as recently as a year ago because it respects "the sovereign right" of foreign governments "to regulate for legitimate public policy reasons."

The idea that foreign governments closing their markets to U.S. exports or discriminating against American companies deserves USTR's respect has certainly drawn raised eyebrows around

Washington.

However, many of these barriers are, in fact, violations of commitments that foreign governments have made in trade agreements with the United States. USTR appears to claim it has free rein to ignore those commitments, but many of them have the force of law as congressionally approved trade agreements. It is USTR's responsibility to enforce them.

U.S. trade agreements—from the various trade agreements of the World Trade Organization (WTO) to the U.S. free-trade agreements in force with 20 countries—have force domestically because legislation implementing them into U.S. law was approved by Congress. The function of the Administration is to administer these laws and to enforce them.

Enforcement of [trade agreements](#) is a priority that has long enjoyed bipartisan support. “Enforcement, enforcement, enforcement!” was the regularly repeated summary of USMCA priorities voiced by House Ways and Means Committee Chairman Richard Neal in 2019, when Katherine Tai served as his chief trade counsel—and no doubt agreed with him.

Consider:

- USTR dropped from this year's NTE its past criticism of the EU's Digital Markets Act (DMA), which singles out U.S. firms for discriminatory treatment. The EU is bound by WTO rules prohibiting measures that afford de facto discrimination even when the measure provides “formally identical” treatment. This was a sovereign commitment by the EU. USTR may not like it, but that's the legal obligation, and the DMA should be in the NTE.
- USTR dropped from this year's NTE its past criticism of Korea's lack of transparency and due process in the conduct of competition policy. The Korea-U.S. FTA (KORUS) has a chapter outlining these obligations. That was a sovereign commitment by the Korean government. USTR may not like it, but that's the legal obligation, and it should be in the NTE.
- Further, Politico notes that the 2024 NTE report “appears to mention foreign local content requirements only four times, compared with 84 times in the previous report. Such provisions hurt American exporters in overseas markets by giving preference to local suppliers.” WTO rules significantly limit such measures, as USTR previously acknowledged. USTR may not like it, but that's the legal obligation, and these barriers should be in the NTE.
- In addition, USTR also scaled back references to sanitary and phytosanitary (SPS) measures and technical trade barriers (TBT). These areas are key in reducing market access barriers that U.S. agriculture and manufacturing exporters confront.

The NTE addresses “significant” foreign trade barriers, including many that do not violate trade agreements, but the ones that do violate trade agreements deserve special attention. Enforcement of trade agreements is part of USTR's core mission, and it has an obligation not just to list these violations in the NTE but to prioritize appropriate enforcement action.

EXHIBIT 117



U.S. Chamber of Commerce

Why Restoring America's Digital Trade Leadership Is Critical

The White House is undermining U.S. leadership on digital trade despite the robust growth of the digital economy.

John G. Murphy

Senior Vice President, Head of International, U.S. Chamber of Commerce

Published

March 20, 2024

The U.S. is at a fork in the road on [digital trade](#), facing a future of promise or peril. The digital economy, encompassing commerce and services powered by electronic technologies, is fueling growth, prosperity, and dynamism across the U.S., accounting for [\\$2.6 trillion in GDP in 2022](#)—that is, 10% of all U.S. economic output.

New digital technologies enable businesses of all sizes and sectors to offer new and improved goods and services, from telemedicine to GPS-enabled cars. A remarkable element of the digital economy is the broad participation of firms, extending far beyond the “tech” sector to transportation, warehousing, arts and entertainment, and even agriculture.

Nearly two-thirds of the digital economy comprises digital services, with the expansion of the digital services sector outpacing that of the overall economy. The U.S. digital economy is growing three times faster than the nation's economic growth overall. Growth in digital economy jobs, which are well-paid and plentiful, also outpaces overall U.S. job growth.

However, global competition looms large. Foreign competitors, particularly the EU, India, and China, are aggressively pursuing their own digital economy ambitions while the rise of digital protectionism threatens U.S. companies' access to global markets.

Even more alarming, however, is the tepid U.S. response to these challenges. Despite the urgent need to dismantle trade barriers and protect U.S. economic competitiveness, the Biden Administration is kowtowing to misguided fringe viewpoints that strong digital trade rules primarily benefit large tech companies—and in doing so, the White House is undermining U.S. leadership on digital trade.

At the World Trade Organization negotiations on e-commerce in October 2023, the U.S. Trade Representative (USTR) abruptly [abandoned long-held U.S. positions supporting the free flow of information across borders](#), protecting against the forced transfer of American technology, and promoting open markets for American digital goods and services. The move was roundly denounced by the U.S. business community, the U.S. Chamber of Commerce, and lawmakers from both parties. The digital trade policy reversal has now hamstrung Congress' ability to enact new laws and regulations in the realm of emerging technologies like AI hamstrung by the digital trade policy reversal.

An open internet that promotes the flow of information across borders supports the American economy, American exporters, and American values. For decades before the Administration's reversal on digital trade, the U.S. led the world in protecting, promoting, and expanding the open internet as a vehicle of connectivity and an engine of growth. Now, the Biden Administration's decision to abandon these commitments creates a vacuum that our competitors and adversaries are moving to fill.

Contrary to naysayers who speak of digital domination by a few tech giants, exports of digital goods and services supported more than 3 million American jobs in 2022. Businesses, workers, and creators in every corner of the country and from every industry are among the beneficiaries.

It is not too late for the Administration to rethink its decision and restore U.S. leadership on digital trade policy. The full potential of digital trade still remains untapped: Opportunities for expansion exist in developed economies such as Europe—already a top market for U.S. exports—and in emerging markets.

A broad bipartisan consensus—and overwhelming support from the U.S. business community—continues to support the core digital trade commitments that USTR abandoned at the negotiating table. The Chamber urges the Administration to reverse course; business is prepared to work with the Administration and Congress to restore U.S. leadership in the digital economy.

EXHIBIT 118



U.S. Chamber of Commerce

How Digital Trade Benefits the American Economy

And why USTR's reversal on policies supporting its growth are so concerning.

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The digital revolution is delivering substantial benefits for the U.S. economy, driving growth, prosperity, and dynamism across every state and congressional district. For decades, American innovation has positioned the U.S. as the global leader in the digital economy, and the digital revolution means that U.S. exports increasingly rely on digital trade. America needs strong digital trade rules that:

- Open international markets for American service providers, manufacturers, and agribusinesses to export an ever-increasing number of digitally enabled goods and services.
- Facilitate data flows, the lifeblood of the digital economy.
- Protect intellectual property embedded in digital goods and services.
- Prevent discriminatory treatment of American companies in foreign markets.

However, an abrupt policy change by the Biden administration has undermined American leadership on [digital trade](#) and is threatening the continued success of U.S. firms large and small.

Prosperity at Risk

In October 2023, [USTR announced it was withdrawing](#) its support for digital trade rules—previously endorsed on a strong bipartisan basis by Congress. USTR seems to have been hijacked by radical voices advocating that digital trade rules only benefit big technology firms and will get in the way of Congress’s ability to regulate things like privacy. Nothing could be further from the truth. Digital trade rules advance America’s ability to ensure a diverse range of firms of all sizes can reach customers in countries around the world. These rules protect American digitally enabled exports from discriminatory treatment and prevent U.S. cutting edge technologies from being stolen in foreign markets.

Broad Bipartisan Support

Further, trade rules have never prevented Congress from passing new laws and regulations, including those that could be needed in the future to address emerging technologies like AI. Most recently, Congress reaffirmed this when it passed the United States-Mexico-Canada Agreement (USMCA), which includes strong digital trade provisions, with 90% of the House and Senate voting in favor. Nearly two-thirds of the digital economy consists of digital services, not digital goods. The digital economy is expanding nearly three times as rapidly as the economy writ large. In short, digitally enabled products and services are not confined to a handful of “big” companies, let alone the “tech” sector.

3 Million American Jobs

The digital economy has become critical to the U.S. economy, driving growth and creating high-paying jobs. In fact, digital trade exports supported more than 3 million direct and indirect U.S. jobs in 2022. Select a state and district below to discover the impact.

EXHIBIT 119



U.S. Chamber of Commerce

Digital Trade Rules Benefit Every Sector of the U.S. Economy

Strong digital rules are critical to growth, innovation, and hiring, from autos to agriculture and manufacturing to financial services.

Isabelle Icso

Senior Director, International Policy, U.S. Chamber of Commerce

Published

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The ability of U.S. companies of all sizes to access and move data globally drives wealth creation and is critical to America's prosperity. Over the years, the U.S. and its allies have negotiated agreements to support cross-border data flows among reliable trading partners, guard against digital protectionism, and allow parties to pursue non-discriminatory domestic digital policies.

However, the Office of the U.S. Trade Representative (USTR) announced in October it was [walking back longstanding U.S. support for strong digital trade rules](#), even though these represent well-established and bipartisan positions that were most recently enshrined in U.S. law in the United States-Mexico-Canada Agreement (USMCA).

Specifically, USTR withdrew support for proposals on:

1. Due process measures with respect to cross-border data flows and data localization restrictions;
2. Protections for source code vis-à-vis forced access; and
3. Protections from trade partner discrimination against U.S.-made digital products.

What's lost in the debate is that this decision doesn't hurt "Big Tech" so much as the multitude of sectors of the U.S. economy, as well as [American small businesses, workers, consumers, and entrepreneurs that depend on the digital economy](#). This includes industries such as semiconductors, manufacturing, biopharma, medtech, agriculture, insurance, financial services, auto and transportation sectors, to name a few. Consider these:

Semiconductors

The seamless and unimpeded flow of semiconductor research, designs, software, manufacturing information, and other development data within and across borders has been essential in making the U.S. semiconductor industry strong.

Every step in the semiconductor manufacturing value chain involves the movement of data—from design to wafer manufacturing to back-end assembly, testing, packaging, sales, and distribution. A single semiconductor fab can generate several petabytes of data per day.

This data can include information about the chemical composition of materials used in the manufacturing process, measurements of the physical characteristics of individual chips, and data from sensors that monitor the manufacturing equipment. Much of the relevant data crosses international borders on a daily basis.

For R&D specifically, the semiconductor industry requires round-the-clock collaboration between companies, universities, and research institutions across different countries and regions, as global teams work in various markets to bring new innovations to market. The free flow of data is critical to facilitating this collaboration, as it enables researchers and developers to share information, insights, and expertise across borders.

Under this international R&D structure, semiconductor designs, design tools, engineering skills, research methodologies, and other data associated with component development are transferred from location to location, crossing multiple international borders along the way. Digital trade barriers will threaten this collaboration that has helped to generate new innovations and technologies that fuel the advancement of this industry.

Biopharma and Medtech

For biopharmaceuticals and medical technologies, the picture is similar. Biopharmaceuticals are increasingly developed, tested, and analyzed for safety and efficacy in different countries. To

perform this R&D, scientists, regulators, and others depend on the capability to transfer data securely across international IT networks.

Even before the launch of preclinical studies and clinical trials, the global R&D ecosystem depends on cross-border access to medical journals, scientific collaboration, and real-world evidence. Cross-border R&D collaboration has also proliferated in response to the COVID-19 pandemic, which saw the rapid development of vaccines that often include inputs from more than a dozen countries.

Cross-border data transfers help improve preclinical studies and clinical trials by reducing development cycles, improving data quality, facilitating participant adherence, and leading to more conclusive safety and efficacy findings. The cross-border transfer of clinical study data includes data at all stages of the trial, including supply chain transparency, such as when samples are delivered to and from patient facilities and laboratories.

Limits on cross-border data flows would also require reconfiguring the global logistics networks that have been developed so that such medical technologies can arrive at hospitals and reach patients with the latest software. It would likely require the abandonment of some locations and stages in the processes in ways that would forgo the talent and innovation they provide—and it could dramatically raise costs and depress innovation. Such limits could furthermore limit the development and delivery of cutting-edge digital medicines.

Finally, overly strict cross-border data flow restrictions could inhibit the collection of medical product safety data from across markets and reporting of that data to the FDA and other regulators. This further demonstrates that the lack of strong digital trade rules could impact the development, availability, and safety of innovative medical products to patients in the U.S. and around the world.

Manufacturing

When offering industrial software supporting design, testing, and execution for customers of all sizes, U.S. companies' source code and algorithms allow their products to function and provide value to customers by increasing efficiency and lowering total costs, in some cases as much as 20%. The customers these companies serve make up the backbone of economies from automotive to aerospace to food and beverage.

If a third-party government were to have access to the kernels of these companies' products—as the administration's move portends to do—it would essentially create a competitor with a duplicate product in the market, hurting their market opportunities and ability to continue to reinvest in their products and U.S. business. Industry leaders are stunned that the Biden administration, despite its oft-repeated commitment to manufacturing in America, seems in this instance to be supporting the forced transfer of U.S. technologies to our competitors abroad.

On the other hand, the protections included in the USMCA's digital trade chapter would, if applied more broadly, prohibit countries from requiring the disclosure of source code to software (including algorithms) as a condition for selling or using that software in the member state's territory.

Financial Services

The United States is an established leader in the provision of financial services globally. The American financial services industry generally accounts for 15-20 percent of U.S. GDP and is an increasingly digitally-enabled and data-intensive sector.

There is an opportunity through digital trade to support workers and businesses that are increasingly reliant on the use of digitally enabled financial services. For example, as a result of the pandemic, firms of all sizes – including small, minority-owned, and rural- businesses – dramatically increased their use of digital payments. Digital payments often serve as the first point of access to formal financial services for these small businesses and allow them to become a part of global value chains and reach customers in international markets.

Policies that restrict digital trade — including data localization and similar measures — are proliferating. Restrictions on the free flow of data negatively impact growth and productivity, which can be especially detrimental for small businesses. Countries whose policymakers prioritize strong digital trade rules and infrastructure will have an advantage as more and more consumers seek to use digital payments and as smaller firms look to expand their e-commerce capabilities.

Strong digital trade rules can also help improve organizations' overall cybersecurity posture. When governments enact data localization and other measures restricting the movement of data across borders, they make it more difficult and costly for companies to secure their data from potential cyberattacks.

Data security is critical for insurance companies, in particular, given this sector deals with large amounts of sensitive personal and financial data to do business. Unfortunately, governments around the world continue to enact digital trade barriers in this space, including preventing insurers from transferring data outside of the country or placing restrictions on the use of cloud services. While some governments argue that these measures will make data more secure, such restrictions can actually lead to the opposite result and undermine the very same policy goals that governments set out to achieve in terms of protecting the data of their citizens. That's why it's imperative that today's trade rules include prohibitions on data localization and similar requirements for insurers and the rest of the financial services sector.

Autos

Retreating from strong data flow standards will hinder how auto companies transfer data between domestic headquarters and their global affiliates. Whether it's data on customers, employees, or vehicle safety, the absence of strong digital trade invites new restrictions and impedes firms' ability to move data across borders. This would undoubtedly increase costs and stifle innovation and R&D by making it more difficult to capture data aimed at making vehicles safer, smarter, and more sustainable.

Additionally, without strong digital trade commitments, a number of large emerging markets could impose data localization requirements that force companies to store data generated or collected in a country on servers located within that country. The added cost and inefficiency would be baked in without advancing privacy, cyber, or other policy goals.

Agriculture

Agriculture companies rely on strong digital trade rules, even their focus on digital logistics and e-commerce technologies when exporting goods. Paring these rules down will make exporting to new markets that much harder for this trade-dependent sector.

These companies use data in transactions, advertising, R&D, harvesting, and climate monitoring, among other areas. Furthermore, digital solutions are key to achieving progress on environmental sustainability goals and increased crop yields. The pursuance of high-standard digital trade rules will facilitate U.S. agricultural exports to new levels.

Biotech companies' agricultural business will be negatively impacted if the U.S. abandons internationally recognized cross-border data flow principles, especially when it comes to sharing digital data with designated research centers for plant genotyping and phenotyping.

Cumulatively, these impacts will increase costs for biotech companies' agricultural businesses and depress the availability of these digital tools and services in different parts of the world. This could also potentially become a barrier to access to smallholder farmers, who cultivate crops on a limited scale in areas that could most benefit from more regenerative approaches to agriculture.

Logistics and Transportation

Transportation companies are also beneficiaries of strong digital trade rules that ensure data can flow freely across borders, unimpeded by forced localization rules.

Global supply chain constraints during the Covid-19 pandemic illustrated the need for increased transparency within supply chains. The ability of companies in the logistics sector to track upstream and downstream suppliers and assess real-time data on products' locations was critical in getting goods to market amidst congestion at ports. Companies were then able to provide their customers with this data globally based on the system of rules that allowed them to send data freely from one location to another.

Access to digital services is a key driver of supply chain diversification and resiliency, with digitally-enabled firms twice as likely to export goods as non-digitally-enabled firms.

Jobs Depend on Digital Trade

USTR's reversal of digital trade rules threatens new costs, reduced innovation, depressed investment, and suppressed hiring for a wide variety of American sectors and companies. Millions of American jobs, U.S. exports, and the nation's competitiveness depend on digital trade. The Biden administration needs to correct course — before it's too late.

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Topics

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EXHIBIT 120

After USTR's Move, Global Governance of Digital Trade Is Fraught with Unknowns

The irony of the USTR's decision is that it now makes an e-commerce agreement at the WTO more likely.

[Patrick Leblond](#)

December 11, 2023



United States Trade Representative Katherine Tai appears before the Senate Finance Committee on Capitol Hill in Washington, DC, on March 31, 2022. (Chris Kleponis/CNP-Sipa via REUTERS)

On October 25, the United States [announced](#) at the World Trade Organization (WTO) that it was dropping its support for provisions meant to promote the free flow of data across borders. Also abandoned were efforts to continue negotiations on international e-commerce, to protect the source code in applications and algorithms (the so-called [Joint Statement Initiative process](#)).

According to the Office of the US Trade Representative (USTR): "In order to provide enough policy space for those debates to unfold, the United States has removed its support for proposals that might prejudice or hinder those domestic policy considerations." In other words, the domestic regulation of data, privacy, artificial intelligence, online content and the like, seems to have taken precedence over unhindered international digital trade, which the United States previously strongly defended in trade agreements such as the Trans-Pacific Partnership (TPP) and the Canada-United States-Mexico Agreement (CUSMA).

Although the USTR had informed its trade partners prior to the announcement, the news came as a bombshell to the trade policy and business communities in the United States and abroad; they did not expect Washington to alter its support for open digital markets and the free flow of data across borders, seen as beneficial to US firms. The US Chamber of Commerce and many other major business associations immediately appealed to the National Security Council and National Economic Council by expressing their "[profound concern and disappointment](#)" about the USTR's decision, in an open letter.

economy” also expressed “[deep concerns](#)” about the USTR’s decision. They pinpointed that barriers to cross-border digital trade are more harmful to them than to their bigger competitors: “Unlike larger companies, smaller businesses with few product or service lines usually cannot shoulder the superfluous costs of data localization, technology transfer, prohibitions on encryption, and arbitrary application of regulation to American firms.”

The irony of the USTR’s decision is that it now makes an e-commerce agreement at the WTO more likely, removing the deadlock between China and the United States relating to exceptions to cross-border data flow and source code protection. The problem is that such an agreement, if it comes to pass, will be ineffective in fostering international digital trade. As such, [it won’t be much different from the Regional Comprehensive Economic Partnership’s digital trade chapter](#).

The emergence of a noodle bowl of digital trade governance is the result of two strategic imperatives: one geo-economic, the other industrial.

Where Were We Before?

Until the USTR’s decision, the international governance of digital trade had been experiencing a proliferation of agreements. Stephanie Honey coined this trend the “[digital noodle bowl](#),” in reference to Jagdish Bhagwati’s “spaghetti bowl,” which described the increasing number of bilateral and regional trade agreements, some overlapping, agreed to in the 1990s. Using noodles instead of spaghetti as the metaphor is meant to emphasize that the [Indo-Pacific region is the centre of gravity for digital trade agreements as opposed to the traditionally dominant North Atlantic region](#).

The emergence of a noodle bowl of digital trade governance is the result of two strategic imperatives: one geo-economic, the other industrial. According to the geo-economic logic, a country’s policy decisions regarding the governance of international digital trade is driven mainly by what other countries do. The industrial logic, for its part, implies that governments devise their digital trade policies to improve their domestic economy’s international competitiveness, with limited regard for what the rest of the world does. The goal here is to position their economy as a digital trade leader, in terms of both economic activity and standards setting.

The United States’ approach to the governance of international digital trade began with an industrial logic: protecting US firms’ access to foreign markets by imposing, in its trade agreements, strict provisions aimed at limiting cross-border digital trade flows. This is what we find in the TPP’s (now the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, or CPTPP) e-commerce chapter and CUSMA’s digital trade chapter. It was also the position espoused in the WTO negotiations until a few weeks ago.

In the last couple of years, however, the United States has moved toward a geo-economic logic in its approach to governing international digital trade, in response to China and the European Union. For instance, [the Global Cross-Border Privacy Rules \(CBPR\) Forum](#) is both a response to the European Union’s General Data Protection Regulation and an attempt to take privacy rule governance out of the Asia-Pacific Economic Cooperation because the latter includes China. The inclusion of the Global CBPR Forum within the US Indo-Pacific Economic Framework (IPEF) is also seen as a strategic response to draw countries in the region away from China’s digital orbit. With respect to IPEF’s other digital trade provisions, [negotiations now appear to be on hold](#), following the USTR’s October 25 decision.

For its part, the European Union has focused on establishing a whole set of laws and regulations to govern the digital part of Europe’s economy and society in an attempt to promote a digital single market within its borders. Any influence on governance standards beyond its borders through the so-called “[Brussels Effect](#)” has been secondary and primarily aimed at supporting the European Union’s internal market.

However, the European Union has recently been negotiating bilateral digital partnership agreements (for example, with Japan, Singapore and South Korea). This new approach to governing digital trade can only be understood in response to such agreements being negotiated by other countries and the fear that it will be left out of China’s and the United States’ attempts to dominate digital trade governance in other parts of the world, especially the Indo-Pacific region.

China’s approach to governing digital trade follows the United States’ and the European Union’s mixed logic. It began with an industrial logic in that the [Digital Silk Road](#) would be a means to support its home-grown digital giants in their competition with US giants in the Indo-Pacific region as well as in Africa. More recently, however, China has responded to US actions on digital trade by asking to join the CPTPP and the Digital Economic Partnership Agreement (DEPA) between Chile, New Zealand and Singapore. Pursuing a mixed logic, it has also strengthened the governance of its domestic digital economic space to promote the latter as well as protect political stability.

Smaller countries have adopted a more polarized approach to governing international digital trade. For New Zealand and Singapore, digital trade agreements follow an industrial logic, namely, to position their economies for the digital revolution and try to influence its international governance by being first movers. The DEPA with Chile and the Digital Economy Agreement between Australia and Singapore are good examples of such an approach.

improving access to other markets to limit dependence on the US economy.

Similarly, Japan has adopted a geo-economic balancing act that aims to prevent China's political and economic domination of the Indo-Pacific region (i.e., keeping it free and open) while continuing to do business with China, which is an important economic partner for Japan. To achieve this balance, Japan has concluded bilateral digital trade agreements with the European Union and the United States. It is also party to the CPTPP, which has a chapter on digital trade (negotiated by the United States before the Trump administration pulled out). Finally, it is a member of the Regional Comprehensive Economic Partnership, which includes China, and whose digital trade chapter is modelled after the TPP (albeit much weaker).

Where Do We Go from Here?

One pathway for the future sees the digital governance noodle bowl getting bigger and messier. In this scenario, international digital trade suffers. Agreements continue proliferating but remain ineffective at fostering cross-border digital trade: either they remain hortatory with attempts at cooperation on non-strategic issues, or no one pays attention to the binding provisions because business can't keep up and governments want to retain their "policy space." After all, why has there not yet been any dispute launched based on binding provisions in a digital trade agreement (either on its own or as part of a larger trade deal) when there has been [increasing digital fragmentation](#)?

The other pathway leads to the creation of a new international standards-setting and governance body (call it an International Digital Standards Board), like there exists for banking and finance. Countries that are members of such an international organization and effectively apply the commonly agreed standards become part of [a single digital area](#) where they can conduct cross-border digital trade without impediments. This is the only way to realize the G7's "[data free flow with trust](#)" vision, originally proposed by Japan.

This second scenario is the only way to overcome the challenges to international digital trade posed by countries pursuing different strategic logics for governing international digital trade. As impediments to digital trade add up around the world because of an expanding noodle bowl, pressures for common international rules are likely to grow.

Ironically, perhaps, the United States' decision to abandon or suspend its historical position on some digital trade provisions to create "policy space" for itself and others could make the creation of a plurilateral single digital area more feasible if the domestic policies that it ends up adopting are close to those of its key trade partners: for example, Australia, Canada, the European Union, Japan, New Zealand, Singapore, South Korea and the United Kingdom. At a minimum, this scenario requires the Democrats to retain the White House and improve their position in Congress in next year's US general elections.

The opinions expressed in this article/multimedia are those of the author(s) and do not necessarily reflect the views of CIGI or its Board of Directors.

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EXHIBIT 121

Insider Interview

Industry executive: USTR is mirroring China's data stance, undermining U.S. interests

November 3, 2023 at 11:06 AM

The Office of the U.S. Trade Representative's decision to withdraw support for key data-related provisions in the World Trade Organization's joint statement initiative on e-commerce puts the U.S. in line with China's position on data flows, according to Global Data Alliance Executive Director Joseph Whitlock, who said the move undermines U.S. interests and raises policy questions about USTR's decision-making process.

USTR last week said it would [no longer support JSI proposals](#) crafted to ensure the free flow of data across borders, ban data localization, impose safeguards on when governments could require companies to turn over proprietary source code, and require non-discriminatory treatment of digital products. The decision was roundly criticized by U.S. lawmakers from both parties as well as prominent business groups, though some progressives lauded it.

"Historically, that's a very significant move," Whitlock said in an interview with *Inside U.S. Trade*. "It overturns over a decade of U.S. trade policy."

The Global Data Alliance is a cross-industry coalition that includes leading financial services, logistics, and software companies, including all the members of BSA | The Software Alliance. Whitlock also serves as BSA's policy director.

From 2010 to 2018 he worked at USTR, first as associate general counsel and later as senior director for innovation and intellectual property.

The U.S. has since the early 2000s "faced a contested international policy environment in which U.S. strategic competitors sought to build international acceptance for digital authoritarianism, in particular for restrictions on the ability to move information across borders," Whitlock said.

The change in the U.S. position in Geneva, he contended, "would appear, at least based on publicly available information, to resemble very closely the position the People's Republic of China has been advancing since the inception of these negotiations."

Whitlock pointed to [an April 2019 Chinese WTO communication](#) that outlined [Beijing's stance](#) on many of the issues under negotiation in the plurilateral e-commerce talks, including three of the areas in which USTR has withdrawn its support.

"In the exploratory discussions, some Members mentioned digital trade rules, covering issues such as data flow, data storage, treatment of digital products, etc.," the document says. "In light of their complexity and sensitivity, as well as the vastly divergent views among the Members, more exploratory discussions are needed before bringing such issues to the WTO negotiation, so as to allow Members to fully understand their implications and impacts, as well as related challenges and opportunities."

For Whitlock, "There is a real question here: Why would USTR advance that position?" he asked. "Why would USTR advance China's position in the WTO?"

"And who will benefit?" he continued. "Which countries will benefit from this change in WTO negotiation position

and which countries and which interests will be harmed and changed in this position?”

The U.S.’ digital policy position was aligned with those of other democracies including Australia, Japan, Singapore, the United Kingdom, the European Union and others, Whitlock said. Now, though, the U.S. is forgoing “the opportunity to create strong disciplines that would absolutely benefit the United States” and support democratic values, he added.

A USTR spokesperson rebutted the idea that the U.S. was aligning with China on digital policy, noting that the agency has said it will remain at the negotiating table to push back on Chinese proposals that run counter to U.S. principles and values.

“Following last week’s announcement in Geneva, we have remained in close touch with stakeholders and Congress and will continue to seek their input on digital trade policy and related initiatives moving forward,” the spokesperson continued. “We appreciate the feedback we have received so far and will continue to hold meetings and briefings in the near future.”

The JSI negotiations, Whitlock pointed out, “are the most significant and most far-reaching negotiations on these critical issues that define trade policy of our day and where there are no international disciplines that cover such a broad grouping of countries.”

After withdrawing its support for provisions on data flows, data localization, and source code, the U.S. urged other JSI participants to [drop unsupported positions](#) and said it remained committed to the talks.

“We are forgoing the opportunity to prevent other countries or discipline other countries from denying the United States access to knowledge, access to information, access to data that the United States needs to make informed decisions, to prepare for the future,” Whitlock said. “And that puts the U.S. in a very weak position. Allowing other countries to impede that access for any reason or no reason at all in a way that derogates from the accomplishments of the past in terms of norms of non-discrimination is a mistake.”

USTR justified its reversal on data policy by saying the U.S. and other countries need sufficient “policy space” for domestic debates on data and source code. Whitlock rejected that argument, saying the positions USTR walked away from are firmly rooted in U.S. trade policy dating back to the 1947 General Agreement on Tariffs and Trade.

U.S. data and source code policies included in trade agreements allow countries to regulate where necessary while banning discrimination based on nationality and restrictions imposed under false pretenses, he noted. Those principles, along with the provision that policies must not be more restrictive than necessary, are the “core due process principles” in the GATT, General Agreement on Trade in Services, and other WTO pacts, such as the Technical Barriers to Trade and Sanitary and Phytosanitary agreements, according to Whitlock.

“So to say that the United States cannot undertake these disciplines because it may interfere with U.S. policymaking throws into question the relationship between U.S. policymaking and numerous areas of international trade law and we view that as an unhelpful suggestion to make,” he said. “These are core tenets of international trade law, they have been core tenets of international trade law since 1947 and they should be clearly and unambiguously extended to the digital trade realm.”

USTR’s position, Whitlock contended, “fundamentally jeopardizes” the interests of a host of executive agencies as well as the broader U.S. national interest. “Cross-border access to data is necessary for foreign development assistance by USAID, the ability of small businesses under SBA programs to gain access to economic opportunities overseas, export promotion by the Department of Commerce, financial equity and inclusion efforts at Treasury, efforts by cross-border access to information on financial crimes, corruption, money laundering, financing that is needed by Treasury and the Department of Justice, real-time cyber threat intelligence and awareness to protect U.S. cybersecurity by the Department of Homeland Security, and many other areas,” he said.

Whitlock also questioned how USTR arrived at its decision to withdraw its support for the data flow and source code provisions.

“Congress has legislated safeguards to ensure that USTR doesn’t make these kinds of fundamental mistakes,” he said. “USTR is statutorily obligated to consult not only with Congress, but also with executive branch agencies and with the 50 states, and so it really raises questions -- to what extent did USTR consult with other agencies, to what extent did they explain the implications of this policy to other agencies, to what extent did they consult Congress and the states?”

He cited [statements from lawmakers](#) expressing “bewilderment and surprise” at USTR’s decision. Those reactions, Whitlock said, indicate USTR’s consultations with Congress were less than robust.

USTR has vehemently denied allegations from Senate Finance Republicans that it failed to properly consult with Congress. USTR, an agency spokesman told *Inside U.S. Trade* last week, “held extensive briefings and consultations with Congress before this decision was made. In those briefings, USTR officials noted the potential for a change in policy.”

“USTR staff briefed Democratic and Republican staff from the relevant congressional committees on this change,” the spokesperson continued. “The idea that USTR staff failed to give updates and advanced notice to Members and their staffs is wrong.”

USTR’s change in position also undermines the administration’s other stated goals, Whitlock continued. Just two days after USTR’s announcement, the White House issued [an executive order artificial intelligence](#) that calls for the government to advance U.S. leadership on AI and catalyze AI research and development, he noted.

“Artificial intelligence and machine-learning require a high quantity and high quality of information and data from all around the world,” Whitlock said. “This decision by USTR, which would allow countries to simply block access to that data for no reason at all runs directly counter to the research and development-related goals found in the White House executive order on AI. That also raises questions as to were the implications of USTR’s decision fully explained to other executive branch agencies and the White House?” -- *Brett Fortnam* (bfortnam@iwppnews.com)

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178284

EXHIBIT 122

EXHIBIT 123

Biden's USTR Gave Progressives a Political Win on Digital Trade, American Businesses Lose

Steve DelBianco

President and CEO

Yesterday, the Congressional Internet Caucus Academy (CICA) hosted a panel, "**The Shifting Of U.S. Digital Trade Policy: Where Is USTR's New Strategy Leading Us?**"

The discussion focused on U.S. Trade Representative (USTR) Katherine Tai's decision in October 2023 to withdraw the U.S. from World Trade Organization (WTO) e-commerce negotiations on free cross-border data flows, preventing data localization mandates and requiring source code review. Further, USTR has stopped contesting other digital trade barriers to American companies, a considerable policy shift from our traditional approach on this issue.

Panelists included Natalie Dunleavy Campbell of the Internet Society, Lori Wallach of Rethink Trade, Jonathan McHale at the Computer & Communications Industry Association (CCIA) and Simon Lester at WorldTradeLaw.net.

As NetChoice noted in an October 2023 press statement, the USTR's policy shift abandoned the U.S. businesses, innovators and workers who strongly benefit from principled digital trade practices. During the panel, Lester acknowledged the political angle, stating that Biden's regulators were giving progressives a win by shifting the USTR's long-standing principles.

Over the course of the conversation, there was much discussion about how abandoning U.S. leadership in digital trade at the WTO would impact American businesses. While Wallach argued that big businesses should feel the pain of regulatory pressures, Dunleavy Campbell rightly pointed out that only the largest businesses could afford the costs of building data centers in every country that required data localization, now that the US has withdrawn its objection to that policy.

A representative in the audience from Engine, a nonprofit organization advocating for startups, said that **USTR's reversal will harm startups**. In a recent blog post, Engine's Nathan Lindfors explained how the USTR's recent policy changes are particularly detrimental to these small businesses, as digital trade "help[s] them reach markets around the world."

Simply put, the general rules of economics apply to digital trade, just as they do to other sectors: red tape hurts competition by raising costs and barriers to enter a new market, and small companies are impacted the most.

In his points, McHale detailed how significant this reversal is, compared to policies previously embraced by both political parties: "We've been doing this for 45 years, because it's been core to some of the U.S interests in this space." **This decision will ultimately leave the U.S. "out of the conversation," meaning that American interests will not be represented globally on these issues.** This is dangerous for many reasons, not the least of which is that countries who do not hold values of liberty and freedom will have more influence over crafting the rules of digital trade.

As a recent CClA report detailed, **the digital economy in 2021 contributed to 10.3% of U.S. GDP**, and the tech sector is **one of the largest and fastest growing industries in our economy**. Abandoning this large portion of the U.S. economy to the whims of global regulators would undermine our growth, innovation and competition, on both the international and domestic levels.

In her remarks, Wallach confirmed the true intentions of this effort, which is key for progressives: **to aid the push to destroy American businesses with overbearing antitrust enforcement and by encouraging U.S. policymakers to follow failing European regulations**. This effort, which NetChoice has previously discussed, will ultimately degrade American innovators and entrepreneurs in favor of foreign competitors in global markets. And Biden's own regulators are spearheading this anti-American push.

President Biden's USTR must stop pandering to progressives and instead advocate for America's interests. Otherwise, Americans will feel the consequences

— in their wallets, retirement portfolios and in their access to quality goods and services.

Image generated by NetChoice using ChatGPT's DALL-E.

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Biden's Blame Game Continues With New "Strike Force" Against American Businesses

EXHIBIT 124

BLOG

PPI'S TRADE FACT OF THE WEEK: U.S. INTERNET POLICY IS SUDDENLY UNCERTAIN

BY: ED GRESSER / 11.15.2023

FACT: U.S. Internet policy is suddenly uncertain.

THE NUMBERS: U.S. export growth, 2012-2022*-

Energy	176%
Information & “potentially digitally-enabled” services:	59%
<i>All goods and services:</i>	<i>34%</i>
Agriculture	34%
Manufactured goods:	19%
Other (non-digitally deliverable) services	-10%

**Sources: WTO for all goods and apparel; UN Food and Agricultural Organization for fish; Stockholm International Peace Research Institute (SIPRI) for arms sales. SIPRI data covers known transfers of “major conventional weapons.”*

WHAT THEY MEAN:

A cryptic late-October comment from the American delegation to the World Trade Organization in Geneva quietly withdraws a set of long-held U.S. “digital trade” policy goals — and in doing so raises

questions about whether the U.S.' traditional "open internet," "pro-consumer," "internet freedom," and "public-interest regulation" approach has changed. The brief and impressively opaque comment:

"Many countries, including the United States, are examining their approaches to data and source code, and the impact of trade rules in these areas. In order to provide enough policy space for those debates to unfold, the United States has removed its support for proposals that might prejudice or hinder those domestic policy considerations. The JSI ["Joint Statement Initiative", the WTO's name for the relevant discussion] continues to be an important initiative and the United States intends to remain an active participant in those talks."

How to interpret this? Background first on the big picture, then the "data and source code" in trade policy more specifically; and finally, lacking anything more to go on than the three-sentence comment above, some questions about what this actually means:

1. *Larger context:* "Digital trade" issues are part of a larger U.S. policy pretty consistently pursued since the launch of the World Wide Web, meant to encourage the preservation and future development of an open, universal Internet, with a foundation in user rights and liberty, impartial public-interest regulation, and due process. Several digital trade issues get mentioned, for example, in the "Declaration for the Future of the Internet," posted in August 2022 by the U.S. and 64 other Internet- and speech-friendly countries in the Western Hemisphere, Europe, Asia, Africa, and the Pacific and still up on the White House and State Department websites. This is a 3-page set of principles and goals for next-generation Internet governance, which along with promoting universal access, privacy, consumer protection, common programs to fight electoral disinformation and online bigotry, and other valuable ideas involves commitments to "ensure that government and relevant authorities' access to personal data is based in law", "promote our work to realize the benefits of data free flows with trust," and "refrain from blocking or degrading access to lawful content, services, and applications." These are, incidentally, contested ideas which have opponents: other governments, *inter alia* and perhaps most prominently China's, envision a quite different future with more rights for surveillance and service interruption, less multistakeholder-ism, and fewer limits on government rights to limit access, data transfers, and privacy.

2. *Nature of issues:* The now-'paused' "data and source code" proposals refers to four topics, which the U.S. until last month had been discussing with 76 other WTO members in a venue called the "Joint Statement Initiative on Electronic Commerce." They include (a) cross-border flows of digital data in the course of business, shopping, gaming, email, etc.; (b) guidelines for the circumstances in which governments can require local storage of data and when they shouldn't; (c) cases when governments can direct businesses to disclose their software codes; and (d) ensuring that trade rules don't discriminate against digital products.

If one were to look for an analogy in "trade policies for goods" like cars or wine, a useful though not exact comparison would be to "trade facilitation" and agreements on Customs procedures. Typical U.S. trade agreements require Customs agencies to provide online access to import and export forms, accommodate express delivery shipments, and ensure that other governments don't use different inspection procedures for containers carried by different shipping lines or cars delivered to different ports. These sorts of rules reduce costs and delays, help toys and flowers move through airports and seaports rapidly and easily, encourage the countries and businesses that make or grow them to compete on quality and price as opposed to hidden policy favoritism, and help port officers focus on law enforcement and public health inspections. In the same way, rules encouraging free flows of data, or discouraging mandatory in-country storage and server construction, help make legitimate services trade — say, email connections, exchange of architectural planning, news and entertainment streams, etc. —

easier and cheaper while helping government officials focus their work on cyber-security violations, spam prevention, and other threats.

3. *Economics and trade flows:* Digitally delivered services arriving via submarine cable or satellite — software, entertainment, computer technologies, professional stuff such as architecture, new earners like telemedicine and distance education — have a plausible claim to be the fastest-growing form of trade. In the U.S. case, they totaled \$720 billion in 2022. By various metrics this was (a) up about 60% in the past decade, roughly twice the growth rate of overall U.S. exports; (b) a quarter of the \$3 trillion in total U.S. exports in 2022, and a few hundred billion dollars more than the \$380 billion for energy and \$195 billion for agriculture, (c) easily the largest digital export figure for any country in the world, and (d) a thirtieth of the U.S.' \$26 trillion GDP. More subtly, digital data flows underpin lots of high-end manufacturing sales. Examples include cars that notify owners of the need for brake repair or oil change; medical devices providing diagnoses and filling prescriptions for rural clinics, agricultural machinery planting rice when the weather is right, etc. So by whatever measurement, digital trade flows support a large and highly remunerative part of the American economy and it's quite logical for the government to care about them.

4. *Current Agreements and Rules:* The U.S. "digital trade" ideas are not actually experimental, but are live parts of several currently active U.S. agreements as well as the WTO's incomplete "Joint Statement" discussions. These are Chapter 15 of the U.S.-Korea FTA, which "entered into force" as the jargon puts it in 2012; Chapter 19 of the "U.S.-Mexico-Canada Agreement" which revised the North American Free Trade Agreement in 2020; and a 19-page U.S.-Japan digital trade agreement signed in 2019. Their substance:

(a) People and businesses in participating countries have the right to move data across borders freely (e.g. for an online shopper ordering a set of toothbrushes, or an auto manufacturer whose car corresponds digitally with the home office to request software updates or notify police about an accident), with an exception for any government action "necessary to achieve a legitimate public policy objective" (e.g. anti-spam, cyber-security, protection against disinformation campaigns, etc.).

(b) Government power to require companies to turn over software code to agencies (or, often more the point, to local competing firms) is limited to public-policy regulation and good-faith investigations as opposed to arbitrary and/or discriminatory rules.

(c) Governments can't be required to store data and build servers within a country, so as to reduce costs (and along with this, the power consumption and consequent carbon emissions) of constructing redundant servers and data centers in numerous countries.

5. *What's going on?* What, finally, does the withdrawal of these ideas at the WTO mean? The three-sentence statement quoted above doesn't explain. So rather than speculating, we offer a few questions that pretty badly need an answer:

* Does the administration want "policy space," so as to be able to limit Americans' data flows or require exposure of source codes for reasons that go beyond "measure[s] needed to achieve a legitimate public policy objective." If so, what sort of things are they thinking about, and what law would authorize it?

* If the data and source code ideas are out of favor at the WTO, are the USMCA, Korea-FTA, and U.S.-Japan Digital Agreement provisions now insufficient? If so, is the administration thinking about changes to them?

* Or is the concern more about foreign governments' "policy space"? If so, what are these governments hoping to do that Mexico and Canada (and Japan and Korea) are managing to do without?

* And how do any of these concerns relate to the larger hopes for the next-generation digital world — access and technical interoperability, innovation and economic growth arising from future rises in data flow, public-interest regulation, user privacy, and liberty — set out in the Declaration for the Future of the Internet?

Answers awaited, here and in lots of other places.

FURTHER READING

The [Declaration](#) for the Future of the Internet.

The WTO's [Joint Statement](#) Initiative on e-commerce.

The U.S. Trade Representative Office's [brief statement](#).

Highly displeased [response](#) from Sen. Ron Wyden (D-Ore. and Finance Committee Chair).

And similar [reaction](#) from Digital Trade Caucus Chairs Suzanne DelBene (D-Wash.) and Darin LaHood (R-Ill.).

Current agreements:

[USMCA text](#) (see Chapter 19, "Digital Trade").

U.S.-Japan digital [trade agreement](#) text.

Korea-U.S. Free Trade [Agreement](#), see Chapter 15 on "Electronic Commerce."

And some PPI background on Internet and digital trade policy:

Gresser on [digital trade policy](#).

Chief Economist Mandel on [regulation of digital platforms](#).

And Technology Policy Analyst Malena Dailey on [transatlantic data flows](#).

ABOUT ED

Ed Gresser is Vice President and Director for Trade and Global Markets at PPI.

Ed returns to PPI after working for the think tank from 2001-2011. He most recently served as the Assistant U.S. Trade Representative for Trade Policy and Economics at the Office of the United States Trade Representative (USTR). In this position, he led USTR's economic research unit from 2015-2021, and chaired the 21-agency Trade Policy Staff Committee.

Ed began his career on Capitol Hill before serving USTR as Policy Advisor to USTR Charlene Barshefsky from 1998 to 2001. He then led PPI's Trade and Global Markets Project from 2001 to 2011. After PPI, he co-founded and directed the independent think tank ProgressiveEconomy until rejoining USTR in 2015. In 2013, the Washington International Trade Association presented him with its Lighthouse Award, awarded annually to an individual or group for significant contributions to trade policy.

Ed is the author of *Freedom from Want: American Liberalism and the Global Economy* (2007). He has published in a variety of journals and newspapers, and his research has been cited by leading academics and international organizations including the WTO, World Bank, and International Monetary Fund. He is a graduate of Stanford University and holds a Master's Degree in International Affairs from Columbia Universities and a certificate from the Averell Harriman Institute for Advanced Study of the Soviet Union.

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05.06.2024

EXHIBIT 125

Introduction & Executive Summary

In April 2024, U.S. Trade Representative (USTR) Ambassador Katherine Tai testified before the House Ways & Means¹ and Senate Finance² Committees to detail the agency's trade agenda. While there, Ambassador Tai elaborated on USTR's recent actions to abandon long-standing and bipartisan support for protecting U.S. digital exporters abroad through commitments and enforcement.

Specifically, this USTR has withdrawn strong digital trade rules regarding the free flow of data across borders, prohibitions on unjust data localization, and protections for companies from forced source code disclosure as a condition of market access at the World Trade Organization³ (WTO) and the Indo-Pacific Economic Framework (IPEF). USTR also removed a raft of digital trade barriers from its 2024 edition of the annual congressionally-mandated report chronicling significant barriers to trade for U.S. exporters, the National Trade Estimate Report (NTE), as CCIA has covered⁴.

A bipartisan collection of members of both committees⁵ used their allocated time in these hearings to express support for strong digital trade rules and deeper engagement with partners to open up new markets through traditional trade agreements. Commitments in digital trade—and enforcement of those rules—are important to ensuring U.S. suppliers have access to new markets. The benefits to the U.S. economy are multifaceted: increased export revenues, jobs and productivity at home; enhanced national security through improved technological competitiveness; and stronger freedom of expression and the protection of human rights through support of the open internet and cross-border communications. The numbers at stake for the U.S. economy are not trivial—digitally-enabled services exports generated \$626 billion, contributed to a \$256 billion surplus in the sector, made up 70% of all U.S. services exports, and were 2.5% of the U.S. GDP in 2022. Digital exports supported an estimated⁶ 3 million jobs in the United States in 2022, while the digital economy writ large supported⁷ 8.9 million jobs and \$1.3 trillion in annual compensation. Further, granting market access to foreign partners—through traditional free trade agreements—enables the United States to score wins in other priority areas such as commitments to uphold our priorities in environmental and labor policy.

1 <https://www.youtube.com/watch?v=ZeDfYL3Dq0Q>

2 <https://www.finance.senate.gov/hearings/the-presidents-2024-trade-policy-agenda>

3 <https://ccianet.org/library/wtas-ustr-wto-retreat/>

4 <https://www.project-disco.org/21st-century-trade/why-a-ustr-report-represents-another-step-back-for-digital-trade/>

5 <https://ccianet.org/articles/digital-trade-rules-promote-us-interests-abroad-still-enjoy-bipartisan-support/>

6 <https://www.uschamber.com/international/trade-agreements/how-digital-trade-benefits-the-american-economy?state=>

7 <https://www.bea.gov/sites/default/files/2023-12/digital-economy-infographic-2022.pdf>

However, we have seen the Administration mostly leave behind both negotiation and enforcement in the digital trade space in the past few years.

Ambassador Tai's trip to Capitol Hill featured several justifications for USTR's abrupt reversal on digital trade policy, for which she expressed being "proud" in a letter⁸ defending these moves sent the same week to Sen. Marsha Blackburn (R-TN). However, these motivations fail to justify an upheaving of U.S. policy that so fundamentally impacts the U.S. economy, global competitiveness, and millions of workers.

Below, each of these arguments against moving forward to strengthen and enforce digital trade commitments is addressed, in response to direct quotes from these two hearings. Specifically, this piece examines and rebuts statements from the hearing claiming or suggesting that:

- ❖ U.S. digital trade policy is only designed to help the largest technology companies;
- ❖ Proponents of cross-border data flow rules naively think such rules will change China's behavior;
- ❖ Some data localization policies may be considered to be reasonable and legitimate;
- ❖ Existing legislation in the U.S. Congress hinder the ability of the country to seek new digital trade commitments;
- ❖ Digital trade rules undermine privacy protections; and
- ❖ Data flow commitments were originally designed for the trade of goods and are outdated for modern purposes.

8 <https://rethinktrade.org/external-voices/letter-ustr-tai-to-senator-marsha-blackburn-on-digital-trade/>

USTR Ignores that U.S. Digital Trade Policy Was Designed to Empower Companies of All Sizes, U.S. Workers, and the Entire U.S. Economy

“U.S. digital trade policy has also been reliant on a proxy that what is good for an American digital or technology company is also good for American innovation, American workers, the U.S. economy... Unless we change our approach to digital trade, unless we expand the field of stakeholders beyond just our biggest companies, we close out the chance for our values to be reflected in what we do.”

–Ambassador Tai, in response to Rep. Brian Fitzpatrick (R-PA)

Part of this quote seems to animate much of USTR’s current agenda: the allegation that existing digital trade commitments have not benefited 1) small businesses, innovation, and non-technology companies; 2) workers; and 3) the broader U.S. economy. Below, these arguments are addressed in turn.

1. Digital trade commitments are sought and enforced to protect the rights of companies of all sizes.

By their very nature, these rules disproportionately benefit small and medium-sized enterprises (SMEs), by shielding them from discriminatory and obstructive policies abroad—measures that impose costs that they, unlike larger companies, often simply cannot absorb. For example, many modern Free Trade Agreements (FTA) include chapters promoting SMEs, a practice that has grown⁹ over time. In the U.S.-Mexico-Canada Free Trade Agreement (USMCA), the SME chapter¹⁰ includes commitments to cooperate to boost trade and investment opportunities for SMEs, share information on such initiatives, establish a committee on the effort, and establish a dialogue, and explicitly cross-references to the Digital Trade chapter.

The SME chapter of USMCA, for example, also notes that other chapters of the agreement also benefit SMEs, and explicitly includes the digital trade chapter in this list. The provisions of this chapter—protection from discrimination of digital products, prohibitions on unjust data localization mandates, support for cross-border data flows, and shielding from compulsory source code disclosure as a condition of market access, to name a few—all significantly help small and medium sized businesses whose operations would otherwise be hindered by such barriers to operating in Canada and Mexico.

9 https://www.unescap.org/sites/default/d8files/event-documents/ESCAP-BGD_Module%204_SME%20provision%20in%20FTAs%20Final.pdf

10 https://ustr.gov/sites/default/files/files/agreements/FTA/USMCA/Text/25_Small_and_Medium-Sized_Enterprises.pdf

This is because for smaller businesses, barriers abroad often impose such strong obstacles that operating in foreign markets can become altogether untenable. As Senate Finance Committee Chairman Ron Wyden (D-OR) said¹¹ at his committee’s oversight hearing of USTR, barriers overseas such as data localization mandates “are just poison for small businesses. There is just no way they can move ahead if they are going to be paying for servers and all the rest.”

Sen. Wyden’s point encapsulates the link between competition and digital trade, as well: the free flow of commerce between two markets on fair and open terms, founded upon commitments in a trade agreement, strengthen competition by bringing new suppliers to each market. Rules promoting market access between countries ensure that smaller companies are able to take part in this competition as well, as the commitments prohibit or dissuade governments from imposing restrictions to digital trade that smaller companies would be unable to bear.

In February, 42 U.S. startups, investors, and organizations supporting startups wrote an open letter¹² detailing how “sound digital trade policy is critical to startups’ international competitiveness” and how commitments such as those in the USMCA should be built upon to “support the success of U.S. startups looking to expand into foreign markets and engage customers abroad by embodying these principles.” The coalition details how U.S. trade policymakers should break down barriers that “dictate the markets where startups can reasonably enter and compete, create additional costs that could instead fuel R&D and job creation, and hamper U.S. economic growth by limiting the flow of goods and services across borders.”

As Nathan Lindfors of Engine, an organization that supports thousands of U.S. startups¹³, has noted¹⁴, restrictions to cross-border data flows are particularly harmful to small companies:

When startups encounter limitations on how and when data can be transferred across borders, it increases costs and can cause startups to lose clients in jurisdictions where the restrictions are present... These sorts of barriers — where a foreign jurisdiction’s policy is increasing costs and limiting offerings for U.S. companies — are the type that USTR signals they’ll no longer fight. That’s a stark change and leaves a bleak outlook for startups’ competitiveness.

11 <https://ccianet.org/articles/digital-trade-rules-promote-us-interests-abroad-still-enjoy-bipartisan-support/>

12 <https://static1.squarespace.com/static/571681753c44d835a440c8b5/t/65c3906e36cbbb-45ba281205/1707315310372/Startup+Digital+Trade+Open+Letter.pdf>

13 <https://www.engine.is/about-engine>

14 <https://www.engine.is/news/category/for-startups-sake-congress-needs-to-reorient-us-trade-agency>

The data demonstrate that SMEs are prime beneficiaries of digital trade rules, which facilitate their ability to reach foreign markets:

- ❖ More than 80% of top grossing apps¹⁵ come from small firms.
- ❖ Over 300,000 companies¹⁶ are active in the mobile app market in the United States, participating in an “app economy” estimated to be worth \$1.7 trillion.
- ❖ 70% of the companies¹⁷ using Privacy Shield—a key mechanism facilitating U.S.-EU data transfers—were SMEs.

2. Digital trade rules are also not sector-specific, which is why they are drafted as cross-cutting provisions

Key beneficiaries include manufacturing generally, and, specifically, semiconductors, agriculture, pharmaceuticals, automotive¹⁸. Digital trade rules are critical to these sectors’ strength, ability to grow abroad, and to conduct research and development. For example, support for cross-border data flows and protections from data localization mandates are essential for safety testing for pharmaceutical companies and automakers that rely on a global network of locations, and are central to agriculture firms’ ability to monitor climate and harvesting trends.

Data flows have always been fundamental to the ability of financial services providers—a major strength of the United States—to reach foreign markets. Further, logistics companies rely on the transfer of data across borders to identify suppliers and strengthen their supply chains. Source code protection is another digital trade rule not only helpful to technology companies—manufacturers rely on proprietary software and also hold sensitive and valuable algorithms to improve efficiencies. In short, what is “good for an American digital or technology company,” which Ambassador Tai suggested is a flawed prerequisite to traditional U.S. trade policies, is *indeed* good for U.S. companies in other sectors.

15 <https://actonline.org/2016/05/05/small-businesses-make-it-big-in-the-app-economy/>

16 <https://actonline.org/wp-content/uploads/2020-App-economy-Report.pdf>

17 <https://actonline.org/2020/07/20/what-the-end-of-the-eu-u-s-privacy-shield-means-for-small-businesses/>

18 <https://www.uschamber.com/international/trade-agreements/digital-trade-rules-benefit-every-sector-of-the-u-s-economy>

3. The argument that digital trade commitments do not benefit workers is not borne out by the data.

The average annual compensation¹⁹ for the 8.9 million workers in the digital economy was \$142,748 in 2022, compared to the average annual compensation of \$65,470 for all occupations²⁰ the same year. Studies have consistently shown that jobs in the digital economy are better-paying²¹ and more resilient²² than similar occupations in other industries. Digital exports specifically contributed to these gains for laborers in the United States, as these exports supported²³ 3 million direct and indirect jobs in the United States in 2022.

Some argue that trade rules in the digital space may bolster high-paying jobs, but that they also catalyze offshoring that diminishes those jobs in the United States. However, in the world of digitally-enabled services, that is generally not the reality. Looking at the trade data, there is no evidence suggesting that growth in digitally-enabled services has resulted in a detrimental offshoring of jobs, largely due to U.S. competitiveness in the sector that results in a high opportunity cost of offshoring most services. In two of the biggest categories of traded services—telecommunications, computing, and information service and other business services—annual U.S. exports²⁴ between 2012 and 2022 rose from \$151 to \$311 billion, while imports only increased from \$107 to \$191 billion. To state it plainly: U.S. exports grew at a 28% faster rate than imports, significantly increasing the sectoral surpluses that the United States enjoys. In the service-supplying industries, employment²⁵ went from 118.6 million in 2014 to 135.8 million in 2024.

It helps to think through what digital trade rules are specifically promoting and protecting to understand their importance to U.S. jobs. For example, the cross-border flow of data enables services providers—both digital and more traditional, such as financial—to reach consumers abroad by reducing the need for large-scale establishment in foreign locations, thereby leveraging domestic resources. Data flow rules therefore help prevent offshoring, as do data localization prohibitions. Similarly, the digital product rule—which protects computer programs, e-books, film and TV programs, images, songs,

19 https://www.bea.gov/system/files/2023-12/DigitalEconomy_2017-2022.xlsx

20 https://www.bls.gov/oes/current/oes_nat.htm

21 <https://www.weforum.org/agenda/2024/04/how-to-realize-the-potential-of-rising-global-digital-jobs/>

22 https://www.brookings.edu/wp-content/uploads/2017/11/mpp_2017nov15_digitalization_full_report.pdf

23 <https://www.uschamber.com/international/trade-agreements/how-digital-trade-benefits-the-american-economy?state=>

24 https://apps.bea.gov/iTable/?reqid=62&step=9&isuri=1&product=4&_gl=1*pl1lqm*_ga*NzU4MTQ4MjgzLjE3MT

25 https://data.bls.gov/timeseries/CES0700000001?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true

and other digitally-encoded products from discriminatory treatment—ensures that American cultural products, such as music, film, TV, and literature, have fair and open access to consumers in trading partners. These rules empower U.S.-based content creators and streaming or distribution companies with the ability to compete against foreign digital and cultural products abroad and in doing so, the rules support U.S. workers.

4. Digital trade—and the broader digital economy that it supports—is a powerful driver of the U.S. economy²⁶

The digital economy contributed²⁷ 10% of the U.S. GDP and \$2.6 trillion of value added in 2022. Export markets power the digital economy’s growth, as the United States is the world’s leader (by far) in exporting digital services.



Source: U.S. Chamber of Commerce analysis²⁸ of World Trade Organization data. Values are in millions of dollars.

U.S. digital exporters earned²⁹ \$626 billion from digitally-enabled services exports last year, a 5.5% increase from the \$599 billion in exports of the same services from the prior year. Digitally-enabled services exports made up 70% of all U.S. services exports—a traditional area of U.S. export strength—and 2.5% of the 2022 U.S. GDP, a ratio that has overall held steady at that level for the past five years. CCIA has covered³⁰ this in detail as well.

26 https://www.uschamber.com/assets/documents/USCC_Digital-Trade-Report.pdf

27 <https://www.bea.gov/sites/default/files/2023-12/digital-economy-infographic-2022.pdf>

28 https://www.uschamber.com/assets/documents/USCC_Digital-Trade-Report.pdf

29 <https://www.project-disco.org/uncategorized/strength-of-digital-services-exports-to-u-s-economy/>

30 <https://www.project-disco.org/uncategorized/strength-of-digital-services-exports-to-u-s-economy/>

5. Trade agreements bring about broader societal gains as part of these deals as well.

Granting market access to foreign partners—through traditional free trade agreements—enables the United States to score wins in other priority areas such as commitments to uphold our priorities for environmental standards, labor rights, transparency and anti-corruption efforts, and competition. This is extrapolated to the digital space as well, where traditional free trade agreements have included commitments that benefit the overall ecosystem such as strengthening cybersecurity, promoting privacy, bolstering consumer protection, and enabling unimpeded access to the internet. However, we have seen the Administration mostly leave behind both negotiation and enforcement in the digital trade space in the past few years.

U.S. Leadership in Digital Trade is a Proactive Effort to Counteract China’s Influence in the Digital Realm, not a Mechanism to Change China’s Own Behavior

“Tech lobbyists would have us believe that their data flows language will persuade China to abandon its surveillance state and to tear down the Great Firewall. Back when China joined the World Trade Organization supporters made exactly the same claim, arguing that trade would transform China into a liberal democracy... So now ‘Big Tech’ is making the same claim that if we will just let ‘Big Tech’ sell off our data wherever they want, China will become a more open democratic country.”

–Sen. Elizabeth Warren (D-MA), questioning Ambassador Tai

Comparing the pursuit of strong digital trade commitments—and data flow rules in particular—with the debate surrounding China’s ascension to the WTO completely misrepresents what such rules seek to achieve. The goal is *not* to draft agreements for China to join and subsequently abandon its brand of digital authoritarianism—it is to ensure the free and open internet model defeats China’s model in other countries.

This was initially the model of the Indo-Pacific Economic Framework (IPEF), which Secretary of Commerce Gina Raimondo told³¹ reporters was in the pursuit of “restoring U.S. economic leadership in the region and presenting Indo-Pacific

31 <https://www.whitehouse.gov/briefing-room/press-briefings/2022/05/23/on-the-record-press-call-on-the-launch-of-the-indo-pacific-economic-framework/>

countries an alternative to China’s approach to these critical issues.” In fact, the initial White House Fact Sheet³² for IPEF included the following commitment to this very point: “We will pursue high-standard rules of the road in the digital economy, including standards on cross-border data flows and data localization.”

Sen. Warren’s skepticism of leveraging commitments to enable the free flow of data across borders to promote U.S. values in the digital space contradicts the platform of another early initiative of the Biden Administration in foreign policy—the Declaration For the Future of the Internet³³ (DFI). The United States actively promoted the Declaration with a view³⁴ to “advance a positive vision for the Internet and digital technologies,” to “[reclaim] the promise of the Internet in the face of the global opportunities and challenges presented by the 21st century,” and to “[reaffirm and recommit] its partners to a single global Internet – one that is truly open and fosters competition, privacy, and respect for human rights.”

To further these goals, the Declaration included a commitment to: “Promote our work to realize the benefits of data free flows with trust based on our shared values as like-minded, democratic, open and outward looking partners.”

One does not have to read between the lines to see the effort as competition in the governance space with China—the Biden Administration explicitly promoted this vision of an open internet as a means of providing countries with an alternative to the China model of governance and promoting integration between like-minded partners. At an event launching the DFI, National Security Advisor Jake Sullivan stated³⁵ that the initiative is “not ... about what we are against, it’s about what we are for. It’s about an affirmative vision.” On a press call previewing the DFI, a senior administration official told³⁶ reporters:

“You look at what Russia is doing, some of the steps that China has been taking – and I think we actually see this as, in many ways, a response to these kind of splinternet tendencies by a number of the authoritarian countries around the world. Because what we’re really doing is taking a big-tent approach, laying out a broad – you know, and as I say, you know, more than 55 countries – broadly-shared vision of the future of the Internet. And we think that kind of galvanizing the world behind a shared vision is a very important part of pushing back on these splinternet tendencies.”

32 <https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/23/fact-sheet-in-asia-president-biden-and-a-dozen-indo-pacific-partners-launch-the-indo-pacific-economic-framework-for-prosperity/>

33 https://www.whitehouse.gov/wp-content/uploads/2022/04/Declaration-for-the-Future-for-the-Internet_Launch-Event-Signing-Version_FINAL.pdf

34 <https://www.state.gov/declaration-for-the-future-of-the-internet>

35 <https://www.brookings.edu/articles/the-declaration-for-the-future-of-the-internet-is-for-wavering-democracies-not-china-and-russia/>

36 <https://www.whitehouse.gov/briefing-room/press-briefings/2022/04/28/background-press-call-by-senior-administration-officials-on-the-declaration-for-the-future-of-the-internet/>

This initiative, which has largely been left idle in the past two years, understood that bringing together partners from the Asia-Pacific, Latin America, and Europe with an aim to broaden the list of signatories (all in areas where the United States battles China's influence) to agree to one vision of internet policy was an important step in imprinting this model of governance on the world. Despite its flaws, the Declaration of the Future of the Internet reflected proactive and positive engagement on these issues abroad and demonstrated how cross-border data flows were seen by the Administration as a piece of an effort critical to combating China's growing influence globally.

In fact, other federal agencies in this Administration continue to champion the pursuit of data flow commitments to promote the open internet, support democratic values, and ensure the ability of U.S. companies to operate abroad. In the State Department's "International Cyberspace and Digital Policy Strategy"³⁷, released on May 6 at the RSA Conference, the United States expresses an interest in securing "digital solidarity," which the Administration argues "seeks to develop shared mechanisms that will help maintain an open, interoperable, secure, and reliable Internet as well as trusted cross-border data flows" and "works to foster democratic values-based and rights-respecting policies." The State Department's Strategy elaborated on this in the Strategy further:

U.S. government and private sector actors seek to leverage data and the digital economy for positive economic and social benefits: preserving openness while protecting privacy, promoting safety, and mitigating harms. The Department of State, working with other agencies, looks to shape markets and safeguard innovation from regulatory excesses. Although there is an increasing willingness by some countries to embrace narratives of digital sovereignty and protectionism by blocking access to their markets, unduly preventing cross-border data flows, and preferencing domestic manufacturers and service providers, we continue international engagement to enhance interoperability, security, and market access.

...

The United States supports the trusted free flow of data and an open Internet with strong and effective protections for individuals' human rights and privacy and measures to preserve governments' abilities to enforce laws and advance policies in the public interest. Legitimate concerns about data privacy can be addressed through protective mechanisms that follow the data while at the same time facilitate cross-border data flows and strengthen global cooperation among enforcement authorities. The United States will continue championing trusted cross-border data flows by promoting data transfer mechanisms that improve interoperability between different data privacy regimes...

37 <https://www.state.gov/united-states-international-cyberspace-and-digital-policy-strategy/>

While the State Department highlights the importance of data flows to its work strengthening ties with allies and bolstering connectivity and cooperation among like-minded allies in this just-released report, these priorities are no longer reflected in U.S. trade priorities, a concern going forward as problematic and protectionist approaches proliferate.

If the United States is not leading discussions and advocating for digital trade rules with the values of the free flow of commerce and freedom of expression, China will fill that void and more easily advocate for third party nations to adopt China's vision of digital authoritarianism domestically. A Digital Silk Road, the antithesis to a free and open internet, is not in the U.S. interest or that of the global and open internet, but without robust engagement its reach will only grow.

The spread of China's repressive model of digital oversight has already begun. Both Cambodia and Nepal have in recent years moved to put in place "National Internet Gateways"³⁸ which filter the internet and create a government-owned intranet. Similarly, Vietnam passed³⁹ its own version of data localization requirements aligned with China's approach. U.S. leadership in the digital space can combat the spread of similar efforts in the Indo-Pacific region, a key piece of U.S. diplomatic and security policy objectives. Meanwhile, exiting the arena and letting go of this leadership could give time for these draconian policies to proliferate widely.

This is why 12 civil society organizations and academics warned⁴⁰ the Biden Administration of their concern that "the withdrawal of key commitments at the World Trade Organization and in international trade negotiations will signal that the United States no longer stands by a free and open internet." The groups cautioned that rules "opposing forced data localization, supporting the free flow of information, combatting mandatory transfers of intellectual property, and championing non-discrimination for information products" are all fundamental to the open internet that "[a]dvocates and governmental bodies have long championed... as key for fostering human rights and ensuring access to information globally."

38 <https://www.internetsociety.org/resources/2024/internet-impact-brief-nepals-proposed-national-internet-gateway/>

39 <https://thediplomat.com/2019/12/vietnams-internet-control-following-in-chinas-footsteps/>

40 <https://www.aclu.org/documents/coalition-letter-urging-biden-administration-to-protect-free-and-open-internet>

Data Localization Requires Specific and Concerted Attention

“Over time, the NTE has become a very, very large catalog of complaints that haven’t actually gotten much scrutiny. What we did this year was begin a process of asking our teams to look at the NTE entries and first to ask, the barrier that is being discussed, is it actually a barrier? Do we actually export the product that is of concern? And with respect to digital, whether the measure that is being complained about is being erected as a barrier or if it is a regulatory measure that, frankly, we see a lot of bills in Congress trying to address?”

–Ambassador Tai, in response to Rep. Kevin Hern (R-OK)

In this response, Ambassador Tai elaborated on the justification USTR gave when it released⁴¹ its 2024 NTE report that had removed a slew of digital trade barriers abroad that as the agency considered whether a policy was a significant barrier or not, they wanted to underscore “the sovereign right to govern in the public interest and to regulate for legitimate public policy reasons.”

CCIA has previously covered⁴² the deprioritizing of digital trade barriers in the NTE report in detail, but in the context of data localization, USTR’s response regarding “sovereign rights” is worth unpacking further. Data localization measures harm businesses and consumers in the following ways:

1. They significantly impinge on the ability of U.S. companies to access certain markets and can render markets unattainable for small firms altogether;
2. They can further the goals of authoritarian regimes that seek broad control over data for ease of control over speech, “creating unique risks for people’s privacy, free expression, access to information, and other fundamental freedoms,” as civil society organizations warned⁴³ in February; and
3. They weaken the security of companies attempting to operate in markets with such restrictions by expanding the “attack surface,” assisting attackers by requiring the storage of data in facilities locally, making them predictable and easier targets, and “restrict[ing] the ability to conduct integrated cybersecurity management – including information sharing of emerging

41 <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2024/march/ustr-releases-2024-national-trade-estimate-report-foreign-trade-barriers>

42 <https://www.project-disco.org/21st-century-trade/why-a-ustr-report-represents-another-step-back-for-digital-trade/>

43 <https://www.aclu.org/documents/coalition-letter-urging-biden-administration-to-protect-free-and-open-internet>

cyberattacks, trend analysis, and forensics concerning data breaches,” as experts Peter Swire and DeBrae Kennedy-Mayo attest⁴⁴. In fact, these authors found that requirements to localize personal data would impact 13 of the 14 ISO 27002 controls that set the standards for cybersecurity globally, as well as multiple sub-controls.

As such, the broad claim that countries have the right to regulate how they wish is a deeply concerning narrative for USTR to publicly state given the clear effort to remove examples of data localization measures in the 2024 NTE report and to, in some cases, scale back language criticizing such measures even when they were included. Taken together, it suggests that USTR views such policies—a concerning model of authoritarian regimes like China that, as previously discussed, are constantly spreading to new markets—as permissible and legitimate.

Digital Trade Commitments Do Not Constrain Domestic Lawmakers and Regulators From Instituting Justified or Non-Discriminatory Rules

Throughout her testimony, Ambassador Tai cited the introduction and movement of several bills and the February “Executive Order to Protect Americans’ Sensitive Personal Data”⁴⁵ as justification for reversing course on long standing U.S. digital trade principles. These bills included the legislation requiring ByteDance to divest TikTok, the Protecting Americans’ Data from Foreign Adversaries Act of 2024⁴⁶, the American Innovation and Choice Online Act⁴⁷, and the Kids Online Safety Act (KOSA).

Sen. Marsha Blackburn (R-TN), a leading sponsor of KOSA in the Senate, highlighted the problem with this argument: “The Biden Administration might think the change is going after big tech, but what you’re doing is really hurting countless small businesses... You brought up KOSA as a justification for not doing something on digital trade provisions, I would remind you that international agreements on digital trade do not preclude countries from passing privacy laws. You can look at the EU, you can look at GDPR, you can look at New Zealand, Canada, Australia, that is an excuse and not an accuracy.”

44 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4030905

45 <https://www.whitehouse.gov/briefing-room/statements-releases/2024/02/28/fact-sheet-president-biden-issues-sweeping-executive-order-to-protect-americans-sensitive-personal-data/>

46 <https://energycommerce.house.gov/posts/rodgers-and-pallone-celebrate-house-passage-of-legislation-to-protect-americans-data-from-foreign-adversaries>

47 <https://www.project-disco.org/competition/010623-aicoas-failure-and-the-future-of-competition-policy-in-congress/>

Sen. Wyden similarly stated at the same hearing, “I feel strongly that keeping these markets for digital free and open and fighting these sleazy data brokers are not mutually exclusive, we can do both.”

Such space to regulate and pursue legislation is always inherent in trade agreements—policymaking is expected to continue, as no policy issue ever enjoys unending consensus—but laws and rules can still be crafted to be nationality-neutral or not otherwise discriminate against trade partners with whom commitments exist.

Digital trade rules developed to date in agreements like USMCA are designed to include guardrails to focus the target of the commitments on the most unreasonably trade-restrictive practices, thereby leaving most economic activity wholly in the domain of domestic regulation. Such a tailored approach ensures companies are protected from governments seeking policies that unfairly discriminate in favor of local suppliers, while governments are still empowered to legislate and regulate in the public interest.

Trade rules further include explicit flexibility for legitimate exceptions such as privacy, security, public morals, and other issues of national interest. If a country invokes one of these exceptions, a trading partner challenging the policy would then be required to demonstrate that there is a reasonably available approach that achieves the regulatory goal of that country. This reflects one of the key achievements of a negotiated trade rule—it is not a lasting guarantee that discrimination will not happen, since sovereign countries cannot be compelled to take action—but rather, it brings a level of accountability between trading partners based on shared values and promotes fair and transparent processes in the development of regulations. To the extent that domestic regulation targets domestic companies, trade rules are irrelevant, as they discipline our treatment of foreign firms, not our own.

In short, the existence of these bills do not undermine the ability of the United States to strike new commitments abroad or enforce existing agreements.

Digital Trade Rules Allow for Personal Data Protection and Can Enhance Privacy

“We are absolutely concerned with US national security, security of Americans’ privacy rights, the security of their data that we changed our position on these digital trade provisions... Not changing our approach is what was going to put at risk all of the work you are doing here to assert the rights of Americans to their data. At the moment, Americans have little to no privacy rights with respect to their data, that is something that I know the Congress is working to change. Unless we change our approach to digital trade, unless we expand the field of stakeholders beyond just our biggest companies, we close out the chance for our values to be reflected in what we do.”

–Ambassador Tai, in response to Rep. Brian Fitzpatrick (R-PA)

First and foremost, data privacy laws and regulations do not inherently implicate cross-border data flows, as long as they do not set up a differential regime for the transfer of data abroad. Data flow rules are designed to ensure services and digital products are able to operate between countries and to promote communication across borders. The specific data that companies are and are not allowed to collect and monetize—which would be dictated by privacy law—is a question completely separate from cross-border data flow commitments. Data flow rules govern whether a company is able to transfer data between various jurisdictions, not whether the information that can be gathered in the first place. If a government seeks to restrict what data that company can collect, it has broad leeway to do so, and would not be hindered by data flow rules.

Further, in many cases, trade commitments can actually promote the adoption of privacy rules, as it does in the U.S.-Japan Digital Trade Agreement or USMCA, which include explicit commitments⁴⁸ to “adopt or maintain a legal framework that provides for the protection of the personal information of the users of digital trade” aligned with principles and guidelines from existing efforts such as the APEC Privacy Framework and the OECD Recommendation of the Council concerning Guidelines governing the Protection of Privacy and Transborder Flows of Personal Data.

48 <https://ustr.gov/sites/default/files/files/agreements/FTA/USMCA/Text/19-Digital-Trade.pdf>

“What we see is that all of our friends and allies are all in the process of struggling with the same types of questions we are having today, around privacy, around where you set the limits with who can do what with peoples’ data. The progress that we are making is in advancing more updated proposals, and you’re right, our proposals might not be the same as the Europeans, but we are all facing the same challenges.”

–Ambassador Tai, in response to Sen. Todd Young (R-IN)

This is a further myth—the allegation that trade policy must be halted in its tracks because there is no consensus over privacy law. Such a drastic action is not necessary, and has not halted the progress of our partners around the globe, most of which do not have uniform privacy regulations but still manage to strike cross-border data flow commitments.

As highlighted in the earlier quote by Sen. Blackburn, countries with varying understandings of privacy, as enshrined in their laws, have cross-border data flows baked into free trade agreements with other jurisdictions. To name just a few that have been finalized in just the past few years, Singapore’s “Digital Economy Agreements”⁴⁹ with New Zealand, Australia, the United Kingdom, and South Korea include data flow provisions; the Pacific Alliance (a collective including Chile, Colombia, Mexico, and Peru) agreement⁵⁰ with Singapore includes such language; the EU and Japan struck an agreement on data flows; Canada and Ukraine have data flow language in their updated 2023 FTA⁵¹; and the African Continental Free Trade Area’s Digital Trade Protocol⁵² includes a cross-border data flow rule, largely based on the United States’ groundbreaking work.

49 <https://www.mti.gov.sg/Trade/Digital-Economy-Agreements>

50 <https://alianzapacifico.net/en/instruments-alcaps/>

51 <https://www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/ukraine/text-texte/2023/08.aspx?lang=eng>

52 <https://www.bilaterals.org/?afcfta-digital-trade-protocol-49908>

Cross-Border Data Flows Have Never Been Primarily About Goods Trade

“The digital trade provisions that you have referenced go to data flows, data localization, and source code as well. They were developed as part of a trade policy that is really rooted in our recognition and our understanding 20 years ago that data is just about facilitating traditional trade transactions. What we have discovered today... Today, data is not just something that facilitates traditional trade, data is the commodity and the thing that has value in and of itself.”

–Ambassador Tai, in response to Rep. Darin LaHood (R-IL)

“When you look at those long-time developed proposals in the digital trade negotiations on data, that those provisions are still largely based on an understanding that what we are dealing with is data as a facilitator of traditional trade transactions, goods transactions, data as a facilitator of e-commerce, data traveling along with the information that has to be traded in order for goods to move across borders. That was certainly the case 20 years ago, but in 2024, data has become the commodity itself, data has become the powerful thing that has value, that enables more innovation, that when you accumulate enormous amounts of it, technological innovation like generative AI.”

–Ambassador Tai, in response to Sen. Chuck Grassley (R-IA)

This characterization of the incorporation of data flow rules into trade agreements does not reflect history. Data flow rules have been suggested as a key piece of trade rules going back to the origins of the General Agreement on Trade in Services. In 1985, the United States argued⁵³, when identifying its priorities for a services agreement at the General Agreement on Tariffs and Trade:

The United States believes that priority should be given to an understanding on international information flows. It is critical that we address this particular area as soon as possible because of its critical role in most service sectors and its role in the technological change of all our economies.

Data flow rules were enshrined in 1994 through the conclusion of the General Agreement on Trade in Services (GATS), where commitments for financial services and services overall were adopted to ensure that cross-

53 https://www.wto.org/Gatt_docs/English/SULPDF/91150082.pdf

border services trade would not be hindered through data restrictions. As such, both the Financial Services Understanding⁵⁴ (Article 8), and the GATS Annex on Telecommunications⁵⁵ (Article 5(c)), contained specific provisions designed to ensure that governments (or telecommunications suppliers) were not able to exert control over data to “nullify and impair” a service commitment. In turn, banks, insurance companies, travel agencies, or computer service suppliers would be able to operate globally and serve customers in far-flung markets. Those concerns remain as valid now as they were then, and reflect how such rules were never limited to merely facilitating the movement of goods.

In response to the assertion that the nature of data has changed in the past 30 years, this, too, ignores the “policy space” that U.S. trade policymakers baked into agreements 30 years ago through provisions that clarified that commitments were subject to reasonable exceptions, including specifically for privacy. Provisions promoting data flows were included in the first modern Free Trade Agreements (FTAs) struck by the United States—the North American Free Trade Agreement and the subsequent FTAs signed by the United States, such as with Jordan⁵⁶ in 2000.

These early FTAs make it clear that digital trade was not focused on facilitating traditional goods trade. For example, the U.S.-Chile FTA and U.S.-Singapore FTAs—both struck in 2003—both have commitments prohibiting the adoption of customs duties on electronic transmissions and discrimination against other Parties’ digital products. Electronic transmissions and digital goods and services were seen as necessary to protect signatories’ broader interests in an emerging new area, not simply to transfer goods efficiently.

This forward-looking nature of the policy is made evident by remarks⁵⁷ made by Charlene Barshefsky, the USTR at the end of the Clinton Administration, in 2000 that ring true as a response to these arguments against digital trade today:

This new initiative will create a lasting set of rules and agreements which help to ensure that the trading system provides for electronic business the same guarantees of freedom, fair competition, respect for intellectual property rights and access to markets that more conventional commerce enjoys.

54 https://www.wto.org/english/tratop_e/serv_e/21-fin_e.htm

55 https://www.wto.org/english/tratop_e/serv_e/12-tel_e.htm

56 <https://ustr.gov/sites/default/files/Jordan%20FTA.pdf>

57 <https://usinfo.org/usia/usinfo.state.gov/topical/global/ecom/00102301.htm>



Commitments in digital trade—and enforcement of those rules—are important to ensuring U.S. suppliers have access to new markets, enabling the United States to maximize benefits to the economy both in export revenue generated and increase in jobs and productivity at home, benefit national security by increasing U.S. technological competitiveness, and promote freedom of expression and the protection of human rights by supporting the open internet and cross-border communications.

EXHIBIT 126

Introduction

The treatment of data in trade policy has recently become one of the more fraught issues of an already contentious trade agenda. Last summer, the U.S. Trade Representative (USTR) abruptly abandoned proposals to include rules for the cross-border transfer of data in the Indo-Pacific Economic Framework (IPEF), and followed suit in the fall at the World Trade Organization (WTO). Subsequently, it also removed several key data-related digital trade barriers from the Congressionally-mandated National Trade Estimate report.

It is hard to conceive of meaningful digital trade rules without strong data-related provisions, a conclusion underscored by persistent U.S. strength in this area and its importance to U.S. economic welfare: according to the U.S. Bureau of Economic Analysis, digitally-enabled services exports accounted for \$626 billion in 2022,¹ or 2.5 percent of the U.S. GDP. These exports also fueled a persistent and growing surplus—\$256 billion in 2022—and millions of well-paying jobs. Foreign barriers to the cross-border flow of data, and lack of rules to combat them, puts this U.S. success story at significant risk.

At a recent hearing before Congress on USTR's trade agenda, Ambassador Katherine Tai unveiled a new justification for this broad retreat from established digital trade rules: she argued that the rules were outdated and no longer 'fit for purpose.' Specifically, on cross-border data rules, she asserted that:

..those provisions are still largely based on an understanding that what we are dealing with is data as a facilitator of traditional trade transactions, goods transactions, data as a facilitator of e-commerce, data traveling along with the information that has to be traded in order for goods to move across borders. That was certainly the case 20 years ago.²

If she were correct—*i.e.*, that a trade rule based on a legacy business model was being misapplied to cover vastly different economic activities—one might accept the rationale. It is, however, fiction: data rules were never intended to simply facilitate goods trade. Repeating this fiction is a disservice to decades of policy work that, from the beginning, grappled with the same opportunities that digital trade now presents and the same concerns now portrayed as novel, be they privacy, security, or consumer protection. The rules were designed to address both those opportunities and concerns through deliberate and careful negotiation.

- 1 See BEA estimates at <https://apps.bea.gov/iTable/?reqid=62&step=9&isuri=1&product=4#eyJhcHBpZCI6NjIiLsInNOZXBzIjpMSw5LDZdLCJkYXRhIjpWYjwcm9kdWN0IiwNCjJdLFsiVGFiVGVMaXN0IiwuMzU5I1dfQ==>
- 2 Amb. Tai response to Sen. Grassley, before the Senate Finance Committee, April 17, 2024. <https://www.finance.senate.gov/hearings/the-presidents-2024-trade-policy-agenda>.

Cross-Border Data Flow Rules Were Never Solely— or Primarily—About Goods Trade

As early as 40 years ago, trade negotiators clearly understood the need to integrate data-related rules into broader trade frameworks—first, in services; then vis-a-vis digitized products; and later as a cross-cutting rule applying to all sectors.

The source of Ambassador Tai’s mistake, her assertion that such rules were to promote the trade of traditional goods, probably lies in the fact that these rules were most recently discussed under the rubric of ‘electronic commerce,’ a term that has come to refer to online sale of physical goods. It is true that this was one of the first consumer-facing commercial applications of the internet, and a source of initial enthusiasm for policy engagement. But electronic commerce, as a trade concept, was never meant to be that limited. When the WTO Work Program on Electronic Commerce was launched in 1998, it introduced the following provisional definition: *“the term ‘electronic commerce’ is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means.”*³

Trade in traditional goods was never really the focus of electronic commerce deliberations for the simple reason that core goods rules were mature, and apart from incremental adjustments (e.g., use of electronic documents in customs procedures), there was little further work to be done to fill gaps engendered by the growth of the internet. In fact, the key issue that occupied the WTO’s Committee on Trade in Goods, when it submitted its first report⁴ under the Electronic Commerce Work Program, was the uncertainty on how to classify digitized products transmitted electronically⁵—as they were outside the realm of traditional goods trade.

Services, however, and digitized products, were an entirely different matter. The impact of data-fueled trade through the growth of the internet was, and continues to be, the focus of what is now known as digital trade.⁶ The goal of digital trade policymaking, consistent for two decades, has been the same: to identify and address bottlenecks in suppliers’ ability to leverage electronic networks to conduct trade. Primary among potential bottlenecks, once a physical network is built, is the treatment of data.

3 See <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/L/274.pdf&Open=True>.

4 See <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=O:/WT/GC/24.pdf&Open=True>.

5 This debate was never resolved within the WTO, leaving unclear how, or whether, discriminatory measures against such products could be addressed under trade rules. This unsatisfactory outcome was the primary inspiration for developing an independent rule on digital products that was negotiated in FTAs, starting with the 2003 U.S.-Singapore FTA.

6 A key reason for adopting the term “digital trade” was that China had co-opted the term electronic commerce to focus on what it saw as its core trade interests—promoting the global expansion of firms like Alibaba—and wanted to ensure that a focus on goods trade would avoid any discussion of data. When considering whether it would join the WTO Joint Statement on Electronic Commerce in 2018, China originally indicated that inclusion of data flow issues would be a “red line” preventing its participation.

Data flows and how they relate to trade have a long history in policy deliberations. The United States has advocated for the development of international frameworks to ensure resilient data flow regimes for decades. For example, the 1980 OECD Privacy Principles, championed by the United States, framed members' goals in pursuing the principles as “**DETERMINED** to further advance the free flow of information between Member countries and to avoid the creation of unjustified obstacles to the development of economic and social relations among them.”⁷

Similarly, the General Agreement on Tariffs and Trade (GATT) first considered the phenomenon of data flows as an exception to goods disciplines (bypassing traditional customs procedures, previewing the customs duties moratorium): in 1984, when grappling with a novel customs valuation issue, the Customs Valuation Committee noted that:

*[with respect to software] the importer is, in fact, interested in using the instructions or data; the carrier medium is incidental. Indeed, if the technical facilities are available to the parties to the transaction, the software can be transmitted by wire or satellite, in which case the question of customs duties does not arise.*⁸

At that point, of course, there were no rules for services and these early deliberations placed data flows as an activity generally outside of goods disciplines. Once negotiators began developing trade rules for services, however, data became a critical element in ensuring that trade disciplines for services would be effective. In laying out its goals for a services agreement at the GATT in 1985, the United States stated:

*The United States believes that priority should be given to an understanding on international information flows. It is critical that we address this particular area as soon as possible because of its critical role in most service sectors and its role in the technological change of all our economies.*⁹

Subsequently, initial internal U.S. drafts of the General Agreement on Trade in Services (GATS) proposed creating a horizontal rule for data flows, akin to Article XII (Payments and Transfers) to ensure, as was done for payments and transfers, that restrictions on data would not undermine specific commitments. Just as trade without the ability to move money is not meaningful, so too is a significant part of services trade meaningless without the ability to move information. The U.S. draft proposal did not survive as a horizontal provision in the GATS, but

7 See <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0188>.

8 See <https://docs.wto.org/gattdocs/q/TR/VAL/8A1.pdf>.

9 See p. 3, https://www.wto.org/Gatt_docs/English/SULPDF/91150082.pdf.

a similar approach found its way into two provisions, in the Financial Services Understanding (Article 8)¹⁰ and the Annex on Telecommunications (Article 5 (c)).¹¹ The latter states:

Each Member shall ensure that service suppliers of any other Member may use public telecommunications transport networks and services for the movement of information within and across borders, including for intra-corporate communications of such service suppliers, and for access to information contained in databases or otherwise stored in machine-readable form in the territory of any Member.

Both of these provisions were motivated by a similar concern: whether for financial services, or services generally, an inability to transfer data cross-border could render market access commitments, particularly for cross-border services, meaningless. These provisions, while critical to the effectiveness of services commitments, had limitations: the Financial Services Understanding only applied to the small subset of WTO members who chose to adopt it; and the Annex rule only applied to specific commitments, the particular set of services subsectors a particular WTO member chose to bind, which varied widely between members. Nonetheless, this was a solid and far-sighted beginning, and provided a model for all subsequent data flow rules.¹²

The prescience of U.S. negotiators was evident in a description of U.S. goals offered by a chief architect of the GATS, USTR Counselor Geza Feketekuty. As he stated in a 1989 article, 5 years before negotiations concluded:

[S]ince [the] computers can be attached anywhere in the network, it has become technologically and economically feasible to supply such services competitively from different geographic locations – sometimes across national frontiers.¹³

Under the right of non-establishment, foreign providers of covered services would be allowed to provide services across the border from a foreign location via the telecommunications network, without having to establish local facilities in the importing country.¹⁴

10 https://www.wto.org/english/tratop_e/serv_e/21-fin_e.htm.

11 https://www.wto.org/english/tratop_e/serv_e/12-tel_e.htm.

12 In the Obama Administration, USTR relied on this provision to challenge China's pervasive blocking of content and software applications, with some limited success.

13 Geza Feketekuty, *Negotiating the World Information Economy*, (1989) p, 169, available at https://business.columbia.edu/sites/default/files-efs/imce-uploads/CITI/Articles/10.4324_9781351115704-19_chapterpdf.pdf.

14 Op. cit., p. 192

The annex [i.e., what became the Annex on Telecommunications] could... allow foreign firms to process, store, and transfer data across national borders so long as they abide by regulations designed to protect privacy, intellectual property, public safety, and national security.

Feketekuty’s description in 1989 of why cross-border data disciplines are important perfectly echoes the current policy goals animating modern digital trade rules—underscoring an historical amnesia that is a disservice to good policymaking.

Digital Trade-Specific Rules were Kicked off with The E-Commerce Moratorium

By the late 1980s, trade policy had pivoted beyond traditional goods rules to address nascent challenges. The following decade saw the entry into force of the WTO, the GATS, and the conclusion of a signature agreement that proved foundational for digital trade, the Basic Telecommunications Agreement (the BTA). It also marked the first post-WTO data-specific commitment which remains in place to this day: the moratorium on applying customs duties to electronic transmissions.

Although this commitment has been derided, in the words of USTR, as a relic of the age of faxes,¹⁵ such characterization completely misses the point. As was clear as early as 1984 (as noted above), companies were using networks to transmit products of significant value that did not come into contact with traditional customs procedures. The only reason this commitment was meaningful was precisely because of the value embedded in that data, the basis on which duties could have begun to be assessed. Negotiators in 1998 were not thinking about faxes—they were thinking about software, e-books, music, and videos.¹⁶ These are all critical U.S. exports, and core commercial interests that continue to drive trade.

In 2000, USTR’s Ambassador Charlene Barshevsky, following off the success of the BTA, sought to chart new grounds, and in one of her last major policy speeches, proposed a “Networked Economy Initiative.” The need for rules outside the traditional goods framework was clear:

15 Amb. Tai, responding to Rep. Hern, House Ways & Means Committee, April 16, 2024 said: “On the e-commerce moratorium, there is a similar stuck-in-time element. It was developed at a time when we talked about electronic transmissions because the relevant transmission was about fax transmissions, the e-commerce transmission related to the technological world where we were still faxing information to each other.” <https://www.youtube.com/watch?v=ZeDfYL3Dq0Q>.

16 See figure 7.3 at <https://www.unescap.org/sites/default/files/aptir-2016-ch7.pdf>. Even in 1998, the value of such products exceeded \$30 billion annually.

This new initiative will create a lasting set of rules and agreements which help to ensure that the trading system provides for electronic business the same guarantees of freedom, fair competition, respect for intellectual property rights and access to markets that conventional commerce enjoys.¹⁷

The first concrete manifestation of this policy was in the 2000 launch of the U.S.-Singapore Free Trade Agreement (FTA), where a standalone chapter was eventually memorialized (in 2003) as a discrete, cross-cutting set of rules addressing digital trade. Notably, the rules had nothing to do with goods, focusing on technological neutrality for services,¹⁸ a binding commitment not to impose customs duties on electronic transmissions, and a related rule ensuring National Treatment and Most-Favored-Nation for digital products transmitted electronically.

It would take another 4 years for a cross-cutting data flow rule to find a home in a bilateral trade agreement, the U.S.-Korea FTA. This rule would come to be replicated in all subsequent U.S. FTAs and carried forward independently by U.S. trade partners as they negotiated further agreements without the United States. It would also extend beyond services, to any “covered person” needing to transmit data, thus addressing the trade interests of manufacturers, drug developers, etc., all of whom increasingly had to move massive amounts of data to conduct R&D, manage global operations, and serve their customers.

Data Flow Rules Are Not Solely About Personal Data

Finally, it is worth addressing one other myth that appears to persistently follow this debate—that data flow rules are designed primarily for the transfer of personal information for corporate profit. Some suggest that data flow rules are nothing more than an excuse to allow the largest companies to “keep auctioning off your data to the highest bidder,” as Sen. Elizabeth Warren (D-MA) stated in USTR’s oversight hearing on April 17.¹⁹ This argument, like the assertion “data flows were focused on goods trade,” misses the point of such rules: they are designed to ensure that a broad range of services and digital products are able to reach foreign markets and that communications across borders is possible. Obviously, a Zoom call transmits personal information, and that ability is what makes it valuable, but direct monetization of personal information relates to only a very small portion of data flows—65 percent of which, based on credible estimates, is commercial videos.²⁰

¹⁷ <https://usinfo.org/usia/usinfo.state.gov/topical/global/ecom/00102301.htm>.

¹⁸ This concept, now part of WTO jurisprudence, ensures that service commitments are not nullified by the advance of technology, repudiating India’s assertion that that an internet-enabled service was a novel service, not captured by a commitment made pre-internet (i.e., all of the original GATS commitments).

¹⁹ Sen. Elizabeth Warren (D-MA), questioning Ambassador Tai at a Senate Finance Committee Hearing, April 17, 2024.

²⁰ See [Sandvine's 2023 Global Internet Phenomena Report Shows 24% Jump in Video Traffic, with Netflix Volume Overtaking YouTube](#).

Although advertising is certainly part of those flows, the specific data that companies are and are not allowed to collect and monetize is a factor completely determined by domestic law and not affected by cross-border data flow commitments. Data flow rules govern whether a company is able to transfer data between various jurisdictions, not whether the information can be gathered in the first place or subsequently monetized. If a government seeks to restrict what data that company can collect or sell, it is perfectly free to do so, unencumbered by data flow rules. In fact, many current U.S. measures do just that (e.g, the Children’s Online Privacy Protection Act, and the Health Insurance Portability and Accountability Act), without any conflict with trade rules. Similarly, recently-enacted measures such as the Executive Order on Sensitive Personal Data, or Data Broker legislation, which are narrowly crafted to address specific countries of concern based on a clear security rationale, are not the kinds of restrictions that trade rules would constrain.

Conclusion

Trade negotiators have spent decades building the policy foundation to support the free flow of data in trade agreements. Since the onset of such rules, the intent has always been to be forward-looking, anticipating the growing value of such data to services, digitized products, and the broader economy. This USTR has opted to abandon this legacy. While one may debate the value of such rules, claiming that they are no longer fit for purpose because we have moved beyond faxes and data as an adjunct to goods transactions is both baseless and unhelpful. To assert as much is nothing more than revisionist history.

The broad appeal of data flow rules, including by countries who lack large technology companies and who often have privacy regimes far more stringent than ours, suggest that the value of these rules reflects something more fundamental. The number of recent trade agreements containing such rules is instructive. To name a few: Singapore has concluded “Digital Economy Agreements” with partners such as New Zealand, Australia, the United Kingdom, and South Korea that include this language,²¹ as has the Pacific Alliance²² (a group including Chile, Colombia, Mexico and Peru); the EU and Japan have revised their trade agreement to include rules on data flows; and Canada and Ukraine have data flow language in their updated 2023 FTA.²³

21 <https://www.mti.gov.sg/Trade/Digital-Economy-Agreements>.

22 <https://alianzapacifico.net/en/instruments-alcaps/>.

23 <https://www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/ukraine/text-texte/2023/08.aspx?lang=eng>.

One particularly important recent example that demonstrates the maturity and broad consensus such rules now represent is found in African countries' embrace of a robust cross-border data flow rule, largely based on the United States' groundbreaking work, in their signature African Continental Free Trade Area Digital Trade Protocol.²⁴

This is the successful maturation of a policy once championed by the United States. For the United States to now reject its own significant contribution to durable and sustainable trade policy is a fact hard to fathom.

24 See Article 20, <https://www.bilaterals.org/?afcfta-digital-trade-protocol-49908>.

EXHIBIT 127



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US Retreat From Digital Trade Talks Confounds Attys

By **Jennifer Doherty**

Law360 (November 9, 2023, 10:15 PM EST) -- The Biden administration has backed off from digital trade discussions under the Indo-Pacific Economic Framework, angering technology companies and dimming trade observers' hopes for substantive improvements in e-commerce among the 14 IPEF partners.

Sen. Elizabeth Warren, D-Mass.; Rep. Jan Schakowsky, D-Ill.; and 10 of their Democratic colleagues congratulated the administration in a letter published Tuesday for halting the discussions, a move they said would counter Big Tech's efforts to "frustrate privacy, [artificial intelligence], civil rights and liberties, anti-monopoly, gig worker and other digital safeguards that Congress and the administration seek."

While Warren and consumer advocacy groups including Public Citizen say the move is a win for transparency and regulatory oversight, many trade policy experts see it as a misstep that goes against White House obligations and opens the door for other countries to set pivotal standards for international e-commerce. It was also an unabashed public relations flop for the administration.

"The Biden administration has lost their minds," said Hogan Lovells LLP senior counsel Warren Maruyama, who served as general counsel in the Office of the U.S. Trade Representative, or USTR, during the second Bush administration.

Maruyama, like other former trade officials Law360 spoke to from both Democrat and Republican administrations, emphasized that digital trade provisions akin to what was on the table at IPEF have been part of U.S. trade talks for the past decade.

Congress, which grants the executive branch its authority over international trade, previously set out the U.S. position on topics from which the administration is now backing away, namely nondiscrimination, freedom of cross-border data flows and prohibitions on data localization in the Bipartisan Trade Promotion Authority Act of 2015, Maruyama said. Recent landmark trade deals including the United States-Mexico-Canada Agreement and 2019's U.S.-Japan Digital Trade Agreement reflect that stance.

"So this is all very bizarre," he said.

The lawmakers' letter also came on the heels of last month's announcement that the U.S. would **withdraw support for three proposals** on e-commerce the Trump administration laid out at the World Trade Organization back in 2019.

Contrary to the appearance Warren's letter gave, the USTR actually put a pin in the IPEF's digital trade chapter "months ago," according to an official with knowledge of the talks who requested anonymity in order to speak openly.

"We're a little frustrated that she disclosed publicly that we've hit pause in negotiations while, frankly, we figure out what's the right approach for us to be taking on this," the official told Law360.

The Biden administration, which has worked hard to align itself with organized labor and consumer groups, faced "a lot of pushback" from U.S. stakeholders on the IPEF's digital trade talks, according to the official, causing the USTR to pull back in search of a "middle ground solution" that would support U.S. competitiveness without pandering to corporations.

The agency made the decision to pull the WTO proposals during this period of reflection, for the sake of consistency, the official added.

Melinda St. Louis, the director of Public Citizen's Global Trade Watch, said the USTR's decision to remain at the WTO negotiating table but assume a neutral stance while it reconsidered "playbooks from the past" was "quite smart" in an interview with Law360. She welcomed the administration's willingness to reevaluate the same deals Maruyama pointed to, which she said have allowed corporations to set the digital trade agenda "before our domestic processes have been able to even figure out what our policies are."

In both the WTO and IPEF negotiations, the USTR was also coming up against deadlines. The Asia-Pacific Economic Cooperation summit coming up in San Francisco next week has been the target for final IPEF agreements since the initiative was announced. The WTO Joint Initiative on E-Commerce is likewise expected to submit its latest proposals to members at the organization's ministerial conference in February in Abu Dhabi.

Without time to comprehensively recalculate its position, the agency likely felt safer staying quiet, according to Robert Holleyman, president and CEO of the consulting firm Crowell & Moring International.

"I think USTR is probably saying they would rather have nothing or very little on digital trade than work through the details of a robust, but maybe not less than fully robust, agenda," said Holleyman, who served as deputy U.S. trade representative during the Obama administration. "This was the immediate off-ramp."

That exit has left a gap at the negotiating table that some trade observers, including Senate Finance Chair Ron Wyden, D-Ore., have said China is only too willing to fill.

"USTR's unilateral decision to abandon any leverage against China's digital expansionism, and to oppose policies championed by allies like Australia, Japan, the U.K. and Korea, directly contradicts its mission as delegated by Congress," the senator said in a statement last month. "It may be time to reconsider the degree of that delegation going forward."

Not all critics of USTR's digital trade retreat viewed it as a gift to Beijing, however.

Jamieson Greer, the former USTR chief of staff and current King and Spalding LLP partner, **an avowed China hawk**, predicted more impact on commerce with other partners "who believe in the rule of law."

"In our experience, [China doesn't] follow the rules unless it's convenient for them. So to me, this is more about having rules to make sure so-called allies like France and others don't discriminate against our companies," Greer told Law360.

Regardless of how the move affects Washington's position in global trade forums, the decision has hollowed out a key section of the IPEF just days ahead of a ministerial summit where leaders are expected to unveil the Indo-Pacific framework.

The project has been central to the Biden administration's mission to vindicate its "worker-centered trade policy," which aims to grow trade without prioritizing erasing tariffs, a previous approach the administration has blamed for outsourcing that cut away at the middle class.

"It's lowering the ambition and the scope of what the U.S. is even fighting for in the Indo-Pacific, and I think that is a strategic mistake," said Hogan Lovells partner Kelly Ann Shaw, former deputy assistant to the president for international economics. "Instead of leaning in, we're sort of leaning back, and we don't even have the ability to articulate what we want in that space."

--Editing by Andrew Cohen.

EXHIBIT 128

Trusted Cross-Border Data Flows: A National Security Priority

Alex Joel

Monday, November 13, 2023, 2:42 PM

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To avoid a fragmented world divided by digital barriers, the U.S. government must press ahead to develop a trusted framework for cross-border data flows.

Imagine a fragmented world, with countries retreating behind barriers they have erected in both the physical and cyber realms. In such a world, “[i]nformation flows within separate cyber-sovereign enclaves, supply chains are reoriented, and international trade is disrupted. Vulnerable developing countries are caught in the middle with some on the verge of becoming failed states. Global problems, notably climate change, are spottily addressed, if at all.” Authoritarian regimes would thrive in a siloed world characterized by “[f]urther weakening of Western-origin norms, particularly on human rights, open commerce, and collective defense.” This is not the stuff of dystopian fiction. Rather, it is a grim scenario painted by the National Intelligence Council (NIC) in its Global Trends 2040 Report; it is, according to the NIC, a very real possibility based on existing trends.

Keep that possible future in mind when evaluating the world of today. Huge and ever-growing volumes of digital data are processed by companies for business purposes, and that data flows around the world in ways that bring both benefits and risks. For private-sector entities, cross-border data flows underpin daily business operations, logistics, supply chains, and international communication. In addition, responsible cross-border data flows can promote human rights, cybersecurity, economic development, financial inclusion, health, sustainability, and other legitimate government objectives. At the same time, such flows raise concerns about data privacy and security and appropriate uses of such data once it leaves the originating country’s borders. How will companies protect privacy in the recipient country? How will governments seek access to that data for national security and law enforcement purposes? Governments have made progress in answering these questions, and it is now realistic to envision a global framework open to democracies operating under the rule of law, that is rights-protective, practicable, and scalable.

Even with the progress made, failure remains a real possibility. And that failure portends a world of greater fragmentation, with countries seeking to enact cross-border data flow restrictions and prohibitions out of concern for how that data will be exploited by untrusted actors, or out of a desire to exercise direct control over data for both legitimate and problematic purposes. A world divided by digital siloes favors authoritarian regimes that seek greater control of and access to data to solidify and expand their power. Recognizing this risk, the United States has joined with other democracies in seeking shared norms and mechanisms that would enable data to continue to flow across borders while also addressing the security and privacy risks such flows can pose. A recent U.S. Trade Representative (USTR) decision to reverse the U.S. position on data localization in free trade discussions is a rare outlier in the government’s otherwise unified effort to pursue a trusted framework for cross-border data flows as a national security priority.

The intelligence community has been ringing alarm bells about the growing threat of “digital repression” by authoritarian regimes. The intelligence community’s [2023 Annual Threat Assessment](#) finds that “[m]any foreign governments have become adept at the tools of digital repression, employing censorship, misinformation and disinformation, mass surveillance, and invasive spyware to suppress freedom.” A [2022 declassified NIC Assessment](#) provides more detail, warning that “foreign governments are increasingly using digital information and communication technologies to monitor and suppress political debate domestically as well as in their expatriate and diaspora communities abroad.” According to President Biden’s [2022 National Security Strategy](#), “[t]he most pressing strategic challenge facing our vision is from powers that layer authoritarian governance with a revisionist foreign policy. It is their behavior that poses a challenge to international peace and stability—especially ... leveraging technology and supply chains for coercion and repression.”

Given that prospect, it should not be surprising that U.S. policy has been to promote the free flow of information as a national security priority. The vision set forth in the National Security Strategy is to “achieve a better future of a free, open, secure, and prosperous world.” According to that document, the United States is “rallying like-minded actors to advance an international technology ecosystem that ... *promotes the free flow of data and ideas with trust*, while protecting our security, privacy, and human rights, and enhancing our competitiveness” (emphasis added). In April 2022, the Biden administration joined [more than 60 countries](#) in issuing the [Declaration for the Future of the Internet](#) to

affirm our commitment to promote and sustain an Internet that: is an open, free, global, interoperable, reliable, and secure and to ensure that the Internet reinforces democratic principles and human rights and fundamental freedoms [and] that can deliver on the promise of connecting humankind and helping societies and democracies to thrive.

As stated in the NIC assessment on digital repression, “[m]itigating against the growth of digital repression probably would require the *establishment of unified international norms* and protecting the Internet’s architecture through coalitions with likeminded governments, civil society, and technology corporations” (emphasis added).

Data Free Flow with Trust

Without safeguards, data can be exploited in ways that harm individual rights and freedoms. That is why the current focus of many stakeholders has been to find practicable ways for data to flow in a manner that protects privacy and other fundamental rights. This aspiration is what undergirds the aptly named Data Free Flow with Trust (DFFT) initiative, originated by Japan's late Prime Minister Shinzo Abe in 2019. With Japan's strong leadership and support, the DFFT initiative seeks ways to promote the free flow of data while ensuring trust that privacy and other rights will be protected. Earlier this year, the G7 Data Protection and Privacy Authorities announced that "we will continue to further deepen and strengthen our cooperative relationship to ensure a high level of protection of personal data as an enabler of economic and social development of G7 members." The G7 leaders affirmed in May that they

reiterate the importance of facilitating Data Free Flow with Trust (DFFT) to enable trustworthy cross-border data flows and invigorate the digital economy as a whole, while preserving governments' ability to address legitimate public interests. ... We emphasize our opposition to internet fragmentation and the use of digital technologies to infringe on human rights. ... We seek to increase trust across our digital ecosystem and to counter the influence of authoritarian approaches.

For data to flow freely between democracies, countries must *trust* that the recipient governments are appropriately safeguarding personal data. Thus, pursuing data free flow with trust necessarily entails a framework that ensures that countries have fundamental protections in place for individual rights. In this way, DFFT can be thought of as a rising tide that lifts all boats. That is, in any event, the aspiration.

The United States presented a dramatic example of how a country can enhance privacy protections in a manner that sustains vital data flows. After many months of intensive negotiations, the U.S. and the European Commission announced the new EU-U.S. Data Privacy Framework, and in July, the European Commission officially approved that framework when it issued its adequacy decision. As part of that framework, the United States articulated new privacy protections for its

signals intelligence activities based on concepts of “necessity and proportionality” that are cornerstones of how European countries constrain surveillance activities. (I analyze this in detail in “Necessity, Proportionality, and Executive Order 14086.”) What’s more, the framework created an independent Data Protection Review Court, with binding powers, to adjudicate complaints submitted by individuals alleging noncompliance with applicable signals intelligence privacy safeguards with respect to their data.

Until recently, the U.S. government has presented a remarkably unified front in pursuing a trusted framework for cross-border data flows. Beyond backing data free flow with trust at the G7, the U.S. played a key role in the adoption by the 38 member countries of the Organization for Economic Cooperation and Development of the groundbreaking “Declaration on Government Access to Personal Data Held by Private Sector Entities.” The declaration reaffirms members’ “commitment to data free flow with trust” and regards the agreed-upon principles for government access to data for law enforcement and national security purposes

as an important expression of our shared democratic values and commitment to the rule of law, which distinguishes our countries from other countries whose law enforcement or national security access to personal data are inconsistent with democratic values and the rule of law, are unconstrained, unreasonable, arbitrary or disproportionate, or amount to violations of human rights.

On the commercial privacy front, the United States joined with Canada, Japan, the Republic of Korea, the Philippines, Singapore, and Chinese Taipei to create the Global Cross-Border Privacy Rules Forum. Their goal is to “facilitate data protection and free flow of data” by “promot[ing] expansion and uptake” of a certification-based system known as “Global CBPR.” Although it remains unclear how this approach will be reconciled with that established by the EU’s General Data Protection Regulation (GDPR), the Global CBPR Forum has been actively working to expand its reach by adding new country members to the forum and new companies to commit to its certification framework.

The USTR’s Withdrawal Decision

The effort to develop a trusted framework for cross-border data flows is complicated by the central role played by commercial entities. After all, it is their technology, their services, their computers and telecommunications links that are responsible for where and how data is being collected, processed, and transmitted. In light of the private sector's outsized interest in data flows, it should not be surprising that some observers perceive efforts to preserve the viability of cross-border data transfers as a way of favoring Big Tech. This may have been a factor in a recent action by the USTR, who, according to a report by Reuters, decided that the United States "is withdrawing proposals . . . insisting that [World Trade Organization (WTO)] e-commerce rules allow free cross-border data flows and prohibit national requirements for data localization and software source code." The USTR explained that it was doing so "[i]n order to provide enough policy space for [domestic policy] debates to unfold." This is a reversal of the position the United States had pursued as part of the WTO's Joint Statement on Electronic Commerce Initiative. In a submission in March 2019, the U.S. averred that "[t]rade rules that guarantee the ability to move data in the most economically and technically efficient manner—subject to reasonable safeguards like the protection of consumer data when it is exported—can support growth across all sectors of the economy." According to a USTR spokesman, those data flow proposals "might prejudice or hinder" countries from taking into account "domestic policy considerations."

Further details on the recent USTR withdrawal decision do not appear to be publicly available, but prior congressional correspondence with the USTR highlights concerns that trade agreement provisions limiting the ability of countries to impose data localization requirements could be used by U.S. companies to evade the reach of federal and state regulatory and law enforcement agencies. For those who have been enmeshed in cross-border data discussions over the years, this concern seems to miss the mark.

To be clear, I support efforts to update the U.S. legal and regulatory approach to technology, and I join many commentators and stakeholders in hoping that Congress will soon enact long-overdue comprehensive privacy legislation as a foundational step along that path. But I am not concerned about the ability of such laws to reach U.S. companies, regardless of where those companies choose to process and store their data. Indeed, the United States has shown no hesitation in going after data held by U.S. companies in facilities abroad, as demonstrated vividly by the Microsoft Ireland case, which prompted Congress to enact the CLOUD Act. Under that act, the United States can compel a company to provide data to the government so long as the company has "possession, custody, or control" of the data, regardless of where in the world the data happens to be stored.

We pulled this thread further in our paper “[Data Localization and Government Access to Data Stored Abroad](#),” in which we examined the notion that a company can elude the reach of U.S. law by localizing data in another country. Not surprisingly to those who follow these issues, we found that any such effort would likely fail. The key questions under U.S. legal norms—and, indeed, the legal norms of other countries we researched—is not the physical location of the data but, rather, whether the company has certain “minimum contacts” with the United States, and whether the U.S. entity has the legal and/or physical ability to produce the data. Indeed, the EU’s [General Data Protection Regulation](#) has a famously far-reaching scope provision that imposes GDPR obligations on entities based almost entirely outside the EU, so long as they offer goods and services to EU data subjects (for example, via a website) or are monitoring the “behaviour” of data subjects in the EU (for example, via digital means).

Far from being a liability escape hatch for companies, a framework for trusted cross-border data flows should lead to more cohesive, consistent, and robust safeguards for personal data around the world. As companies pursue global business opportunities, they will be able to freely transfer data across borders only if key stakeholders have assurances that the data will be protected. Countries may need to update and expand protections, fill gaps in the law, and make other changes so that they can form part of the trusted framework.

Trade Agreements

To further appreciate the implications of the USTR’s decision, it is important to understand the role trade agreements have played in the issue of cross-border data flows. For years, the United States has insisted on provisions in agreements that guard against discriminatory practices relating to data flows. The [United States-Mexico-Canada Agreement](#) (USMCA), for example, provides that “[n]o party shall restrict the cross-border transfer of information, including personal information, by electronic means” (Article 19.11). It goes on to lay out an important exception,

[for] a measure ... that is necessary to achieve a legitimate public policy objective, provided that the measure: (a) is not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on trade; and (b) does not impose restrictions on transfers of information greater than are necessary to achieve the objective.

Unsurprisingly, G7 pronouncements on data free flow with trust echo these principles. As stated by G7 leaders in May, “[W]e should counter *unjustified obstacles* to the free flow of data, lacking transparency, and *arbitrarily operated*, which should be distinguished from our measures implemented to achieve the legitimate public policy interests of each country” (emphasis added). This position is intended to leave room for legitimate regulatory and public policy measures. Its focus is on preventing the arbitrary or discriminatory application of such measures and to require that they be no “greater than necessary.”

By contrast, China has sought to use trade agreements to promote the ability of countries to impose data localization mandates or, in other words, to erect digital barriers to the free flow of information. China negotiated the Regional Comprehensive Partnership Agreement with several countries in the Asia-Pacific region. Article 12.14 of the agreement includes a data localization prohibition that echoes some concepts from the USMCA but then includes a breathtakingly broad security exception for “any measures that [a Party] considers necessary for the protection of its essential security interests. Such measures shall not be disputed by other Parties.” Such a provision gives a country sole discretion in determining when to put in place data localization measures for security purposes, including ones that could facilitate repressive measures.

Trusted Cross-Border Data Flows and National Security

On the day of the USTR decision, Sen. Ron Wyden (D-Ore.) issued a statement in which he asserted that

[the] USTR is leaving a vacuum that China—an active participant in these negotiations—will be more than pleased to fill. USTR’s action today is a win for the Chinese government’s efforts to have unlimited access to U.S. data, a win for Chinese tech giants who want to bully smaller countries into following the Chinese model of internet censorship, and a win for China’s Great Firewall, which locks out American companies and locks Chinese citizens into a repressive regime of government surveillance.

Wyden’s warning echoes those in the National Security Strategy, which reads, “[China] is using its technological capacity and increasing influence over international institutions to create more permissive conditions for its own

authoritarian model, and to mold global technology use and norms to privilege its interests and values.”

I began this piece with a grim scenario of a world characterized by physical and digital barriers, where countries had retreated into separate siloes. There is an alternative scenario in the [Global Trends 2040 Report](#). Imagine a world “in the midst of a resurgence of open democracies led by the United States and its allies.” In that world, advancements fostered by public-private partnerships are raising incomes, improving the quality of life around the globe, enabling responses to global challenges. “In contrast, years of increasing societal controls and monitoring in China and Russia have stifled innovation” and weakened their regimes.

Which scenario is more likely? As President Biden says in the National Security Strategy, the world is at an inflection point: “We are in the midst of a strategic competition to shape the future of the international order.” The time is now for democracies to move closer together, to build on shared values under the rule of law, to ensure the digital lines of communication that bind them are based on a trusted framework for cross-border data flows. That future is now within reach, so long as key stakeholders—including those within the U.S. government—keep moving forward together.



Alex Joel

[Read More](#)

Alex Joel is a scholar-in-residence and adjunct professor with the Technology, Law & Security Program at the American University Washington College of Law. He previously served as the Civil Liberties Protection Officer for the Office of the Director of National Intelligence.

EXHIBIT 129

Reset on Trade Following IPEF Ministerial Meeting

November 16, 2023

Washington - Business Roundtable CEO Joshua Bolten today issued a statement following the third in-person Indo-Pacific Economic Framework for Prosperity (IPEF) ministerial meeting in San Francisco, California:

“Business Roundtable welcomed the Biden Administration’s initial focus on expanding trade and investment with our partners in the Indo-Pacific region. When IPEF was announced, we made clear that the level of ambition in the initiative would determine its success. With the latest IPEF negotiating round yielding minimal progress toward securing critical state-of-the-art provisions achieved in recent U.S. trade agreements, Business Roundtable believes it is time for a reset in our approach to international trade negotiations.

“High-standard free trade agreements are vital to advancing the interests of American businesses, farmers, ranchers and workers abroad. While our international competitors have forged ahead with new trade agreements, the United States has opted for initiatives like IPEF that do not secure meaningful market access or liberalization commitments. This puts American business and workers at a competitive disadvantage in the global economy.

“We are equally concerned by the Administration’s abandonment of longstanding, bipartisan U.S. trade policies, including the recent decision to withdraw support for ambitious digital trade disciplines at the WTO. For more than two decades, the United States has led the way on developing high-standard digital trade disciplines to protect the competitive edge of innovative American companies. By withdrawing from these disciplines, policymakers are ceding leadership over digital trade rules and undermining our economic and national security interests.

“The U.S. economy will struggle to grow without expanding trade and economic relationships based on terms that reflect American values. Business Roundtable encourages the Administration to return the United States to its traditional role as the global leader in enforcing and expanding high-standard trade agreements, which include strong digital trade provisions.”

EXHIBIT 130

Why is U.S. Trade Representative Working against American Business?



Ed Brzytwa

Promoting U.S. consumer technology competitiveness through smarter trade an...

5 articles

October 31, 2023

📖 Open Immersive Reader

It's hard to find much common ground between the United States and China these days. But on trade policy, the United States seems to be following China's playbook. Last week, the Biden Administration announced an end to its support for several proposals in ongoing World Trade Organization (WTO) negotiations designed to protect cross-border data flows, prohibit mandates to store data locally, and safeguard sensitive intellectual property such as source code from forced disclosure. Just like a jilted partner, the Office of the U.S. Trade Representative has declared that the United States needs "space." In this case, it's the policy space needed to enact barriers to digital trade.

That positioning aligns the U.S. with authoritarian states like China, where the government can demand access to the data and source code of foreign businesses and require them to store that data in local facilities. These mandates always come with heavy-handed enforcement to reinforce government's control over the private sector. In the wake of USTR's decision, leaders in Beijing are surely gleeful at the opportunity to justify their own discriminatory digital trade measures at the WTO or in bilateral or regional trade agreements.

This retreat from existing policy confirms that isolationism and protectionism are the Biden Administration's preferred approach to global trade. That may mean ignoring digital trade barriers identified in USTR's National Trade Estimate report, or even the rules in existing U.S. trade agreements. As a result, our government now finds itself at odds with allies including the European Union, Japan, the Republic of Korea, Canada, Mexico, Australia and Singapore. Collective efforts to negotiate a comprehensive set of digital trade provisions at the WTO e-commerce negotiations may collapse in the wake of USTR's baffling decision.

Why the abrupt policy reversal? At the behest of Senator Elizabeth Warren, ReThink Trade's Lori Wallach and other tech skeptics, the Administration is now insisting that anti-discrimination provisions help big American technology companies evade competition policies and avoid compliance with U.S. law. Those claims are, frankly, absurd. U.S. negotiators insisted on digital trade rules in trade agreements like the U.S.-Mexico-Canada Agreement (USMCA) from 2020 and U.S.-Japan Digital Trade Agreement from 2019. That's because our government – at least until recently – recognized that these rules are critical for American businesses. U.S. companies need certainty that they can compete in priority markets fairly and without facing discriminatory measures like data localization requirements.

While USTR's refusal to fight for provisions that benefit American business impacts companies of all sizes, it will be especially damaging for innovative startups and small businesses. Unlike larger companies, which have the financial resources and legal teams needed to negotiate market access, small companies depend on the U.S. government to tear down barriers to trade in goods and services. In refusing to fight for provisions in WTO negotiations that benefit American business, the government is sending a clear message: bashing "Big Tech" matters more than building up small businesses.

This decision is policy malpractice of the highest order. It will harm the U.S. capacity to innovate and compete. U.S. firms may decide to shift their operations to countries that

demonstrate a commitment to stronger digital trade rules. That would both weaken U.S. technology leadership and destroy American jobs. Instead of fearing innovation and competition, USTR and the Administration should lead the charge to conclude the WTO e-commerce negotiations and include high-standard provisions on digital trade. Failing that, Congress can also step in – via oversight, hearings, or even legislating instructions to USTR – directing the Administration to defend the interests of U.S. companies in foreign markets. If we continue along the current path of escalating trade barriers, American industry and the American people will pay the price.

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5



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EXHIBIT 131

EXECUTIVE SUMMARY

American life changed dramatically in 2020, forcing extraordinary—and previously unimagined—shifts in the Aerospace & Defense (A&D) industry. This year's Facts & Figures: Aerospace & Defense helps us examine these shifts to better understand the position in which industry now finds itself, as well as the opportunities for our workforce and our businesses that are on the horizon.

COVID's impact on aerospace and defense was immediate and profound. Commercial aviation ground to a near halt as our nation and world contended with massive headwinds that COVID-19 generated. The defense sector also faced challenges as a patchwork of government mandates and restrictions initially complicated operations. As a consequence, the shared A&D supply chain, comprising thousands of small and medium-sized companies across the country, faced immense financial and logistical challenges to support existing defense sector contracts and replace lost civil sector sales. Circumstances began to improve, however, when the A&D workforce was designated essential beginning in the spring of 2020. This recognition by federal and state policymakers set the stage for AIA's member companies to continue supporting U.S. military personnel and national security operations with minimal interruption, while also stepping forward to play a role in the public health response.

Now, midway through 2021, the defense sector continues to help stabilize the overall industry as its government customers maintain their national security missions and take steps to help strengthen the shared supply chain with crucial resources including cash flow. On the civil side, with vaccinations increasing, the recovery of commercial aviation—and the American economy – is slowly underway, but risk remains. The fragile nature of recovery is outlined in depth throughout this report, helping quantify the damage inflicted by the pandemic across the A&D industry.

Employment is one leading indicator of COVID's impact on the industry. The damage to our workforce presents a challenge for the industry in the short, medium, and long terms. While government aid packages like the CARES Act helped prevent the worst-case scenarios in the civil aviation sector, the industry's workforce still shrunk by more than 87,000 jobs. These losses were mirrored in the industry's revenues, which declined significantly during the year.

Trade is another place where COVID's impact is evident, as worldwide demand for U.S. civil aviation products dropped significantly. Total industry exports decreased by 39 percent from the previous year. Imports were also impacted, dropping from \$68.7 billion in 2019 to \$50 billion in 2020. One notable bright spot: despite the substantial decline in overall demand for U.S. civil aviation products, the industry still managed to maintain a positive industry trade balance of \$40.6 billion.

Yet, even as the pandemic gripped the country and the headlines were grim, there were many moments when our employees, industry leaders, and our businesses distinguished themselves. In addition to taking myriad steps to protect and support employees and their families, businesses big and small contributed to their communities and to the country's public health response in countless ways. These efforts included financial donations, the donation of Personal Protective Equipment (PPE) to those on the front lines, providing the use of their business fleets for healthcare product and medical supply transportation, and offering factory space for the production of face masks and ventilators.

This edition of AIA's Facts & Figures: Aerospace & Defense report highlights the multitude of challenges faced by our industry over the past year. Together with our economic analysis partner IHS Markit, we have worked to provide a comprehensive picture of our industry as it existed throughout 2020, while also sharing a glimpse of the positive trends and opportunities that will form the basis of our industry's growth in a post-pandemic world.



Eric Fanning
President & CEO
Aerospace Industries Association

For more information, please visit www.aia-aerospace.org.

COVID-19 IMPACTS

The full impact of the COVID-19 pandemic on our industry is extraordinarily difficult to quantify due to its wide-ranging impacts. Currently available statistics, however, demonstrate the influence this unprecedented event had on the aerospace and defense workforce and the industry's economic footprint

IMPACTS TO THE CIVIL AVIATION SECTOR

Civil aviation, our industry's second largest end-user (final product manufacturing) industry, saw record-setting declines in customers and operating revenue, leading to dramatic cuts in expenditures on new aircraft, spare parts, and other related products. As a direct result, U.S. civil aviation manufacturers were forced to downsize their workforces. While the A&D industry is diversified, civil aviation manufacturing makes up a significant portion of all direct employment in the industry, accounting for nearly half of all such jobs in the year prior to the pandemic.

In September 2020, AIA released a preliminary report on the impact of the pandemic on air travel and the civil aviation sector titled AIA's Roadmap

to Recovery. This report identified a potential loss of over 220,000 jobs across the industry without immediate government action. So far, thanks to government action and a growing rebound in air travel, it appears that our industry has been spared from the full magnitude of this forecasted loss; however, the full impact of the pandemic on our industry may take years to unfold and understand.

Of particular concern to the overall health of this sector was the dramatic slowdown in civil aircraft manufacturing by Original Equipment Manufacturers (OEMs). Compared to the prior year, global production of wide-body and narrow-body civil aircraft dropped by 40 percent in 2020. While this number was better than the expected 50 percent drop forecasted in AIA's Roadmap to Recovery, this is still a dramatic loss in production with significant ripple effects across the industry. Because a great deal of this sector is anchored in the massive production supply chains of civil aircraft manufacturers, these slowdowns will have a significant long-term impact on suppliers until production numbers rebound to pre-Pandemic levels.

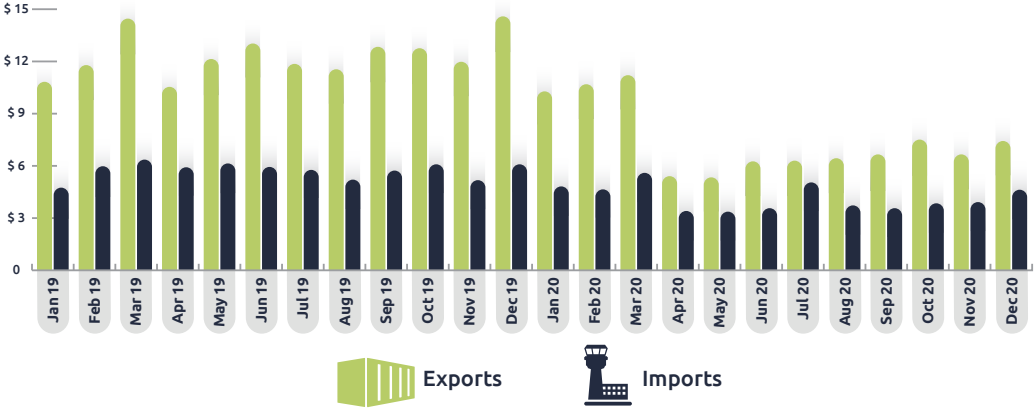
Looking ahead, the continued recovery of air travel, both domestic and international, will be a key progress marker for the civil aviation sector. As our industry's civil aviation customers see steady and sustainable recovery in business and international air travel, the demand for civil aircraft is expected to rebound in kind. For this reason, AIA strongly supports efforts to restore confidence in air travel through enhanced health and safety measures that ensure the continued protection of passengers and aircrew while onboard commercial aircraft.

IMPACTS TO THE SHARED SUPPLY CHAIN AND DEFENSE SECTOR

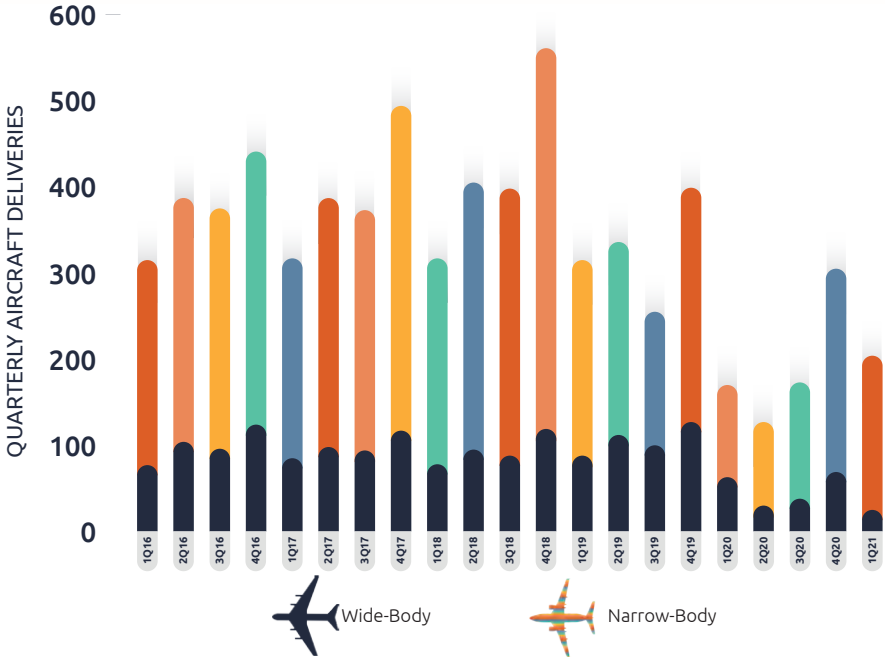
Despite the massive losses seen in businesses supporting civil aviation, the defense sector continued to support national security throughout the pandemic. However, due to the shared nature of the aerospace supply chain, significant impacts reverberated throughout the A&D manufacturing base, regardless of end-use application. Pandemic-related disruptions halted production lines, delayed transportation of materials and goods, and caused financial distress, particularly among small businesses. The magnitude of COVID-19 impacts across the A&D supply chain necessitated government action to help preserve our suppliers and the hundreds of thousands of workers they employ.

A&D INDUSTRY MONTHLY TRADE 2019-2020

Value in Billions (USD)



GLOBAL AIRLINER PRODUCTION (2016-2021)



IMPACT OF GOVERNMENT AID

Though the A&D industry encountered countless challenges posed by the pandemic, the government took critical steps to soften the economic blow, from increasing progress payment rates for defense contracts to implementing the relief and support measures in the Coronavirus Aid, Relief, and Economic Security (CARES) Act. These steps facilitated the cash flow necessary to help ensure the stability – and the viability – of businesses of all sizes.

The impact of advanced progress payments to the supply chain as a result of policy changes at the Department of Defense are significant. In 2020 alone, the DOD advanced progress payments totaling \$4 billion across 1,400 government contracts to help support the A&D supply chain. While these payments were made through defense contracts, the cash flow helped mitigate imminent financial distress for many members of the shared supply chain and customers in both subsectors.

THE A&D INDUSTRY SUPPORTING AMERICA'S HEALTHCARE HEROES

When the COVID-19 crisis devastated our global community, aerospace and defense industry leaders stepped up to help those in need. From cash donations to ramping up production of PPE to partnering with the healthcare sector to produce ventilators, our industry has gone above and beyond to equip our nation's healthcare heroes and others on the front lines.

To date, our member companies have publicly donated at least \$500 million to assist the most vulnerable around the world. This assistance took many forms, ranging from supplying meals to food-insecure families, providing financial assistance to essential workers, supporting local businesses suffering from loss of revenue, providing laptops to remote learning students, and helping local non-profits provide social and financial services in their communities. Companies also invested in vaccine and research efforts centered around COVID-19.

In addition to production and financial contributions, our member companies also donated much-needed medical supplies to protect our frontline workers. Over three million pieces of essential medical equipment were donated, including personal protective equipment like masks, gloves, and sanitizer. Not only were these supplies used to support American COVID-19 efforts, but supplies were also shared with international communities in need as well.

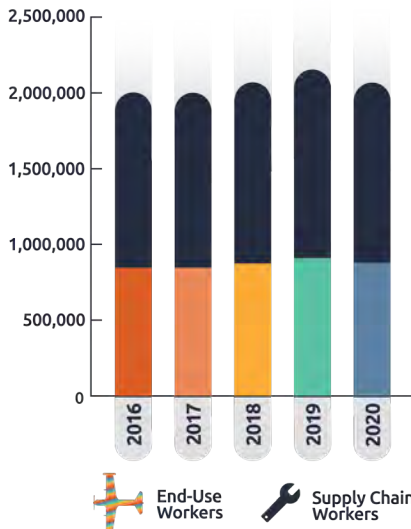
Individual employees made remarkable personal contributions as well, logging thousands of volunteer hours throughout 2020. They setup laptops for grade school students, helped staff hospital testing centers, supported those in isolation by providing social contact, made or donated face masks, and fundraised for various relief efforts in their free time. While the aerospace and defense industry is no stranger to answering the call in support of our country, we are incredibly proud of the individual and company contributions made throughout this pandemic.

EMPLOYMENT TRENDS

Job loss is one of the most critical economic indicators in 2020 and the U.S. aerospace and defense industry was not immune from the declines in employment. Air travel slowed to a near halt, the demand for new aircraft and maintenance, repair, and overhaul services evaporated, and facilities were forced to temporarily close in accordance with government health orders. Consequently, the industry saw a net loss of more than 87,000 employees, a 4 percent decline when compared to 2019 industry employment. While there were some bright spots as defense companies filled new or open positions, the overall employment totals decreased to slightly more than two million workers, which is just under the size of the A&D workforce in 2018. Of these losses, 64 percent were attributed to the hard-hit shared supply chain comprising thousands of small businesses across the country.

Though the industry suffered significant job losses, its workforce still accounted for 1.4 percent of total employment in the United States in 2020. Additionally, the industry continued to offer its highly skilled and educated workers with some of the highest paying jobs in the nation. At \$104,577, the A&D industry's average wages and benefits remained 41 percent above the comparable national average. In total, the industry paid out \$218.6 billion in compensation in 2020, or roughly 2 percent of total U.S. labor income.

U.S. AEROSPACE & DEFENSE INDUSTRY WORKFORCE 2016-2020



INDUSTRY OUTPUT

As an engine for growth, the industry continued to support the American economy despite strong headwinds.

Mirroring the impacts to our workforce, the industry's revenues experienced a decline in 2020. Between 2019 and 2020, the total industry revenues dropped 2.8 percent to \$874 billion, with the supply chain feeling a far greater burden at a loss of more than 3 percent. While greater than the total industry revenue recorded in 2018, the impact of the pandemic on the industry is unmistakable.

Though suffering significantly from the pandemic, the industry continues to boast impressive contributions to the American economy. In 2020, the A&D industry's sales activity contributed 18.8 percent of all non-food manufacturing revenue in the nation. Additionally, the industry accounted for 1.8 percent of total U.S. GDP, a figure of around \$382 billion.

Contributions to government revenues also continued in 2020. The industry made considerable tax payments to federal, state, and local tax authorities, even at a time of intense impacts to such accounts due to losses in other industries and sectors. Overall, the industry's combined tax contributions combined for a total of \$59 billion nationwide.

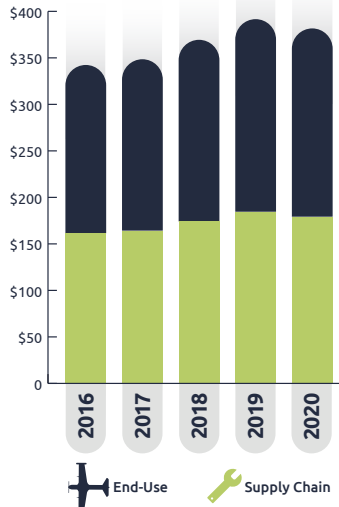
FULL INDUSTRY OUTPUT/SALES

Value in Billions (USD)



FULL INDUSTRY CONTRIBUTION TO U.S. GDP

Value in Billions (USD)



TRADE

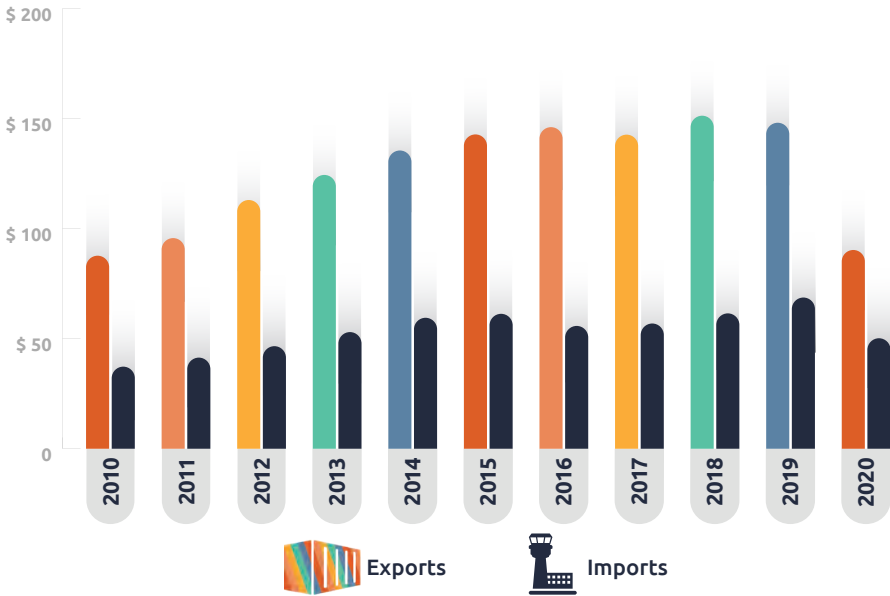
The impact of COVID-19 on U.S. aerospace & defense trade cannot be understated. Despite significant loss, however, A&D exports still accounted for 6.3 percent of all U.S. exports in 2020.

Between 2019 and 2020, American A&D exports dropped by \$57.5 billion, or 39 percent. This decline dwarfed the previous record for decreases in A&D exports during the previous three decades, nearly tripling the 13.3 percent export decline of 1993. Civil aviation exports dropped from \$126.5 billion in 2019 to \$72.8 billion in 2020. Defense exports saw a less substantial decline of 17 percent.

As with previous years, civil aviation exports were the dominant category of U.S. A&D products shipped during 2020. These items, which include civil aircraft, engines, replacements parts, and similar products, accounted for 80 percent of all A&D exports. Defense aerospace products, which include military aircraft, space systems, missiles, and similar aviation or space-related platforms and parts, made up 15 percent of the annual total. Products that are utilized for defense purposes, but are not aerospace in nature such as tracked vehicles, ships, artillery, small arms munitions, and similar items accounted for the remaining 5 percent of U.S. A&D exports.

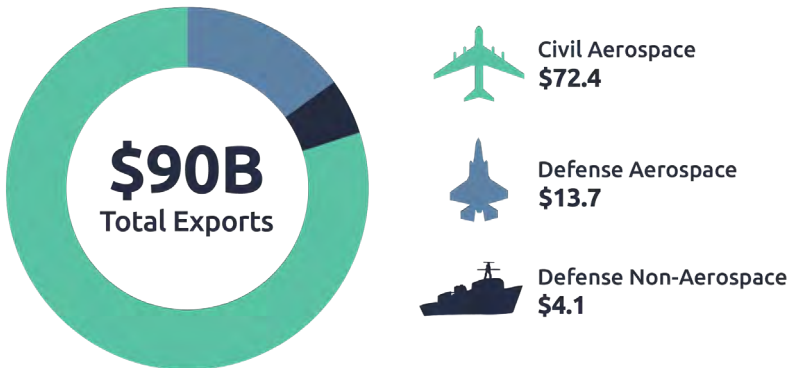
U.S. A&D TRADE 2010-2020

Value in Billions (USD)



A&D EXPORTS BY SUBSECTOR IN 2020

Value in Billions (USD)



The leading destinations for U.S. A&D exports in 2020 were Germany, France, Canada, the United Kingdom, and Japan. Exports to these five nations collectively amounted to \$36.1 billion, around 40 percent of all U.S. A&D exports. Noticeably absent from these top export partners compared to 2019 is China, which dropped to seventh in the ranking at only \$4.5 billion in exports. This is attributed to a significant decline in civil aviation exports. Taking its place is Japan, which rose from being to sixth largest export partner to the fifth largest export partner.

The value of all U.S. A&D imports in 2020 totaled \$50 billion, down 27 percent from the previous year. The leading countries of origin for U.S. A&D imports remained relatively unchanged from 2019, though the value of goods from those countries generally decreased. France was once again a leading origin for A&D imports, though the value of those imports dropped by 33 percent to \$11.4 billion. Other top national origins for A&D imports included Canada, the United Kingdom, Germany, and Japan, largely mirroring the nation's export destinations and making clear the strength of America's trade relationship with those countries.

Despite seismic shifts in trade values, the A&D industry maintained its positive industry trade balance at a value of \$40.6 billion. While nowhere near the \$79.3 billion industry trade balance achieved in 2019, A&D retained its status as a leading export industry for the United States.

Despite massive losses in 2020, the final months of the year showed a small, but promising, recovery. In Q3 and Q4 of 2020, exports rose by 14 percent and 11 percent respectively. This resurgence strongly correlates with the global aviation recovery, which the U.S Bureau of Transportation Statistics has found to be trending in a positive direction as of Spring 2021.

EXHIBIT 132

TABLE OF CONTENTS

- 1 American Manufacturing Leadership**
- 3 Export and Trade Powerhouse**
- 5 Research and Development Hub**
- 7 Job Creation**
- 9 Revenue Generator**
- 11 Registrations Report**
- 13 Electric Vehicle and Charging Infrastructure**
- 15 Autonomous Vehicle Leadership**
- 17 Appendix**

***AUTO INNOVATORS:
A DRIVING FORCE ACROSS AMERICA***

GLOBAL LEADERS ARE AUTO MANUFACTURING LEADERS

Auto manufacturing is the hallmark of global economic leadership.

Manufacturing accounts for 11 percent of U.S. GDP. The manufacturing economy of just the U.S. is the eighth-largest economy in the world with \$2.64 trillion in value added in 2021. **The manufacture of motor vehicles and parts alone represents 6 percent of the manufacturing total and 11 percent of the durable goods subsector.**

Among G20 countries (comprising the major economies of the world), all but two produce automobiles. The G20 represent 72 percent of the world's gross domestic product (GDP) and those **countries produce 87 percent of the world's motor vehicles.**

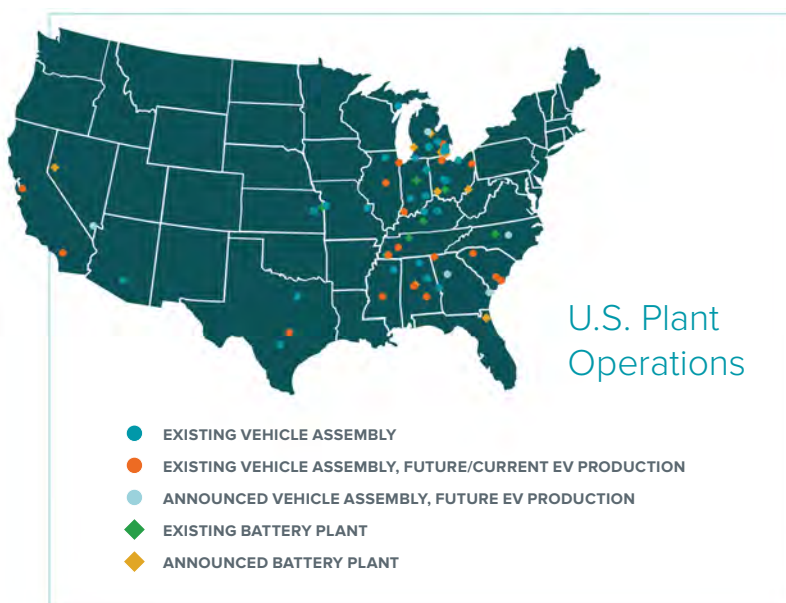
AUTOMAKERS: A TRILLION DOLLAR ECONOMIC IMPACT

The automotive ecosystem (including direct, indirect and induced value added) drives more than \$1 trillion into the U.S. economy each year — 4.9 percent of GDP.

- 1 New Vehicle Sales in 2021 — 14.9 M Units
- 2 New Vehicle Sales Revenue 2021 — \$618 B

See appendix A for more state level data on economic contributions

America remains a global leader in the production of vehicles.



Across 17 states, 55 vehicle assembly plants are producing cleaner, safer, and smarter vehicles while providing thousands of jobs and boosting local economies. And there's more on the way. Six additional assembly facilities have been announced — all building new electric vehicles — joining the 23 existing facilities that have been retooled for electric production.

Electric vehicle production is creating a new landscape for battery manufacturing as automakers look to keep their supplies local. Fifteen new battery plants have been announced — nearly double the existing battery plant footprint that exists today. Together, these new plants will add 360 GWh of capacity to the nearly 100 GWh of capacity in the U.S. today.

See appendix B for a list of facilities by state

MANUFACTURERS INVEST IN AMERICA

America's auto leadership is underscored by the major investments companies continue to make here. This manufacturing generates state-of-the-art technologies with positive ripple effects including long-term, sustainable jobs nationwide.

Since the start of 2021, auto manufacturers have announced investments of more than \$75 billion in the U.S. — that includes everything from new assembly and battery plants to retooling and upskilling workers. These investments will further create more than 66,000 new American jobs.



NEW INVESTMENTS

NEW INVESTMENTS FROM COAST-TO-COAST

\$75 Billion → 17 States → 54 Cities

66,000
American
jobs



ADDITIONAL FACTS

For every \$1 added to the economy by motor vehicle manufacturing, an additional \$3.45 in economic value is created.

Every direct job in vehicle manufacturing creates another 10.5 American jobs.

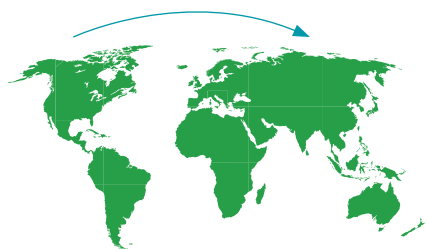
Sources: Bureau of Economic Analysis, National Association of Manufacturers, Wards Intelligence, Company Reports, IMPLAN, 2020 Data Analysis, National Automobile Dealers Association

See Appendix C for a full breakdown of investments

GROWING AUTO ACTIVITY AT AMERICAN PORTS

Motor vehicles & parts were the second largest U.S. export in 2021 — more than \$105 billion in goods.

Since 2006, exports of motor vehicles and parts from U.S. ports to destinations around the globe increased 16 percent. Nearly every region of the world imported more from the U.S. in 2021 than it did in 2006 — some regions more than doubled.



Asia saw the greatest increase in auto-related imports from the U.S.

BY THE NUMBERS

In 2006 the U.S. exported nearly **\$9.9 billion** in vehicles and parts to Asian countries.

By 2021, the U.S. shipped more than **\$21 billion** in vehicles and parts — a 113 percent jump.

AUTO EXPORTS ACROSS THE GLOBE

REGION	MOTOR VEHICLE & PARTS EXPORTS**	15-YEAR CHANGE
Asia	\$21.1 B	113%
Europe	\$17.9 B	30%
South/Central America	\$4.0 B	14%
Australia and Oceania	\$2.7 B	108%
Africa	\$1.6 B	34%
World Total	\$105.5 B	16%

In 2021, U.S. ports handled more than \$400 billion in motor vehicles and parts trade.

MOST ACTIVE STATES FOR LIGHT VEHICLE RELATED TRADE*

STATE	MOTOR VEHICLE & PARTS TRADE**	MOTOR VEHICLES & PARTS AS A % OF TOTAL STATE TRADE
Michigan	\$95.5 B	50.8%
California	\$55.0 B	9%
Texas	\$54.4 B	8%
South Carolina	\$19.8 B	24.8%
Tennessee	\$18.2 B	14.1%
Georgia	\$17.8 B	10.7%
Ohio	\$16.8 B	13.3%
Alabama	\$16.5 B	31.4%
Maryland	\$13.3 B	24.2%
Indiana	\$12.1 B	10.2%

*Exports and Imports **2021

See appendix D for more state trade data

NO. 1 EXPORT IN THESE STATES

AL	\$8.6 B value	41% of total
SC	\$11.9 B value	40% of total
MI	\$20.0 B value	36% of total
OH	\$7.9 B value	16% of total
MO	\$2.4 B value	16% of total

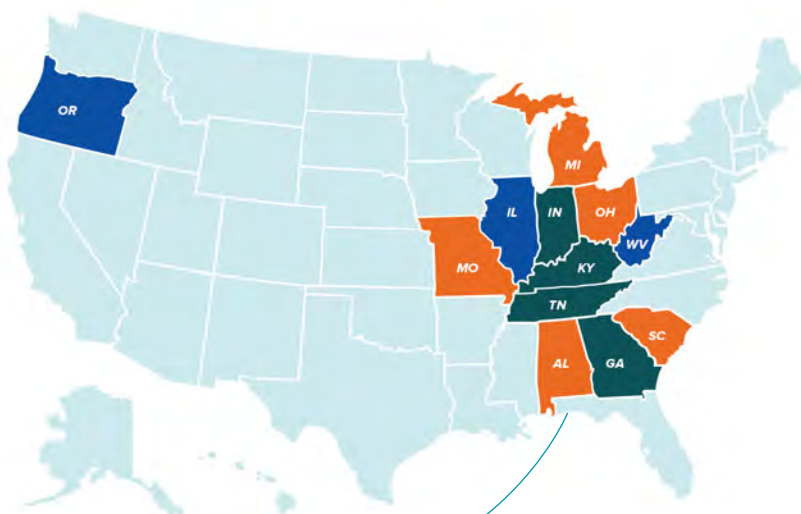
NO. 2 EXPORT IN THESE STATES

IN	\$6.3 B value	15% of total
KY	\$3.8 B value	13% of total
TN	\$3.0 B value	9% of total
GA	\$3.1 B value	7% of total

NO. 3 EXPORT IN THESE STATES

WV	\$715.2 M value	11% of total
IL	\$4.6 B value	7% of total
OR	\$1.3 B value	4.4% of total

Motor vehicles and parts were one of the top 3 exports in 12 states.



41%

OF ALABAMA'S TOTAL STATE EXPORTS
ARE MOTOR VEHICLES & PARTS

Far away from traditional auto hubs like Detroit, ports from Texas to New Jersey to Florida to New York are buzzing with automotive trade activity.

MOST ACTIVE LIGHT VEHICLE-RELATED PORTS

PORT	2021 VALUE OF GOODS	% OF PORTS TOTAL
Laredo, TX	\$40.1 B	16%
Detroit, MI	\$34.9 B	24%
Brunswick, GA	\$20.5 B	90%
Baltimore, MD	\$19.5 B	32%
Los Angeles, CA	\$17.6 B	6%
Charleston, SC	\$15.1 B	17%
Newark, NJ	\$14.8 B	6%
Port Huron, MI	\$13.3 B	12%
Jacksonville, FL	\$11.8 B	50%
Buffalo-Niagara Falls, NY	\$8.3 B	10%

TOP R&D STATES

1	Michigan	\$13,953,000,000	67%
2	California	\$2,340,000,000	11%
3	Indiana	\$1,143,000,000	5%
4	Illinois	\$580,000,000	3%
5	Oregon	\$368,000,000	2%

From the earliest planning stages, manufacturers work to bring the most innovative technologies to consumers.

The auto industry understands that technology holds the promise to make vehicles cleaner, safer, and smarter, which is why they devote considerable resources to research and development.

Nearly \$538 billion was spent on research and development activities in the United States in 2020. More than \$23 billion (4.3 percent) was invested by the auto industry — the third highest for any manufacturing industry group, behind only pharmaceuticals and semiconductors.

84%

ABOUT 84 PERCENT OR NEARLY \$21 BILLION OF U.S. R&D INVESTMENT IN AUTOS COMES FROM THE INDUSTRY.

Less than 1 percent is contributed by the federal government. For comparison, the aerospace industry spent nearly \$23 billion on R&D in 2020 — 60 percent was paid for with federal funds.

Automakers made significant capital investments in 2019, including allocating nearly \$1.5 billion to R&D facilities.

This total is the third highest for any manufacturing industry group, behind only pharmaceuticals and medicines, and semiconductor and other electronic components.

EMPLOYMENT

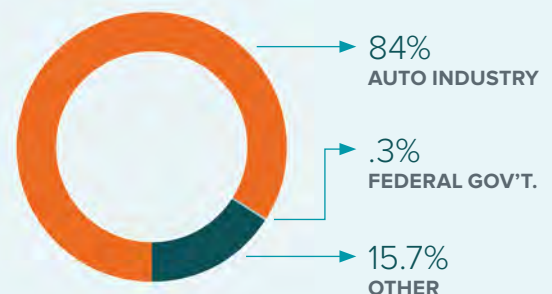
More than one in 10 direct auto jobs are R&D.

10.4% of all motor vehicles and parts employment is in the research and development space.

INVESTMENT

67%

67% OF ALL MOTOR VEHICLE AND PARTS R&D OCCURS IN MICHIGAN.



Source: National Science Foundation, 2020 National Data, 2019 State Data

9.6 MILLION JOBS COAST TO COAST

Across the United States, the auto industry is a major employer.

The auto industry is supporting jobs not only in auto manufacturing, but also through an extensive network of parts, components and material suppliers, and a vast retail and maintenance network of dealers and aftermarket products and services.

1 IN 20

NEARLY ONE IN 20 JOBS IS SUPPORTED BY THE AUTO INDUSTRY.

The 9.6 million jobs (direct, indirect, and induced) supported by the automotive ecosystem represent 4.9 percent of total U.S. employment and more than \$650 billion in payroll compensation annually.

BY THE NUMBERS

How big is \$650 billion? More than the operating budgets of California, New York and Texas – combined.

In 25 states, more than 100,000 jobs are supported by the auto industry.

AUTO INDUSTRY EMPLOYMENT

1	California	756,000
2	Texas	664,900
3	Florida	477,700
4	Michigan	363,500
5	Ohio	309,700
6	Illinois	261,100
7	Georgia	248,300
8	New York	236,500
9	Pennsylvania	231,300
10	Tennessee	210,400

See appendix E for more state level data on industry employment

Auto manufacturing supports more than 2 million of the 9.6 million total jobs.

Thirteen states have more than 10,000 jobs supported by auto manufacturing.

AUTO MANUFACTURING EMPLOYMENT

1	Michigan	168,150
2	Ohio	76,650
3	Indiana	67,950
4	California	67,650
5	Kentucky	67,200
6	Tennessee	60,300
7	Texas	50,100
8	Missouri	44,400
9	Illinois	38,850
10	South Carolina	38,850

See appendix F for more state level data on automotive manufacturing employment

Source: Multi-industry contribution analysis of the economic impact of automotive manufacturing (including direct, indirect, and induced jobs) modeled using IMPLAN economic analysis data software, 2020 data year. Employment rounded to the nearest 50.

More than \$220 billion in federal and state revenue is generated annually by the manufacture, sale and maintenance of autos.

In 2020, the auto industry generated more than \$70 billion in federal tax revenue.

In 2020, the auto industry generated \$77 billion in state government revenue — 7 percent of all state tax revenue collected. In 28 states, more than 5 percent of state tax revenue is generated from auto industry activity.

BY THE NUMBERS

How much is \$77 billion?
Enough to fund the entire budget of the state of Michigan.



Auto industry activity – from parts suppliers, to worker paychecks, to vehicle sales, to income for small businesses – is a major driver of government tax revenue.



State governments also receive revenue from taxes on the sale of vehicles.

States took in almost \$34 billion in taxes on the sale of new vehicles in 2021 – and more than \$22 billion on the sale of used vehicles.

Multi-industry contribution analysis of the economic impact of automotive manufacturing, selling, repairing, renting, and additional maintenance modeled using IMPLAN economic analysis data software, 2020 data year.

\$85 BILLION

Nearly \$85 billion was paid to state governments in the form of motor vehicle license, fuels taxes and fees in 2020.

See appendix G for detailed information on taxes by states

EXHIBIT 133



Financial Services and Main Street

Supporting American Economic Growth and U.S. Competitiveness

June 2021



Financial Services and Main Street

Supporting American Economic Growth and U.S. Competitiveness

June 2021



Contents

Key Facts: How the international competitiveness of U.S. financial services benefits the whole economy	4
Executive Summary	6
Introduction.....	6
Financial Services and COVID-19	8
Financial Services and Manufacturing	9
A strong financial services sector is a competitive U.S. advantage globally	10
Internationalization – The Benefits for Investors and Savers	11
Reserve currency status of the U.S. dollar	11
Promotion of U.S. interests abroad and strengthening U.S. economic growth at home	12
Future growth of financial services	13
Conclusion.....	13

SIFMA is the voice of the U.S. securities industry. We represent the broker-dealers, banks and asset managers whose nearly 1 million employees provide access to the capital markets, raising over \$2.9 trillion for businesses and municipalities in the U.S., serving clients with over \$20 trillion in assets and managing more than \$72 trillion in assets for individual and institutional clients including mutual funds and retirement plans. SIFMA, with offices in New York and Washington, D.C., is the U.S. regional member of the Global Financial Markets Association (GFMA). For more information, visit <http://www.sifma.org>.

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Key Facts: How the international competitiveness of U.S. financial services benefits the whole economy

THE U.S. FINANCIAL SERVICES INDUSTRY EMPLOYS



ACCOUNTS FOR **8%** OF GDP

MORE U.S. JOBS ARE

DEPENDENT ON EXPORTS OF FINANCIAL SERVICES

THAN ARE DEPENDENT ON EXPORTS OF MOTOR VEHICLES OR COMPUTERS.

FOR EVERY JOB IN THE U.S. FINANCIAL SERVICES INDUSTRY, **3.6 JOBS** ARE CREATED IN THE REST OF THE ECONOMY.



U.S. CAPITAL MARKETS ARE THE WORLD'S LARGEST,

41%
OF GLOBAL EQUITY

40%
OF GLOBAL FIXED INCOME MARKETS

72%
OF DOMESTIC ECONOMIC ACTIVITY.

90% OF FINANCIAL INDUSTRY JOBS ARE OUTSIDE OF THE STATE OF NEW YORK

420,000
IN FLORIDA

315,000
IN ILLINOIS

585,000
IN CALIFORNIA

591,000
IN TEXAS.

THE SPECTRUM OF FINANCIAL SERVICES PROVIDED TO MANUFACTURERS IS WIDE-RANGING INCLUDING



THERE ARE A WIDE RANGE OF DEBT FINANCING OPTIONS FOR MANUFACTURERS. THESE INCLUDE



**CONVENTIONAL
BANK LENDING**



**LINES OF CREDIT AND
COMMERCIAL REAL ESTATE LOANS**



EQUIPMENT FINANCING



TRADE FINANCE IS ANOTHER CRUCIAL WAY IN WHICH FINANCIAL SERVICES FIRMS SUPPORT U.S. MANUFACTURERS (AND OTHER SECTORS).

THE TOTAL SIZE OF THE MARKET FOR CLIMATE FINANCE IN 2018

\$600 BILLION

(INCLUDING MITIGATION AND ADAPTATION)



THE FINANCIAL SERVICES SURPLUS IS PRESENTLY WORTH

**\$95
BILLION**

PER ANNUM WHICH COMPARES WITH A DEFICIT ON MANUFACTURING TRADE.



OVERSEAS OPERATIONS OF U.S. FINANCIAL INSTITUTIONS EARN THE U.S. ECONOMY

\$330MN PER YEAR.

FOREIGN FINANCIAL INSTITUTIONS HAVE

\$760BN DOLLARS



INVESTED IN U.S. BASED OPERATIONS

AS A RESULT, THEY EMPLOY ALMOST



400,000
WORKERS ON U.S. SHORES.

EVERY SINGLE U.S. STATE HAS

FINANCIAL SERVICES WORKERS EMPLOYED BY
FOREIGN INSTITUTIONS

Executive Summary

The U.S. financial services industry is fundamental to our economy. It employs 9 million people and accounts for 8 per cent of GDP. It supports millions of families and small businesses and governments at all levels, local to federal. It does this by providing capital to households and businesses and through the provision of complementary services. The past year has also demonstrated how central to our livelihoods financial services are: financial firms have been integral in helping our communities mitigate many of the economic effects of the COVID-19 pandemic.

The financial services industry is also highly globalized. U.S. based financial firms export their services throughout the world and consistently record a trade surplus. Indeed, more U.S. jobs are dependent on exports of financial services than are dependent on exports of motor vehicles or computers. Financial services also operate directly in overseas markets through foreign direct investment. This investment is reciprocated by the \$760bn invested in the U.S. by foreign banks, brokers and other institutions which collectively employ almost 400,000 workers in the United States.

Financial institutions provide capital to every sector of the U.S. economy. Through its investments in agriculture, manufacturing and other service industries, the positive impact of finance multiplies and helps generate much more in terms of growth and jobs than the financial sector accounts for directly. For example, for every job in the U.S. financial services industry, 3.6 jobs are created in the rest of the economy.

The international contribution of U.S. financial services goes beyond this. Globally active financial institutions are better placed to service clients in manufacturing, agriculture and other service industries. When invested abroad U.S. capital can help spread U.S. business practices, promote compliance with our standards and raise demand for U.S. exports. There is also a positive reinforcement between the reserve currency status of the dollar and the global presence of U.S. financial services firms.

Introduction

In a world where the dynamics of economic leadership are fluid and evolving, the United States continues to lead the global economy in financial services. U.S. capital markets are the world's largest, accounting for 41 percent of global equity and 40 percent of global fixed income markets; domestically they fund 72 percent of U.S. economic activity.¹ Capital, raised through equity and debt, is fundamental to every single American's livelihood and is used in every state, city and town to:

¹ <https://www.sifma.org/about/our-markets/>

grow businesses and payrolls; finance investments in new plants, equipment, and technology, and; fund infrastructure improvements. This enhances broad-based prosperity and helps to create well-paying jobs across a wide range of companies and industries, including small and mid-sized enterprises.

The U.S. financial services sector is also one of the world's largest, serving as a source of strength for consumers, businesses, and communities across the globe. The global presence of U.S. finance also helps to promote a rules-based, open and competitive industry on the world stage.

Because capital markets and financial institutions are fundamental to saving, investment and job creation, they are essential to the recovery from the COVID-19 crisis in every sector of the U.S. economy. A robust financial system drives economic activity and job growth, diversifies risk, and supports financial stability.

The financial services industry contributes around 8 per cent of U.S. GDP. It employs almost 9 million people in the U.S., an increase of around 10 per cent over the past decade.² Those jobs are widely distributed throughout the country³ with over 90 per cent located outside of New York State with, for example, 420,000 in Florida, 315,000 in Illinois, 585,000 in California and 591,000 in Texas. Many millions more jobs derive from the industry through multiplier effects: for every job in financial services there are around 3.6 jobs created elsewhere in the economy.⁴

The financial services industry will also play a pivotal role in ensuring the future growth of our economy – and the international economy – is sustainable. The total size of the market for climate finance in 2018 (including mitigation and adaptation) was \$600 billion and the banking and capital markets sector has made strong commitments toward achieving ambitious climate goals.

This includes commitments from banks to align portfolios with a pathway to net zero by 2050, as well as financing targets linked to sustainability considerations. For example, an analysis of sustainable finance commitments made by banks globally shows at least \$4 trillion worth of total sustainable finance commitments made for varying time frames (typically over the

² <https://www.bls.gov/emp/tables/employment-by-major-industry-sector.htm>

³ <https://states.sifma.org/#states>

⁴ <https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/>

next 5–10 years), which translates to approximately \$700 billion in terms of annual commitments toward sustainable finance.⁵

Financial Services and COVID-19

The financial services industry has been proactive in helping the U.S. economy respond to the crisis provoked by COVID-19. This support to communities across the country has taken multiple forms and has ranged from help to individuals, to small businesses and governments. Below are some examples.

- Financial firms have led the huge increase in social bond issuance to help respond to the crisis. These bonds have raised funds for healthcare provision, nursing homes and various forms of support to low income or unemployed groups.
- Early in the crisis, banks eliminated ATM fees to help ensure access to cash for people who might be sheltering with family away from home and waived early withdrawal penalties on certificates of deposit to allow ready access to savings. The range of products on which such fees were waived soon grew significantly.
- They also provided and administered Paycheck Protection Program loan applications for small business owners.
- Financial firms have also accelerated the availability of contactless payment via credit cards during the COVID crisis. According to a study by global management consulting firm A.T. Kearney, Between March 2019 and April 2020, overall contactless card usage in the U.S. grew by 150 per cent.

Analysis by the American Bankers Association⁶ suggests that three quarters of bank customers were either satisfied or very satisfied with their bank's response to the crisis. And 84 per cent believe banks are important to the recovery.

Financial services firms have also been critical to intermediating a wide variety of government support measures to support individuals, firms and the wider economy.

⁵ <https://www.sifma.org/wp-content/uploads/2020/12/Climate-Finance-Markets-and-the-Real-Economy.pdf>

⁶ <https://www.aba.com/news-research/research-analysis/americans-satisfied-banks-response-covid19>

Financial Services and Manufacturing

While it is relatively easy to measure the direct international contribution of financial services to the U.S. economy, it is harder to measure the indirect impact the industry has in supplying a key input to the rest of the economy – namely capital. Capital catalyzes the whole economy, allowing firms and industries to invest, innovate, grow and create jobs.

Manufacturing is an example of where these indirect forces are at work. Manufacturing is a hugely important sector in the U.S. economy. It employs over 12 million people⁷ and accounts for almost 11 per cent of GDP.⁸

But financial services and manufacturing are closely linked with the financial industry providing multiple financial products and services to U.S. manufacturers that help those businesses expand domestically and internationally and grow their workforces. As has been noted by the Washington International Trade Association ‘it is in fact efficient services that make U.S. manufacturing more productive and give it a competitive edge in global markets⁹.’

The spectrum of financial services provided to manufacturers is wide-ranging including financing for research, construction of plants, production and the supply chain to get manufactured goods to customers in the U.S. and overseas.

There is a wide range of debt financing options for manufacturers. These include conventional bank lending, lines of credit and commercial real estate loans. They also include equipment financing which enable manufacturers to obtain equipment and machinery without having to pay the full cost upfront. And financial institutions help manufacturers of various sizes raise capital through the issuance of debt or through the supply of private equity.

Trade finance is another crucial way in which financial services firms support U.S. manufacturers (and other sectors). Trade finance represents the financial instruments and products that are used by companies to facilitate international trade and commerce making it easier for importers and exporters to transact business through trade. It is used to protect against international trade's unique inherent risks, such as currency fluctuations, political instability, issues of non-payment, or the creditworthiness of one of the parties involved. Estimates suggest it is worth around \$75 billion per annum although can

⁷ <https://fred.stlouisfed.org/series/MANEMP>

⁸ https://apps.bea.gov/iTable/index_industry_gdpIndy.cfm

⁹ <https://www.wita.org/blogs/the-linkage-between-services-and-manufacturing-in-the-u-s-economy/>

vary over the business cycle. Analysis also suggests that trade finance intensity increases systematically with the importing country's distance from the United States.¹⁰

Finally, the presence of an international financial services industry is also qualitatively important to the global success of our manufacturing base. For U.S. manufacturing to succeed internationally it is crucial that it has access to global finance and the expertise that goes with it.

A strong financial services sector is a competitive U.S. advantage globally

Financial services are a source of competitive advantage for the U.S. economy. In 2018, the World Economic Forum placed the United States second in its Global Competitiveness League Tables.¹¹ Of the 12 pillars on which the WEF based its assessments, the United States received some of its best scores in financial market development, including first place for its domestic equity markets and the access they provide to finance, and second place for overall availability of financial services.¹²

As a result of this competitive strength, the United States has consistently run a trade surplus on financial services – exports have risen steadily through the 21st century and the financial services surplus is worth \$95 billion annually. The U.S. has surpluses on financial services trade with every other G20 economy.¹³

The international competitiveness of financial services generates high quality employment here at home. Over 670,000 U.S. jobs are dependent on exports of financial services. More jobs in the United States rely on exports of financial services than rely on exports of:¹⁴

- Motor vehicles (over twice as many direct export dependent jobs in financial services).
- Agriculture, forestry, fishing, hunting (43 percent more in FS).
- Machinery (84 per cent more).

¹⁰ <https://libertystreeteconomics.newyorkfed.org/2014/05/the-trade-finance-business-of-us-banks.html>

¹¹ <http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf>

¹² This 2018 breakdown of financial sector competitiveness was excluded from the latest edition of the Competitiveness League Tables.

¹³ <https://www.bea.gov/data/intl-trade-investment/international-services-expanded#:~:text=In%202019%2C%20U.S.%20exports%20of,U.S.%20MNEs%20were%20%241%2C704.3%20billion.>

¹⁴ https://legacy.trade.gov/mas/ian/build/groups/public/@tg_ian/documents/webcontent/tg_ian_005506.pdf

-
- Computer and electronics (58 percent more).

In terms of future growth, evidence also suggests that what economists refer to the income elasticities of U.S. services exports – including financial services – are higher than for services imports. In other words, for every dollar extra income earned, foreign consumers will buy more US exports of services than US consumer will in terms of services imports.¹⁵

As a result of the liquidity, efficiency, and security of its capital markets and financial system, the United States is home to multiple international financial centers, with six U.S. cities featuring in the top twenty. New York City has become the world's leading financial center – now ahead of London.¹⁶ San Francisco, Los Angeles, Boston, Washington DC and Chicago are all important centers in their own right. This means the United States is a magnet for capital that in turn helps U.S.-based businesses to grow and create employment opportunities.

Internationalization – The Benefits for Investors and Savers

Operating in international capital markets strengthens the diversification opportunities for U.S. investors and savers, and for foreign holders of U.S. capital – U.S. investors hold almost \$13trn worth of foreign equities and bonds and overseas investors hold almost the same in U.S. corporate securities.

Investments in emerging markets – where growth opportunities are stronger than in mature markets – are also beneficial to the U.S. economy, providing investment opportunities for U.S. savers, retirees and others. Emerging and developing economies account for almost 12 per cent of global market capitalization up from 1 per cent in 1988.¹⁷

Reserve currency status of the U.S. dollar

The U.S. financial sector and its global role support the status of the U.S. Dollar as the world's reserve currency and the advantages that gives to U.S. economy. More companies and individuals using the dollar means more transactions denominated in dollars, which provides more liquidity for this currency. Liquidity means that financial assets can be priced more easily and loans are more easily provided. It also provides a bulwark to efforts by rival centers to promote alternate payments systems. In short, U.S. firms get easier access to funding because of the U.S. dollar's reserve currency status.

¹⁵ <https://www.federalreserve.gov/pubs/ifdp/2005/836/ifdp836.pdf>

¹⁶ <https://www.longfinance.net/programmes/financial-centre-futures/global-financial-centres-index/>

¹⁷ <https://www.msci.com/our-solutions/index/emerging-markets>

Promotion of U.S. interests abroad and strengthening U.S. economic growth at home

The international operations of financial services firms generate strategic and dynamic benefits for the U.S. economy. U.S. financial institutions have increased their foreign direct investment substantially in recent decades. For U.S. financial institutions operating abroad, overseas operations improve services to clients in manufacturing and other industries.¹⁸

The quality of professional and financial services available locally or on a global-account basis may have also played a role in enabling Global Value Chains. Global manufacturing firms are likely to find it easier to set up significant production or sales operations in countries with established legal and insurance services and strong financial sectors; local access to credit and efficient payment systems help improve efficiency and lower supply cost.

At the same time, U.S. investment overseas has been reciprocated with significant growth in foreign investment into the U.S.-based industry. The U.S. economy also benefits substantially from the over \$760bn of foreign investment into the U.S. finance, banking, and insurance industry here at home.¹⁹ This investment helps provide additional sources of capital for wide range of businesses. It also gives Americans access to higher paying jobs;²⁰ the average wage/salary for those working for foreign headquartered financial institutions here in the U.S. is around twice that for those working for foreign manufacturing companies.²¹

Underpinning this crisscross growth pattern are financial companies deploying their capital and different kinds of expertise for businesses and investors where they generate most growth and jobs and hence strongest returns.

But the benefits of the U.S. financial sector's presence overseas are far broader:

- U.S. capital is instrumental as countries develop and rebalance their economies away from exports and investment and more towards consumption – a trend which benefits world leading U.S. companies in those very industries by boosting demand for U.S. goods and services.
- U.S. financial institutions operating abroad introduce greater competition in those markets, increasing their efficiency and improving the quality of global investment.

¹⁸ <https://silo.tips/download/chapter-3-services-contribution-to-manufacturing>

¹⁹ <https://www.bea.gov/data/intl-trade-investment/direct-investment-country-and-industry>

²⁰ <https://www.bea.gov/international/activities-us-affiliates-foreign-multinational-enterprises-revised-2017-statistics>

²¹ BEA data indicates the average salary for employees of U.S. affiliates of foreign financial institutions is \$191,000 per annum compared with \$91,000 in manufacturing affiliates.

-
- U.S. firms operating overseas raise the standards of financial services that contributing positively to financial stability and the local economy - U.S. financial services firms are crucial in conveying U.S. values and business practices across the globe.
 - Rates of return for U.S. financial institutions abroad are higher than for foreign financial institutions operating in the U.S. – by around one percentage point per annum. This is evidence of superior U.S. competitiveness in financial services globally.
 - Overseas footprints contribute to global efforts against anti-money laundering and terrorist financing.
 - International financial services matched with the most liquid capital markets in the world help strengthen national security and U.S. soft power.
 - Overseas investment strengthens activities and investment at home and benefits SMEs/the next generation of small businesses.

Future growth of financial services

The financial services industry is dynamic and constantly evolving. It promises to continue to be a foundation for growth in a well-informed public policy environment, and will continue to serve investors, businesses, and communities.

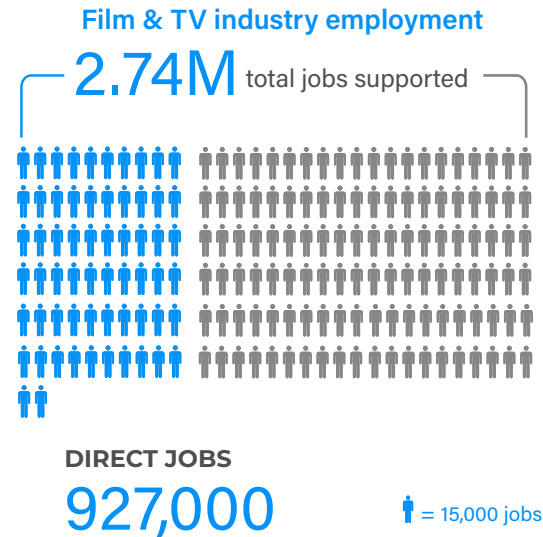
Rapid advances in information technology and the related growth of global value chains have expanded both the level and the range of services tradable across national borders and will continue to do so, meaning significant growth opportunities for competitive U.S. financial services firms. For example, the digitalization of international trade finance provides an opportunity to streamline processes, reduce transaction time and cost, and mitigate fraud risk which helps customers as well as digitally capable financial services providers.

Conclusion

The U.S. financial services industry contributes significantly to the growth of our economy. It is a major source of direct growth and employment and, on the international stage, provides a major competitive advantage to the United States. But financial services are also fuel for the rest of the economy, and are critical to the success of our farmers, manufacturers and other firms in all industries competing with foreign rivals in overseas markets. In an increasingly competitive global economy, ensuring that financial services are integrated into U.S. international economic strategy will be vital to our continued growth and prosperity.

EXHIBIT 134

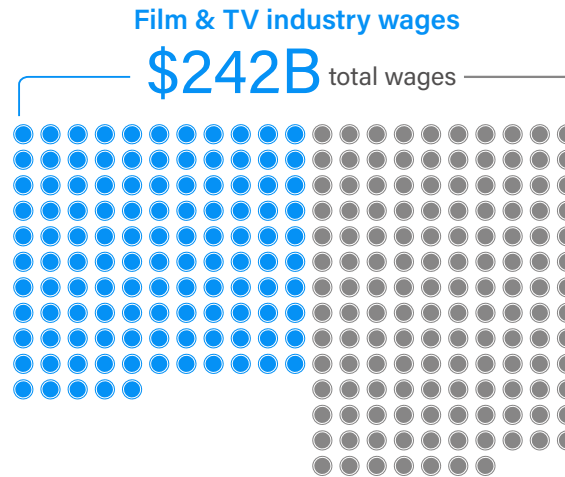
THE INDUSTRY IS A MAJOR PRIVATE SECTOR EMPLOYER AND PROVIDES QUALITY JOBS, WITH HIGHER THAN AVERAGE SALARIES



376,000 Direct jobs engaged in producing, marketing, and manufacturing motion pictures, television shows, and video content.

550,000 Direct jobs engaged in distributing motion pictures, television shows, and video content to consumers, e.g. at movie theaters, television broadcasters, cable and pay TV companies, and online video services.

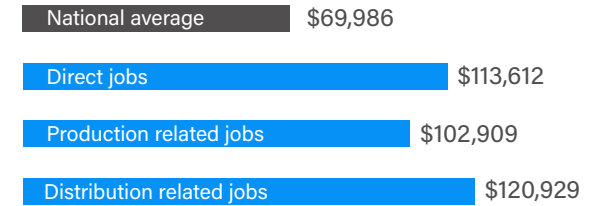
Direct industry jobs employ more people than other major sectors, including mining, oil & natural gas extraction, crop production, utility system construction, and rental & leasing services.



Total jobs and wages includes the jobs and wages supported at thousands of companies relying on the industry, such as caterers, dry cleaners, lumber suppliers, and digital equipment suppliers, as well as other industry related jobs, such as in consumer products, video retailing, and theme parks.

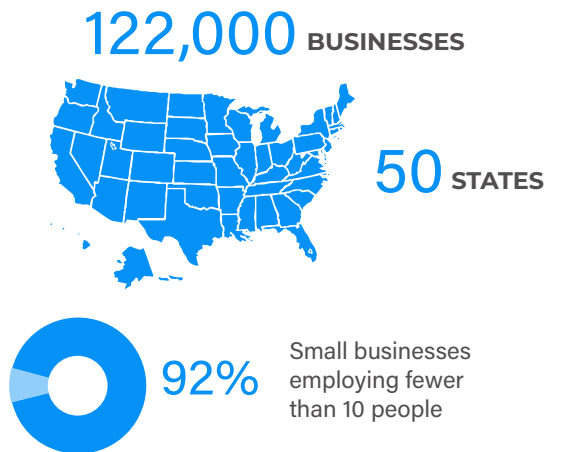
62% higher salary than the national average for direct jobs overall

47% higher salary than the national average for production jobs



THE INDUSTRY IS A NATIONWIDE NETWORK OF SMALL BUSINESSES

The industry is comprised of over 122,000 businesses in total, located in every state in the country. These are mainly small businesses; 92% employ fewer than 10 people.



THE INDUSTRY SUPPORTS LOCAL BUSINESSES

\$33B IN PAYMENTS by MPA member companies to over **240,000** local businesses across the United states, in a variety of industries.



Each dot represents a business

THE INDUSTRY CONTRIBUTES SIGNIFICANTLY TO THE NATION'S OVERALL ECONOMY AND INCREASES THE TAX BASE

\$261B IN SALES

in 2021 (the most recent year available). If the industry was a country, its GDP would rank 46th in the world according to World Bank nominal 2021 data.

\$40B IN PUBLIC REVENUES

generated from sales taxes on goods, state income taxes, and federal taxes including income tax, unemployment, Medicare and Social Security, based on direct employment in the industry. \$6.2B in additional public revenues generated from corporate income taxes.

PRODUCTION BENEFITS LOCAL COMMUNITIES

 **Feature films - USA**
Per location shoot

\$21.8M average total spend.

\$11.7M average local wages.

Local wages represent over **50%** of a feature film's local spending.

\$10.2M average vendor spend.

\$802K on lumber/hardware

\$792k on hotels

\$660k on car rentals

\$425k on catering/ food, among other spending.

\$670K average spend per day.

1,483 average local hires.

 **Series - Global**
Per location shoot

\$48.9M average total spend.

\$26.7M average local wages.

Local wages represent **55%** of a series local spending.

\$475K average spend per day.

1,854 average local hires.

THE INDUSTRY IS HIGHLY COMPETITIVE AROUND THE WORLD

\$17B IN EXPORTS

\$10.3B IN TRADE SURPLUS

The industry generated a positive balance of trade in every major market in the world.



EXPORTS

2.5x

IMPORTS

The industry runs a trade surplus larger than each of the telecommunications, transportation, insurance, and health related services sectors.

4% of the total U.S. trade surplus in services

The production and distribution of motion pictures and television programs is one of the nation's most valuable cultural and economic resources.

Methodology

Jobs & Wages Supported by the Industry

Sourced from detailed U.S. Bureau of Labor Statistics (BLS) employment data. Direct jobs are calculated from classification codes fully associated with the film and TV industry, as well as industry-related jobs and wages from codes partially associated with the industry estimated by using adjustment factors based on SIC-NAICS bridges, and other updates. Total jobs are calculated using the RIMS II economic model of the U.S. Bureau of Economic Analysis (BEA), which captures indirect/induced effects, i.e. jobs and wages that rely on the industry, and some additional film/TV employment in other industries (e.g. retail). The current analysis is based on their latest model (2012 U.S. Benchmark I-O Data and 2020 Regional Data). The national average comes from the BLS Quarterly Census of Employment and Wages (2022 Annual Wages per Employee).

Businesses Making Up the Industry

Calculated based on Dun & Bradstreet 2022 business listings data by SIC classification code.

Payments Made by MPA Member Companies

Aggregate of submissions received from seven major studios covering vendor payments in the U.S. for the applicable year.

Contribution to the Overall Economy

Sourced from Census estimates of annual revenues from employer firms for the applicable classification codes.

Tax Revenues Generated by the Industry

Calculated by applying the appropriate national and local tax rates to wages and taxable vendor payments. Corporate taxes calculated based on information in annual reports from companies within the industry (2022). Information on federal and state current and deferred income tax figures were used where available, or were estimated for the US based on total income tax if that was the only figure reported.

Local Production Spend

Sourced from production location spending data by major studios from 2017-2022 covering 90 unique film location shoots in the United States and 30 unique series location shoots globally. United States regional series average is not reportable due to small base size. Compiled from public sources and major studio submissions.

International Trade

Sourced from the Bureau of Economic Analysis (BEA) report on U.S. Trade in Services, By Type of Service. Includes licenses to reproduce and/or distribute, rights to use, and "audiovisual originals" categories for movies and television programming.

EXHIBIT 135

An Overview of the U.S. Medical Devices and Biopharmaceutical Industries

February 2022

U.S. Department of Commerce
International Trade Administration



Table of Contents

Introduction.....	1
Medical Devices.....	1
Foreign Direct Investment in Medical Devices	4
Biopharmaceuticals.....	4
Foreign Direct Investment in Pharmaceuticals.....	7
Local Health Services.....	7
Regulators.....	9
Food and Drug Administration (FDA).....	9
Center for Devices and Radiological Health (CDRH).....	9
Center for Drug Evaluation and Research (CDER).....	10
Center of Biologics Evaluation and Research (CBER).....	10
SelectUSA.....	10
Definitions.....	11
Sources	11

Introduction

The United States is one of the largest markets for both [medical devices](#) and [biopharmaceuticals](#) in the world. Both industries have a large impact on the U.S. economy and support hundreds of thousands of jobs, according to the U.S. Census Bureau.

This report provides investors with an overview of greenfield investment opportunities in the United States by highlighting key trends in the U.S. Medical Devices and Biopharmaceutical industries, as well as both industries' primary customer: the Local Health Services industry. The goal of this report is to provide a broad picture of these industries in the United States by compiling data from various sources. As industry definitions vary by source, this report attempts to provide similar data across sources wherever possible; in some cases, the closest possible industry match has been provided. This report also compiles resources on the relevant U.S. regulatory agencies for both industries.

Definitions of key terms may be found at the end of the report. Key highlights from the report include:

- In 2020, the Medical Devices industry employed over 329,000 people and had an annual payroll of approximately \$25.8 billion in the United States. The Biopharmaceuticals industry employed over 224,000 people and had an annual payroll of approximately \$21.2 billion.
- Of the subsectors of the Medical Devices industry, Surgical and Medical Instrument Manufacturing had the highest sales, value of shipments, or revenue (approximately \$36.3 billion) in 2020. Of the subsectors of the Biopharmaceuticals industry, Pharmaceutical Preparation Manufacturing had the highest sales, value of shipments, or revenue (approximately \$154.7 billion) in 2020.
- When looking specifically at the impact of foreign direct investment (FDI) in these industries, majority foreign-owned companies in the United States directly supported 107,200 U.S. jobs in the Medical Equipment and Supplies Manufacturing industry and 215,100 jobs in the Pharmaceuticals and Medicines Manufacturing industry in 2019.

Medical Devices

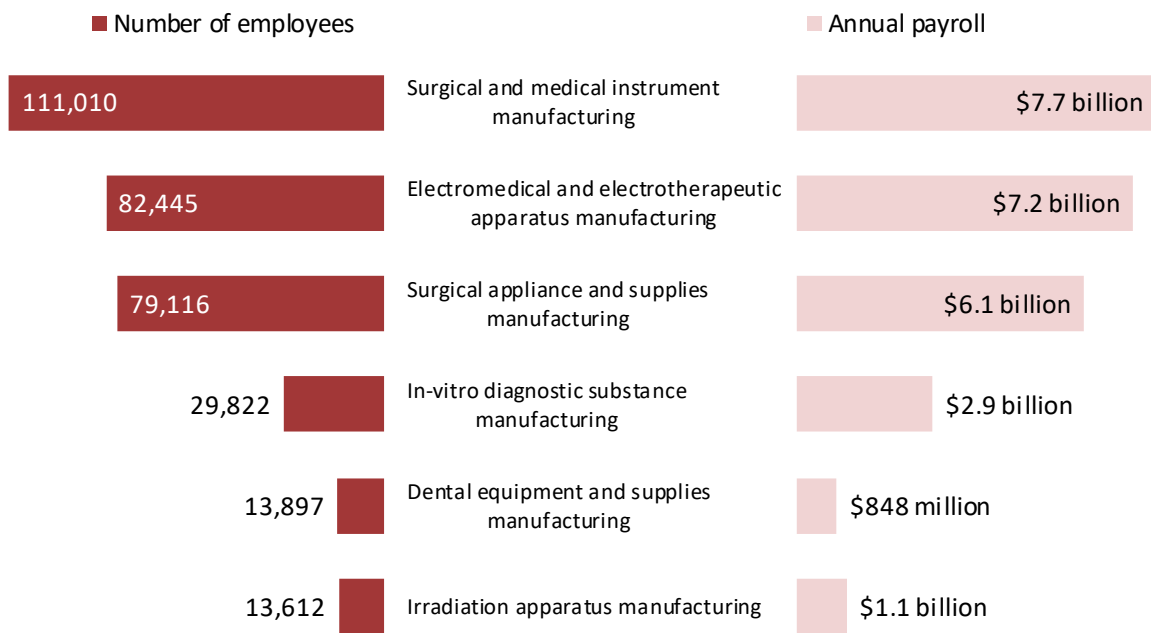
The Medical Devices industry includes a variety of subsectors as categorized under the North American Industry Classification System (NAICS). Based on definitions from the U.S. Economic Development Administration and the U.S. International Trade Administration's Office of Health and Information Technologies, this section focuses on the subsectors of:

- Surgical and Medical Instrument Manufacturing (NAICS 339112)
- Surgical Appliance and Supplies Manufacturing (NAICS 339113)
- Dental Equipment and Supplies (NAICS 339114)
- In-Vitro Diagnostic Substance Manufacturing (NAICS 325413)
- Electromedical and Electrotherapeutic Apparatus Manufacturing (NAICS 334510)
- Irradiation Apparatus Manufacturing (NAICS 334517)

The U.S. Census Bureau’s [Annual Survey of Manufactures \(ASM\)](#) provides sample estimates of statistics for all U.S. manufacturing establishments with one paid employee or more. The ASM provides the best measure of current U.S. manufacturing industry outputs, inputs, and operating status.

Figure 1 presents the number of employees and the annual payroll for each of the Medical Devices subsectors in 2020. In 2020, the Medical Devices industry employed over 329,000 people and had an annual payroll of approximately \$25.8 billion. Of these six subsectors, Surgical and Medical Instrument Manufacturing had the most employees (111,010) and the highest annual payroll (\$7.7 billion).

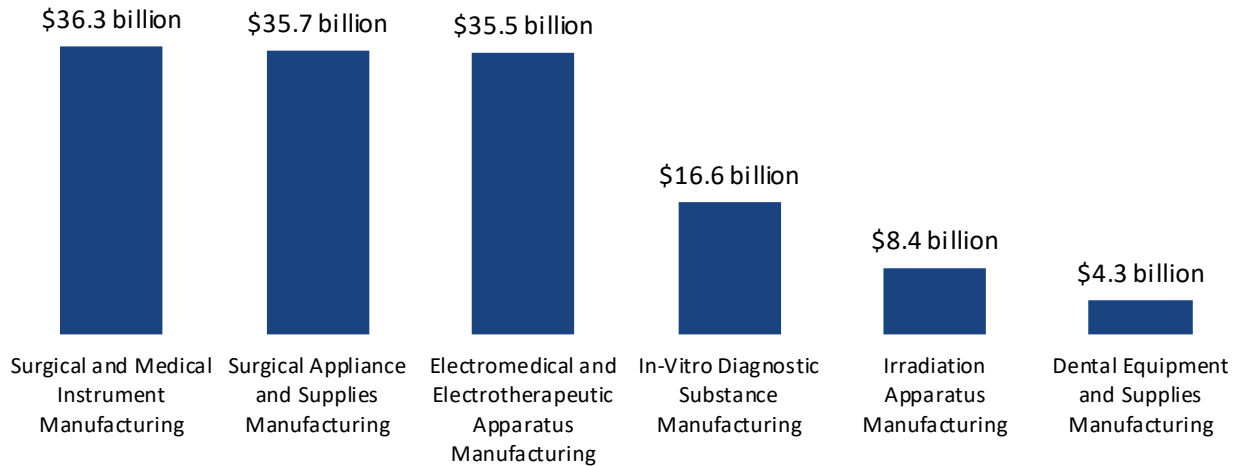
Figure 1: Employment and Payroll for Medical Devices Subsectors, 2020



Source: [U.S. Census Bureau, Annual Survey of Manufactures](#)

Figure 2 shows the sales, value of shipments, or revenue for each of the Medical Devices subsectors in 2020. Sales, value of shipments, or revenue is a measure of economic output for all appropriate dollar volume measures during the census year. Surgical and Medical Instrument Manufacturing had the highest sales, value of shipments, or revenue (approximately \$36.3 billion), followed by Surgical Appliance and Supplies Manufacturing (\$35.7 billion).

Figure 2: Sales, Value of Shipments, or Revenue for Medical Devices Subsectors, 2020



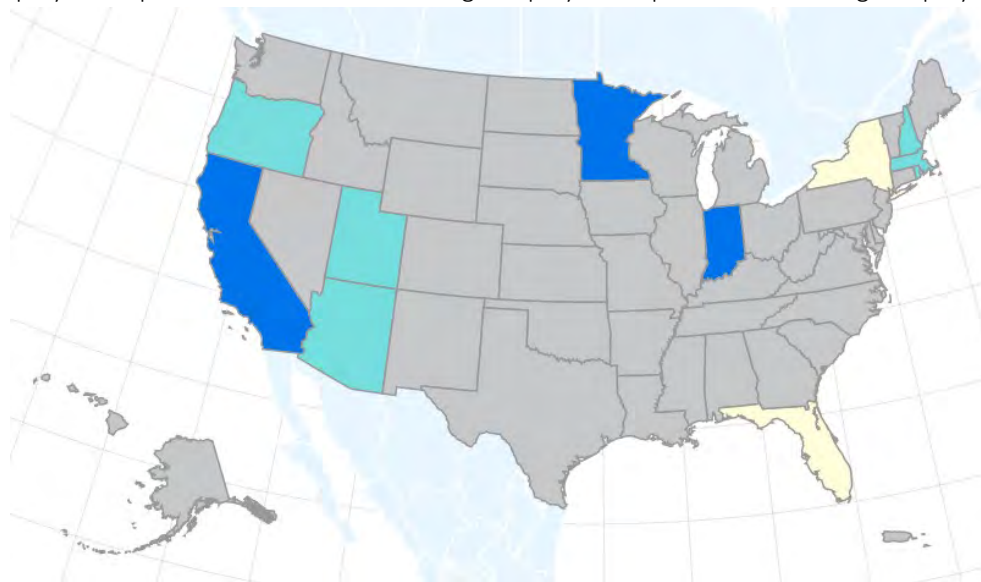
Source: [U.S. Census Bureau, Annual Survey of Manufactures](#)

The U.S. Cluster Mapping Tool presents information on the states in which the Medical Devices industry has particularly strong clusters. The resource’s definition of the Medical Devices cluster differs slightly from the definition used in this report, specifically focusing on subsectors related to optical instruments and ophthalmic goods as well as surgical and dental instruments and supplies. In 2019, the Medical Devices cluster was made up of 4,465 establishments across the United States that employed 260,735 professionals earning an average annual wage of \$75,655.

Figure 3 presents the states that offer high employment specialization and share in the Medical Devices cluster. The states that offer both high employment specialization and share in the cluster are California, Indiana, and Minnesota.

Figure 3: Employment Specialization and Share in the Medical Devices Cluster by State, 2019

■ High Employment Specialization and Share ■ High Employment Specialization ■ High Employment Share



Source: [U.S. Cluster Mapping](#)

Figure 4 presents the establishments, employment, and location quotient for the three states that offer high employment specialization and share in the Medical Devices cluster. Of these states, Minnesota has the highest location quotient (2.74), while California has the most employees (49,109) and establishments (767). California, Indiana, and Minnesota all have a location quotient value greater than 1, which indicates a higher than average cluster concentration in these three states.

Figure 4: Employment and Establishments in the Medical Devices Cluster for States with High Employment Specialization and Share, 2019

State	Location Quotient	Employment	Establishments
Minnesota	2.74	15,203	182
Indiana	2.67	15,829	127
California	1.56	49,109	767

Source: [U.S. Cluster Mapping](#)

For more information on the Medical Devices cluster, more granular data (including data specifically on the Optical Instruments and Ophthalmic Goods subcluster as well as the Surgical and Dental Instruments and Supplies subcluster) is available on the [U.S. Cluster Mapping Tool's website](#).

Foreign Direct Investment in Medical Devices

The U.S. Bureau of Economic Analysis (BEA) provides data on foreign direct investment (FDI) in the United States. The most granular data available through BEA related to the Medical Devices industry is for the Medical Equipment and Supplies industry (NAICS 3391, which represents subsectors including but not limited to some of the Medical Devices subsectors).

The inward FDI position for the Medical Equipment and Supplies industry was \$107.2 billion in 2020. In addition, majority foreign-owned companies in the United States directly supported 107,200 U.S. jobs in the Medical Equipment and Supplies Manufacturing industry as of 2019.

According to fDi Markets (a service of the *Financial Times* that monitors greenfield cross-border investments), companies announced 116 greenfield foreign direct investment (FDI) projects in the United States in the Medical Devices sector from December 2016 to November 2021. These projects had an estimated capital expenditure of \$2.0 billion and were expected to create 8,218 jobs.

Biopharmaceuticals

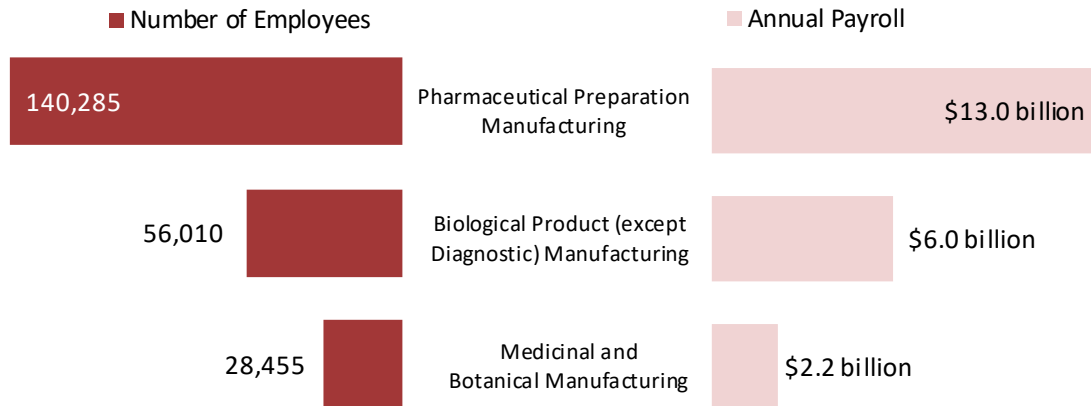
The Biopharmaceuticals industry represents a variety of businesses. For the purposes of this report, the industry is defined as including the following subsectors:

- Medicinal and Botanical Manufacturing (NAICS 325411)
- Pharmaceutical Preparation Manufacturing (NAICS 325412)
- Biological Product (except Diagnostic) Manufacturing (NAICS 325414)

Figure 5 presents the number of employees and the annual payroll for each of the Biopharmaceuticals industry subsectors in 2020. In 2020, the Biopharmaceuticals industry employed over 224,000 people and

had an annual payroll of approximately \$21.2 billion. Of the three subsectors, Pharmaceutical Preparation Manufacturing had the most employees (140,285) and the highest annual payroll (\$13.0 billion).

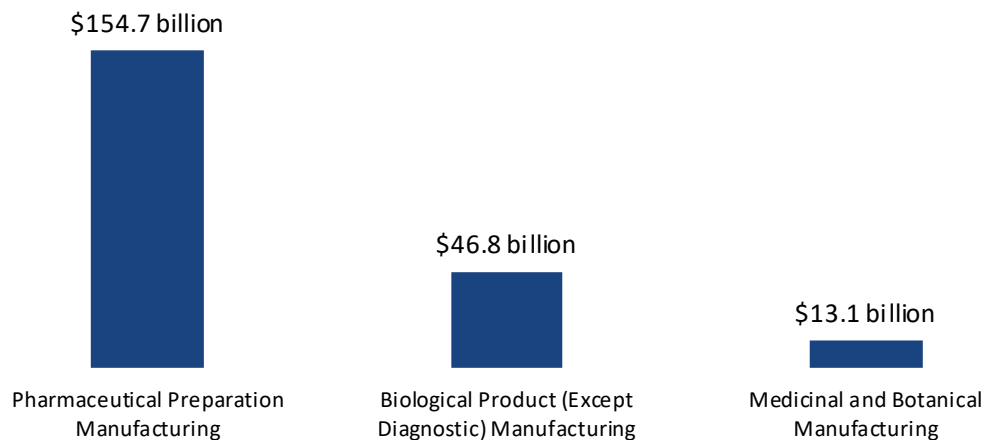
Figure 5: Employment and Payroll for Biopharmaceuticals Subsectors, 2020



Source: [U.S. Census Bureau, Annual Survey of Manufactures](#)

Figure 6 shows the sales, value of shipments, or revenue for each of the Biopharmaceuticals subsectors. Of the three subsectors, Pharmaceutical Preparation Manufacturing had the highest sales, value of shipments, or revenue (approximately \$154.7 billion), followed by Biological Product (Except Diagnostic) Manufacturing (\$46.8 billion).

Figure 6: Sales, Value of Shipments, or Revenue for Biopharmaceuticals Subsectors, 2020



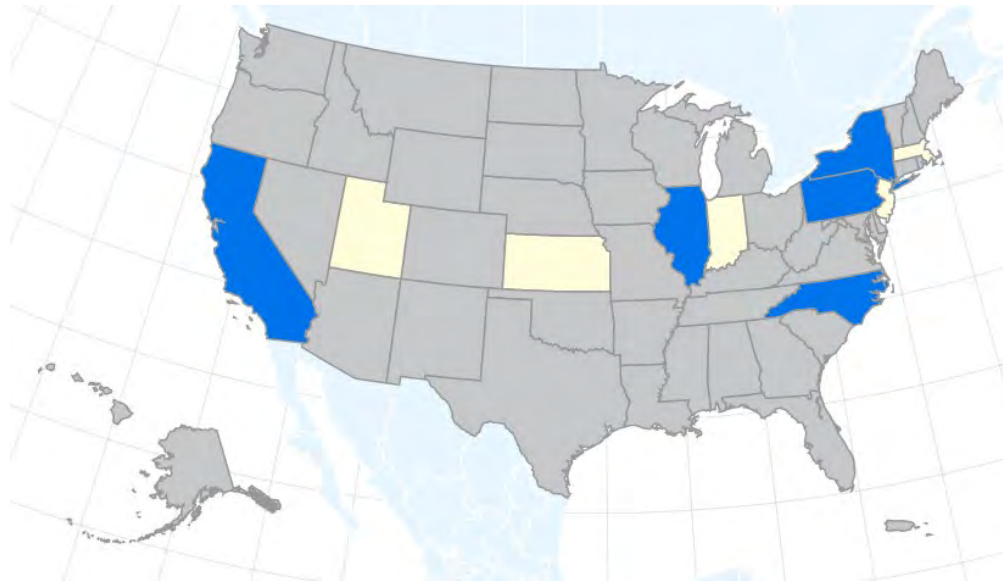
Source: [U.S. Census Bureau, Annual Survey of Manufactures](#)

The U.S. Cluster Mapping Tool presents information on the Biopharmaceuticals cluster (which the resource defines as including the three subsectors highlighted above as well as In-Vitro Diagnostic Substance Manufacturing). In 2019, the Biopharmaceuticals cluster was made up of 2,602 establishments across the United States that employed 263,495 professionals earning an average annual wage of \$100,624.

Figure 7 presents the states that offer high employment specialization and share in the Biopharmaceuticals cluster. California, Illinois, New York, North Carolina, and Pennsylvania offer both high employment specialization and share in this cluster.

Figure 7: Employment Specialization and Share in the Biopharmaceuticals Cluster by State, 2019

■ High Employment Specialization and Share ■ High Employment Specialization ■ High Employment Share



Source: [U.S. Cluster Mapping](#)

Figure 8 presents the establishments, employment, and location quotient for the five states that offer both high employment specialization and share in the Biopharmaceuticals cluster. Of these states, North Carolina has the highest location quotient in the cluster (3.01), while California has the most employees (49,208) and establishments (466).

Figure 8: Employment and Establishments in the Biopharmaceuticals Cluster for States with High Employment Specialization and Share, 2019

State	Location Quotient	Employment	Establishments
North Carolina	3.01	21,547	78
California	1.54	49,208	466
Illinois	1.50	17,099	81
New York	1.41	21,955	141
Pennsylvania	1.38	14,928	87

Source: [U.S. Cluster Mapping](#)

For more on the Biopharmaceuticals cluster, more granular information (including data specifically on the Biopharmaceutical Products subcluster, the Biological Products subcluster, and the Diagnostic Substances subcluster) is available on the [U.S. Cluster Mapping Tool's website](#).

Foreign Direct Investment in Pharmaceuticals

BEA's FDI data is available for the Pharmaceuticals and Medicines Manufacturing industry (NAICS 3254), which represents the three Biopharmaceuticals industry subsectors as well as In-Vitro Diagnostic Substance Manufacturing (NAICS 325413).

BEA estimates that in 2020, the inward position of FDI in the Pharmaceuticals and Medicines Manufacturing industry in the United States was \$545.5 billion. Majority foreign-owned companies in the industry directly supported 215,100 U.S. jobs as of 2019.

According to fDi Markets, from December 2016 to November 2021, companies announced 223 greenfield foreign direct investment projects in the Pharmaceuticals sector with an estimated capital expenditure of \$10.0 billion and supporting an estimated 23,234 jobs.

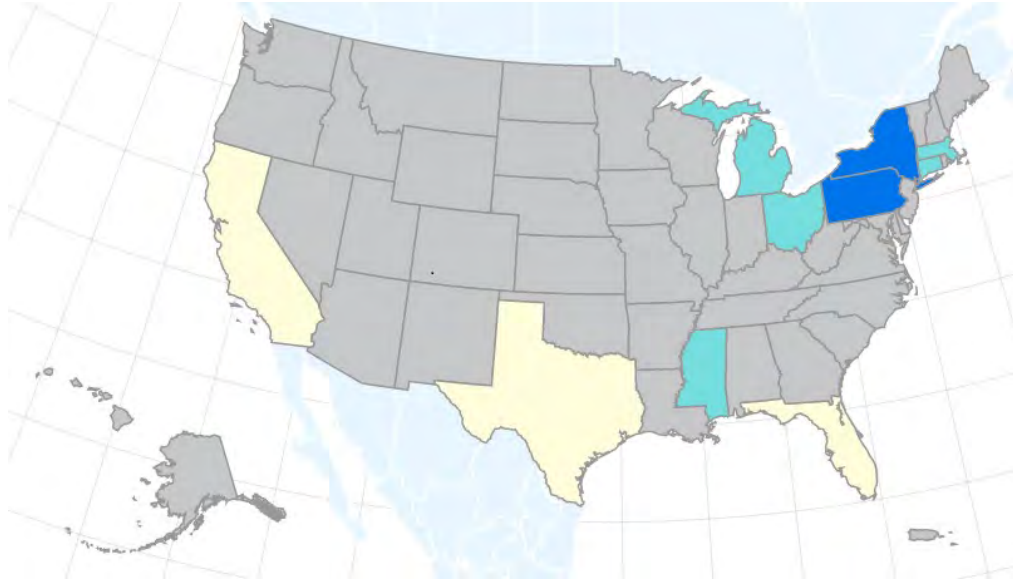
Local Health Services

The Local Health Services cluster encompasses healthcare providers across the United States. Areas that offer high employment specialization and share in the Local Health Services cluster may be useful for investors to consider, as they may be correlated with high concentrations of potential consumers and business opportunities for the Medical Devices and Biopharmaceuticals industries. The Local Health Services cluster represents a variety of subclusters such as Hospitals, Medical Laboratories, Healthcare Provider Offices, Drug Stores, and Medical Equipment Distribution and Rental.

Figure 9 presents the states in the Local Health Services cluster with high employment specialization and share in 2019. According to the Cluster Mapping Tool, New York and Pennsylvania offer both high employment specialization and share in the Local Health Services cluster. Meanwhile, California, Florida, and Texas offer high employment share. Connecticut, Massachusetts, Michigan, Mississippi, and Ohio offer high employment specialization.

Figure 9: Employment Specialization and Share in the Local Health Services Cluster by State, 2019

■ High Employment Specialization and Share ■ High Employment Specialization □ High Employment Share



Source: [U.S. Cluster Mapping](#)

Figure 10 presents the establishments, employment, and location quotient in the Local Health Services cluster for the states that offer high employment specialization and/or share. Of these 10 states, Pennsylvania has the highest location quotient (1.19), while California has the most employees (1,816,579) and establishments (104,077).

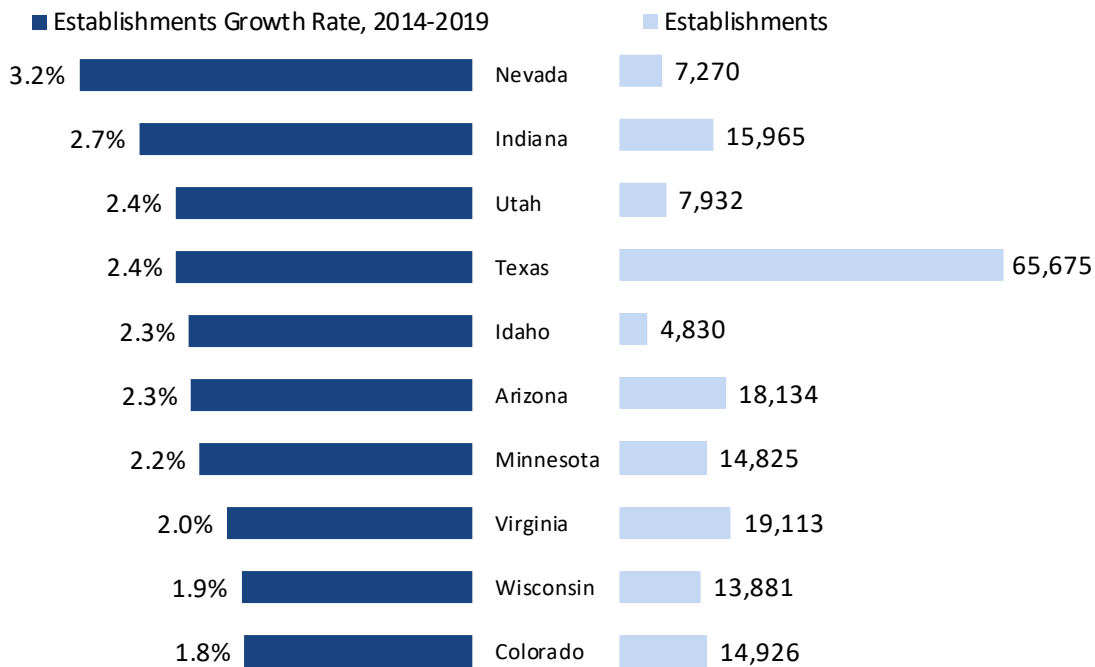
Figure 10: Employment and Establishments in the Local Health Services Cluster for States with High Employment Specialization and/or Share, 201

State	Location Quotient	Employment	Establishments
Pennsylvania	1.19	918,365	33,335
Massachusetts	1.17	530,161	16,796
Connecticut	1.16	245,159	10,164
Ohio	1.15	769,317	26,407
New York	1.14	1,418,357	53,101
Mississippi	1.14	157,985	5,947
Michigan	1.10	586,362	25,757
Florida	0.95	1,093,710	59,814
Texas	0.91	1,379,288	65,675
California	0.87	1,816,579	104,077

Source: [U.S. Cluster Mapping](#)

Figure 11 presents the top 10 states by the five-year historical growth rate of establishments in the Local Health Services cluster as well as the total number of establishments in 2019. Nevada had the highest establishment growth rate in the cluster (3.2 percent), followed by Indiana (2.7 percent). Of these 10 states, Texas had the most establishments in 2019 (65,675).

Figure 11: Top 10 States by Growth Rate of Establishments in the Local Health Services Cluster, 2019



Source: [U.S. Cluster Mapping](#)

Regulators

Food and Drug Administration (FDA)

The [Food and Drug Administration](#) (FDA) is responsible for protecting the public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biological products, and medical devices in the United States.

Center for Devices and Radiological Health (CDRH)

The FDA's [Center for Devices and Radiological Health](#) (CDRH) regulates firms that manufacture, repackage, relabel, and/or import medical devices sold in the United States. In the United States, medical devices are classified as Class I, II, or III devices. The classification determines and defines the appropriate regulatory requirements with regulatory control increasing from Class I to Class III.

Manufacturers of medical devices distributed in the United States must comply with regulatory requirements, including but not necessarily limited to the following:

- [Establishment Registration](#)
- [Medical Device Listing](#)
- [Premarket Notification 510\(k\)](#), unless exempt, or [Premarket Approval](#) (PMA)
- [Investigational Device Exemption \(IDE\) for Clinical Studies](#)
- [Quality System \(QS\) Regulation](#)
- [Labeling Requirements](#)
- [Medical Device Reporting \(MDR\)](#)

Center for Drug Evaluation and Research (CDER)

The FDA's [Center for Drug Evaluation and Research](#) (CDER) regulates over-the-counter and prescription drugs, including biological therapeutics and generic drugs. CDER evaluates and approves new drugs before they enter the market. Companies seeking to sell a drug in the United States must test and send CDER the evidence from these tests to prove the drug is safe and effective for its intended use. A team of CDER physicians, statisticians, chemists, pharmacologists, and other scientists reviews the company's data and proposed labeling.

Center of Biologics Evaluation and Research (CBER)

The FDA's [Center of Biologics Evaluation and Research](#) (CBER) regulates biological products for human use under applicable federal laws, including the Public Health Service Act and the Federal Food, Drug and Cosmetic Act. CBER also provides the public with information to promote the safe and appropriate use of biological products.

SelectUSA

This report is intended as a starting point for your business investment in the United States. SelectUSA is available to help you continue to pursue your investment with a variety of free services for firms, which include:

- Information on the competitive and regulatory landscape in the United States, industry, and [workforce data](#)
- Resources on establishing and operating a business in the United States
- Information on federal business incentives, grants, loans, and other programs
- Introductions to economic development organizations
- Ombudsman services to help investors address issues involving federal rules, regulations, programs, or activities related to existing, pending, and potential investments

In addition, [Trade.gov/SelectUSA](#) provides a wealth of information on SelectUSA's services, as well as other information related to foreign direct investment in the United States. Among these online resources is [SelectUSA Stats](#), a set of interactive dashboards including a [workforce data analysis](#) tool that provides specific occupational data for U.S. states and metropolitan areas. SelectUSA.gov also contains contact information so that you can get in touch and stay connected with SelectUSA.

Definitions

Cluster – A cluster is a regional concentration of related industries that arise out of the various types of linkages or externalities that span across industries in a particular location.

Establishment – An establishment is a single physical location at which business is conducted or services or industrial operations are performed. It is not necessarily identical with a company or enterprise, which may consist of one or more establishments. When two or more activities are carried on at a single location under a single ownership, all activities generally are grouped together as a single establishment.

High Employment Share – Areas with high employment *share* rank among the top 10 percent of areas with employment information by number of employees in an industry.

High Employment Specialization – Areas with high employment *specialization* have a location quotient ranking among the top 25 percent of areas with employment information for an industry.

Location Quotient (LQ) – The LQ value is the ratio of an industry's share of total area employment relative to its share of total national employment. An LQ value greater than 1 indicates a higher than average cluster concentration in a location.

North American Industry Classification System (NAICS) – The standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

Sales, Value of Shipments, or Revenue – All appropriate dollar volume measures including total sales, value of shipments, revenue, receipts, or business done at any time during the census year, whether or not payment was received during the census year.

Sources

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EXHIBIT 136

U.S. biopharmaceutical exports support jobs, innovation

[Brian Picone](#) | March 20, 2023

U.S. biopharmaceutical exports support jobs, innovation.

Share This    

The U.S. Census Bureau and the U.S. Bureau of Economic Analysis recently [published](#) annual trade data indicating that U.S. exports of goods exceeded \$2 trillion in 2022. According to the report, U.S. exports of pharmaceutical preparations exceeded \$90 billion in 2022 – an increase of \$7 billion over the previous year. Recent PhRMA [comments](#) to the U.S. International Trade Commission highlight that U.S. biopharmaceutical exports support high-wage manufacturing jobs, innovation and investment across the U.S. economy – demonstrating the need for strong U.S. trade policies that expand market access, protect American intellectual property (IP) rights and address unfair trade barriers abroad.

- **Exports.** The biopharmaceutical industry is among the most export-intensive in America and was the largest exporter of goods among the most R&D-intensive industries in 2020 – which in addition to biopharmaceuticals includes navigational equipment, semiconductors and other electronic components, medical equipment and supplies, and communications equipment.¹ U.S. biopharmaceutical exports have shown remarkable growth in recent years, but continue to face significant [barriers](#) in foreign markets.
- **Employment.** The U.S. biopharmaceutical industry is among the [top five employers](#) of U.S. manufacturing jobs, with more Americans directly employed in biopharmaceutical manufacturing than in manufacturing in several other manufacturing industries, including each of the following: iron and steel products, aerospace products and parts, petroleum and coal products, and electric equipment and appliances. In 2020, the industry [directly employed](#) more than 900,000 U.S. workers, of which 37% were engaged in manufacturing, nearly 35% were engaged in biopharmaceutical R&D, 25% were engaged in distribution and 3% were engaged in corporate administration.
- **Foreign direct investment.** The biopharmaceutical industry attracts more new [foreign direct investment](#) into the U.S. than any other industry (over \$143 billion over the past five years). In turn, the industry is by far the largest driver of new foreign direct investment in U.S. manufacturing, accounting for more than 20% over the past five years.
- **Innovation.** The biopharmaceutical industry is one of the most research-intensive in America, [annually investing](#) an estimated \$122.2 billion in researching and developing new medicines. The U.S. biopharmaceutical industry is the world leader in medical research – producing more than half the world's new molecules in the last decade.



The biopharmaceutical industry's large U.S. economic footprint, and the corresponding benefits that accrue to U.S. workers and their families, exist precisely because the industry is an active participant in the rules-based international trading system. The biopharmaceutical industry utilizes longstanding, consistent and dependable U.S. trade policies that value innovation, protect IP rights and champion open trade.

To ensure that the United States remains the global leader in biopharmaceutical innovation and production, the U.S. government should enforce existing trade rules and pursue ambitious new trade agreements with strong IP protections, predictable and transparent market access commitments, and other provisions that dismantle unfair trade barriers.

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¹ Analysis of National Science Foundation and Business Research and Development Survey (BRDIS) data by ndp | analytics.



EXHIBIT 137

BUILDING AMERICA'S INNOVATION ECONOMY

Maintaining a vibrant U.S. semiconductor industry is critical to America's continued strength.



SEMICONDUCTORS ARE THE BRAINS OF MODERN ELECTRONICS, enabling advances in medical devices and health care, communications, computing, defense, transportation, clean energy, and **technologies of the future such as artificial intelligence, quantum computing, and advanced wireless networks.**



THE U.S. SEMICONDUCTOR INDUSTRY IS THE WORLDWIDE INDUSTRY LEADER with about **half of global market share** and **sales of \$208 billion** in 2020.



THE SEMICONDUCTOR INDUSTRY DIRECTLY EMPLOYS OVER A QUARTER OF A MILLION PEOPLE IN THE U.S. and supports nearly 1.6 million additional U.S. jobs.



NEARLY HALF OF U.S. SEMICONDUCTOR MANUFACTURERS' PRODUCTION IS DONE IN THE UNITED STATES, and **18 states are home to major semiconductor manufacturing facilities.**



SEMICONDUCTORS ARE A TOP-5 U.S. EXPORT, and more than 80% of U.S. semiconductor companies' sales are to overseas customers. The United States **exported \$49 billion in semiconductors** in 2020 and maintains a **consistent trade surplus** in semiconductors, including with major trading partners such as China.



THE U.S. SEMICONDUCTOR INDUSTRY ANNUALLY INVESTS ABOUT ONE-FIFTH OF ITS REVENUE INTO R&D (\$44 billion in 2020), which is the second-highest share of any major U.S. industry, behind only the pharmaceutical industry.



RAPID INNOVATION HAS ENABLED THE SEMICONDUCTOR INDUSTRY TO PRODUCE EXPONENTIALLY MORE ADVANCED PRODUCTS AT A LOWER COST, a principle known as Moore's Law. A single smartphone today has far more computing power than the computers used by NASA to land a person on the moon in 1969.



THE U.S. SEMICONDUCTOR INDUSTRY IS AMERICA'S #1 CONTRIBUTOR TO LABOR PRODUCTIVITY GROWTH. Semiconductor technology has made virtually all sectors of the U.S. economy - from farming to manufacturing - more effective and efficient.



**ECONOMIC
STRENGTH**



**NATIONAL
SECURITY**



**TECHNOLOGY
LEADERSHIP**

About SIA: For over 40 years, SIA has represented the semiconductor industry, one of America's top export sectors and a key driver of our country's economic strength, national security, and global technology leadership. SIA represents 98 percent of the U.S. semiconductor industry by revenue, and nearly two-thirds of non-U.S. firms. Learn more at www.semiconductors.org.

EXHIBIT 138

Visual Essay

U.S. Digital Economy: New and Revised Estimates, 2017–2022

December 6, 2023

This article highlights statistics on the digital economy by the U.S. Bureau of Economic Analysis (BEA). The digital economy statistics cover four major categories of goods and services:

1. **Infrastructure**, or the basic physical materials and organizational arrangements that support the existence and use of computer networks and the digital economy, primarily information and communications technology (ICT) goods and services. Infrastructure consists of ICT hardware and software.
2. **E-commerce**, or the remote sale of goods and services over computer networks. E-commerce consists of business-to-consumer e-commerce (that is, retail trade) and business-to-business e-commerce (that is, wholesale trade).
3. **Priced digital services**, or services related to computing and communication that are performed for a fee charged to the consumer. Priced digital services consist of cloud services, telecommunications services, internet and data services, and all other priced digital services.
4. **Federal nondefense digital services**, or the annual budgets for federal nondefense government agencies whose services are directly related to supporting the digital economy.

Key Terms

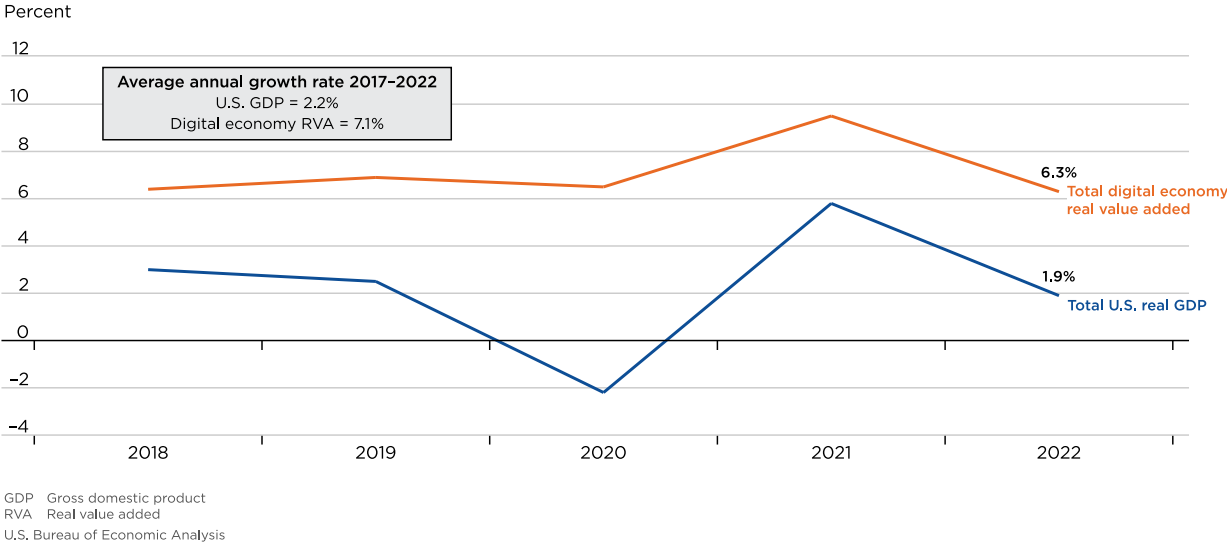
Value added refers to the gross output of an industry or a sector less its intermediate inputs, also known as **gross domestic product (GDP)**. Value added by industry can also be measured as the sum of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus.

Gross output refers to the value of the goods and services produced by the nation's economy. It is principally measured using industry sales or receipts, including sales to final users (GDP) and sales to other industries (intermediate inputs).

Real or constant-dollar estimates hold prices constant such that growth rates for real estimates reflect changes in quantities produced, removing the impact of inflation.

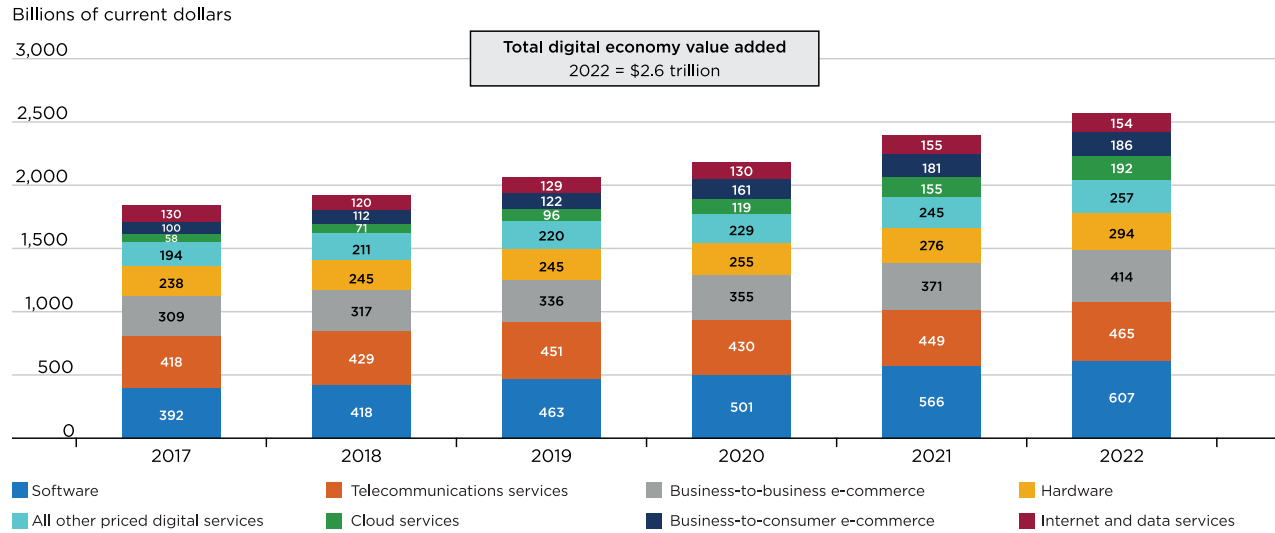
The following charts and tables present highlights of BEA's digital economy statistics for 2017–2022. These statistics introduce new data for 2022 and revised statistics for 2017–2021 that reflect updates from [BEA's 2023 comprehensive update of its National Economic Accounts](#), revisions to U.S. Census Bureau retail and wholesale trade e-commerce data, and revisions to cloud services revenue from the International Data Corporation. The statistics are presented by industry and by activity corresponding to the four categories of goods and services described above. See [BEA's digital economy product page](#) for [detailed data tables](#), more details on methodology, and related research papers.

Chart 1. Annual Growth Rates of Digital Economy Real Value Added Compared to U.S. Real GDP, 2018–2022



- In 2018 through 2022, the real value-added growth of the digital economy outpaced the real GDP growth of the overall economy.
- In 2022, digital economy real value added grew 6.3 percent, compared to total U.S. real GDP growth of 1.9 percent.
- In 2020, while total U.S. real GDP declined 2.2 percent, digital economy real value added grew by 6.5 percent.

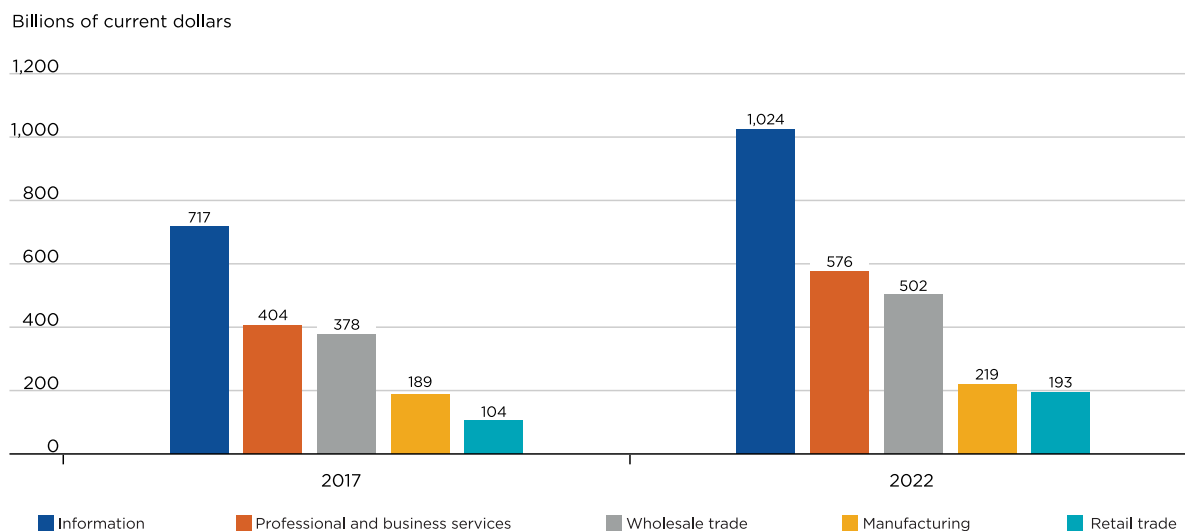
Chart 2. Digital Economy Value Added by Detailed Activity Type, 2017–2022



Note. Federal nondefense digital services is excluded due to its small value (\$300 million in 2022), and therefore all activities shown here will not sum to total digital economy value added.
U.S. Bureau of Economic Analysis

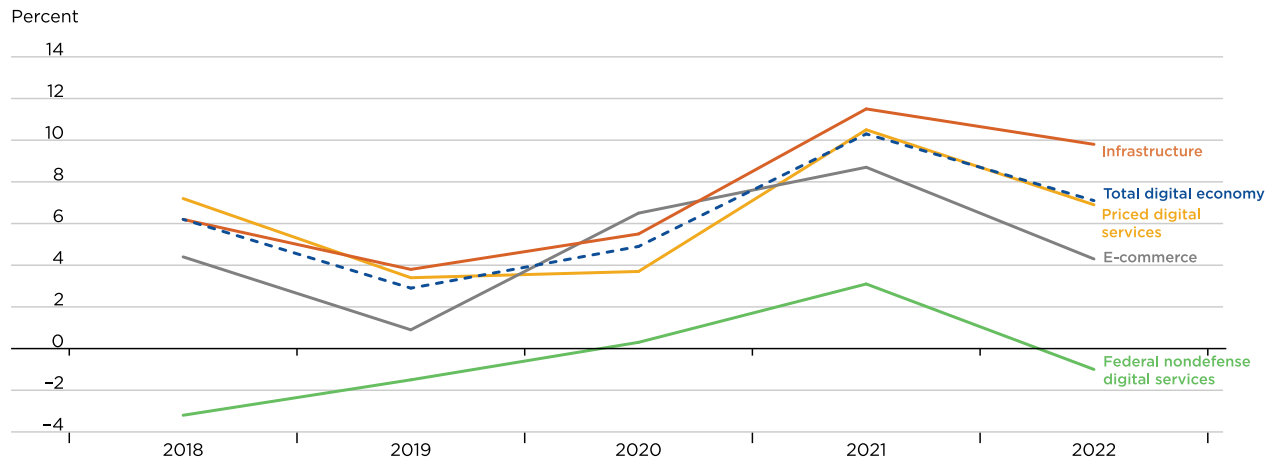
- In 2022, software represented the largest share of value added in the digital economy among the detailed activities, at 24 percent, followed by telecommunication services (18 percent) and business-to-business e-commerce (16 percent).
- While software had the largest increase in current-dollar value added between 2017 and 2022 (\$216 billion), cloud services saw the fastest growth, growing 232.1 percent between 2017 and 2022, with an annual average growth rate of 27.2 percent.

Chart 3. Top Five Sectors Contributing to Digital Economy Value Added, 2017 and 2022



- In both 2017 and 2022, the information sector was the highest contributing sector to digital economy value added, growing from \$717 billion in 2017 to \$1,024 billion in 2022, an average annual growth rate of 7.5 percent.
- Professional and business services was the second-highest contributor to digital economy value added in both 2017 and 2022, followed by wholesale trade, manufacturing, and retail trade.

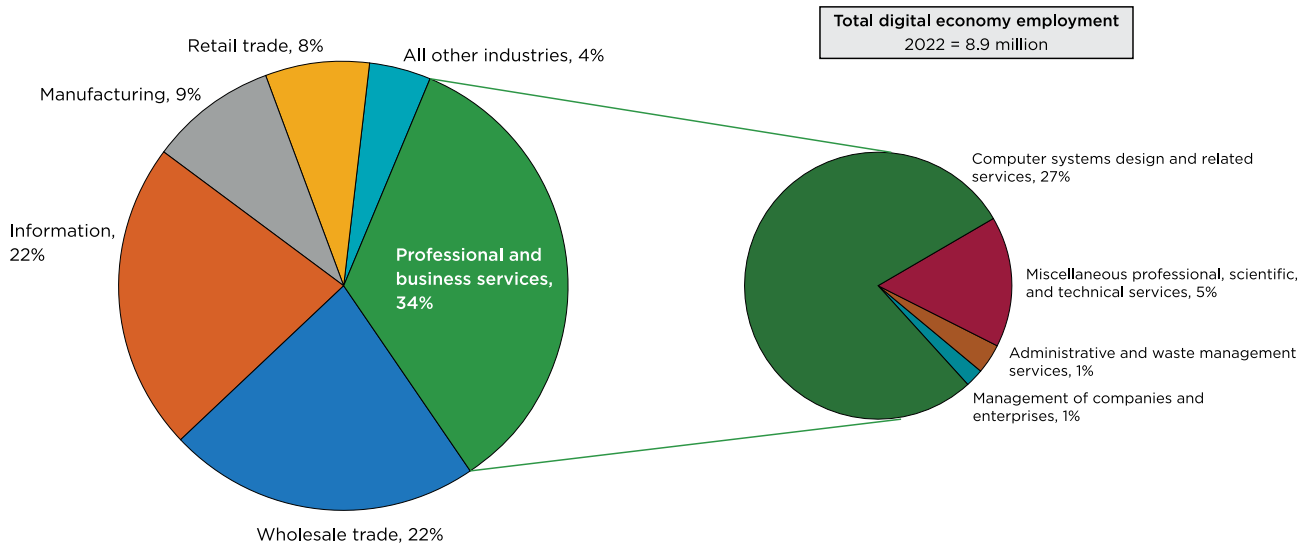
Chart 4. Annual Growth Rates of Real Gross Output by Major Activity, 2018–2022



U.S. Bureau of Economic Analysis

- Real gross output of the digital economy grew 7.1 percent in 2022 and grew at an average annual rate of 6.3 percent between 2017 and 2022.
- Infrastructure real gross output grew at the fastest rate in 2022 (9.8 percent), followed by priced digital services (6.9 percent) and e-commerce (4.3 percent). Federal nondefense digital services declined 1.0 percent in 2022.

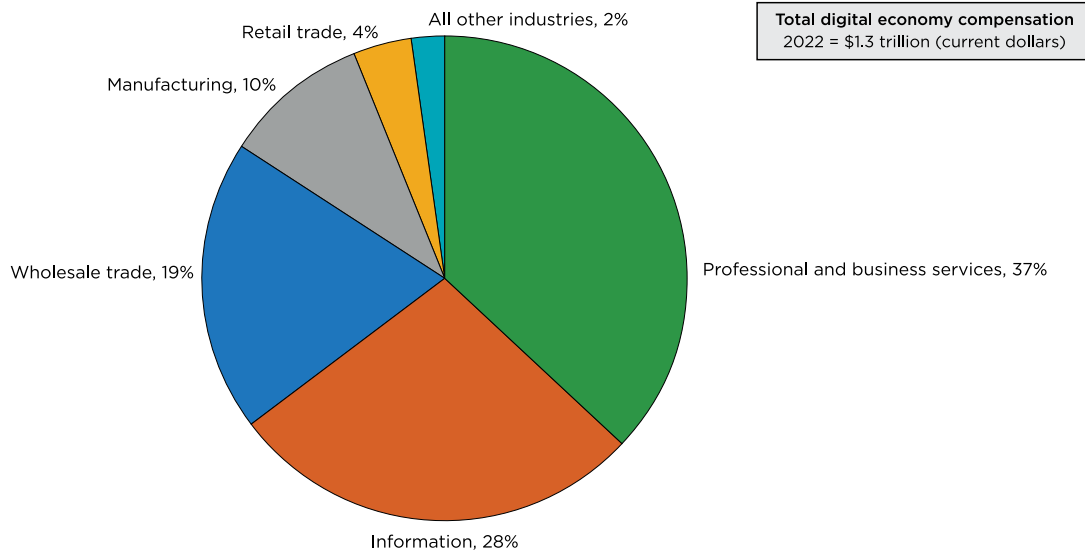
Chart 5. Digital Economy Employment by Industry, 2022



U.S. Bureau of Economic Analysis

- The professional and business services sector represented the largest share of total employment in the digital economy in 2022, at 34 percent. Within this sector, computer systems design and related services was the highest contributing industry, representing 27 percent of total digital economy employment.
- The wholesale trade and information sectors each represented the next largest shares, at 22 percent each, followed by manufacturing (9 percent) and retail trade (8 percent). All other industries combined represented 4 percent of total digital economy employment.

Chart 6. Digital Economy Compensation by Industry, 2022



U.S. Bureau of Economic Analysis

- The professional and business services sector represented the largest share of total digital economy compensation in 2022, at 37 percent.
- Within the professional and business services sector, the computer systems design and related services industry represented 30 percent of total digital economy compensation.
- The information sector represented the second-largest share of total digital economy compensation in 2022, at 28 percent, followed by wholesale trade (19 percent), manufacturing (10 percent), and retail trade (4 percent). All other sectors combined to represent 2 percent of total compensation.



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EXHIBIT 139

New and Revised Statistics of the U.S. Digital Economy, 2005–2021

by Tina Highfill and Christopher Surfield

This report provides an overview of [new and revised digital economy statistics for 2005–2021](#) released by the U.S. Bureau of Economic Analysis (BEA) in November 2022. These statistics build on the [2005–2020 estimates released in May 2022](#) by incorporating new data for 2021 and revising source data for 2005–2020. The new data show in 2021, the U.S. digital economy accounted for \$3.70 trillion of gross output, \$2.41 trillion of value added (translating to 10.3 percent of U.S. gross domestic product (GDP)), \$1.24 trillion of compensation, and 8.0 million jobs.¹ Growth in price-adjusted GDP (also referred to as “chained-dollar” or “real” GDP) was 9.8 percent in 2021, greatly outpacing growth in the overall economy, which increased 5.9 percent.² [See BEA’s digital economy satellite account website](#) for the detailed data tables and other research related to measuring the digital economy.

The new 2021 statistics and growth in the past 6 years (2016–2021) are the focus of this report. Results are presented by major activity and by standard industry classifications under the North American Industry Classification System (NAICS). Digital economy activities are organized by infrastructure (software and hardware), e-commerce (business-to-business and business-to-consumer), priced digital services (cloud services; telecommunications services; internet and data services; and all other priced digital services), and federal nondefense digital services, a new activity introduced with this report. A description of the revisions to the 2005–2020 estimates are also provided, followed by a brief overview of the methodology. The report concludes with a short summary of results and plans for future work.

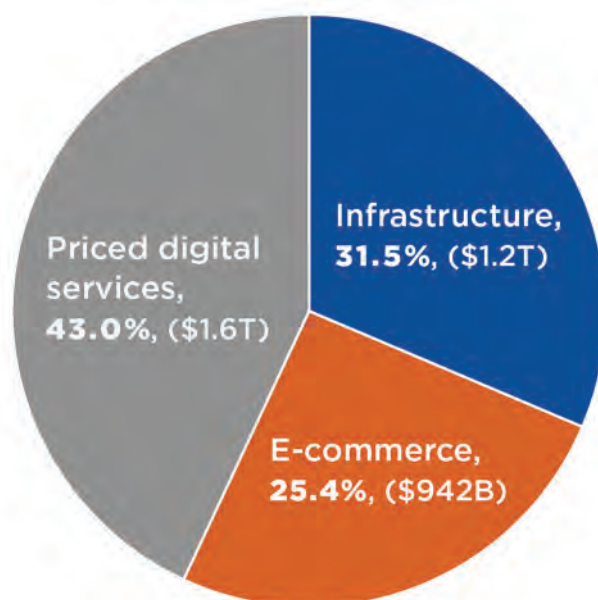
-
1. The gross output of an industry is the market value of the goods and services produced by an industry. The GDP or value added for an industry represents the market value it adds in production, or the difference between an industry’s gross output and the cost of its intermediate inputs.
 2. Real or constant-dollar estimates hold prices constant such that growth rates for real estimates reflect changes in quantities produced, removing the impact of inflation. Chained-dollar estimates are calculated by taking the current-dollar level of a series in the reference period and multiplying it by the change in a chained-type quantity index number for the series since the reference period. Chained-dollar estimates correctly show growth rates for a series but are not additive in periods other than the reference period.

Also included with this report are two annexes that highlight areas where BEA is currently conducting research and seeking feedback on methodology. The first provides an overview of how Census Bureau data on revenue from electronic sources may be useful for estimating digital intermediary services for rideshare platforms. Digital intermediary services represent services generated from operating a digital intermediary platform and are currently not comprehensively included in the digital economy estimates. The second annex describes experimental estimates of e-commerce for personal consumption expenditures (PCE), an area of importance for the development of digital supply-use tables as outlined by the Organisation for Economic Co-operation and Development (OECD).³

Gross output by activity

The digital economy produced \$3.70 trillion in current-dollar gross output in 2021, up from \$3.30 trillion in 2020. In real terms, digital economy gross output grew by 10.0 percent between 2020 and 2021. The annual growth rate for real gross output averaged 5.6 percent between 2016 and 2021, much faster than the overall economy's growth of 1.9 percent over the same period. Figure 1 shows priced digital services was the largest activity in the digital economy in 2021, representing 43.1 percent of total gross output, followed by infrastructure (31.5 percent) and e-commerce (25.4 percent). For clarity purposes, the proportion accounted for by federal nondefense digital services (0.01 percent) is not shown. Additional information about each activity is provided below.

Figure 1. Digital Economy Gross Output by Major Activity, 2021



U.S. Bureau of Economic Analysis

3. See "[High priority indicators in the Digital Supply-Use Tables](#)" by the Working Party on National Accounts (2019).

- **Priced digital services** produced \$1.59 trillion in current-dollar gross output in 2021. In real terms, gross output increased by 9.8 percent between 2020 and 2021, more than twice the average growth rate of 4.8 percent over the 2016–2021 period. Growth in cloud services (21.8 percent) and internet and data services (17.5 percent) offset the relatively weaker growth in telecommunications services (5.7 percent) between 2020 and 2021. Telecommunications services accounted for slightly more than half of all output within this activity.
- **Infrastructure** produced \$1.17 trillion in current-dollar gross output in 2021. Growth in real gross output between 2020 and 2021 for this activity was 11.1 percent. This annual growth rate exceeds the average 6-year growth rate of 7.2 percent. Both software (12.1 percent) and hardware (9.5 percent) experienced strong growth rates in 2021.
- **E-commerce** produced \$942 billion in current-dollar gross output in 2021. Real gross output increased by 8.7 percent. In 2021, both business-to-business (B2B) and business-to-consumer (B2C) e-commerce experienced robust growth in real gross output at 7.6 and 11.1 percent, respectively. Between 2016 and 2021, e-commerce had an average growth rate for real gross output (5.1 percent) slightly below that observed for the digital economy (5.6 percent).
- **Federal nondefense digital services** produced \$420 million in current-dollar gross output in 2021. Gross output associated with federal nondefense digital services has been consistently declining over the past 6 years. Real gross output attributable to this activity declined 0.9 percent in 2021 and had an average growth rate of –1.4 percent between 2016 and 2021.

Table 1. Digital Economy Gross Output by Activity, 2021

[Millions of dollars]

Digital economy	3,701,722
Infrastructure	1,167,116
Hardware	445,089
Software	722,027
E-commerce	941,970
Business-to-business e-commerce	642,998
Business-to-consumer e-commerce	298,972
Priced digital services	1,592,217
Cloud services	186,589
Telecommunications services	802,139
Internet and data services	213,290
All other priced digital services	390,200
Federal nondefense digital services	420

Gross output by industry

When evaluated by industry sectors, there were significant variations in both the distribution and growth of the digital economy current-dollar and real gross output estimates. Table 2 shows over 80 percent of 2021 gross output for the digital economy was produced by 3 industry sectors: information (43.2 percent), wholesale trade (21.4 percent), and professional and business services (16.6 percent). Additional information about each industry sector is provided below.

Table 2. Digital Economy Gross Output for Major Sectors, 2021
[Millions of dollars]

Digital economy	3,701,722
Information	1,600,191
Wholesale trade	792,532
Professional and business services	615,714
Retail Trade	308,818
Manufacturing	303,349
All other industries	81,118

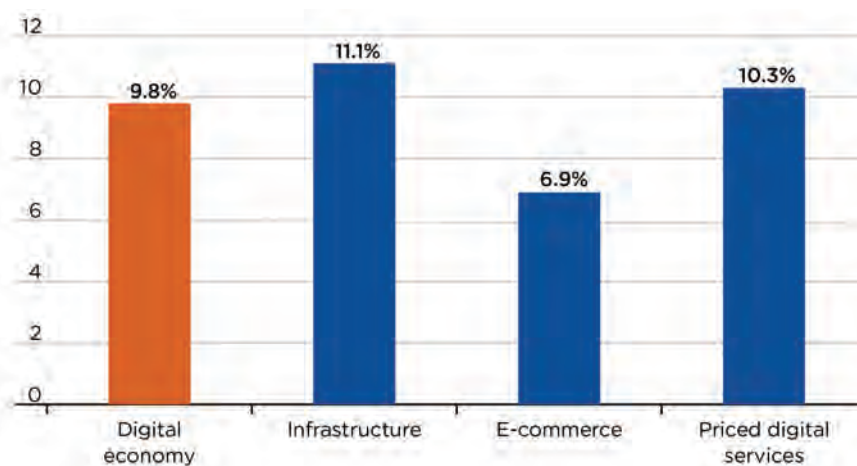
- **Information** had a higher growth rate for real gross output (12.4 percent) relative to the overall digital economy (10.0 percent). Broadcasting and telecommunications accounted for nearly half (46.6 percent) of this industry’s real gross output. The relatively weaker growth in broadcasting and telecommunications in 2021 (4.3 percent) was offset by much stronger growth in data processing, internet publishing, and other information services (21.9 percent) and publishing industries, except internet (includes software) (18.7 percent) which account for much of the remaining gross output. Overall, the information industry had an average growth rate of 6.3 percent between 2016 and 2021. Nearly three quarters (73.5 percent) of the information industry’s overall real gross output in the United States was produced within the digital economy in 2021.
- The second and third largest industries, **wholesale trade** and **professional and business services** both had weaker growth rates in real gross output than information in 2021 (6.2 percent and 7.4 percent, respectively). These two industries, however, diverged in terms of their longer-term growth rates. Wholesale trade, while halting the decline in real gross output observed in 2019 and 2020, had a relatively low average growth rate of 1.9 percent between 2016 and 2021. Professional and business services saw an average increase of 6.8 percent over the same period.
- The final two major sectors, **retail trade** and **manufacturing**, notched real gross output growth rates equal to, or greater than, the overall digital economy in 2021. Retail trade’s real gross output increased by 10.0 percent in 2021, with manufacturing’s increasing by 13.4 percent. Their longer-term growth rates were more mixed, however. Retail trade recorded an average growth rate of 13.5 percent between 2016 and 2021, outpacing the overall digital economy (5.6 percent). Manufacturing had an average growth rate of 4.9 percent for the same period.

Value added by activity

The digital economy accounted for \$2.41 trillion in current-dollar value added in 2021, up from \$2.17 trillion in 2020. In real terms, digital economy value added grew 9.8 percent between 2020 and 2021 (figure 2). The average annual growth rate was 6.7 percent for 2016–2021 real value added. Many of the trends in the gross output results hold for the value added estimates. Activity highlights include:

- **Infrastructure** contributed \$911 billion in current-dollar value added in 2021. In real terms, infrastructure’s growth rate (11.1 percent) outpaced the overall digital economy (9.8 percent) in 2021. Hardware increased by 7.8 percent and software posted a 12.9 percent increase. Over the longer term, infrastructure saw an average growth in real value added of 9.1 percent between 2016 and 2021, greater than the overall digital economy’s growth of 6.7 percent.
- **E-commerce** contributed \$559 billion in current-dollar value added in 2021. Growth in e-commerce’s real value added (6.9 percent) was below the overall growth in the digital economy (9.8 percent), though still outperforming the U.S. economy (5.9 percent). Between 2016 and 2021, e-commerce had an average growth rate in real value added of 4.2 percent driven by strong growth in B2C e-commerce (11.2 percent).
- **Priced digital services** contributed \$939 billion in current-dollar value added in 2021. Except for telecommunications services, growth in real value added across the sub-activities exceeded 10 percent, with cloud services at nearly 20 percent (19.3 percent). Telecommunications services, the largest priced digital services component, increased its real value added by 6.3 percent in 2021. Growth in the priced digital services activity has been variable over the past six years, averaging 5.9 percent annual growth in real value added between 2016 and 2021.
- **Federal nondefense digital services** contributed \$258 million in current-dollar value added in 2021. Real value added contributed by this activity has been consistently declining since 2016. In 2021, federal nondefense digital services saw a 9.3 percent decline in real value added, with an overall average growth rate of –4.3 percent between 2016 and 2021.

Figure 2. Real Value-Added Growth for the Digital Economy and Major Activities, 2021



Value added by industry

Similar to gross output, there is considerable variation in the annual value added growth rates by sector and associated contributions to the digital economy, with similar patterns emerging. Industry highlights include:

- Nearly all value added generated by the digital economy is accounted for by five industries: information (40.9 percent), professional and business services (19.5 percent), wholesale trade (18.8 percent), manufacturing (10.1 percent), and retail trade (8.2 percent).
- **Information**, the largest sector in the digital economy, had growth in real value added exceeding the overall digital economy for both 2021 (12.8 percent versus 9.8 percent) and between 2016 and 2021 on average (8.6 percent versus 6.7 percent).
- **Professional and business services, manufacturing, and retail trade**, like information, all had annual and growth rates for real value added that were higher than the digital economy between 2016 and 2021.
- **Wholesale trade** had below-average growth in real value added in 2021 as well as slow growth between 2016 and 2021 (1.5 percent and 0.9 percent, respectively).

Employment and compensation by industry

The digital economy employed over 8.0 million full- and part-time employees in 2021, corresponding to nearly \$1.24 trillion in total compensation. The average annual growth rate for digital economy employment was 2.0 percent for 2016–2021, with 2.6 percent growth between 2020 and 2021. Compensation showed stronger growth, with an average annual rate of 8.1 percent for 2016–2021 and 13.2 percent growth between 2020 and 2021. Dividing total compensation by total employment in 2021 equates to an average compensation of \$154,421 for employees in the digital economy.

Revisions to 2005–2020 estimates

Revisions to the 2005–2020 estimates stemmed from revised source data and a new methodology for cloud services. As described in the succeeding methodology section of this report, the digital economy statistics are derived from BEA's comprehensive supply-use tables (SUTs). Each year, BEA revises the data underlying the SUTs as part of an [“annual update,”](#) and those updates are incorporated into the digital economy estimates. Many of the sources of revision come from the Census Bureau, the principal data source used to develop the SUTs. Revisions generally impacted years 2017–2020, with the most significant revisions occurring to the 2020 values. While overall growth rates were mostly unaffected across all digital economy estimates, some changes were seen at the activity and industry level. Notable revisions to current-dollar gross output arising from the annual update include the following:

- **Software** was revised upwards more than \$20 billion in 2020 due to the incorporation of revised Census Bureau Services Annual Survey data and new National Science Foundation Research and Development data.
- **Hardware** was revised down in 2020 by over \$5 billion due to new Census Bureau Annual Survey of Manufactures data, especially to manufacturing related to semiconductors.

Cloud services represents computing services that customers can access from a shared pool of configurable computing resources in a flexible and on-demand way, without active management by the customer. BEA's digital economy statistics first incorporated estimates of cloud services in the [August 2020 report](#) by using Economic Census (EC) data on revenue for industries by product line. Further research determined the EC product categories that include cloud services also include unrelated internet and data products, resulting in overestimates of cloud services output in previous reports. BEA now uses publicly available Securities and Exchange Commission (SEC) filings data and data purchased from the International Data Corporation (IDC) to estimate cloud services output, described further in the methodology section. The result is a downward revision to the 2005–2020 cloud services gross output values by about \$35 billion per year, on average. These values were offset to the “internet and data services” activity, so overall levels for the digital economy were not impacted by this change.

Census Bureau data used to estimate the e-commerce share of retail trade (business-to-consumer e-commerce) and wholesale trade (business-to-business e-commerce) were also updated for the entire time series, resulting in minor revisions to these estimates. Additionally, Census Bureau wholesale e-commerce (B2B) data for medical, dental, and hospital equipment and supplies are suppressed for 2005–2014 in the public tables and those years were given a \$0 value in BEA's previous digital economy reports. Estimates of suppressed values for those years were incorporated to remove the break in the time series.

Revisions to value added, employment, and compensation followed a similar pattern to the gross output revisions, also stemming from updated and revised source data.

Methodology overview

The digital economy statistics are built using BEA’s comprehensive SUTs, which provide insight into the internal workings of the U.S. economy and detail the contribution of specific industries and products to gross output and GDP. The SUTs detail the flows of products (goods and services) purchased by each industry, the incomes earned from production in each industry, and the distribution of sales for each product. The purpose of the digital economy statistics is to highlight production and spending for the digital economy that is already present in the SUTs. To do this, we first identified the goods and services relevant to the digital economy within the SUTs. In cases where the good or service includes both digital and nondigital production, such as retail trade margins for clothing stores, we use external source data to isolate the digital activity. The paper “[Defining and Measuring the Digital Economy](#)” (2018) describes the initial process and methodology for developing the digital economy statistics, which relied heavily on international guidelines and statistics from other international statistical agencies including Statistics Canada and the United Kingdom’s Office for National Statistics.

BEA’s digital economy statistics are currently comprised of four major categories of goods and services and eight subcategories. Appendix table 1 provides the list of primary NAICS industries within these categories. The following provides an overview of the methodology and source data used to develop these estimates:

- 1) **Infrastructure**, or the basic physical materials and organizational arrangements that support the existence and use of computer networks and the digital economy, primarily information and communications technology (ICT) goods and services. Infrastructure products are categorized in terms of hardware and software.
 - i. **Hardware** represents the manufactured physical elements that constitute a computer system including, but not limited to, monitors, hard drives, and semiconductors. Hardware also includes communications products and audio and visual equipment. The hardware values are available directly from the SUTs.
 - ii. **Software** represents the programs and other operating information used by devices such as personal computers and commercial servers including both commercial software and software developed in-house by firms for their own use. The software values are found within the software publishers and custom computer programming products in the SUTs.
- 2) **E-commerce**, or the remote sale of goods and services over computer networks. E-commerce products are presented separately for business-to-consumer (B2C) e-commerce (that is, retail trade) and business-to-business (B2B) e-commerce (that is, wholesale trade).
 - i. **B2B e-commerce** represents purchasing or ordering of goods and services between businesses using the internet or other electronic means. The 2005–2020 B2B values were determined using the U.S. Census Bureau Annual Wholesale Trade Survey (AWTS), which includes data on total sales and e-commerce sales for wholesalers. The proportion of e-commerce sales to total sales was used to estimate the share of margins earned by engaging in e-commerce for each type of wholesale trade category in the SUTs. Since the 2021 e-commerce data were unavailable from the AWTS, the 2020 B2B values were grown using the overall growth rate for wholesale trade gross output in 2021 due to the high correlation between the estimates in recent years.

- ii. **B2C e-commerce** represents the sale of goods and services by businesses to consumers, or retail e-commerce, using the internet or other electronic means. The 2005–2020 B2C values were determined using the Census Bureau Annual Retail Trade Survey (ARTS) and supplemental e-commerce data. As with B2B, the proportion of e-commerce sales to total sales was used to estimate the share of margins earned by engaging in e-commerce for each type of retail trade category in the SUTs. Since ARTS data are unavailable 2021, the Quarterly Retail Trade Survey overall retail trade e-commerce totals were used to grow the 2020 values and also to revise the 2005–2020 e-commerce totals.
- 3) **Priced digital services**, or services related to computing and communication that are performed for a fee charged to the consumer. Priced digital services products include cloud services, telecommunications services, internet and data services, and all other priced digital services.
 - i. **Cloud services** represents computing services that customers can access from a shared pool of configurable computing resources in a flexible and on-demand way, without active management by the customer. Cloud services providers offer a range of resources, such as access to processing, storage, and networks and platforms for customers to deploy their own applications. For 2013–2021, data on cloud services revenue from the International Data Corporation (IDC) were used to estimate cloud services output. The IDC data were determined to be a reliable data source after examining their methodology and comparing their company-level data to cloud revenues from BEA's 2019 Benchmark Survey of U.S. Direct Investment Abroad (BE-10) which included a new section on "Digital Economy Activities." Since IDC does not have data prior to 2013, the 2013 IDC value was back-casted using growth rates for cloud services revenue from 2005–2012 public SEC filings for major cloud companies, including AWS, Salesforce, Google, Microsoft, and IBM.
 - ii. **Telecommunications services** represents services related to telephony, cable and satellite television, movie and video production, and broadcasting; internet is excluded. These values are available directly from the SUTs.
 - iii. **Internet and data services** represents services related to providing internet access and to hosting, searching, retrieving, and streaming content and information on the web. Internet and data services often occur in the same product categories as cloud services. In these cases, the cloud services value was determined first, and the internet and data services values represent the difference between the cloud services value and the overall value of production for the relevant product.
 - iv. **All other priced digital services** represents purchased digital services not categorized in the other activities. Specifically, computer systems design and related services, computer training, and electronic and precision equipment repair and maintenance. These values are available directly from the SUTs.
- 4) **Federal nondefense digital services** represents the annual budget for four federal government agencies whose services are directly related to supporting the digital economy: the Federal Communications Commission (FCC), National Telecommunications and Information Administration (NTIA), Department of Education's Office of Education Technology, and U.S. Digital Service.

Summary

In 2021, the digital economy experienced similar growth in terms of nominal gross output and value added as the overall U.S. economy. Unlike the overall U.S. economy, real (price-adjusted) growth in the digital economy was nearly as strong as nominal growth, indicating the digital economy was not impacted by inflation in the same way as the overall U.S. economy in 2021. Strong growth was seen in all major digital economy activities: infrastructure, e-commerce, and priced digital services. Within infrastructure, both hardware and software showed double-digit growth rates in real value added for 2021, the only time that happened in the time series going back to 2005. Business-to-consumer e-commerce continued to grow in 2021 following immense gains seen in 2020 due to the COVID-19 pandemic. And cloud services realized the fastest growth in the priced digital services activity as those services continue to grow in importance to the digital economy.

The future of BEA's digital economy initiative includes many possibilities for improvement and expansion. BEA intends to expand the digital economy statistics to include areas that are currently not included, including digital intermediary services (see annex 1). Additionally, BEA is investigating improvements to price indexes for certain segments of the digital economy that are experiencing rapid growth and technological improvement, including software and cloud services. These improvements could have implications for both BEA's digital economy satellite account statistics and BEA's core economic statistics. BEA will endeavor to implement these changes and other extensions subject to time, data, and resource constraints. We ask for feedback from data users and other stakeholders regarding these estimates and future plans. Please send comments to DigitalEconomy@bea.gov.⁴

4. We wish to thank the following current and former BEA employees for their invaluable assistance in preparing this report: David Curtis, Greg Linder, Greg Prunchak, Ricky Stewart, and David Wasshausen.

Appendix

Appendix Table 1. Digital Economy Activities and Detailed Industries—Continues

Digital economy activities	Primary NAICS industry	NAICS description
Infrastructure		
Hardware	333242	Semiconductor machinery manufacturing
	333293	Printing machinery and equipment
	333990	Other general-purpose machinery manufacturing, repair work
	334110	Computer and peripheral equipment manufacturing
	334200	Communications equipment manufacturing
	334310	Audio and video equipment manufacturing
	334410	Semiconductor and other electronic component manufacturing
	334610	Manufacturing and reproducing magnetic and optical media
	335920	Communication and energy wire and cable manufacturing
Software	335999	All other miscellaneous electrical equipment and component manufacturing
	511210	Software publishers
	541511	Custom computer programming services
E-commerce		
Business-to-consumer (B2C)	441000	Motor vehicle and parts dealers
	442000	Furniture and home furnishings stores
	443000	Electronics and appliance stores
	444000	Building material and garden equipment and supplies dealers
	445000	Food and beverage stores
	446000	Health and personal care stores
	447000	Gasoline stations
	448000	Clothing and clothing accessories stores
	451000	Sporting goods, hobby, book, and music stores
	452000	General merchandise stores
	453000	Miscellaneous store retailers
	454000	Nonstore retailers
	Business-to-business (B2B)	423000
424000		Merchant wholesalers, nondurable goods
425110		Business to business electronic markets

Appendix Table 1. Digital Economy Activities and Detailed Industries—Table Ends

Digital economy activities	Primary NAICS industry	NAICS description	
Priced digital services			
Cloud services	518210	Data processing, hosting, and related services	
	512110	Motion picture and video production	
	515120	Television broadcasting	
	515210	Cable and other subscription programming	
	Telecommunications services	517110	Wired telecommunications carriers
		517120	Wireless telecommunications carriers (except satellite)
		517410	Satellite telecommunications
	517910	Other telecommunications	
Internet and data services	512110	Motion picture and video production	
	517110	Wired telecommunications carriers	
	517919	All other telecommunications	
	518210	Data processing, hosting, and related services	
	519110	News syndicates	
	519130	Internet publishing and broadcasting and web search portals	
All other priced digital services	541512	Computer systems design services	
	541513	Computer facilities management services	
	541519	Other computer related services	
	611420	Computer training	
	811211	Consumer electronics repair and maintenance	
	811212	Computer and office machine repair and maintenance	
	811213	Communication equipment repair and maintenance	
Federal nondefense digital services	920000	Federal general government (nondefense)	

Notes. North American Industry Classification System (NAICS). The value of these industries are included fully or partially as described in the methodology. The hardware estimates also include research and development and sales of used products. The e-commerce estimates represent margins earned on e-commerce sales. The federal nondefense digital services estimates represent the annual budget for the Federal Communications Commission (FCC), National Telecommunications and Information Administration (NTIA), Department of Education's Office of Education Technology, and U.S. Digital Service.

Annex 1. Estimating Digital Intermediary Services Output for Rideshare Platforms

Revenues for digital intermediary services are earned from operating a digital intermediary platform, which is an online interface that facilitates, for a fee, the direct interaction between multiple buyers and multiple sellers.⁵ The platform does not take economic ownership of the goods, nor does it provide the services that are being sold. BEA's digital economy statistics currently do not explicitly include estimates for digital intermediary services, resulting in an incomplete picture of the digital economy, especially in an area of growing interest to BEA's users.⁶ This annex provides a potential framework for developing digital intermediary services estimates for an area of growing attention, peer-to-peer (P2P) rideshare platforms.

[Census Bureau data on revenue from electronic sources](#) from the Services Annual Survey (SAS) serve as the foundation for this proposed framework. The Census Bureau is the primary source of data for BEA's SUTs and BEA's digital economy statistics, making the SAS electronic revenue data an ideal candidate for estimating output for P2P rideshare platforms. The role of the electronic revenue data is to serve as the ceiling for all digital orders in the taxi services industry.⁷ There are three relevant streams of revenue originating from electronic sources for the taxi services industry:

1. Revenue to a taxi company from a digital order originating from their website/app (for example, scheduling a taxi ride via a taxi company's website).
2. Revenue to a driver whose services are facilitated via a digital intermediary service provider (the payment to a rideshare driver for a ride).
3. Revenue to a digital intermediary service provider for facilitating the ride (fee paid to ride services platform for a ride service provided by a rideshare driver). This is the share that constitutes digital intermediary services output for P2P rideshare platforms.

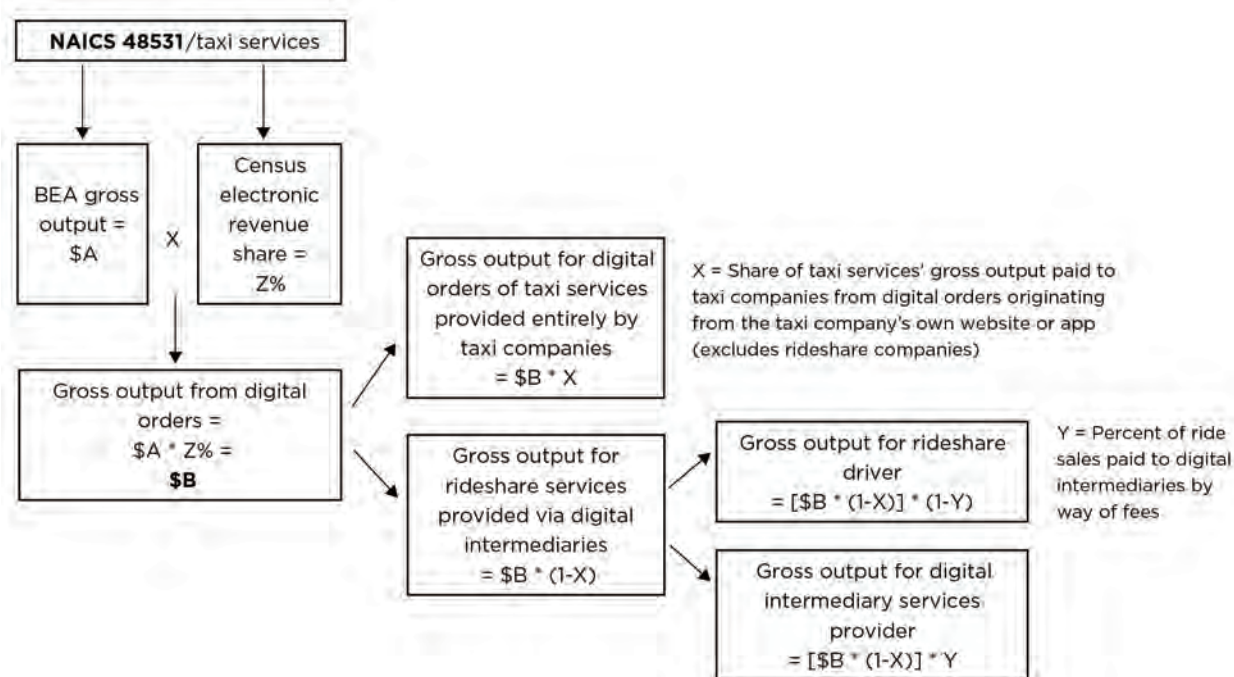
Figure 1 provides a schematic of these three types of revenue streams and how the SAS electronic revenue data could potentially be used to estimate digital intermediary services for P2P rideshare platforms. First, the share of taxi services' revenue that comes from electronic sources is determined from the Census Bureau electronic revenue data and applied to total gross output for taxi services to find total gross output for taxi services derived from digital orders (\$B in figure 1). That gross output is then divided into output for taxi services originating from a taxi company's own website or app and output for P2P rideshare or taxi services originating from a digital intermediary platform. That output is further divided into output for the rideshare driver and output for the digital intermediary services provider or platform.

5. Definition taken from BEA's [2019 Benchmark Survey of U.S. Direct Investment Abroad \(BE-10\)](#) (p. 8).

6. Digital intermediary services span multiple industries, including wholesale trade and retail trade. Since BEA's digital economy statistics include comprehensive estimates of e-commerce for whole trade and retail trade, digital intermediary services for those industries are inherently included in the current digital economy estimates.

7. Rideshare has been identified by Census Bureau as part of the [taxi services industry \(NAICS 48531\)](#).

Figure 1. Framework for Estimating Digital Intermediary Services Gross Output for Rideshare Using Census Bureau Revenue from Electronic Sources Data



NAICS North American Industry Classification System

To understand how the method outlined in figure 1 could work in practice to estimate digital intermediary services for P2P rideshare platforms, table 1 provides an example using pseudo data. The calculation starts on line 1 with an estimate of gross output for taxi services (NAICS 48531) derived using 50 percent of the gross output values for transit and ground passenger transportation (NAICS 485), the most detailed data that are available on BEA's website. If BEA were to use this method to calculate digital intermediary services, the true values for taxi services gross output would be used. The next step (line 2) is to apply the share of taxi services revenue that comes from electronic sources; however, only the overall values for transit and ground passenger transportation (NAICS 485) are on the published tables, and those values are suppressed for all years (table 2). While it is possible to break the suppressions using a reasonable method,⁸ that unfortunately still only provides e-revenue for all of transit and ground passenger transportation, not just taxi services. Next, the portion of estimated taxi services' gross output from digital orders attributable to rideshare versus a taxi company's own website or app (excluding rideshare platforms) is estimated on line 4. Since that information is not readily available, we estimate that most taxi companies that are not rideshare companies do not receive orders for taxi services online (in other words, we assume most taxis are hailed in person or ordered via the phone), so we attribute 95 percent of digital orders for taxi services to P2P rideshare. Finally, to separate estimated rideshare gross output between rideshare drivers and the digital intermediary platform, we

8. Standard suppression-breaking methods start by subtracting the unsuppressed values from the total value to find the total suppressed value. The suppressed value is allocated to the suppressed cells based on some data-based proportion, for example, by using a weight based on data that are available in surrounding years for the suppressed cells.

use information from [Uber's website](#) that states Uber takes 25 percent of the rideshare charge as their fee. Line 7 shows this method results in estimates of digital intermediary services for P2P rideshare range from \$3 billion to \$5 billion between 2017 and 2020.

Table 1. Estimating Digital Intermediary Services Gross Output for Rideshare Using Census Revenue Data from Electronic Sources, an Example Using Pseudo Data

Line	Description	2017	2018	2019	2020
1	Estimated gross output for NAICS 48531, taxi services	38,080	45,141	45,790	29,231
2	Census e-revenue share for 485 after suppression breaking	56%	45%	48%	47%
3	= GO from digital orders for taxi services	21,325	20,313	21,979	13,739
4	Estimated share of digital orders for taxi services originating from digital intermediary platforms	95%	95%	95%	95%
5	= GO from digital orders of taxi services on digital intermediary platforms	20,258	19,298	20,880	13,052
6	Estimated share of ride service revenue paid to digital intermediary service platform	25%	25%	25%	25%
7	= Estimated rideshare digital intermediary services revenue	5,065	4,824	5,220	3,263
8	Percent change		-5%	8%	-37%
9	Estimated rideshare revenue derived from public SEC 10-K filings for Lyft + Uber	5,067	7,699	10,588	5,979
10	Percent change		52%	38%	-44%

Table 2. Estimated Revenue from Electronic Sources for Transportation and Warehousing Sector from U.S. Census Bureau's Services Annual Survey: 2015–2020

[Millions of dollars]

NAICS	NAICS Description	Item	2020 Estimate	2019 Estimate	2018 Estimate	2017 Estimate	2016 Estimate	2015 Estimate
4849	Transportation and Warehousing	Revenue	919,668	1,070,520	1,026,502	948,679	900,443	891,657
4849	Transportation and Warehousing	Revenue from Electronic Sources	120,181	192,627	181,102	181,382	NA	NA
481	Air Transportation	Revenue	110,158	236,830	224,690	208,830	198,787	199,733
481	Air Transportation	Revenue from Electronic Sources	38,118	98,897	93,097	93,161	NA	NA
483	Water Transportation	Revenue	29,653	48,902	46,042	43,010	43,366	44,373
483	Water Transportation	Revenue from Electronic Sources	S	12,153	11,454	9,992	NA	NA
484	Truck Transportation	Revenue	316,982	320,817	313,814	290,532	273,083	273,250
484	Truck Transportation	Revenue from Electronic Sources	33,422	31,939	31,982	32,040	NA	NA
485	Transit and Ground Passenger Transportation	Revenue	39,382	55,964	50,319	44,836	38,343	35,572
485	Transit and Ground Passenger Transportation	Revenue from Electronic Sources	S	S	S	S	NA	NA
486	Pipeline Transportation	Revenue	56,319	59,522	54,125	47,192	44,627	43,891
486	Pipeline Transportation	Revenue from Electronic Sources	S	S	S	S	NA	NA
487	Scenic and Sightseeing Transportation	Revenue	1,934	4,426	4,318	4,162	4,127	4,064
487	Scenic and Sightseeing Transportation	Revenue from Electronic Sources	531	1,465	1,387	1,383	NA	NA
488	Support Activities for Transportation	Revenue	206,055	201,150	196,246	181,623	178,282	178,269
488	Support Activities for Transportation	Revenue from Electronic Sources	16,733	15,338	S	14,637	NA	NA

S Estimate does not meet publication standards because of high sampling variability, poor response quality, or other concerns about the estimate's quality. Unpublished estimates derived from this table by subtraction are subject to these same limitations and should not be attributed to the U.S. Census Bureau. For a description of publication standards and the total quantity response rate, see <https://www.census.gov/about/policies/quality/standards/standardfi.html>.

NA Not available

In practice, the published Census revenue data from electronic sources have weaknesses that currently prevent it from being a reliable data source for estimating digital intermediary services output for P2P rideshare platforms, though it could be useful to inform or validate estimates. Even if BEA could access the unsuppressed data on electronic revenue for taxi services, the survey only covers years 2017–2020. Additionally, since the Census survey is specific to “employer firms” it is unknown whether revenue to rideshare drivers is included here. Even if the weaknesses of the Census data could be overcome, an estimate must still be made to identify the portion of taxi services’ gross output paid to taxi companies from digital orders originating from the taxi company’s own website or app (line 4 in table 1). Despite the weaknesses with this method, the line 9 of table 1 shows that SEC filings for Uber and Lyft provide somewhat similar revenue values to these Census-based estimates (U.S. production was estimated using geography breakouts in SEC filings to align with Census production values). However, growth rates are often very different. BEA is currently looking for additional data and methods to develop comprehensive estimates for this important area of the digital economy. Please send any comments or feedback to DigitalEconomy@bea.gov.

Annex 2. Experimental Estimates of E-commerce for Selected PCE Categories

Prepared by Rachel Goulder

Estimating e-commerce for personal consumption expenditures (PCE) is an area of importance for the development of digital supply-use tables (SUTs) as outlined by the Organisation for Economic Co-operation and Development (OECD).⁹ In this annex, experimental estimates of e-commerce for select PCE goods and services using Census e-commerce data for 2019 are described. These estimates present a first step in developing a better understanding of the role e-commerce plays in PCE, which accounted for 67 percent of gross domestic product (GDP) in 2019.¹⁰

PCE goods

Census Annual Retail Trade Survey (ARTS) and the Census Annual E-Commerce Report were used to estimate e-commerce for PCE goods.¹¹ To find the e-commerce share for each industry, the e-commerce sales totals for each North American Industry Classification System (NAICS) industry were divided by the respective industry total sales from the ARTS. The next step was to apply this estimated e-commerce share to each category in the [PCE goods table 2.4.5U](#). Since the Census ARTS data and the Census e-commerce data are on a NAICS industry basis and PCE goods are on a product basis, unpublished PCE data at the NAICS level of detail from BEA's internal databases were used. Then, the established e-commerce shares were applied to each PCE goods category. To ensure the calculation matched the published level of detail, a weighted average share of the detailed unpublished data was applied to each published PCE goods category to get the final e-commerce share of each PCE goods category. There are two important caveats:

1. “Motor Vehicle and Parts” and “Gas and Other energy goods”: Source data for these categories comes exclusively from sources outside of Census ARTS, so these two categories were excluded for our estimation.
2. Smaller subcategory exclusion: “Pharmaceutical and other medical products” and “Tobacco” were also excluded due to the source data originating from sources outside of the Census ARTS.

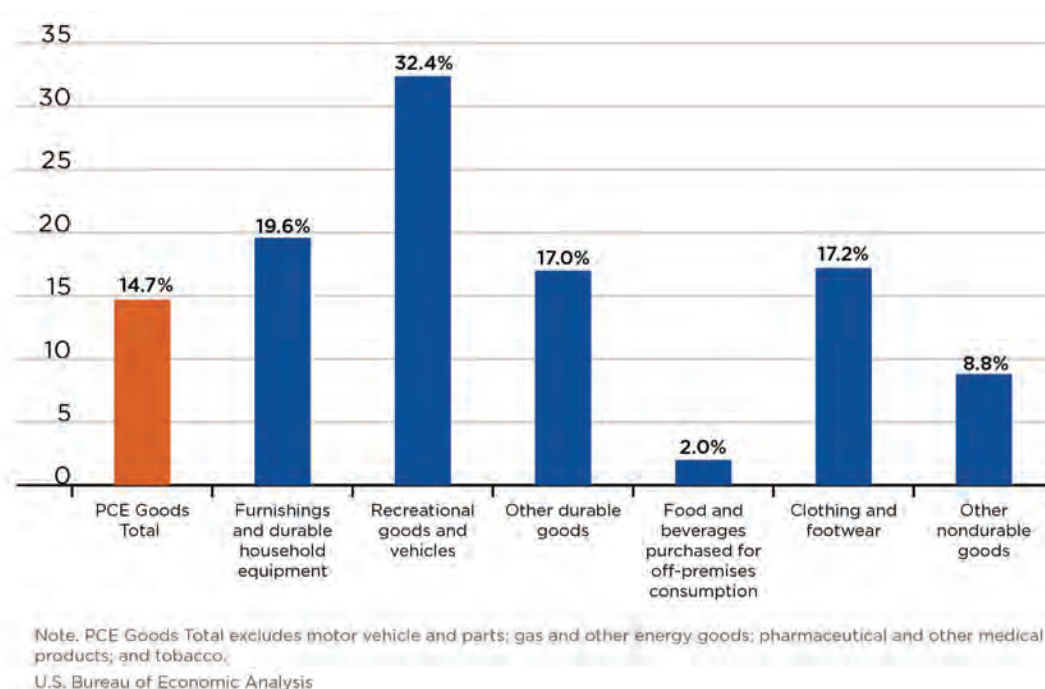
9. See “[High priority indicators in the Digital Supply-Use Tables](#)” by the Working Party on National Accounts (2019).

10. See National Income and Product Table 1.1.10. Percentage Shares of Gross Domestic Product.

11. Census e-commerce sales include sales of goods and services where the buyer places an order, or the price and terms of the sale are negotiated, over an Internet, mobile device (e-commerce), extranet, Electronic Data Interchange (EDI) network, electronic mail, or other comparable online system. Payment may or may not be made online. <https://www.census.gov/library/publications/time-series/e-commerce.html>.

Figure 1 shows that using this method, 14.7 percent of the included PCE goods total was estimated to be attributable to e-commerce in 2019. E-commerce shares for PCE goods ranged from 2 percent for food and beverages purchased for off-premises consumption to 32.4 percent for recreational goods and vehicles.

Figure 1: E-Commerce Share of Selected PCE Goods by Type of Product, 2019



PCE services

The 2019 e-commerce share for each PCE services category from table 2.4.5U. was determined using a similar process as with PCE goods. The e-commerce data came from the Census Service Annual Survey (SAS) and table 3 of the [Census E-STATS publication](#), which provides e-commerce activity by NAICS sector.¹² The PCE services categories and SAS industries aligned closer than they did for PCE goods. For example, there is a SAS category for “Utilities” and a PCE services category for “Household Utilities.”

To determine the e-commerce share, the total revenue from electronic sources (table 3) for each sector was divided by the corresponding total SAS revenue. That share was then applied to each corresponding PCE services category. As with PCE goods, many PCE services categories are comprised of a variety of source data outside of SAS. Consequently, a number of exclusions were made to arrive at a direct concordance.

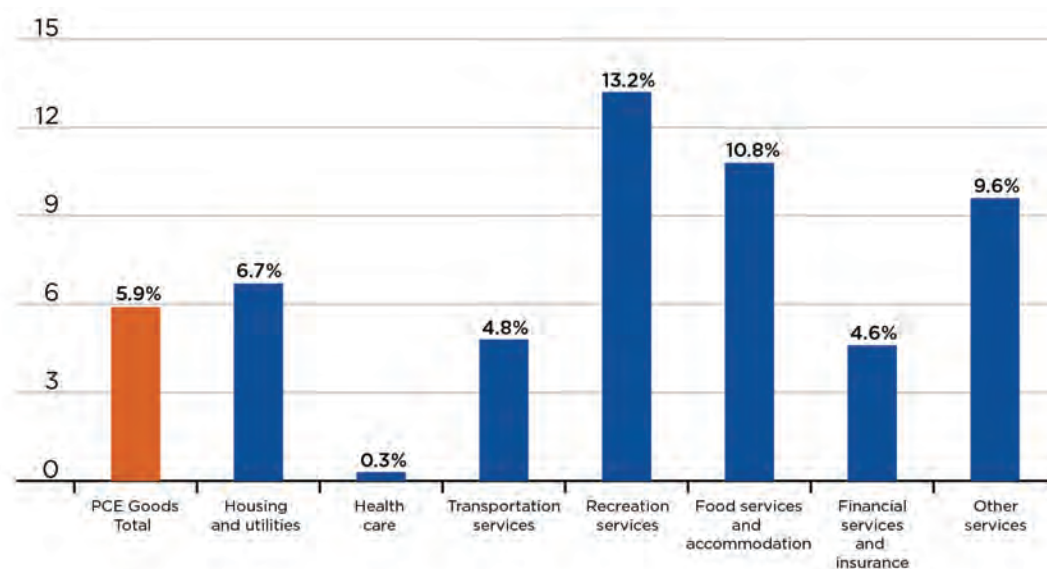
12. Census E-STATS report refers to revenue from electronic sources to include revenues from customers entering orders directly on a firm’s Web site or mobile application, revenues from customers entering orders directly on third party Web sites or mobile applications, and revenues from customers entering orders via any other electronic system (such as private networks, dedicated lines, kiosks, etc.). <https://www.census.gov/programs-surveys/e-stats/technical-documentation/methodology.html>

For example, according to the [SAS revenue table footnote](#), education services “Excludes NAICS 6111 (Elementary and Secondary Schools), NAICS 6112 (Junior Colleges), and NAICS 6113 (Colleges, Universities, and Professional Schools).” Therefore, those NAICS lines were excluded from the PCE services category calculation to ensure that the comparison was as close as possible.

Additionally, some rearrangement was necessary to align the PCE and SAS categories. For example, within the PCE services category for “Transportation Services,” there is a subcategory for “Motor Vehicle Maintenance and Repair.” According to SAS, this product would be classified under NAICS 81, “Other Services.” Therefore, this line was excluded from “Transportation Services” and included in the “Other Services” PCE services category.

Figure 2 shows 5.9 percent of PCE services was estimated to be attributable to e-commerce in 2019. E-commerce shares for PCE services ranged from 0.3 percent for health care to 13.2 percent for recreation services.

Figure 2. E-Commerce Share of Selected PCE Services by Type of Product, 2019



Note: PCE Services Total excludes elementary and secondary schools; junior colleges; colleges, universities, and professional schools; funds, trusts, and other financial vehicles; and rail transportation.

U.S. Bureau of Economic Analysis

These estimates represent an initial step in developing a comprehensive understanding of e-commerce for PCE and for the development of digital SUTs. Additional data and research are proceeding for a complete set of PCE e-commerce estimates.

EXHIBIT 140

KEY POINTS

- The Indo-Pacific Economic Framework (IPEF) agreement can play an important role in shaping rules that support economic growth, including strong digital trade provisions.
- The IPEF must adopt some flexibility and use phase-in periods for commitments to ensure broader participation.
- The IPEF should contemplate digital capacity-building initiatives for the private sector in countries that are digital trade newcomers, and the digital provisions in the agreement should not fall below the standards set by the USMCA and CPTPP.
- It should balance the interests of all stakeholders, facilitating fair competition between MSMEs and larger entities while promoting liberal trade policy without predetermining market outcomes.

EXECUTIVE SUMMARY

The Indo-Pacific Economic Framework (IPEF) agreement can play an important role in supporting future economic growth in the U.S. and Indo-Pacific region. Given the digital economy's foundational role in global commerce, innovation, and future economic growth, strong IPEF digital rules are essential to achieving this goal. Digital trade tools are also critical for increasing access to global trade for micro-, small-, and medium-sized enterprises (MSMEs), women- and minority-owned businesses, leading to more inclusive access to the global economy.

The IPEF's digital provisions should reflect the strong standards set in the USMCA. Weakening these commitments will prevent U.S. economic interests from reaching their full potential. The language in the USMCA provides IPEF countries with the policy space needed to develop new digital regulations while supporting cross-border data flows. They create a balanced framework that promotes a thriving digital economy while enabling governments to regulate digital markets to protect important public policy interests, like consumer protection and privacy.

Weakening these rules would damage U.S. interests in an area critical to U.S. competitiveness, and that is helping to drive U.S. growth and innovation. Failure to reach agreement on the IPEF will leave the door open to the European Union and other governments that do not share the IPEF partners' vision of a competitive digital economy to write the rules that will shape the future of digital trade in the region.

At the same time, some IPEF members may need flexibility to meet these standards. While all IPEF countries should ultimately meet the same standards, it may be useful to consider phase-in periods, technical assistance, or other flexibilities to ensure broader participation. This will encourage a phased alignment of domestic regulations with the agreement's digital trade benchmarks.

The costs of a weak digital chapter will be significant. Digital trade and the free movement of data across borders underpin all aspects of the global trade environment. The IPEF is a clear and present opportunity for an open and liberal approach to be taken across the Indo-Pacific region. If negotiators lean to a more restrictive or even a 'lowest common denominator' approach, it will be a significant setback for U.S. companies in the region.

DIGITAL TRADE: THE IPEF KEYSTONE

Digital trade is an important catalyst for economic growth, innovation, and competitiveness. The role of digital trade and the free flow of data is critical to all commercial activity, not only the tech sector.

The **financial services** sector exemplifies how cross-border data flows have transformed traditional processes, facilitating real-time transactions, mobile banking, and tailored financial products. A comprehensive digital trade chapter in the IPEF will foster an environment conducive to continuous financial innovation and expansion across these diverse economies.

Similarly, **transport services** have undergone a shift owing to digital innovations. With the advent of AI-fueled logistics and supply chain management, autonomous vehicles, and ride-hailing applications, digital trade provisions—particularly those that prohibit data localization and advocate for unrestricted data flow—are integral to cultivating a more efficient, sustainable, and intelligent transportation sector within the IPEF region.

In **health services**, digital trade's impact has been profound, underscored by its tremendous growth during the COVID-19 pandemic. Telemedicine, remote patient monitoring, and health data analysis are now vital components of modern healthcare. Incorporating digital trade provisions in the IPEF that facilitate the seamless cross-border flow of health data while ensuring robust privacy protections will promote enhanced patient outcomes and increase healthcare accessibility and healthcare innovation across the member nations.

The **movement of goods**—a cornerstone of global commerce—has been significantly enhanced by digital technologies. E-commerce platforms, online marketplaces, and digital payment systems have democratized access to global markets for businesses of all sizes. A digital trade chapter in the IPEF that prevents digital customs duties and encourages electronic transactions could further amplify the growth and competitiveness of e-commerce within the Indo-Pacific region.

Strong digital trade provisions are vital if the IPEF is to be meaningful and effective.

INTEROPERABILITY AND INDO-PACIFIC TRADE

Digital trade policy, regulation, and free trade agreements (FTAs) are critical in defining the operational landscape for businesses engaged in digital commerce. Interoperability within these regulatory frameworks facilitates seamless data exchange, compatibility between digital platforms, and uniformity in regulations and digital standards across jurisdictions.

Interoperability enables businesses to streamline their operations across different markets, maximizing efficiency. The inclusion of digital trade provisions in the CPTPP or the USMCA creates a more harmonized regulatory environment within those agreements, thereby reducing legal and compliance barriers to trade.

The fragmentation of digital trade policy presents significant challenges for businesses, primarily through increased operational and compliance costs. A European Centre for International Political Economy (ECIPE) study found that restrictive data policies could potentially reduce GDP by up to 1.7 percent in the European Union, 1.1 percent in the United States, and 0.8 percent in China. This reduction reflects the added costs businesses incur due to policy fragmentation, including expenses associated with navigating complex regulatory landscapes, complying with different rules across jurisdictions, and adapting digital services and platforms to varying standards.

Divergent data protection and privacy standards across countries could compel businesses to maintain separate databases or modify data handling practices in each jurisdiction, leading to higher compliance and operational costs. Inconsistent e-commerce regulations require businesses to adjust platforms and processes for different markets, increasing expenditure on product adaptation and local compliance.

The fragmentation of digital trade policy can also lead to digital protectionism. Countries may implement restrictions on cross-border data flows or favor local digital services, creating an uneven playing field and further increasing costs for businesses that operate internationally.

Negotiators of future trade agreements must prioritize the principle of interoperability rather than succumbing to the urge to 'reinvent the wheel' or push for novel standards. This requires building on existing digital trade provisions in FTAs, such as those found in the USMCA and, to a lesser extent, the CPTPP, and striving for coherence across multiple agreements. The process should seek to establish common regulatory and legal frameworks that address key areas of digital trade, such as data protection, consumer rights, cybersecurity, and digital transactions.

THE BASELINE: USMCA AND CPTPP

The United States-Mexico-Canada Agreement (USMCA) stands out as the leading benchmark in digital trade agreements. These landmark agreements are characterized by their comprehensive and progressive digital trade provisions, encompassing key aspects such as cross-border data transfers, non-discriminatory treatment of digital products, and the protection of online consumer rights and privacy.

These agreements have created operational frameworks conducive to businesses and protective of consumer interests. By adopting the principles embedded in the USMCA, future agreements can capitalize on established standards, promote interoperability, and encourage harmonious digital trade practices in an increasingly interconnected global economy.

It is also worth noting that the CPTPP agreement represents a digital baseline for many countries in the region. The value of the CPTPP should not be discounted when it comes to digital. Both include progressive digital trade chapters, but there are key differences between the two.

- 1. Data Localization:** Both the USMCA and CPTPP prohibit data localization—the requirement that data must be stored within a country's borders. However, the CPTPP allows for exceptions to this rule for legitimate public policy objectives, provided that the measure is not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on trade. In addition, the CPTPP localization prohibition does not cover financial services data.
- 2. Cross-Border Data Transfers:** Both agreements prohibit restrictions on cross-border data transfers. However, the language in the CPTPP is slightly less absolute, acknowledging that countries can have legitimate policy reasons to restrict data flows, provided these are not disguised restrictions on trade.
- 3. Personal Information Protection:** Both agreements require the protection of personal information. However, the USMCA includes a more detailed provision on this, specifically referring to the principles and guidelines of relevant international bodies. In contrast, the CPTPP simply requires each party to adopt or maintain a legal framework that provides for the protection of personal information.
- 4. E-commerce Duties:** Both agreements prohibit the imposition of customs duties on digital products distributed electronically.
- 5. Net Neutrality:** The USMCA includes provisions promoting net neutrality—the principle that all Internet traffic should be treated equally—which is not explicitly mentioned in the CPTPP.

A potential barrier for IPEF negotiators is that several IPEF countries are not members of the CPTPP or USMCA agreements or parties to other trade agreements with strong digital provisions, such as the Korea-Singapore Digital Partnership Agreement. These countries include Thailand, Indonesia, the Philippines, Fiji, and India.

OTHER DIGITAL STANDARDS

Throughout the IPEF negotiations, some parties have made references to so-called 'global standards' for digital. There are no 'global standards' for digital trade, but there are competing approaches to digital that diverge from those under the USMCA and CPTPP.

The most prominent of these is the approach of the General Data Protection Regulation (GDPR) enacted by the European Union (EU). The digital approach of the EU via the GDPR has become a de facto model for some countries with regard to their domestic regulations; this includes IPEF members.

The GDPR places a greater emphasis on placing barriers on the movement of data rather than allowing free trade in data with appropriate safeguards.

Other global standards include the principles outlined in the Organisation for Economic Cooperation and Development's Guidelines on the Protection of Privacy and Transborder Flows of Personal Data and the Asia-Pacific Economic Cooperation Privacy Framework, and APEC Cross Border Privacy Rules (CBPR) system, which gives effect to the APEC framework. These principles form a broad consensus but do not represent a regulatory model for trade agreements. In this regard, the CPTPP and USMCA are the clear benchmarks.

The Association of Southeast Asian Nations (ASEAN) and China seek to upgrade the ASEAN-China Free Trade Agreement (ACFTA). This will likely include commitments on digital commerce that extend beyond the minimal commitments in the Regional Comprehensive Economic Partnership (RCEP) Agreement. The ACFTA upgrade's digital working group has already met several times in 2023, with work underway.

ASEAN member states also seek to develop and implement the ASEAN Digital Economy Framework Agreement. It is positioned to be ASEAN's premier framework for facilitating a harmonized digital trade ecosystem throughout Southeast Asia. Nevertheless, its capability to bring about a truly integrated digital economy remains a subject of discussion.

ASEAN member states have been vocal in their commitments to achieve an integrated digital economy. However, these states have independently reinforced their data regulation frameworks. States with more open data regimes have progressed towards further liberating data flows, while others have adopted stricter measures on cross-border data flows.

In 2022, Singapore embarked on comprehensive digital partnerships, including establishing agreements with Australia, South Korea, and the United Kingdom. In Indonesia, the proposed personal data protection bill maintains data localization stipulations applicable to all operators of public electronic systems. Vietnam introduced the cybersecurity-focused Decree 53/2022 on August 15, 2022, mandating data localization requirements on private service providers.

FLEXIBILITY AND INDUCEMENTS

The United States is late to the game in terms of its push for a digital framework across the region. This presents a significant risk to the approach taken by the USMCA and CPTPP. This approach risks being subsumed by the EU's approach to digital trade, which some countries have incorporated into their domestic regulations, as well as the approach that some ASEAN member states are taking.

There are two risks. First is that the approach is watered down to accommodate a broad range of IPEF parties. Second is that the digital trade newcomers do not agree with the ambition of the provisions in agreements such as the USMCA and CPTPP. Third is that a lack of support for MSMEs in the agreement engenders broader opposition.

This will require three things: flexibility on implementation, digital infrastructure inducements from the agreement's developing nations, and striking a balance on competition.

FLEXIBILITY

Phase-in periods should be considered for the commitments under the digital chapter. Although it may seem desirable to follow the CPTPP and provide exceptions for non-conforming measures, this will likely create an agreement with simply too many loopholes and not enough consistency across all members.

If members are not in a position to immediately implement digital commitments, it is possible to use a phasing in of commitments. This would have specific advantages in that it would give greater levels of certainty within the agreement going forward and ultimately encourage investment in digital as commitment deadlines approach.

INDUCEMENTS – DIGITAL CAPACITY BUILDING

The digital trade newcomer countries for the IPEF's digital agreement will—as is the case with many other agreements—require inducements in the form of capacity building for their digital economies. This will require a shift in thinking on digital capacity building away from simply government capacity building, but to capacity for the private sector itself, with a focus on SMEs. This could take the form of:

- **Internet Access:** Collaboration with local and international telecommunications firms to enhance broadband access and improve connectivity quality, particularly in rural and underserved areas.
- **E-commerce Platform Assistance:** Guidance for businesses in offsetting user-friendly e-commerce websites and digital payment systems. This includes both on-site and remote support for software and hardware setup.

- **Cybersecurity and Data Protection:** Implementing robust cybersecurity measures and providing training on data protection protocols.
- **Infrastructure Maintenance and Upgrade:** Ongoing technical support for system upgrades and troubleshooting, ensuring that the IT infrastructure remains efficient and up-to-date.
- **Financial Assistance for Infrastructure Building:** Financial support through subsidized loans for qualifying institutions and businesses. This could be facilitated through partnerships with multilateral funds. This financial assistance mechanism will play a crucial role in accelerating e-commerce infrastructure development in participating countries.

MSME INCLUSION

A critical concern for many IPEF economies is ensuring that the agreement serves the interests of consumers, workers, and small enterprises. This is not mutually exclusive with a liberal approach to digital trade and good competition policy. Striking a balance in competition for digital trade needs a clear and depoliticized understanding of the dynamics between MSMEs and larger players.

MSMEs depend on the digital infrastructures established by larger entities to access international markets. Small businesses cannot easily sell their goods and services on the other side of the world without robust digital platforms.

At the same time, larger entities must be given an open and non-discriminatory environment if they are to enter new markets. The balance hinges on fostering a landscape that is not monopolistic, which could lead to reduced accessibility or unfair advantages.

Theoretically, MSMEs should leverage the digital platforms of the larger players, while larger players benefit from increased usage and a diverse customer base. A digital trade agreement should foster a good competition policy and aspire to establish a level playing field rather than predetermining the outcome.

KEY RECOMMENDATIONS

AAIP makes the following recommendations:

1. IPEF negotiators must not compromise on the digital provisions of the agreement and should not fall below the benchmarks set by the USMCA and CPTPP
2. IPEF negotiators should have some flexibility in the implementation of the agreement with regard to phase-in periods where necessary;
3. IPEF parties should utilize digital capacity building aimed at the private sector, particularly MSMEs, to provide additional 'carrots' for digital trader newcomer IPEF parties with regard to digital industries;
4. The IPEF should seek to create a level playing field for MSMEs, but any approach to digital competition must seek to level that field rather than predetermining an outcome.

EXHIBIT 141

ARTICLE

The Indo-Pacific Region Needs a Comprehensive Digital Trade Agenda

By [Alex Botting](#) & Inés Jordan-Zoob on *September 15, 2023*



STRATEGIC COMPETITION

ECONOMICS AND GLOBALIZATION

TRADE AND DEVELOPMENT

ASIA

The Indo-Pacific Economic Framework (IPEF) is a [landmark trade negotiation](#) focused on advancing “sustainability, inclusiveness, economic growth, fairness, and competitiveness.” The 14 participating countries comprise 40% of global GDP, 32% of the world’s population, and 28% of [global trade in goods and services](#). As such, IPEF represents an important opportunity to enhance economic and trade ties among a large and strategically important group of 14 countries.

The United States is one of those countries, much as it was in 2016 on the eve of finalizing another major regional trade agreement, the Trans-Pacific Partnership (TPP). Under the Trump administration, the US chose to withdraw from the TPP. Despite that, the agreement moved forward. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was ultimately signed by 11 countries and entered into force in 2018. It was notable for being one of the first major trade agreements to address digital trade and cybersecurity. It was also notable for the absence of the US in the final agreement, which set important trade rules for much of Asia.

An Uninspiring Start

From the outset, the Biden administration has lacked ambition on the issue of trade, perhaps a hangover from the hard lessons of the 2016 presidential election. No US President since George H.W. Bush has completed a term without a [trade agreement](#) being signed or entering into force under their leadership. And yet, President Biden is on track to do so. This is not for want of opportunities.

Negotiations with close allies such as the UK, launched under President Trump, have stalled under Biden's leadership. Even Trump, despite his misguided opposition to TPP, completed a renegotiated NAFTA ("USMCA") and a Digital Trade Agreement with Japan during his term.

Nearly seven years on from TPP, IPEF represents a renewed opportunity for the US to demonstrate its commitment to trade in a region of the utmost geopolitical and strategic importance. And as US economic competitiveness is increasingly focused on services and digital trade, robust digital trade disciplines are critical to deriving value for the US economy from IPEF. Yet a lack of ambition still plagues the administration's approach. In agreeing both to an IPEF that [does not address tariff adjustments or traditional market access commitments](#) and [failing to table ambitious proposals for digital trade](#), the administration risks squandering the moment.

Leadership at Home, Leadership Abroad

The lack of ambition in the trade arena stands in stark contrast to the impressive progress made in security partnerships in the Indo-Pacific region. These include the Quadrilateral Security Dialogue, the groundbreaking trilateral summit among the US, Japan and Republic of Korea, and the strengthening of a multitude of bilateral arrangements. As impressive as these efforts have been, a comprehensive strategy for the Indo-Pacific region cannot rest solely on a growing security umbrella. Where economic dependence on China persists, its influence on the region will remain significant.

To be sure, the politics of trade can be challenging to navigate. The benefits are diffuse and the drawbacks are concentrated. In the US, opposition is often concentrated in states with outsized influence over presidential elections. Democratic politicians, such as President Biden, must also

contend with the influence of trade-skeptics such as environmental and labor groups that hold significant sway in internal party politics.

Yet digital trade need not be as controversial as other areas of trade policy. It is unlikely to lead to the outsourcing of US jobs or the associated environmental and labor concerns. The US is fortunate to have a comparative advantage in digital services such as cloud and cybersecurity, which drive immense benefits to the country's economy and create good, well-paying jobs at home. Perhaps equally important, digital trade agreements provide the US and its international partners an enduring mechanism to champion human rights and a model digital governance grounded in the principles of a free, fair, and open internet.

In a world where the US declines to engage, trade and digital policy do not operate in a vacuum. Already we see alternative models for digital governance emerging. The models strengthen authoritarianism, such as Russia's activities at the UN Cybercrime Convention negotiations or China's Data Security Law. They also champion digital protectionism, as seen in the growing group of data localization measures, which cover even non-sensitive data.

Even where the result is less malign, the lack of engagement by the US harms its economic competitiveness. Take the topic of cybersecurity. Since the CPTPP, an additional eight international trade agreements have been created that include commitments to cybersecurity principles and practices. While USMCA set the most ambitious model for cybersecurity trade policy five years ago, it has since [fallen behind others](#), such as the Singapore-UK Digital Agreement. Those two countries now benefit from easier access to each other's markets for connected devices—everything from laptops, to refrigerators, to connected toys. US companies may need to demonstrate compliance with each separately.

The impact of this inaction will be borne in the years ahead in terms of reduced economic competitiveness at home and less economic influence abroad.

Renewing US Economic Leadership

Through IPEF, the Biden administration has the opportunity to enhance US engagement in the Indo-Pacific region and fortify regional digital infrastructure. Most important, incorporating a robust and ambitious digital trade agenda into the framework will enhance trade in an area where the US stands to gain most significantly. A more ambitious approach to cybersecurity will facilitate more—and more secure—digital trade in the region. It will also serve to reinforce the region’s commitment to a model of internet governance that supports freedom of speech, privacy, and security.

Despite its slow start on trade, the Biden administration’s commitment to engaging and strengthening its partnerships with allies around the world gives it a strong platform from which to provide economic leadership in the Indo-Pacific region. It should seize the opportunity. US leadership in the Indo-Pacific region cannot rest solely on security cooperation. It needs economic leadership too.

The views expressed in this article are those of the author and do not reflect either way the views of Venable LLP.

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EXHIBIT 142

EXHIBIT 143

EXHIBIT 144

DIGITAL TRADE 2023: THE DECLARATION, THE DEBATES AND THE NEXT GLOBAL ECONOMY

ED GRESSER

JUNE 2023

INTRODUCTION

In the single generation since the launch of the internet, a generation's worth of scientific research and technological innovation, infrastructure deployment, and generally good policymaking has taken a small set of computer networks operated by academics, business researchers, and government scientists, and turned into a global digital world of 5.3 billion people. Associated with this has been an enormous leap forward in individual liberty, in global prosperity, and in new policy challenges. Looking ahead with its allies and partners last year, the Biden administration helped produce a vision of the future. This is the "Declaration on the Future of the Internet," which, in a brief two and a half pages, illuminates a possible version of the next the digital world: one of freer flows of information, higher-quality consumer protection, enhanced economic growth, and liberty preserved.

Their vision is right, but it is highly contested – in part by authoritarian governments seeking to restore or strengthen controls over their publics (or even, at least in part, other countries' publics), and in part by often friendly countries mistakenly believing that their own technological leadership might depend on diminishing that of the U.S. tech

industry. The administration can help achieve its vision, and in doing so contribute to the realization of the Declaration's vision, through four steps:

1. An idealistic and ambitious approach in the 15-country "Indo-Pacific Economic Framework" (IPEF), that provides a future vision more attractive than authoritarian alternatives resting on free flows of data, opposition to forced localization of server and data, strong consumer protection, non-discriminatory regulation, anti-spam and anti-disinformation policies, cyber-security, and broad-based growth through encouragement for open electronic commerce.
2. A strong response in the U.S.-EU Trade and Technology Council (TTC) to European Union attempts to create discriminatory regulations and taxes targeting American technologies and firms.
3. Defense of U.S. values in the U.N., WTO, and other venues against "digital sovereignty" campaigns by China and others that endanger the internet's multi-stakeholder governance, normalize large-scale censorship and firewalling, and



generally place the political

fears and policy goals of authoritarian government above the liberties of individuals.

4. Supporting responsible governance of technology and politely but firmly pushing back on attempts either at home or internationally to demonize technological innovation and American success.

BACKGROUND

It is now 26 years since the U.S. government's first sally into the economic potential and policy challenges posed by "global electronic commerce." In that document, "A Framework for Global Electronic Commerce," the Clinton administration's look into the future ventured a look into the future, accompanied by a statement of purpose that remains useful a quarter-century later:

"Already it is possible to buy books and clothing, to obtain business advice, to purchase everything from gardening tools to high-tech communications equipment over the Internet. This is just the beginning. Trade and commerce on the Internet are doubling or tripling every year — and in just a few years will be generating hundreds of billions of dollars in sales of goods and services. ... Government officials should respect the unique nature of the medium and recognize that widespread competition and increased consumer choice should be the defining features of the new digital marketplace. They should adopt a market-oriented approach to electronic commerce that facilitates the emergence of a global, transparent, and predictable legal environment to support business and commerce."¹

In the generation since, a digital world of 5.3 billion internet users has emerged, linked by hundreds of submarine fiber-optic cables stretching out for nearly a million miles, and by fleets of thousands of low-orbit satellites. Supporting this physical infrastructure and encouraging its use are a battery of policies more or less mirroring those the 1997 paper hoped to see — limited liability laws, bans on tariffing cross-border electronic transmissions, "last-mile" rules to extend access, prohibitions on unfair and deceptive business practices — meant to encourage technological innovation, business competition, and safe access for users. These facilitate steadily expanding access for citizens to the internet — to the point at which 93% of Americans, and 66% of the world's people are online — along with falling costs for shoppers, steady streams of new apps and forms of businesses, new types of jobs, and avenues to efficiency and low-inflation growth.

In more statistical terms, the U.S. digital economy in 2023 is approaching \$2.4 trillion in value-added output,² roughly a tenth of U.S. GDP. The "hundreds of billions of dollars" in sales of goods and services the Report predicted are commonplaces; counting transmissions of services alone, the Commerce Department reports \$89 billion in U.S. exports of information and communications services in 2021 (the last year for which data are available) along with \$594 billion in exports of "potentially ICT-enabled"³ services transiting the internet; the combined \$683 billion was a quarter of the U.S.' total \$2.56 trillion in all goods and services exports that year, to say nothing of the \$383 billion flowing back as imports.

As a result, in varying degrees and according to their preferences, the internet users of the 2020s (in the U.S. and everywhere else) are more able than any previous generation to lift their voices in good causes or in eyeroll-inducing folly, to flog cosmetics and denounce others' inferior musical taste, follow military experts analyzing the war in Ukraine, test out dating options, and otherwise amuse, educate, and enrich themselves. This is a large advance in human economic freedom and intellectual opportunity, though one accompanied by blasts of spam, hate-group organizing, disinformation, privacy intrusions, and other adaptations of old plagues to new technology.

There seems no reason to believe the internet's second human generation need be more boring or less productive than its first. Still less should anyone believe that developing policies to secure the potential benefits new technologies may bring cannot go along with the policies necessary to address its challenges. But there is good reason to see electronic commerce, and the digital world more broadly, as contested spaces whose future is less certain than they might have been in 1997, and whose potential benefits require defense.

BACKGROUND: DIGITAL ECONOMY AS AMERICAN SUCCESS

By way of background, the Biden administration's economic hallmarks have been hopes for labor-intensive growth focused on non-college employment, technological leadership, and international influence vis-à-vis competitors. The U.S. digital economy contributes quite a lot to all these goals; having mostly founded the digital

Employment is one index of this. PPI Chief Economist Michael Mandel reports, in fact, that e-commerce firms, broadband and internet businesses, and content creators account for 67% of all net new U.S. job growth since 2020:

*"As of December 2022, the United States currently enjoys a 3.5% unemployment rate, the same as pre-pandemic February 2020. To a large extent, this strong labor market has been driven by job growth in the digital sector. In total the digital sector added 1.4 million net new jobs from 2019 to 2022, accounting for 67% of net private sector job gains over the same period."*⁴

A second index is exporting, particularly in services. The BEA's \$683 billion in 2021 U.S. exports in ICT and "potentially ICT-enabled" services in 2021 was, by World Trade Organization (WTO) data, a seventh of all world commercial services that year.⁵

Commerce Department analysis suggests that, with 4,744 jobs supported per \$1 billion in services exports, ICT and ICT-enabled services exports are supporting 3.2 million jobs.

And finally, U.S. leadership on the digital economy increasingly translates directly to geopolitical leadership, with the U.S. the center of internet science and technology, the global leader on quantum computing and artificial intelligence, and the home of the world's major internet firms – search and data analytics, online markets, social networks, software firms, and so on. Elsewhere, there are large firms and influential governments, but not peer rivals. In China, a set of large firms operating from behind-the-Great-Firewall refuges, which

approach U.S. firms in size and user counts, but at least not yet in user trust or economic reach. European Union officials by contrast exercise great influence over policymaking within Europe and internationally, but have been unable to use this to create scientific or business peers. Neither are enthusiastic about American dominance of the digital world, and both are raising challenges and critiques.

WORLDWIDE: SHARED FRAMEWORK FOR LIBERTY AND COMMON-GOOD REGULATION

The story of internet economy and tech firms, then, looks like a massive success. If in 1993 the U.S. and assorted friends set out to create an integrated digital world, raising growth rates and providing a bit more liberty and choice to billions, they pretty much succeeded. In 2022, the Biden administration with considerable international support has put forward a concept for building on this, in the form of the 61-country “Declaration for the Future of the Internet.”⁶

This joins 61 countries in the western hemisphere, Europe, Asia, the Pacific, and Africa, in big-picture goals echoing the common-good hopes and better-future idealism of the internet’s early years. The Declaration is a general and abstract document spanning only two and a half pages, but this is enough for both an evocative general picture of the future internet, and a look at the type of policies necessary to create it. In sum, 20 or 30 years ahead it imagines a digital world in which:

“Human rights and fundamental freedoms, and the well-being of all individuals are protected and promoted;

“All can connect to the Internet, no matter where they are located, including through increased access, affordability, and digital skills;

“Individuals and businesses can trust the safety and the confidentiality of the digital technologies they use and that their privacy is protected;

“Businesses of all sizes can innovate, compete, and thrive on their merits in a fair and competitive ecosystem; infrastructure is designed to be secure, interoperable, reliable, and sustainable; [and]

“Technology is used to promote pluralism and freedom of expression, sustainability, inclusive economic growth, and the fight against global climate change.”

Further sections elaborate with (still general) policy goals: keeping the internet open, preserving the “multi-stakeholder” governance model of its first 30 years, promoting free flows of data across borders, protecting privacy and consumers, and ultimately providing a safe, economically strong, enjoyable and educational network for the people of the United States and the world.

Obviously no single tool is adequate for all of these at once. Some parts of the Declaration involve domestic laws and implementation, others technical assistance and best practices conversations with other governments, some public investment in high-tech infrastructure, and special support for low-income and rural community access. All involve not only government policy, but scientist-to-government, consumer-to-engineer, and business-to-activist exchanges, under the “multi-stakeholder” approach which has facilitated the development of the internet since its launch in the late 1980s.

Trade agreements and trade policy are also important elements of this vision and program. They can help provide guidelines to avoid perverse policies such as tariffing electronic transmissions, keep markets open for the services that traverse the internet, build trust and security in data flows, help startups navigate an increasingly fragmented digital world, deter attempts to force U.S. investment overseas, ensure that companies compete on price and innovation rather than either monopolistic tactics or appeals for government limits on their competitors; and help make sure that regulations serve a public-good purpose rather than limiting competition, user choice, and ultimately the sophistication and user-friendliness of the entire system. For these ends, and in the face of challenges from ideological opponents and in some cases from friends, two of the Biden administration's trade "initiatives," "frameworks," and "councils" look like very useful venues.

IPEF AND THE OPEN DIGITAL WORLD

One of these is the "IPEF," an acronym for "Indo-Pacific Economic Framework," designed by the Biden administration in 2022 to focus on a set of non-market access "trade" issues including digital economy policy as well as labor standards, de-carbonization, and supply chain "resilience." Here the partners involve the world's second-largest economy, Japan; an array of wealthy smaller and medium-sized countries such as Australia, New Zealand, Malaysia, and Korea; and a set of developing countries of various sizes and technological capacities ranging from gigantic lower-middle income Indonesia and Vietnam to small, upper-middle income Fiji.

The program's "trade pillar" (one of four pillars) has a brief but serviceable set of goals: "building an environment of trust and confidence in the digital economy; enhancing access to online information and use of the internet; facilitating digital trade; addressing discriminatory practices; and advancing resilient and secure digital infrastructure and platforms" through "trusted and secure cross-border data flows" "inclusive, sustainable growth of the digital economy"; and "the responsible development and use of emerging technologies," followed by qualifiers on preserving rights to regulate in the public interest. This last is an important point, but one that all U.S. trade agreements have taken into account through the "exceptions" included in the General Agreement on Tariffs and Trade, in Free Trade Agreements, and perhaps especially relevant in the rather prescient 1993 General Agreement on Trade in Services (GATS). This affirms that services trade agreements have exceptions to ensure (among much else) governments' right to regulate to "protect public morals," "maintain public order," "prevention of deceptive and fraudulent practices," "protection of the privacy of individuals in relation to the processing and dissemination of personal data," and "to enforce domestic laws that are not otherwise inconsistent with the Agreement."⁷

IPEF offers the chance to cement an ambitious and useful agenda on these matters. This would build logically on the content of previous agreements from the WTO's 1999 "moratorium" on the application of tariffs to electronic transmissions, forward to the 2011 U.S.-Korea FTA's groundbreaking electronic commerce chapter, and the more elaborated digital provisions of the 2015

Trans-Pacific Partnership Agreement and the 2019 U.S.-Mexico-Canada Agreement, including:

- Ensuring that IPEF members do not impose customs duties on electronic transmissions;
- Ensuring that regulations and trade policies do not discriminate against digital products;
- Guarantees for the free flow of data across borders, subject to the exceptions; appropriately noted in earlier trade agreements;
- Recognition of properly verified electronic signatures;
- Requirements to maintain laws protecting consumers and personal information;
- Requirements to maintain anti-spam legislation and enforcement;
- Ensuring appropriate “government access to information” for law enforcement and other necessary purposes.

This is a good policy agenda, and can be supplemented within IPEF with technical assistance for the smaller and lower-income participants (say, Fiji and the Philippines), and coordination to broaden acceptance of the Declaration on the Future of the Internet in the Asia-Pacific region.

U.S.-EU C, TAXES, AND IMPARTIAL REGULATION

The “U.S.-European Trade and Technology Council,” meanwhile, offers an opportunity to head off fragmentation of the internet and unreasonable discrimination against U.S. firms.

The European Union retains a long-held belief – a perfectly valid one – that it would be

good to have successful EU internet businesses rivaling the American complex of software, IT equipment, internet, social media, and online markets. This reasonable goal has always been alloyed with suspicion of American successes, and a vague idea that “bringing the American companies” down a bit through differential taxation and targeted anti-trust and data transfer programs would in some way “bring the Europeans up” to parity. In fact, this has not ever happened, despite programs ranging from government subsidies to the early internet-rival Minitel,⁸ and a more recent barrage of “digital services taxes” which principally taxed the major deliverers of these services, typically turning out in the fine print to be American firms.

The most recent incarnations of this are a battery of programs in the early stages of implementation or development – the Digital Services Act, the Digital Marketing Act, telecommunications infrastructure levies, and cloud services rules – which designates “gatekeepers” and “Very Large Online Platforms” with certain amounts of revenue or users to share data and trade secrets with competitors, meet disproportionate regulatory burdens or in some cases pay heavy taxes. Very precise calibration of the triggers for these regulations turns out again to put most, or all, of them on American firms presumably in the hopes that this would create a void that new European providers might fill. In fact, a brilliantly entertaining analysis by Kati Suominen of the Center for Strategic and International Studies has documented that the result is likely to be tragic-comically different: while (a) the payers of these taxes are U.S. firms such as Apple, Microsoft, Google, Amazon, etc., the group of (b) slightly smaller existing competitors falling just below the

thresholds turn out not to be European firms but Chinese providers such as TenCent, AliBaba, Baidu, Xiaomi, and others. Sheltered behind the Great Firewall they have grown very large and (to the extent the DSA and DMA take the American players down a peg) would likely be the inheritors.⁹

It is striking that this series of ideas comes some months after the European Union, among others, argued heatedly and not incorrectly that the U.S. electrical vehicle credits passed in the 2022 Inflation Reduction Act were nationalistic and could be damaging to large European automakers. The Biden administration has worked hard to defuse this argument through unconventional (and congressionally controversial) agreements on critical mineral discussions. It should not be nervous about making similar objections to European efforts to create differential taxation systems, and inequitable regulatory and anti-trust policies. Senators Ron Wyden (D-Ore.) and Mike Crapo (R-Idaho) very reasonably note that “the importance of our relationship with the EU makes it all the more necessary to expeditiously resolve all major trade irritants between us, not solely those raised by the EU,” and ask the Administration to use the U.S.-EU TTC and other transatlantic engagements to ensure that American firms, large and successful though they may be, do not face discriminatory rules and taxes. The Trans-Atlantic Trade and Technology Council is the obvious place to push this back.

AT HOME: DON'T FEAR SUCCESS

Finally, and most puzzling, is a challenge at home. The U.S. is home to top-tier internet companies providing search and data analytics, developing artificial intelligence and

quantum computing systems, and inventing an array of online marketplaces from very large multi-purpose sites to specialized networks of individual artists. Their rapid emergence as large parts of the U.S. economy in some ways embodies things the administration wants: American technological leadership, rapid job creation at both high-technical-skill and non-college levels, and a chance to shape the future world economy in accord with American values.

Obviously rapid change and the steady development not only of new technologies, industries, and companies but entirely new “sectors” of the economy – the creation of online marketplaces with tens or hundreds of millions of customers, or social networks with billions of users – raises many questions for government and society, at home as well as in international fora. It is perfectly right to wonder whether current regulatory authority and telecommunications laws designed for telephones and TV stations are adequate for social networks, telemedicine, big data, and banks of computer servers distributed around the world, and to propose updates in existing laws or the creation of new policy frameworks to manage this change. Representative Suzanne DelBene (D-Wash.) has argued frequently for a national privacy law, for example, that would apply to all internet providers and cover all users.

This is all natural and, presumably, a democratic political system can consider the issues and over time settle on good policies to address them. What is odd, though, is an apparent feeling that the leadership role U.S. businesses and researchers have earned might be a bad thing as such, that perhaps the U.S. government’s proper role is to ally

informally with efforts abroad to take them down a few pegs, or even that they should not be consulted at all in policy development. Here, the scale of U.S. success seems to have stopped some on the “populist” right and the Naderite left from taking some appropriate pride in American leadership, and instead thinking that this leadership is a problem to be solved.

One example was an ambitious 2021/22 attempt to rewrite anti-trust law specifically for tech firms, as PPI’s Malena Dailey observes with “ad hoc set of new rules which replace the current standards for antitrust enforcement based on market power and consumer welfare with a more generalized approach which targets just one industry — online platforms” based on size alone, without any need to examine “the conditions in which a company operates, the presence of direct competitors, and its potential for consumer harm.”¹⁰ Fundamentally, a large company as such is not a bad thing — some industries, in fact, do not emerge without economies of scale — and large or small, therefore, firms should be judged on behavior rather than size.

Another, more recent in the aftermath of that bill’s inconclusive end, was a set of letters from left- and right-“populists”¹¹ implying (more through leading questions than through evidence) that the IPEF digital talks might make a revival impossible — e.g., the Republican letter, from Senators J.D. Vance (R-Ohio) and Josh Hawley (R-Mo.), along with Representatives Paul Gosar (R-Ariz.), Matt Gaetz (R-Fla.), and Ken Buck (R-Colo.) inquires ingenuously whether an IPEF commitment could “conflict with Congress’ attempt to reform federal antitrust law,” or “restrict Congress’ power to shape domestic

competition policy.” (The legal answer to such questions is “no,” based on Congress’ Constitutional powers; the answer from experience with the existing digital rules of KORUS and USMCA is “clearly not.”)

A slightly later “investigative report”¹² released by Senator Elizabeth Warren (D-Mass.), meanwhile, simply suggests meetings between the Secretary of Commerce and the U.S. Trade Representative on one hand, and tech executives on the other, to discuss internet access and data flow should be viewed as bad things in and of themselves. Here it would be useful to think of the obvious parallels — a Department of Agriculture declining to meet with farmers or grocery stores, a Department of Justice castigated for hiring people with law school backgrounds, and so on — and the likely results should a government (hopefully of some other country) make policy on this eccentric basis.

It’s hard to give the Biden administration much advice on this, because the critiques are rather weak and really based on dissatisfaction with domestic law rather than trade policy. If the absence of a clear standard for privacy rules is causing problems, Congress should pass a privacy law that clarifies and settles them — and the administration should not in the meantime simply allow other countries to settle it for us through pretextual taxation and data regulations. More generally, new technologies and means of communication, new industries, and products, often require new laws and regulatory policies — but this doesn’t mean “new” is bad. Nor does it mean that U.S. leadership in a new field should arouse more fear and alarm than optimism and pride. In fact, it is good for the United States to have

world-leading companies in information technology (and likewise for automobiles, medicines, space, publishing, news media, etc.). Likewise, there is no reason to assume that any given company's interests are always identical to those of the U.S. as a country (if indeed a single "interest" is possible to identify), nor that critiques from abroad foreigners are invariably wrong to be concerned – but neither should we assume that a particular company's ideas are (unless proven otherwise) antithetical to the interest of its customers and that foreign critiques of American leadership are obviously correct.

Here, the Biden administration should not be worried by the constant repetition of terms like "Big Tech," and the identification of "meetings" with "policies that are in some way corrupt and wrong." It has a good foundation for future international consensus in the Declaration, it should take pride rather than fear in the success of the U.S. as a center for technological development and employment growth in the digital sector, and it should pursue useful consumer protection, privacy, anti-hate group, and other good policies secure in the knowledge that these are perfectly compatible with the General Agreement on Trade in Services, the U.S.-Korea Free Trade Agreement, the U.S.-Mexico-Canada Agreement, and ambitious IPEF and U.S.-EU TTC outcomes.

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CONCLUSION

In effect, the right choice is the one the 1997 Framework and the 2022 Declaration set out in their different ways:

- Defend openness and user choice in internet policy;
- Develop common-good regulations through multi-stakeholder processes, and in coordination with like-minded democratic governments; be suspicious of the arguments of authoritarian and censorship-prone governments;
- Don't look naively on selective use of taxation and anti-trust against American firms;
- Keep to the vision and principles of the Declaration.

Such an approach will find supporters at home, encourage young people and liberty-minded friends abroad, and help preserve American leadership. Should the Biden administration succeed in it, they will leave for the policymakers of 2050 the happy challenge the Framework report's authors left to them: the chance to take something very good and help make it better.

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EXHIBIT 145

BROOKINGS

RESEARCH

An American strategy for the Indo-Pacific in an age of US-China competition

Enhancing alliances, economic engagement, and regional stability

Richard C. Bush, Tanvi Madan, Mireya Solís, Jonathan Stromseth, and Andrew Yeo

November 2022

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Executive summary

<https://www.brookings.edu/interactives/global-china/>

The United States is a leading Indo-Pacific power with an abiding interest in sustaining a strong alliance network and maintaining a free and open regional order that delivers peace, stability, and economic prosperity.

The Indo-Pacific is a dynamic region experiencing a rewiring of the lines of security and economic cooperation, as minilateral networks continue to grow and mega trade agreements take hold. The most significant development in the Indo-Pacific is the emergence of China as a peer competitor to the United States. Chinese actions that undermine vital U.S. interests include the use of coercion — whether in the form of gray-zone tactics, political interference, economic pressure, or military force — to weaken the U.S. alliance system in Asia, press unilateral territorial claims, and settle international

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disputes with disregard to international law. China also seeks to undermine democratic resilience in the region and incorporate Taiwan into the People's Republic of China, even though its people reject the terms offered.

To sustain U.S. interests and efforts in the Indo-Pacific, we offer three sets of recommendations:

1. **Deepening alliances, partnerships, and coalitions.** The U.S. should deepen its security alliances, enhance minilateral cooperation initiatives such as the Quad, engage actively with the Association of Southeast Asian Nations (ASEAN) and its individual members, including Indonesia, Singapore, and Vietnam; deepen relations with India; and redouble efforts to promote trilateral U.S.-Japan-Korea collaboration.
2. **Increasing economic engagement and opportunity.** The United States should strive to obtain economically meaningful outcomes through the Indo-Pacific Economic Framework (IPEF), devise supply chain resilience initiatives that foster cohesion with U.S. partners, partake in digital trade agreements, and restore trade liberalization to its policy toolkit. The United States should pursue membership in the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) to advance its economic and foreign policy interests, and it should coordinate with allies and partners to deliver infrastructure finance to enable regional connectivity in the physical and digital domains.
3. **Enhancing deterrence and sustaining the long peace.** On Taiwan policy, the United States should enhance communication with both Beijing and Taipei to strengthen deterrence and reassurance and to establish conflict-avoidance measures. Given North Korea's nuclear and missile provocations, the United States must continue to reassure its allies, particularly South Korea, of its commitment to extended deterrence, while leaving room for engagement if the North Korean regime decides to return to the negotiation table. Since China is continuing to make aggressive moves to enforce its far-reaching sovereignty claims in the East China and South China seas, the United States must continue to assert the importance of a rules-based maritime order that includes freedom of the seas and unimpeded commerce.

EXHIBIT 146

Table of Contents

About ALI and Authors	3
Introduction and Executive Summary	4
Summary of Recommendations	9
Investing in U.S. Workers and Communities	9
• Equity, Access and Inclusion	9
• Trade Adjustment Assistance	9
• Independent Contract Workers	10
Enabling Small Business Development	10
Leveraging Digital Trade Policies to Benefit Workers	10
• Expanding Stakeholder Engagement	10
• Trade Capacity Building	10
• Generalized System of Preferences	11
• Digital Inclusion	11
• Labor Provisions	11
• Small- and Medium-Sized Enterprises	11
• Sustainability Provisions	11
• Subsidies and State-Owned Enterprises	11
Digital Governance Provisions to Secure Networks and Protect Workers	12
• Privacy, Data Protection, and Employee Surveillance	12
• Securing Digital Infrastructure and Cybersecurity	12
• Data Flows with Trust	12
• Algorithms, AI, and Emerging Tech	12
• Content Moderation and Foreign Censorship	13
• Competition Policy	13
• Consumer Protection	13
Conclusion	38
End Notes	40

About the American Leadership Initiative

The American Leadership Initiative (ALI) is working with elected officials and other stakeholders to develop a 21st century vision and policy agenda for American global leadership, based on American interests and shared values. ALI's policy work is focused on five pillars: advancing inclusive and sustainable growth at home and abroad, pursuing smart trade policies, leading on climate, meeting the China challenge, and promoting democracy, human rights, and rule of law.

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Introduction and Executive Summary

Digital technologies have created millions of new jobs and have been a lifeline for many small businesses and individuals during the COVID-19 pandemic. At the same time, new technologies have given rise to many new challenges for workers and other online users. This paper explores how to address these challenges through a worker-centric digital governance agenda.

The time is ripe for the U.S. to negotiate or join a digital trade agreement. As the American Leadership Initiative has written, the U.S. must seize this opportunity to set global internet standards of openness, transparency, and democracy, as opposed to China's increasingly influential vision of an autocratic internet that facilitates state

New digital policies and agreements must be worker-centric.

control, censorship, and surveillance.¹

China's growing technology leadership and autocratic internet standards ultimately undermine our national interests, including democracy itself.²

Developing new global internet

standards is also an important step to achieving other goals: strengthening America's economy and national security; addressing the growing role of digital technologies throughout the economy and working with our allies to provide open markets and interoperable regulations for the growing number of workers and small businesses who use digital technologies.

The Administration has pledged to reject business as usual in the trade sphere, stating that new trade policies and agreements must be "worker-centric." While this term is often used to describe more robust labor protections and provisions, it is part of a larger initiative to develop new trade policies that have not only expanded worker provisions, but also stronger environmental protections, stricter provisions regarding state-owned enterprises and subsidies, and other policies that will allow the balance of benefits from trade agreements to accrue more to workers and less to large corporations.

New digital policies can be crafted to fit into this "worker-centric" framework – policies that will address workers' needs in a shifting economy, whether as part of a stand-alone agreement or part of a larger bilateral or plurilateral agreement.

A worker-centric digital agenda must start with **Investing in U.S. Workers and Communities**. For American workers to reap the benefits of digital technologies, we must ensure that all citizens have equal access to digital technologies and training. The U.S. must address its deep digital divide, which drives economic inequality, and has only widened over the past 18 months as working, studying, and engaging in services online have skyrocketed. This divide hits women, Black, LatinX, and other underserved communities especially hard. Closing it will involve providing all citizens access to digital devices and broadband and making digital training accessible to all workers, especially those who are currently unemployed or in low-wage jobs and seeking to increase their skills.

We should modernize Trade Adjustment Assistance (TAA) to meet the needs of digital workers who lose their jobs due to trade. It should be made permanent and should cover the full range of service workers, from truck drivers to call center workers to those service employees tied to a factory which moves overseas. Finally, TAA should

emphasize digital training, in order to equip workers for the new economy.

Facilitating access to technology and training for workers and small businesses is an important way to build a more inclusive economy.

The digital economy has introduced a new category of independent contract workers, called gig workers or digital platform workers, who provide on-demand work, services, or goods. Global gig-economy transactions are forecast to grow by 17 percent annually to around \$455 billion by 2023.³ Gig workers typically lack health care and other traditional employee benefits.

Policymakers must ensure that they have labor rights and protections, and access to

the same benefits as traditional employees. A U.S.-led, worker-centric trade agreement should have guidelines for such basic rights and protections and should include a collaboration mechanism among trade partners to share best practices and policy development for the gig economy.

In addition to investing in workers, **Enabling Small Business Development** is critical. Small businesses are major U.S. economic drivers and employers. In 2020, 60.6 million employees worked for small businesses – almost half of the U.S. private sector workforce – and digital transformation has been especially rapid for small- and medium-sized businesses (SMEs).⁴ The U.S. must invest in small businesses.

Facilitating access to technology and training for small business owners is an important way to build a more inclusive economy.

In addition to a robust domestic agenda, **Leveraging Digital Trade Policies to Benefit Workers** involves adjusting digital trade policies to address workers' needs at home and abroad. An inclusive digital trade policy must expand stakeholder representation in setting policy and bring in small business and labor representatives to refocus priorities and create worker-centric outcomes.

A worker-centric digital agreement must include robust funding for trade capacity building (TCB) to ensure that workers abroad can reap trade benefits. Refining mechanisms to administer TCB funding can ensure the money allocated is actually used. Funding should be available to upgrade labor standards and expand access to technology and training for lower-income trade partners.

In keeping with the Administration's commitment to putting workers at the center of trade policy, future digital agreements must also contain language committing the parties to uphold the highest labor standards in the digital sector. At home, the U.S. should use Generalized System of Preferences (GSP) review requirements to foster responsible uses of technology which uphold human and worker rights.

Because digital technology access and inclusion are as important as market access, the U.S. should promote them to all underserved populations. A worker-centric trade agreement should recognize the importance of facilitating digital economy opportunities by removing barriers to participation for minorities, women, rural populations, and other traditionally disadvantaged socioeconomic groups.

While small businesses are a substantial – and growing – part of the digital economy, they often have trouble leveraging trade agreements because of the pacts' complexity. Making digital agreements work for SMEs, including by simplifying and digitizing trade formalities, is an important component of a worker-centric digital agreement. Small businesses have challenges navigating fragmented global regulations, so leading globally on digital governance is a key way the U.S. government can support domestic small businesses. Incorporating sustainability in our trade agreements is also a key Administration priority. A digital trade agreement should encourage the greening of supply chains and data centers and encourage sharing best practices regarding using digital technologies to promote sustainability.

China has been engaged in non-market practices in its Digital Silk Road Initiative to sell its digital technologies throughout the developing world. A digital agreement must create disciplines for subsidies and state-owned enterprises, practices used by China, and copied by many other countries.

Digital Provisions to Secure Networks and Protect Workers must be the heart of a worker-centric digital trade agreement, creating governance provisions that will foster technologies' responsible use and protect workers while supporting their needs and those of other online users.

Online privacy has become an urgent worker concern as employers increasingly use Artificial Intelligence, facial-recognition, and other technologies to monitor their employees' activities and automate their supervision. The U.S. needs federal privacy legislation, and a digital agreement must protect workers' privacy and data. Trade agreements should encourage governments to develop balanced regulations so that the use of new, emerging technologies is transparent, explainable, fair, and human-centric.

Cybersecurity has never been more important as COVID-19 has forced more work, health care, and schooling online. Strengthening U.S. cyberprotection means investing in a better talent pipeline and training those workers for the future. Moreover, cooperation across organizations – and borders – is essential to mitigating digital security risk and should be strengthened in future digital agreements.

Keeping the internet a safe and trusted medium is critical to our democracy and its values. A worker-centric digital trade agenda must ensure that data flows and data governance are mutually reinforcing in order to build trust in the digital economy. It should protect

the movement of data across borders, for example, and companies' ability to store it without using local data centers. The agenda must also ensure that robust security and privacy standards protect data flows and must set benchmarks – based on democratic and human rights principles – for law enforcement access to them.

We need a smarter approach for promoting effective content moderation practices and minimizing harmful and abusive online content.

We must also develop principles for protecting data flows with countries that do not adhere to democratic data governance norms. In particular, the U.S. and its trading partners should have a process to guard against the export of personal data to third parties or third countries that are likely to use this data to harm people.

Ongoing U.S. debates about extremist speech online and keeping the internet a safe and trusted medium are critical to our democracy and its values. New challenges in foreign markets have also emerged as governments misuse technology regulations to surveil political dissidents, suppress speech, and undermine human rights. We need a smarter approach for promoting effective content-moderation practices and minimizing harmful and abusive online content, while continuing to promote free expression and robust political discourse abroad. The U.S. should include language similar to the Christchurch Call and G-7 Internet Safety Principles in digital agreements, along with commitments to ensure that technology is never used to violate human rights or repress workers.⁵

Keeping the internet a safe and trusted medium is critical to our democracy and its values.

Finally, in order to protect workers and citizens online, digital agreements must include provisions that address unsolicited messages, consumer fraud, and other online harms. Both the Digital Economic Partnership Agreement (DEPA) and the U.S.-Mexico-Canada Agreement (USMCA)

address this issue, and U.S. policymakers should strengthen those provisions to include enforceability language and the ability to redress damages.

Increasing inequality, combined with America's experience during the COVID-19 pandemic, have heightened societal and political anxieties about the impacts of technology and trade. Both have delivered tremendous benefits to U.S. and global society, but these have not been equally shared. The Biden-Harris Administration's focus on worker-centric trade is an opportunity to develop a complementary digital trade agenda. Combined with a strong domestic program which includes investing in a robust social safety net, education, 21st century workforce development, and policies to upgrade U.S. technology competitiveness, this new trade framework can help create a more equitable future for U.S. workers, build digital standards that will create a safe environment for workers and businesses, and launch a global digital governance agenda that promotes shared values of equity and democracy.

Summary of Recommendations for a Worker-Centric Digital Agenda

Investing in U.S. Workers and Communities

Equity, Access, and Inclusion

- Make a historic investment in America's connectivity to close the digital divide, including by subsidizing internet access and equipment-access for low-income families. Upgrade the U.S. broadband network.
- Increase federal spending on digital training programs, especially for workers who are unemployed or in low-wage jobs. Design programs to be accessible to women, people of color, and individuals from other marginalized groups, which are traditionally under-represented in digital training.
- Enact the National Apprenticeship Act, which the House passed in February, authorizing \$3.5 billion for bolstering U.S. apprenticeship programs. Focus apprenticeships on digital as well as traditional skills. Develop high-tech apprenticeships in consultation with employers and provide incentives for digital companies to develop such programs.
- Enact federal legislation to make community college more affordable for low-income families, as well as create incentives for companies to partner with community colleges on digital-skills training.
- Increase funding to Minority Serving Institutions and Historically Black Colleges and Universities for STEM and computer science training, to promote apprenticeships for their graduates.

Trade Adjustment Assistance

- Enact legislation making TAA permanent.
- Focus on the community impact of losses from trade, recognizing that besides the individual trauma of losing a job, community-level effects include economic stagnation, rising substance abuse, and increased violence.
- TAA should cover the full range of service workers, from truck drivers to call center workers to those service workers tied to a factory that moves overseas.
- Emphasize digital training to equip workers for the new economy.

Independent Contract Workers

- Enact policies that provide more flexible income-support programs, relocation assistance, and training grants, along with portable benefits – tied to the worker rather than the employer.
- Promote guidelines for digital platform workers’ basic rights and craft a mechanism for collaboration among trade partners on gig economy best practices and policy development.

Enabling Small Business Development

- Invest in digital training and infrastructure (per recommendations in the previous section) to make it easier for SMEs to use technology to run their businesses.
- Improve SME access to global markets by driving regulatory coherence and transparency in foreign markets.

Leveraging Digital Trade Policies to Benefit Workers

Expanding Stakeholder Engagement

- Expand the current digital Industry Trade Advisory Committee (ITAC) to incorporate representatives from labor, small businesses, and other diverse voices.
- ITAC 8, the current digital economy committee, is primarily made up of tech representatives, even though all sectors comprise the digital economy. Add a committee to the ITAC system, with representatives from across sectors and interests, which focuses on digital governance.
- Institute a program to promote a wider range of participation in the ITAC system through training, and support.
- Include the U.S. Secretary of Labor as a permanent member of the National Security Council, who can weigh in on trade and foreign policy from the perspective of the labor force.

Trade Capacity Building (TCB)

- Prioritize TCB in a digital agreement to include provisions for both labor and access to technology.
- Reevaluate the mechanisms by which the U.S. Government administers funds for trade capacity building, with the goal of using a greater percentage of funds that are already allocated.

Generalized System of Preferences (GSP)

- Add to GSP eligibility requirements that countries foster responsible uses of technology which uphold human and worker rights.

Digital Inclusion

- Expand access to technology for traditionally marginalized groups – not just market access – through a digital agreement.

Labor Provisions

- Expand USMCA provisions prohibiting the import of goods “from other sources produced in whole or in part by forced or compulsory labor, including forced or compulsory child labor,” to include digital service workers, such as those in call centers, and mandate cooperation for the identification and movement of such goods.
- Incorporate provisions to combat human rights abuses and gender-based violence.
- Adopt a rapid-response labor mechanism in a digital agreement.

Small- and Medium-Sized Enterprises

- Promote paperless trading and require the legal frameworks governing electronic transactions to be consistent with internationally-developed models.
- Simplify and digitize trade formalities to lower small and medium-sized enterprises’ barriers to entry.

Sustainability Provisions

- Include commitments in a digital agreement for greening the supply chain, exploring carbon border-adjustment mechanisms for digital trade, and given data centers’ growing emissions footprint, collaborating on research on emerging green technologies.

Subsidies and State-Owned Enterprises

- Advance new disciplines around subsidies and state-owned enterprises, like those in USMCA, to benefit U.S. workers.
- Require both that SOEs operate in accordance with commercial considerations and that governments treat competitors in a non-discriminatory manner.

Digital Governance Provisions to Secure Networks and Protect Workers

Privacy, Data Protection, and Employee Surveillance

- Prioritize passing strong and comprehensive federal privacy legislation – though trade agreements should not wait on such action to push high privacy standards.
- Work to rebalance the employee surveillance privacy deficit and bring more transparency to the opaque practices regarding employee monitoring and data collection and use.

Securing Digital Infrastructure and Cybersecurity

- Build on existing USMCA and DEPA provisions to increase cybersecurity protection for private sector infrastructure in a new digital agreement.
- Commit parties in a new digital agreement to cooperate on cyber workforce development, with an emphasis on expanding diversity.

Data Flows with Trust

- Protect the movement of data across borders and companies' ability to operate without having to use local infrastructure or build redundant data centers in foreign jurisdictions. Also build in mechanisms to ensure that robust security and privacy standards protect data flows, setting standards for government or law enforcement access to data based on guiding democratic and human rights principles in the U.S. CLOUD Act and EU E-Evidence Regulation.
- Both in U.S. domestic policy and in a new digital agreement, guard against the export of personal data to third parties or third countries that are likely to use it to harm people.

Algorithms, AI, and Emerging Tech

- Encourage governments to develop balanced regulations which prioritize risk-based frameworks for governing AI to ensure that new, emerging technologies are used transparently, explicably, fairly, and in a human-centric manner.
- Build on AI language in DEPA, the U.S.-EU Trade & Technology Council declaration, and the Singapore-Australia Memorandum of Understanding.

Content Moderation and Foreign Censorship

- Promote free expression and counter censorship in any new policies or trade agreement provisions, upholding core democratic values.
- Advance language in a new digital agreement similar to the Christchurch Call and G-7 Internet Safety Principles to ensure that technology is never used to violate human rights or repress workers.

Competition Policy

- Address competition issues in a worker-centric digital agreement by facilitating cooperation among parties on unfair data collection and surveillance practices, among other practices that impact competition in the internet sector, in parallel with U.S. domestic efforts.

Consumer Protection

- Strengthen language in USMCA that requires parties to “adopt or maintain” consumer protection laws which “proscribe fraudulent and deceptive commercial practices that cause harm or potential harm to consumers engaged in online commercial activities.”
- Drive cooperation between nations’ consumer protection agencies.

A Worker-Centric Digital Agenda

Investing in U.S. Workers and Communities

While digital technologies have created millions of new jobs and have been a lifeline for many small businesses and individuals, especially during the COVID-19 pandemic, the new economy has also created new labor challenges which must be addressed.

The first is ensuring that all citizens have equal access to digital technology and training. Over the past 18 months, the trend towards working, studying, and engaging in services online has skyrocketed, sharpening the digital divide's impact. A quarter of the U.S. population still has no broadband internet service, with this gap disproportionately impacting minority, low income, and rural communities.⁶

The second labor challenge is the disruption that occurs as many companies go digital. The McKinsey Global Institute in 2017 estimated that up to one-third of activities in a majority of professions could be automated by 2030, "implying substantial workplace transformations and changes for all workers."⁷ The idea is that while the net number of jobs may increase, workers will experience more turbulence in the years ahead. The U.S. especially needs to increase digital training, specifically for individuals who need to learn new skills to find jobs in tomorrow's economy, including through programs like TAA.

Finally, a growing segment of digital economy workers are independent contractors, and the U.S. must develop ways to address their needs through increased social safety measures.

Equity, Access, and Inclusion

All U.S. citizens should have equal access to digital technology and training. The U.S. has a deep digital divide that drives economic inequality, disadvantaging many American workers based upon race, gender, geography, and education level. In June,

the Pew Research Center reported that roughly a quarter of adults with household incomes below \$30,000 a year do not own smartphones.⁸ And more than 4-in-10 of low-income Americans lack home broadband services or a computer. This erects economic and employment hurdles for many Americans and hampers their ability to participate in the increasingly digital economy. New policies must remedy this inequality so that all citizens can take full advantage of digital tools and opportunities.

Upgrading America’s digital infrastructure and increasing access to equipment are also essential. Access to the internet is no longer a luxury, but an essential element to participating in the economy – as vital as access to electricity was a century ago. Even before the pandemic, U.S. internet infrastructure lagged behind that of other developed countries.

In addition, the internet should be more accessible to rural and low-income Americans, and we should establish programs to subsidize computers, tablets, and smartphones for those below certain income thresholds. Each of these technologies can be found in virtually every household where the adults earn at least \$100,000 a year, with most upper-income households owning multiple devices.⁹ Those without them have difficulty accomplishing tasks that have become a necessity during COVID-19, such as doing homework or accessing telemedicine appointments.¹⁰

All citizens should have equal access to technology and training.

Gaps in access to equipment and the internet itself are especially stark for low-income Americans, a divide that hits Hispanic-Americans and African Americans hard. One-third of African Americans and Hispanics – 14 million and 17 million people, respectively – still don’t have access to computers in their homes, and approximately a third of African American households and Hispanic American households lack broadband.¹¹

Several bills have been introduced in Congress to expand broadband and accelerate deployment of the FCC 5G Fund for Rural America.¹² The pending bipartisan infrastructure bill invests in universal broadband, and also ensures equal broadband access for underserved communities.¹³ Congress must move swiftly to address these needs.

In addition to ensuring extensive broadband access, we must dramatically expand opportunities for citizens to acquire the digital skills they need for today’s jobs, and

tomorrow's. This is especially true for low-skilled workers, workers without a college education, workers of color and workers from other marginalized groups. We must retrain the U.S. workforce for the future economy and acknowledge that automation has and will continue to play a role in reshaping it, especially impacting manufacturing jobs.

In FY 2020, while 48 percent of Trade Adjustment Assistance petitions came from the manufacturing industry, approximately 68 percent of those who left the program got jobs in non-manufacturing sectors, coinciding with U.S. employment growth in those areas.¹⁴ Manufacturing workers and their children may not know what professions to go into. “The old model of front-loading education early in life needs to give way to lifelong learning,” McKinsey & Company argued in a 2019 report on the future of work.¹⁵ Our domestic policies and trade agreements should reflect that training and education can no longer end when workers are in their 20s, but should continue through the decades.¹⁶ This includes digital training, which can vary widely, from basic computer skills to more technical coding programs.

We should invest in digital training for workers who are either unemployed, or in low-wage jobs and seeking to increase their skills. Before the pandemic, roughly 7 million U.S. jobs were unfilled, primarily because of a mismatch between worker skills and openings.¹⁷ A lack of digital proficiencies was a major reason for this gap.¹⁸ Now, as the U.S. economy has reopened, this picture is even more complicated within sectors and across geographies. Acceleration of digitization during the pandemic has even increased skill requirements for certain jobs.¹⁹

Digital companies must take a leadership role in modernizing job-training programs to develop a pipeline of skilled workers, including by developing new forms of apprenticeship and certificate programs targeted at underserved communities. This should include deliberate efforts to build partnerships involving the technology sector, community colleges, workforce boards, unions, and local employers – with the goal of making digital training and digital skills programs more accessible and useful to jobseekers from diverse backgrounds, while helping those who have been hardest hit by the pandemic.

Community colleges play a particularly important role for students, at every career stage, who need additional skills to find new – or better paying – jobs.²⁰ These institutions enrolled roughly 5.5 million students in 2018. Enacting federal legislation to make them more affordable for low-income families and to encourage creative partnerships with industry is critical. Such legislation should specify funding for digital

training and create incentives for tech companies to partner with community colleges on it. It should also include dedicated funding for Minority Serving Institutions.

Apprenticeship programs are an effective way to provide skills-training that leads to jobs. The House passed the National Apprenticeship Act, authorizing \$3.5 billion for bolstering U.S. apprenticeship programs, in February. It is awaiting Senate action.²¹ Domestic apprenticeships must be expanded to include digital skills. Such apprenticeships should be developed in consultation with employers and incentives should be provided for digital companies to foster apprenticeship programs.

Foreign competitors have effectively used apprenticeship programs to upskill their workers and do far more than the U.S. to prepare their workforces for the future. Denmark is a world leader in supporting unemployed and displaced workers as they adjust their skills. Singapore has created new lifelong-learning benefits so its workers can continuously upskill. Germany boasts a much-heralded apprenticeship system in which 60 percent of its youth train in fields such as advanced manufacturing and IT, compared to just 5 percent in the U.S.²² It is time for the U.S. to think differently about preparing our workforce, rather than simply shielding those who may be impacted negatively from localized, downside effects of trade and automation.

Trade Adjustment Assistance

Trade Adjustment Assistance, which Congress established in 1962, provides federal assistance to workers who are adversely affected by foreign trade. It includes resources to help workers obtain skills for successful reemployment. It expired in June 2021, so an estimated 48,000 workers, primarily in service industries, will lose eligibility benefits in the middle of 2022.²³

In June, House Ways & Means Committee Democrats introduced a new bill to renew and improve TAA and it must be enacted immediately: The longer it is delayed, the more workers will lose their assistance. Data has shown the communities of color are disproportionately impacted by trade-related job losses.

The House bill significantly improves upon the original. It would: reform eligibility criteria so that all workers impacted by trade would qualify, including service workers; reauthorize the program for seven years and increasing its funding to \$1 billion annually; increase allowances for job search and relocations to \$2,000 and establishing a new \$2,000 childcare allowance; increase benefits for workers using the Health Care Tax Credit and make the provision permanent; and provide \$9 billion over seven years for community college programs.²⁴

The bill also looks beyond the individual trauma of losing a job, addressing the community-level effects of job loss, including economic stagnation, substance abuse, and increased violence. It proposes overhauling the TAA for Communities program to better target support and initiate proactive outreach in trade-affected communities. It would allocate \$5 billion over five years to generate economic development

TAA worker-training programs should emphasize digital skills, to equip workers for the new economy.

plans, as well as eliminate blight from communities, improve public services and encourage private-sector job creation.²⁵

These proposals are necessary improvements, but a new TAA should go further. First, Congress should make the program permanent. Its temporary status creates gaps for workers when it expires and makes it difficult for states

to administer. It should also cover the full range of service workers, from truck drivers to call-center personnel to those service employees tied to a factory that moves overseas. Finally, TAA worker-training programs should emphasize digital skills, to equip workers for the new economy.

Independent Contract Workers

The digital economy has introduced a new category of independent contract workers, informally called gig workers. They are typically hired to provide on-demand work, services, or goods, often through a digital platform such as an app or website. They are also called digital platform workers.

While these workers enjoy great scheduling flexibility and opportunities for supplemental income, they typically lack health care and other benefits that regular employees receive. They have prompted new policy questions and challenges. For example, categorizing drivers as independent contractors has long enabled ride-sharing platforms to avoid paying employee payroll taxes for them, taxes which in turn fund benefits like unemployment insurance programs.²⁶

Globally, gig-economy transactions are forecast to grow by 17 percent annually to around \$455 billion by 2023.²⁷ The International Labor Organization (ILO) holds that from the perspective of “decent work” in its Conventions and Recommendations, gig workers should benefit from labor and social protection rights, regardless of

contractual status with the platform.²⁸ Policymakers must ensure these workers have labor rights and protections, and access to the same benefits as traditional employees.

One idea involves “delink[ing] ... healthcare, unemployment insurance, and other vital benefits from specific forms of employment, while providing a protective labor standard for all workers that includes collective bargaining (even for self-employed workers), OSHA, and other workplace rights,” as the Data & Society Research Institute’s Alex Rosenblat has suggested.²⁹ Policies that provide for portable benefits – tied to the worker rather than the employer – and longer and more flexible income-

Gig economy transactions are forecast to grow to \$455 billion by 2023.

support programs during periods of unemployment, as well as relocation assistance and training grants, could offer stability to gig workers, as well as people who need to move between opportunities and locations.

The growth of independent contract workers is global. While each country will need to use its domestic policies to ensure that these workers benefit from labor rights and social protections, many platforms also operate across multiple jurisdictions, necessitating global policy dialogue coordination. The ILO notes that free trade agreements can be important levers of “regulatory intervention pertaining to the transnational activities of digital labour platforms. The impact of trade agreements, and especially their labour clauses, on platform workers is a matter that could receive more attention in trade negotiations than has hitherto been the case.”³⁰ In parallel with other forums that are addressing the questions of how to protect gig workers, a U.S.-led, worker-centric trade agreement could include guidelines for basic rights for digital platform workers and incorporate a mechanism for trade partners collaborating on gig economy best practices and policy development.

Enabling Small Business Development

According to a recent McKinsey survey, COVID-19 has pushed companies to accelerate their digital transformations, especially in their customer and supply chain interactions.³¹ Health care, financial and other professional services have rapidly transitioned to digital platforms during the pandemic. These transformations continue as more businesses and service providers move online to accommodate changing consumer and business needs.

This digital transformation has been especially rapid for small- and medium-sized businesses. Many SMEs started using digital tools during COVID-19 to become resilient and ensure future growth.

Small businesses are major economic drivers and employers in the U.S. economy and making investments to ensure that digital technologies and training are accessible for all small businesses will fuel their growth.

In 2020, 60.6 million employees worked for small businesses – almost half of the U.S. private sector workforce.³² Small businesses comprise 99.9 percent of all U.S. firms, 97.5 percent of exporters, and 40.3 percent of private sector payroll.³³ From 2000 to 2019, small businesses created 10.5 million net new jobs while large businesses created 5.6 million.³⁴ Small businesses are also a key engine for advancing women and minorities: In 2020, 31 percent of all small business owners were women and 29.3 percent of these enterprises were minority owned.³⁵ Globally, SMEs account for almost 80 percent of jobs; and about 10 million of those businesses are owned by women.³⁶

Digitalization and trade can be key SME enablers. Digitalization supports innovation and access; creates opportunities for alternative payment and risk-assessment tools; facilitates access to job-recruitment sites, task hiring, and knowledge partners; and creates mechanisms for reducing size disadvantages in international trade. The Organisation for Economic Co-operation and Development (OECD) found that wages at exporting SMEs and highly-productive SMEs are closer to those at large firms than ordinary SMEs.³⁷ More than one-third of U.S. small business owners say that without digital tools they would have had to close all or part of their business during the COVID-19 crisis.³⁸

Online tools also allowed many individuals and small businesses to launch new companies. One online platform focused on helping found and register new businesses, for example, saw a 220 percent year-over-year rise in new company registrations in April 2020, and during the first half of 2020, more businesses launched on it than in all the previous 11 years combined.³⁹

Digital tools also gave many of these businesses the opportunity to sell their products or services globally. Nine percent of small businesses export goods or services and SME exports currently account for \$541 billion and nearly 6 million U.S. jobs.⁴⁰ Yet these companies often face difficult barriers, primarily foreign regulations, tariffs and customs procedures, and payment-collection issues. Giving small businesses better access to global markets could increase U.S. GDP by \$81 billion and add 900,000 new jobs.⁴¹

Ninety-two percent of small businesses that export use digital tools for things such as online payment processing, online productivity, e-commerce, online marketing.⁴² The online marketplace Etsy, for example, announced in May that the number of active sellers on its platform rose from 2.7 million in 2019 to 4.4 million in 2020, and the share of its sales which are global shot up to 42 percent in the first quarter of 2021.⁴³

As a large part of the U.S. workforce learns to take advantage of digital tools the U.S. government can foster growth both at home and abroad by leading globally on digital governance. Regulatory requirements in foreign markets are a key barrier to U.S. SMEs taking advantage of trade agreements. Advancing a digital trade agenda is one way to support them and drive regulatory coherence and transparency in foreign markets.

In 2020, 60.6 million employees worked for small businesses – almost half of the U.S. private sector workforce.

Leveraging Digital Trade Policies to Benefit Workers

Whether as part of a broader free trade agreement, or in a bilateral or plurilateral digital agreement, new language and policies can benefit workers in the U.S. and globally.

A more equitable, worker-centric digital trade policy begins with expanded engagement and consultations in digital policy development. Bringing in different stakeholders such as small businesses and workers, will bring different policy priorities into focus. A worker-centric digital agreement must include trade capacity-building provisions to raise labor standards globally and provide greater access to technology in the developing world. Such an agreement can and should have provisions to promote digital inclusion in underserved communities and facilitate access for small businesses. Finally, it should promote sustainability as well as include disciplines on subsidies and state-owned enterprises to counter China's pervasive non-market practices in the digital sector.

Expanding Stakeholder Engagement

A worker-centric digital trade policy begins with more diverse stakeholder representation in its development. The Industry Trade Advisory Committees are a public-private partnership, managed by the U.S. Department of Commerce and the Office of U.S. Trade Representative (USTR), which engages business leaders in formulating trade policy. A worker-centric digital policy should include other voices, representing small businesses and digital workers as well as consumer groups, to paint a broader picture of the potential economic and community effects of new digital policies and agreements.

Currently, one committee covers the digital economy and is largely populated by technology company representatives. Since most industry, services, and agricultural sectors are now part of the digital economy, the various sectoral committees could be convened around the range of digital governance issues that impact their sectors. These committees too should be more diverse. Representatives of small business and labor, as well as underserved communities, should populate them – a diversification which would require concerted outreach, training, and even possibly support.

The foreign policy scholars Charles A. Kupchan and Peter L. Trubowitz recently proposed an even more ambitious way to center U.S. economic policy on workers: making the Secretary of Labor a permanent member of the National Security Council, thus giving factory, farm, and service workers a stronger voice in White House deliberations over trade and foreign policy.⁴⁴

A worker-centric digital trade policy begins with more diverse stakeholder representation.

In addition to consulting with more diverse stakeholders, we must also recognize that many American workers, particularly from historically underserved groups, have not yet been integrated into the trading system. We must do more to understand and address these barriers. The Biden Administration has committed to ensuring that the concerns and perspectives of Black, LatinX, Asian-American and Pacific Islander, and Native American workers, their families, and businesses are a cornerstone of proposed policies so as to better understand the projected impact of proposed trade policies on communities of color before pursuing them.⁴⁵

Finally, the idea of stakeholder engagement should be interpreted in the broadest sense. In 2019, New Zealand adopted a set of principles called “Trade for All,” which seeks to maximize trade benefits for the various New Zealand communities. Its first key principle promises “An open conversation with the public and key stakeholders around the future direction of New Zealand’s trade policy.”⁴⁶ The U.S. should include similar language as it develops worker-centric trade and digital agreements.

Trade Capacity Building

Trade capacity building is a critical part of the U.S. strategy to enable developing countries to negotiate and implement market-opening and reform-oriented trade agreements and to improve their capacity to benefit from increased trade. New trade agreements should include TCB for both labor and digital provisions. It can go a long way toward increasing the likelihood that trade agreement benefits will be shared by both U.S. and foreign workers. Whether for labor-related activities or technology adoption and standardization, trade capacity building will play an important role in advancing a worker-centric trade agenda, as well as a digital governance agenda based on equitable and sustainable values.

TCB should include funds from the U.S. Agency for International Development for technical and regulatory training for the digital sector. In order to make TCB more effective, the mechanisms by which the U.S. government administers funds for it should be reevaluated. To date, funds allocated for capacity building are often not used by the recipient country. U.S. trade agreements are typically structured so that the recipient country must apply for the allocated funds. This process can be cumbersome, and countries may be hesitant to admit that they need help. A better solution would be for the U.S. to work with these nations to allocate the funds directly for agreed-upon goals. The USMCA’s mechanism for funding Mexico’s changing its labor laws and enforcement could potentially be a model for TCB.

Trade-related labor support has been among the highest-funded TCB categories, behind agriculture and/or infrastructure. These activities generally entail improving labor and workers’ rights; ensuring labor equity and equal access to jobs, particularly for women and vulnerable groups; building civil society and worker organizations’ capacity; eliminating forced and child labor; improving labor law compliance and governance; and assisting with workforce or human capital development.

Digital technology is an important tool for empowering women in the developing world. Women in these countries have relatively restricted access to information and

communication technologies and are 21 percent less likely to own a mobile phone, which could facilitate better education and strengthen their ability to participate in the economy.⁴⁷ Phones are also a key resource in developing countries for enabling security, mobile health care, and money transfers.⁴⁸ Technology also has great potential for closing the gender gap and empowering women in developing countries. Through educating girls in STEM and IT, it can help them pursue opportunities in these fields.

In addition to trade capacity building, the U.S. and its allies are taking steps to empower low- and middle-income countries to participate in the modern economy and benefit from digital technologies and trade. The U.S. together with the EU and their G-7 partners and the EU as part of the Build Back Better World Partnership, have launched an initiative to enable workers globally, and especially small businesses, to access opportunities in health care and digital technology.⁴⁹

Generalized System of Preferences

The Generalized System of Preferences, the largest and oldest U.S. trade preference program, eliminates duties on thousands of products when imported from designated low- and middle-income beneficiary countries and territories. As part of USTR's review

Digital technologies can empower women in the developing world.

to determine GSP eligibility, beneficiary countries must meet specific criteria regarding worker rights, intellectual property rights enforcement, and rule of law. USTR also reviews how beneficiary countries respond to petitions from interested parties. Digital provisions should be one of the review criteria, with

a requirement that countries adopt practices that foster responsible uses of technology which uphold human and worker rights.

Digital Inclusion

Digital Inclusion refers to the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of information and communication technology.⁵⁰ A new digital agreement must focus on expanding access to technology so that traditionally marginalized groups such as minorities, women, and rural communities are able to use digital tools to plug into the international marketplace, as opposed to just expanding access to markets.

The lack of broadband and the existing U.S. digital divide are part of a global phenomenon: All told, 3.7 billion people around the world lack broadband access.⁵¹ Connecting underserved communities with digital technologies is an important way of uplifting individuals by facilitating their participation in the economy and the trading system. DEPA acknowledges the “importance of digital inclusion to ensure that all people and businesses have what they need to participate in, contribute to, and benefit from the digital economy.”⁵²

The agreement goes on to recognize the importance of expanding and facilitating opportunities in the digital economy by improving access for underserved communities and low socioeconomic groups by removing barriers to participation. The signatory countries commit to taking a variety of independent and joint measures to facilitate this goal, including consulting with experts, sharing best practices, and developing programs to promote the participation of all groups in the digital economy.

A U.S. digital agreement should commit to promoting access and inclusion to all underserved populations, including Black, LatinX, Native American, rural, and low-income communities.

Over the past few years, there has been an increasing focus on the importance of gender inclusion, particularly in the developing world, where women are often the primary bread winners. The modernized Canada-Chile Free Trade Agreement, Argentina-Chile Free Trade Agreement, and Canada-Israel Free Trade Agreement all include trade and gender chapters, for example.⁵³ USMCA also calls for parties to work together to promote access to tech for persons with disabilities.

A worker-centric U.S. trade agreement should enshrine all these provisions to ensure that all workers and citizens, both foreign and domestic, have access to technology and training, as well as the economic opportunity in the digital economy.

Labor Provisions

Digital agreements such as the U.S.-Japan Digital Agreement, DEPA , and the Singapore-Australia Digital Economy Agreement lack labor provisions. In keeping with the Administration’s commitment to put workers at the center of trade policy, future

A new digital agreement must focus on expanding access to technology.

digital agreements must contain language committing the parties to uphold the highest labor standards.

USMCA incorporates the most forward-leaning labor language not only of any U.S. trade agreement but arguably of any trade pact ever. Provisions include prohibiting imports of goods “from other sources produced in whole or in part by forced or compulsory labor, including forced or compulsory child labor” and mandatory cooperation regarding identifying and tracking the movement of such goods. These policies should be included in a digital agreement, and expanded to include digital service workers, such as those in call centers.

Other new provisions address violence against workers exercising labor rights, protection for migrant workers, and policies protecting against gender-based

A worker-centric digital agreement should adapt provisions from USMCA in order to advance high-standard digital sector labor practices.

employment discrimination.⁵⁴ The Biden-Harris Administration has prioritized using the U.S. trade agenda to combat human rights abuses and gender-based violence in certain regions and countries.⁵⁵

Lastly, USMCA incorporated new dispute settlement provisions for labor violations, notably creating a “rapid response” mechanism that supplements state-to-state dispute procedures. It provides for the enforcement of certain worker rights in individual facilities on a more

expedited basis than typical dispute-settlement cases. These provisions are especially relevant for digital-technology facilities like call centers or data centers.

A worker-centric digital agreement should adapt these provisions in order to advance high-standard digital sector labor practices.

Small- and Medium-Sized Enterprises

As discussed earlier, although SMEs are a large and growing part of the digital economy, they have had a difficult time taking advantage of trade agreements, which are complex and often geared toward multinational companies. Making digital agreements work for SMEs is an important component to a worker-centric agenda.

Again, USMCA contains the most comprehensive language to date advancing SMEs' interests. Chapter 25 has provisions strengthening cooperation between the countries and sharing best practices. In addition, the Cross-Border Trade in Services chapter benefits SMEs by eliminating the unnecessary requirement to open a foreign office as a condition of doing business.

DEPA is also a vehicle for cooperating among partners on digital economy issues, enabling SMEs to test ideas with DEPA counterparts. In addition, DEPA's trade-facilitation provisions promote paperless trading and require that DEPA partners' legal frameworks governing electronic transactions be consistent with internationally-developed models. This can be critical for minimizing bureaucratic delays, red tape, and inefficiencies at borders. Simplifying and digitalizing routine interactions has helped sustain international trade despite the COVID-19 pandemic and also lowers the barrier to entry for small and medium-sized enterprises.⁵⁶

A worker-centric trade agreement should contain similar provisions, as well as transparency mechanisms, to enable SMEs to reap the benefits of trade and the digital economy.

Sustainability Provisions

The Biden-Harris Administration has made climate change a top priority, and U.S. Trade Representative Katherine Tai has infused this focus into the Administration's trade agenda. In her Earth Day speech in April, Tai talked about how trade is an important tool to combat climate change and reach global sustainability goals and she has emphasized that the Administration's climate initiative should be a part of all new trade agreements – presumably including digital agreements.⁵⁷ Some related technologies, like data centers, have significant carbon footprints, accounting for 2-3 percent of the world's electricity consumption – a figure projected to grow to 13 percent by 2030.⁵⁸ While some U.S. technology companies have made extensive commitments to greening their supply chain, more work remains to be done.

Sustainability provisions in a digital trade agreement could include commitments to green supply chain and to explore carbon border adjustment mechanisms for digital trade, as well as requirements to collaborate on emerging green technology research.⁵⁹

Subsidies and State-Owned Enterprises

While China has been the global leader in subsidizing its State-Owned Enterprises, especially in the digital and technology sectors, other countries have also supported their own companies, especially those which are government-owned. New disciplines around subsidies and SOEs, like those in USMCA, can benefit U.S. workers. USMCA Chapter 22 expands on existing definitions for state-owned enterprises to include indirect ownership or control. It requires such companies to operate in accordance with commercial considerations and for governments to provide non-discriminatory treatment of competitors. Indeed, the Biden Administration is considering a new investigation into Chinese subsidies and their damage to the U.S. economy.⁶⁰ Disciplines around subsidizing and operating these enterprises are particularly important in the digital space, where U.S. and Chinese companies compete in third-country markets, with Chinese companies offering prices well below market values.

Disciplines around subsidies and state-owned enterprises are particularly important in the digital space.

Digital Governance Provisions to Secure Networks & Protect Workers

Existing digital agreements have a range of important provisions designed to create interoperable standards and ensure responsible use of technologies. This section examines these provisions and proposes new ones, with an eye toward including language that will harness these technologies for good, while protecting and workers and other digital consumers.

Privacy, Data Protection, and Employee Surveillance

Employers and workers enjoy many benefits from deploying new technologies in the workplace. Digitization enables workers to perform their jobs remotely, saving commute time and connecting workers across time zones and locations – and more crucially, helping millions of workers to continue earning a living during COVID-19

pandemic. Cross-border data flows played a key role in protecting workers by enabling rapid vaccine development and driving a coordinated public health response to the pandemic. Digital tools that connect workers on industrial worksites and in the field can provide useful data and keep workers safe

Online privacy, however, remains a concern. It has become increasingly urgent for the U.S. to enact federal privacy regulation, both to protect individual and worker rights and to create clear standards for any business or organization that uses personal data. Privacy concerns have become even more acute as employers increasingly use myriad technologies to monitor their staff's activities, as well as to automate their supervision. As the Center for Democracy and Technology notes, "Bossware allows companies to monitor workers' physical movements and pace of work in unprecedented detail."⁶¹ Employers can track body shifts and facial expressions through webcams, and software can evaluate whether people are paying attention – with consequences for those who are not meeting certain standards.⁶²

Workers are not always aware of being tracked or how their data is used.

Moreover, workers are not always aware of either how they are being tracked or how the tracking data is used by the employer, creating a power imbalance between employee and employer, as well as between employer and government regulator

Standards for tracking and for legitimate use of tracking data are not well defined, making it difficult to prevent abuse or even to pass on benefit to employees. Harvard Business Review surveyed thousands of workers across 13 countries in 2019 and found that workplaces which lose employee trust suffer negative impacts to business – not to mention workforce health and well-being. "Data can unlock people's potential and boost business performance, but these aren't prizes worth having if they diminish fairness and trust," the authors concluded.⁶³

In 2020, Cisco surveyed thousands of adults in 12 countries around the world. They found that workers are concerned about privacy protections built into their work tools, with many saying that figuring out what companies were actually doing with their data was too difficult.⁶⁴ While employers are responsible for monitoring and protecting what happens on their networks, federal authorities should work to rebalance the privacy deficit in terms of employee surveillance and to bring more transparency to these opaque practices. Further research is required on the health ramifications of employee surveillance, and improvements made to both the standards for reasonably conducting

it and the legal privacy protections keeping employers from stepping over common-sense limits. Workers and governments should have fair access to employer data sets, which are used to make decisions that impact the public and employee quality of life.

Many of these concerns fall within the purview of Congress and executive branch agencies. Congress should prioritize passing strong and comprehensive federal privacy legislation, and trade agreements should reflect these high standards.

Even absent federal legislation, however, digital agreements should strive to be ambitious on privacy, however. Existing language in agreements like DEPA and the U.S.-Japan Digital Agreement should be upgraded to give workers and users greater assurance that their privacy will be protected irrespective of where data is stored, and new language addressing worker privacy should be included in future worker-centric trade agreements.

Securing Digital Infrastructure and Cybersecurity

Cybersecurity has never been more important, as businesses, health care, and schools moved online in response to the COVID-19 pandemic and with data from increasingly connected industrial and remote worksites traveling across networks. At the same time, cybercriminals and other malicious actors have sought to exploit digital vulnerabilities to target public utilities, private sector companies, and workers in democracies around the world. In May, after a cyberattack disrupted the Colonial fuel pipeline – and the lives of millions of Americans – the Biden Administration issued an executive order tightening cybersecurity rules for government contractors and establishing an incident review board.⁶⁵ In September, President Joe Biden featured cybersecurity in his address to the U.N. General Assembly: “We’re hardening our critical infrastructure against cyberattacks, disrupting ransomware networks, and working to establish clear rules of the road for all nations as it relates to cyberspace.”⁶⁶

As the OECD has pointed out, cooperation across organizations – and borders – is essential to mitigating digital security risk: “Governments can play a key role to facilitate such co-operation, in particular by supporting, convening or encouraging sustainable multi-stakeholder partnerships based on trust.”⁶⁷ USMCA has language that provides a good model for what new digital agreements could accomplish in this area, with provisions that advance this type of cooperation as well as risk-based approaches to cybersecurity regulation. DEPA has a chapter addressing cybersecurity which commits the parties to “cooperate to identify and mitigate malicious intrusions or dissemination of malicious code that affect the electronic networks of the Parties,” and invest in cybersecurity workforce development “including through possible initiatives

relating to mutual recognition of qualifications, diversity and equality.”⁶⁸ These are all good baseline provisions which can be strengthened in future digital agreements, including through new provisions that would require the U.S. and its trading partners to cooperate in increasing cybersecurity protection for private sector infrastructure.

Strengthening U.S. cyber protection means building a better talent pipeline and training those workers for the future. According to the U.S.-based Diversity Cyber Council, less than 15 percent of the cybersecurity workforce is female, less than 10 percent is from minority backgrounds, and less than 8 percent has a disability.⁶⁹ Future agreements should commit to cooperating on cyber-workforce development, with an emphasis on expanding diversity.

Data Flows With Trust

Data flows have become crucial for the seamless functioning of economies and societies. Manufacturers, farmers, and individual workers must be able to move data

Strengthening U.S. cyber protection means building a better talent pipeline and training those workers for the future.

securely across borders and should not be forced to localize either it or infrastructure as a condition of doing business. Unfortunately, an increasing number of foreign countries are gravitating towards forced data localization requirements, which can undermine privacy and security and expose data to state surveillance. These national regulations to restrict the cross-border movement of data

are giving rise to fragmented and sometimes contradictory rules. Such regulatory fragmentation disproportionately impacts small businesses, which often lack the resources to comply with differing regulations across markets.

Under Japan’s leadership in 2019, the G-20 launched a major international initiative on data flows. The “Data Free Flow With Trust” framework maps a multidimensional architecture for international cooperation on data flows, both between governments and involving business, with recommendations for increasing levels of governance trust and building openness through trade rules and other tools.

The quantity of data generated by technology continues to rapidly increase, carrying potential to benefit U.S. manufacturers and farmers, among others, who are seeking

to compete with foreign entities doing the same. To ensure that U.S. workers do not miss this data boom's economic benefits, trade agreements must include provisions ensuring the free flow of data with trust. Specifically, the provisions should protect the movement of data across borders and companies' ability to operate without required use of local infrastructure or redundant data centers in foreign jurisdictions. It should also build in mechanisms to ensure that data flows are subject to robust security and privacy standards and should set standards for government or law enforcement access to data – based on democratic and human rights principles in the U.S. CLOUD Act and EU E-Evidence Regulation. This comprehensive approach will ensure that data flows and data governance are treated as mutually reinforcing concepts in trade agreements for building trust in the digital economy.

Digital trade agreement mechanisms should ensure that data flows are subject to robust security and privacy standards.

As the U.S. works with a wide range of countries to support a values-based approach to data flows, it must also develop principles for protecting them when countries do not adhere to democratic norms on data governance. In particular, the U.S. and its trading partners should have a process for guarding against the export of personal data to third parties or third countries that are likely to use this data to harm people. Initial proposals to guard against the misuse of U.S. data by foreign countries have been introduced by Oregon Democratic Sen. Ron Wyden and others.⁷⁰

Algorithms, AI, and Emerging Tech

Trust in technology is essential to ensuring the safe and secure adoption of emerging technologies, such as algorithms, which have become increasingly important decision-making tools in employment, banking, health care, and education. Many cases have surfaced where algorithms have produced discriminatory outcomes that negatively impact workers and other online users, sometimes with little recourse for the impacted individuals. At the same time, AI is also being leveraged in a trade context to promote shared environmental objectives, to help small businesses increase productivity and find new markets, and to help people communicate across borders.⁷¹

We need a more sophisticated trade and domestic policy framework to advance these opportunities and address these challenges. Worker protections related to AI or

surveillance technologies do not exist in U.S. labor law, for example. But they should: When the pandemic began, 30 percent of large employers adopted employee-tracking software for the first time, and now 60 percent use it in general – and not only for office workers.⁷² As recent National Institutes of Health research indicated, “Workplace monitoring and technostress issues will become prominent with an increase in digital presence.”⁷³ We should ensure both in U.S. domestic policy, as well as in our trade

New technologies should be used in a transparent, fair and human-centric manner.

agreements, that these technologies benefit both employers and workers and do not step over reasonable boundaries.

Trade agreements should encourage governments to develop balanced regulations that prioritize risk-based frameworks governing AI. This approach can help assure businesses, workers, and

consumers that new, emerging technologies are being used transparently, explicably, fairly, and in a human-centric manner. It can also ensure that there are compatible and non-discriminatory rules in place that allow businesses and researchers to move data and technologies safely across borders.

To meet these objectives, U.S. trade policymakers should adapt and strengthen language from a number of recent statements and agreements on AI, including:

- The Digital Economy Partnership Agreement, which recognizes the importance of widespread adoption of AI technologies and encourages the development of legal and governance frameworks for their trusted, safe, and responsible use.
- The US-EU Trade & Technology Council declaration, which says that “policy and regulatory measures should be based on and proportionate to the risks posed by the different uses of AI” and includes commitments to “foster responsible stewardship of trustworthy AI that reflects our shared values” and “provide scalable, research-based methods to advance trustworthy approaches to AI.”⁷⁴
- The US-EU Statement on Global Trade Challenges, which stated that the U.S. and EU “intend to work to identify and avoid potential new unnecessary barriers to trade in products or services derived from new and emerging tech, while ensuring that legitimate regulatory objectives are achieved.”⁷⁵

- The Singapore-Australia Memorandum of Understanding on AI, which is intended to foster a human-centered approach, including support for developing and adopting ethical governance frameworks.⁷⁶

Content Moderation and Foreign Censorship

U.S. debates about extremist speech online and keeping the internet a safe and trusted medium are critical to the values of democracy. New challenges in foreign markets have also emerged, as governments misuse technology regulations to surveil political dissidents, suppress the speech of labor activists and disadvantaged groups, and undermine human rights. We need a smarter approach to promoting effective content moderation practices and minimizing harmful and abusive content online, while continuing to promote free expression and robust political discourse in foreign markets where government censorship and surveillance is on the rise.

The challenges that social media companies have faced in stopping malicious actors from weaponizing social platforms – as happened with ethnic violence in Sri Lanka, genocide in Myanmar, and which was a factor in the January 6 insurrection in the U.S. – have resulted in increasing frustration both in the U.S. and globally. They have also triggered an important public conversation about the balance between free expression, safety, and responsibility online.

Following the Christchurch massacre in March 2019, New Zealand Prime Minister Jacinda Ardern and French President Emmanuel Macron arranged a gathering of heads of state and tech CEOs to “address the issue of terrorist and violent extremist content online.”⁷⁷ The group issued the Christchurch Call, an agreement between governments and tech companies to eliminate such content. Forty-eight countries and UNESCO have signed onto the call, as well as several tech companies including Google, Facebook, Twitter, and YouTube. In May, the U.S. formally endorsed the Christchurch Call.⁷⁸

The G-7 recently released “Internet Safety Principles” which expand upon commitments in the Christchurch Call and are intended “to improve internet safety and reduce illegal and harmful content and activity” in the online environment.⁷⁹ These principles – as well as statements by members of Congress – indicate a growing consensus that merely including Section 230 language in trade agreements and calling it a day is no longer sufficient. Section 230 of the 1996 Communications Decency Act, allows internet intermediaries to avoid liability for content posted by users on their platforms. While USMCA included language reflecting Section 230, any updated

approach to digital trade should reflect these G-7 and Christchurch Call objectives and advance an affirmative agenda on content moderation and online safety.

This does not mean that the U.S. government should simply abandon all engagement with trading partners on pressing cross-border content challenges, however. Instead, we need a smarter approach – one that promotes effective content-moderation

China censors internet content and uses it to drive an authoritarian political agenda.

practices, minimizes harmful and abusive content, and continues to promote free expression and robust political discourse in foreign markets where government censorship and surveillance are on the rise.

This updated trade framework should also take a more targeted approach to addressing this foreign censorship and surveillance. At the same time that many democracies are seeking to improve online safety, an increasing number of countries wish to use online regulations as a tool to carry out censorship and state surveillance intended to suppress the voices of political dissidents, labor activists, and disadvantaged minorities. As Freedom House concluded in a September report:

Authorities in at least 48 countries pursued new rules for tech companies on content, data, and competition over the past year. With a few positive exceptions, the push to regulate the tech industry, which stems in some cases from genuine problems like online harassment and manipulative market practices, is being exploited to subdue free expression and gain greater access to private data.⁸⁰

China censors internet content and uses it to drive an authoritarian political agenda. It promulgated false narratives regarding its persecution of the Uyghurs and other human rights violations, for example. Other countries have followed suit, using politically-driven content measures to limit user speech and political debate. India, in particular, “has threatened to imprison employees of Facebook, Twitter, and WhatsApp in retaliation for the platforms’ refusal to take down content associated with Indian farmers’ protests,” the Center for Democracy & Technology reported in August.⁸¹ The Washington Post has highlighted similar trends in Russia, Turkey, Vietnam, and Indonesia, concluding that “authoritarianism has covered itself with the fig leaf of supposedly lawful regulation.”⁸² As the U.S. content regulation debate moves forward, it is critical that policymakers engage with allies and rivals alike to address these issues and advance U.S. values for workers around the globe. As the Center for Democracy and Technology states:

[F]ree expression issues should be a central concern of US international trade policy. Policies that promote free expression abroad create a positive feedback loop that benefits users throughout the world. The reverse is true as well: policies that suppress speech negatively impact the online environment for all users. They can lead to a decline in the quality of services for non-English speakers. US trade negotiators can play an important role in safeguarding the ability of users all over the world to use the internet to connect, create, and express ideas.⁸³

To advance these values, we must develop a clear strategy for updating and integrating a broader internet freedom and responsibility agenda into trade agreements and other elements of foreign policy. In particular, trade policymakers should develop a strategy to counter foreign digital censorship in concert with the U.S. International Trade Commission, which is investigating the trade implications of foreign censorship practices. The U.S. should strive to include language similar to the Christchurch Call and G-7 Internet Safety Principles in digital agreements, along with commitments to ensure that technology is never used to violate human rights or repress workers.

Competition Policy

Including language on competition policy in a U.S.-led digital agreement could help dispel the notion that such an agreement only benefits “big tech” and could have the added benefit of strengthening regulatory cooperation among parties in this area.

In July, the Biden-Harris Administration issued an Executive order on Promoting Competition in the American Economy, which states: “The American promise of a broad and sustained prosperity depends on an open and competitive economy. For workers, a competitive marketplace creates more high-quality jobs and the economic freedom to switch jobs or negotiate a higher wage.”⁸⁴

The Biden-Harris order reflects an economy-wide approach to updating competition law to deal with 21st century challenges in the tech sector and beyond. However, while the U.S. is undertaking these important efforts, many other countries are also seeking to modernize their own competition laws and regulations. Given the integrated nature of the digital economy, it is important to drive a cooperative and principles-based approach on these issues, with clear frameworks to guard against anti-competitive practices. Updated approaches to competition and trade should preserve space for new laws and regulations while ensuring that such measures are consistent with core principles of due process, nondiscrimination and national treatment, fair evidentiary standards, and the protection of intellectual property and trade secrets. In fact, the Biden competition

order encourages the FTC to establish rules on “unfair data collection and surveillance practices that may damage competition, consumer autonomy, and consumer privacy.”⁸⁵

We should also avoid provisions which inadvertently expose user data or IP to authoritarian rivals, or that have the impact of unfairly advantaging companies in authoritarian countries – which can both directly and indirectly harm U.S. workers and consumers. U.S. trade policy and a worker-centric digital agreement can begin to address these practices and their impact on competition.

Language on competition policy in a U.S.-led digital agreement could help dispel the notion that such an agreement only benefits “big tech.”

Some initial attempts have been made to address these issues in the trade context, but a more holistic approach is needed. The U.S.-Japan Digital Economy Agreement, DEPA, and the Singapore-Australia Digital Economy Agreement do not go into great detail but do encourage cooperation and, in the case of the DEA, “sharing best practices on the enforcement of competition law and the promotion of competition in digital markets.”⁸⁶ USMCA’s Chapter 21 does not fundamentally shift competition law in North America, but “may open the

door to enhanced cooperation between Canadian, American and Mexican competition authorities,” as trade attorney Erin Brown has written.⁸⁷ It calls for parties to abide by robust procedural fairness commitments, such as: providing transparency as to the applicable competition laws and rules; conducting investigations subject to definitive deadlines or within reasonable timeframes; providing for representation by legal counsel; protecting confidential information; requiring the national authority to establish the legal and factual basis of alleged violations; and ensuring all final decisions are communicated in writing.⁸⁸

A U.S.-led digital agreement should build on these provisions not just by facilitating greater cooperation on digital competition, but also by reflecting the principles and standards set forth above on due process, nondiscrimination, evidentiary standards, intellectual property and trade secret protection, and the impact these values have on democracies versus their authoritarian rivals.

Consumer Protection

Consumers on the internet often encounter unsolicited messages and consumer fraud. In order to protect workers and citizens online, digital agreements must address these online harms. U.S. policymakers should seek to strengthen USMCA language that requires parties to “adopt or maintain consumer protection laws to proscribe fraudulent and deceptive commercial practices that cause harm or potential harm to consumers engaged in online commercial activities.”⁸⁹ This measure could be strengthened by adding an enforcement or redress obligation, for example, with which the U.S. is already in compliance based on Section 5 of the FTC Act. Trade policymakers could also build on DEPA language which requires parties to “recognise the importance of transparent and effective measures to protect consumers from fraudulent, misleading or deceptive conduct when they engage in electronic commerce.”⁹⁰ Finally, given the cross-border nature of consumer protection challenges, an updated trade agreement should also drive cooperation between national consumer protection agencies.

Conclusion

Rising inequality and America’s COVID-19 experience have heightened societal and political anxieties about the impacts of technology and trade. Both have offered tremendous benefits to U.S. and global society, but those benefits have not been equally shared. While there is much work to be done at home to level the economic playing field, the Biden-Harris Administration’s focus on worker-centric trade is an opportunity to develop a digital trade agenda that will address these concerns, uplift workers, and advance shared values.

The U.S. has a strategic and national security imperative to engage more assertively abroad, especially in Asia, advancing a digital governance agenda that promotes transparency, trust and democracy, to counter China’s autocratic vision. But it must also leverage this opportunity to use technology and trade to forge a new, positive compact with workers and communities.

This can start by recognizing that digital trade agreements must focus on more than just expanding market access and eliminating barriers. New policies and trade provisions must enhance workers’ welfare and prepare them to use and benefit from digital technologies and must actively increase access to technology and trade tools for women, minorities, and other stakeholders and communities which have traditionally been underserved by trade.

Agreements should seek to uplift workers globally through capacity-building, which can promote fair labor standards and offer digital training in developing countries. Digital technologies have been a major boost to small businesses, especially during the pandemic, and we should implement policies to expand digital access for women- and minority-owned small businesses and facilitate their ability to access global markets.

The process of developing worker-centric digital trade policies should start by broadening the conversation to ensure that labor, small businesses, and other diverse stakeholders are fully represented as policy is developed.

Digital trade policies must promote responsible use of technologies by addressing consumer fraud, stemming the misuse of digital technologies, countering foreign digital censorship, and using technology to encourage sustainability.

Finally, a worker-centric digital agreement must foster trust in digital technology, through robust provisions governing privacy, cybersecurity, artificial intelligence, and data flows.

The U.S. is at a trade and technology crossroads. The rapid evolution of globalization and technology has left many workers and communities feeling insecure, and China's swift advance has challenged U.S. national security. The right domestic investments, together with smart, worker-centric digital policies, can open a path forward to creating a safer, more trusted digital economy that promotes workers and sustainability, while advancing U.S. global digital leadership, and strengthening democratic values.

End Notes

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EXHIBIT 147

PUBLICATIONS

America Must be the Standards Setter — Especially in the Digital Sphere

Author: ALI CEO Orit Frenkel, as published in The Hill, February 11, 2022



Five years ago, the U.S. pulled out of the [Trans-Pacific Partnership](#) (TPP), a trade agreement that both parties ran against in 2016. By then, trade agreements had lost public trust and political appeal. Reasons for this turn against trade included the lack of a

U.S. social safety net for workers and communities who were the losers from trade, frustration with China and other countries flaunting trade rules, and the escalation of outsourcing.

After years of multilateral trade negotiations, traditional trade barriers are, with some exceptions, quite low. Today, many global challenges arise from a disparity in the standards that countries use.

Since the U.S. withdrawal from TPP, China has steadily advanced its economic leadership in the region. This culminated with announcements in 2021 of China's intent to join both TPP's successor, the [Comprehensive and Progressive Agreement for Trans-Pacific Partnership](#) (CPTPP), and the [Digital Economy Partnership Agreement](#) (DEPA), a digital governance agreement between Singapore, New Zealand and Chile, together with the China-led [Regional Comprehensive Economic Partnership](#) (RCEP) entering into force on Jan. 1, 2022.

China has pursued economic and infrastructure dominance through its [Belt and Road Initiative](#), promoting its standards while selling its equipment. China's infrastructure projects typically include substandard labor practices, eschew environmental and social impact assessments, ignore project management best practices, pursue financial arrangements that put countries into irresponsible levels of debt, and use procurement practices that often overlook corruption.

To build its projects, China often imports Chinese workers who labor in dismal conditions, and China sells abroad the coal-fired power plants that it is no longer installing domestically, potentially locking countries into carbon-intensive power generation for decades to come.

Of greatest concern is the digital space. As China's [Digital Silk Road](#) has expanded, it has brought authoritarian standards of surveillance, monitoring and censorship with the internet and telecommunication equipment it sells.

To be a 21st century global leader, the U.S. must focus on being a standard setter — worker, environmental, digital, and infrastructure standards, to name a few.

The Biden administration entered office with a commitment to re-engage with allies and a desire to look at trade through a worker-centric lens. The new [Indo-Pacific Economic Framework](#) (IPEF), announced by the administration last fall, is an opportunity to launch a

worker-centric framework focusing on standards that could enable U.S. leadership in Asia.

This framework also could become a bulwark against China's authoritarian standards, protecting workers and facilitating the ability of small and medium-sized businesses (SMEs) to participate in the global marketplace.

The IPEF has several pillars, including trade facilitation, digital standards, worker standards, decarbonization, supply chain resiliency and infrastructure standards. The approach appears to be modular; countries can opt into various modules. The U.S. should use this opportunity to develop robust and transparent standards in each category that will create a "preferred partner" supplier classification for countries that can subscribe to the package of standards. This likely would entail starting with a small group of more advanced countries and offering a phase-in opportunity for less-developed countries. Ideally, the U.S. would offer technical assistance to developing countries adopting and implementing standards.

Given the Biden administration's pledge to elevate worker and environmental standards, these pillars of the IPEF are critical. Countries must commit to robust worker standards, including making commitments to eliminate forced labor and gender-based violence, and have worker standards be part of the infrastructure and digital pillars. Countries also should agree to phase out coal-fired power plants, eliminate fossil fuel subsidies and conduct environmental impact assessments on new infrastructure projects.

While all the pillars are critical, digital standards must be the heart of the IPEF. Many stakeholders have expressed the national security imperative for the Biden administration to initiate negotiations for an Indo-Pacific digital agreement, with U.S. digital governance standards of democracy and transparency.

As the American Leadership Initiative has discussed in its recent paper, ["A Worker-Centric Digital Agenda,"](#) such a digital agreement

could promote digital inclusivity, access for small businesses, and address worker concerns such as surveillance, algorithm biases and protection of data, while also providing for the free flow of data and promoting vital democratic standards.

Negotiators should pursue both digital trade facilitation standards and a worker-centric digital agreement to position the U.S. as a leader in digital governance. Many digital trade facilitation provisions are addressed in the DEPA, including electronic versions of customs documents, electronic invoicing, and facilitating express shipments and cross-border electronic payments.

Digitizing and expanding the use of digital technologies to facilitate trade would ease access for SMEs and make regional trade easier, cheaper and more transparent. Digital trade facilitation does not, however, address the widespread national security concerns stemming from China's growing brand of [repressive digital diplomacy](#). Negotiating such an agreement will be complex; however, a U.S. announcement of its intent to negotiate a digital governance agreement would offer regional countries a much-needed center of gravity and model for democratic and transparent standards.

DEPA and previous U.S. agreements have good language to build upon. This must be an agreement that ensures the free flow of data, while promoting access and inclusion across the signatory countries, providing protections for workers' privacy and their data, and advancing small and entrepreneurial businesses.

The IPEF can position the U.S. as a leader in Asia, one that provides high standards and gives countries a vital alternative to China's regressive standards. Negotiation of a worker-centric digital agreement will provide protections for workers and facilitate the participation of small businesses in the global economy, while countering China by promoting standards of transparency and democracy.



ALI is developing a 21st century vision and policy agenda for American global leadership, based on American interests and shared values.



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EXHIBIT 148

Table of Contents

Executive Summary	3
About ALI and Authors	4
Introduction	5
Building a Worker-Centric Digital Agenda	7
Advancing a Pacific Digital Pact	8
A Key Component of U.S. Asia Strategy	8
Regional Agreements	9
Areas Ripe for U.S. Leadership	11
Final Considerations	12
U.S.-EU Relations & Global Digital Governance	13
A New Opportunity	13
Digital Friction	15
Conclusion	18
End Notes	19

Executive Summary

Building on a strong domestic agenda, the Administration's international objectives include ensuring a worker-centric trade policy, rebuilding partnerships with allies, and developing a strategy to address China's growing technology challenge. Leading on global digital governance must be a key component of this agenda.

This report focuses on next steps to creating a U.S. led global digital governance agenda. As the longer-term process of negotiating a multilateral digital agreement under the World Trade Organization evolves, the U.S. should focus on nearer-term goals in the Pacific and Europe.

A new digital agenda starts with the need to identify policies that are worker-centric. The Administration and Congress are working on a new trade agreement model to put workers at the center, and this focus needs to be part of digital agreements. This includes language covering digital inclusion and access to technology, especially to underserved communities, a focus on small- and medium-sized enterprises (SMEs) and protections for online users.

Second, the U.S. should negotiate a Pacific Digital Agreement to reestablish U.S. engagement in Asia, building on existing regional agreements, which include open and democratic values. This agreement should include a group of five or six key countries in the region, incorporate new worker-centric language, together with existing high standard language from DEPA, DEA and the U.S.-Japan Agreement, and create new norms on ethical AI, facial recognition, and technologies of the future.

Finally, the U.S. should build a coalition of like-minded, technology-democracies to develop a high standard digital governance agenda advancing open and democratic values. The U.S.-EU Tech and Trade Council is a good first step toward this goal. Building this coalition is the most critical element in countering China's harmful approaches to tech and data governance, and the U.S. has no stronger partner in these values than the EU. However, the two sides will also need to work through digital policy friction, including privacy, taxation, and regulatory approaches like the Digital Markets Act (DMA).

About the American Leadership Initiative

The American Leadership Initiative (ALI) is working with elected officials and other stakeholders to develop a 21st century vision and policy agenda for American global leadership, based on American interests and shared values. ALI's policy work is focused on five pillars: advancing inclusive and sustainable growth at home and abroad, pursuing smart trade policies, leading on climate, meeting the China challenge, and promoting democracy, human rights, and rule of law.

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Introduction

The Biden-Harris Administration is off to a promising start reinvigorating U.S. alliances to build a more solid foundation for global digital governance. In April, during Japanese Prime Minister Yoshihide Suga's visit to the White House, the U.S. and Japan pledged to advance secure and open 5G networks, invest in 5G and next-generation mobile networks, and launch a Global Digital Connectivity Partnership in third-country markets. In June, the U.S. and EU made progress on addressing certain key trade frictions, announcing the formation of the U.S-EU Tech and Trade Council. Discussions among key officials in the Administration and Congress indicate interest in renewed U.S. leadership on digital governance in the Indo-Pacific. In the wake of the COVID-19 pandemic, which accelerated the pace of digital transformation in economies around the world, there is increasingly widespread recognition of the importance of securing America's digital future.

This paper lays out the next steps in a U.S. roadmap for a global digital governance agenda, which will spur economic recovery and support good jobs, promote democracy, and counter China's technology challenge. It builds on ALI's report, released in February, "A Global Digital Strategy for America," which outlined a series of domestic and global digital policies the U.S. should pursue to prepare for the post-pandemic economy. Taken together, these policies will enable the U.S. to create a more accessible and robust American economy, establish digital governance to protect democracy, support inclusive economic growth in developing countries, and position the U.S. as a global digital leader.

Domestically, the U.S. experience during COVID-19 demonstrated that digital connectivity and skills are must-haves for Americans and will be key to its economic recovery. In addition to ensuring inclusive access to digital training and technology, facilitating access to digital global markets will help spur economic growth. Whether it's small businesses using digital platforms to offer their goods and services globally, or larger companies using digital technology to improve manufacturing and services, digital governance rules, and improved access to global digital markets will create jobs and advance the post-pandemic recovery.

This report also continues to highlight the importance of America establishing a global digital governance agenda to counter the challenge posed by China. Beijing is accelerating its development of digital technologies and standards globally, spreading autocratic values of censorship and surveillance when it exports its technology. ALI's

February report stressed the importance of working with allies to create a global governance agenda, based on shared values, which would allow businesses, civil society, and citizens access to an internet that is open, democratic, and secure.

In its early days, the Biden-Harris Administration has, appropriately, focused on tackling the COVID-19 pandemic by rolling out vaccines to millions of U.S. adults and addressing the pandemic's economic disruption by dispersing stimulus and other types of assistance to millions of Americans. As part of this focus, the Administration and Congress are pursuing some of the ALI's recommendations, including funding for universal broadband, and subsidizing community college and expanding internship opportunities.

Globally, the Administration's objectives include ensuring a worker-centric trade policy, rebuilding partnerships with allies, and developing a strategy to address China's growing technology challenge. Protecting the digital economy and leading on global digital governance must be key components of this agenda.

This report focuses on the next steps to creating that global digital governance agenda. As the longer-term process of negotiating a multilateral digital agreement under the World Trade Organization evolves, the U.S. should focus on nearer-term goals. These start with the need to develop a digital agenda that is worker-centric and then moving forward on two recommendations from ALI's Global Digital Strategy report: first, that the U.S. negotiate a Pacific Digital Agreement which would reestablish its engagement in Asia, building on existing regional agreements which include open and democratic values; and second, that the U.S. build a coalition of like-minded, technology-democracies to develop a high-standard digital governance agenda advancing open and democratic values.

We hope that this report provides a roadmap for the Administration and Congress to create a global digital governance agenda, use digital technologies to facilitate American economic recovery, create a more inclusive and growing economy at home and abroad, and a safer, more democratic world.

Building A Worker-Centric Digital Agenda

The global pandemic accelerated the shift towards a global digital economy, as people worked, studied, shopped, and had medical appointments online. This shift also helped many individuals and small businesses expand their services locally and globally.

This shift also highlighted a significant digital divide, both in the U.S. and globally, leaving people without access to broadband, digital equipment, and training further behind and threatening to exacerbate economic inequality.

The Administration and Congress are working on a new trade agreement model which will put workers at the center of the conversation, and this needs to be extended to digital agreements. ALI is launching a separate, comprehensive project to develop a worker-centric digital agenda. This section gives a brief overview of the elements a worker-centric digital agreement might include.

When considering the goals of a digital agreement, it is important to think about access to equipment, not just to markets. Even though increasing access to technology is accomplished through domestic policies and legislation, it is important that countries commit to enacting such measures as part of any digital agreement.

The Digital Economic Partnership Agreement (DEPA) between Singapore, Chile, and New Zealand has the most explicit language in any pact covering digital inclusion and access. It acknowledges the importance of digital inclusion to “ensure that all people and businesses have what they need to participate in, contribute to, and benefit from the digital economy.”¹ It goes on to discuss expanding and facilitating digital-economy opportunities by removing barriers and improving access for “Indigenous Peoples ... women, rural populations, and low socio-economic groups.”²

Both DEPA and the Digital Economic Agreement (DEA) between Australia and Singapore includes language acknowledging the importance of small and medium enterprises (SMEs) and their commitment to address the need for digital access and its benefits for them. This includes a dialog to promote information sharing and capacity building among small businesses and a commitment to expand access to open government data to generate new business opportunities, especially for SMEs.

When considering the goals of a digital agreement, it is important to think about access to equipment, not just to markets.

In 2019, New Zealand adopted a set of principles called “Trade for All,” which seeks to maximize the benefits of trade for the various New Zealand communities. The first principle specifies, “An open conversation with the public and key stakeholders around the future direction of New Zealand’s trade policy.”³ The U.S. should include similar language as it develops worker-centric agreements. DEA includes provisions regarding stakeholder engagement, including for SMEs and underserved communities. While its language doesn’t explicitly include workers as a stakeholder group, a worker-centric agreement should certainly explicitly include it.

A worker-centric digital agreement should also be values-based, including protections for digital users. In addition to privacy language, which is foundational in digital agreements, other recent digital pacts, such as the U.S.-Japan Digital Agreement and the DEA, include sections covering safety on the internet, mandating those countries adopt legislation to guard against fraudulent, misleading or deceptive activities causing harm to consumers online.

ALI’s follow-up paper will delve more deeply into developing the elements of a worker-centric digital trade policy which would maximize the benefits that workers and consumers obtain from the new global economy, while minimizing their losses.

Advancing A Pacific Digital Agreement

A Key Component of U.S. Asia Strategy

The future of digital governance has incredible traction in the Asia-Pacific. Officials there have noted that the region is anxious to welcome the U.S. back; they believe that the Biden-Harris Administration should launch a regional initiative to show that it is re-engaging in Asia. First, the United States already has a digital agreement with Japan that sets high standards, similar to those in the U.S.-Mexico-Canada Agreement (USMCA). In addition, the digital provisions in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), an 11-country free trade pact which went into effect in late 2018, are already widely accepted norms in the United States, with most already part of the USMCA and the U.S.-Japan Digital Trade Agreement. Other nations, like Singapore and Australia, which have their own high-standard digital

agreement that covers areas like artificial intelligence (AI), financial technology (fintech), and electronic payments, are actively discussing with the Biden-Harris Administration the possibility of digital agreements.

As part of a broader Indo-Pacific strategy, the U.S. should work with the region in economic and trade terms – not just in the defense and security arena. Without a strategy for formal economic engagement in the Indo-Pacific, the United States will face reduced influence in the development of standards for trade, investment, and technology.

Moreover, there is widespread recognition across the U.S. political spectrum of the strategic importance of economically engaging in the region as a counterpoint to China's expanding technological influence. China's role in developing both the region's 5G infrastructure and its broader digital ecosystems has grown as its Digital Silk Road initiative has expanded.⁴ This venture, aimed at investing in other countries' telecommunications networks, AI capabilities, cloud computing, e-commerce and mobile payment systems, surveillance technology, and other high-tech areas, brings with it China's autocratic standards and digital governance.⁵

Advancing U.S. digital governance, which promotes democracy, rule of law, and transparency in the region, is a key part of a global strategy to counter China, as well as to expand U.S. markets to support U.S. workers.

Regional Agreements

A series of recently-concluded digital agreements contain the building blocks for the U.S. to accomplish an ambitious sectoral agreement with partners in Asia.

Pacts to build from are:

- **Comprehensive and Progressive Agreement for Trans-Pacific Partnership** (CPTPP, signed March 2018, entered into force Dec. 2018): With the Digital 2 Dozen as its basis, at the time it was concluded CPTPP had the most advanced trade language to enable the future digital economy.⁶ CPTPP remains the agreement with the largest number of parties committing to digital standards.
- **U.S.-Mexico-Canada Agreement** (USMCA, signed Nov. 2018, entered into force July 2020): USMCA built on CPTPP by defining liability of intermediary service providers, a provision that some U.S. legislators have criticized and warned

against including in any new trade agreements. USMCA also breaks ground by both ensuring that non-sensitive government data be publicly available and by establishing a process to minimize local data storage requirements, opening opportunities for financial data to flow more freely across borders.⁷

- **U.S.-Japan Digital Trade Agreement** (signed Oct. 2019, entered into force Jan. 2020): With language similar to CPTPP and USMCA, the U.S.-Japan Digital Trade Agreement includes nondiscriminatory-treatment provisions, and commits to prohibiting or limiting data-localization barriers, restrictions on cross-border data flows, and transfer of source code or algorithms as conditions of market access.
- **Digital Economic Partnership Agreement** (DEPA, signed June 2020, with digital signatures, entered into force Jan. 2021): Chile, New Zealand, and Singapore created a “first of its kind,” flexible, scalable agreement for like-minded partners to build out digital principles and standards that promote efficiency, trust, and interoperability.⁸ It contains over 16 modules, including Digital Inclusion, Small and Medium Enterprises Cooperation, Business and Trade Facilitation, Treatment of Digital Products and Related Issues, Data Issues, Business and Consumer Trust, Digital Identities, and Emerging Trends and Technologies.

Though DEPA is not enforceable in the same manner as a traditional trade agreement, it is a useful model and can serve as rubric for handling thornier digital issues. Its unique module structure can be a way to bring less digitally-advanced countries into the agreement, signing up to an initial set of modules and phasing in the rest.

- **Singapore-Australia Digital Economy Agreement** (DEA, signed Aug. 2020, entered into force Dec. 2020): Negotiated in record time, the DEA goes further than CPTPP, including new commitments on e-invoicing and e-payment frameworks, improved enforcement and compliance provisions around online consumer protection, enhanced transparency, and greater cooperation in online safety.⁹
- **Regional Comprehensive Economic Partnership** (RCEP, signed Nov. 2020, target date for entry to force is Jan. 2022): While RCEP does contain an extensive digital trade chapter, including China’s first commitment to binding rules on data flows and localization, it permits member-states to continue imposing regulatory restrictions provided that they are applied evenly to both foreign and domestic concerns. Importantly, the agreement’s dispute settlement mechanism does not apply to the digital chapter.¹⁰

Areas Ripe for U.S. Leadership

AI is not covered by current U.S. digital trade agreements and is ripe for inclusion in a future pact. Chinese President Xi Jinping has announced that he wants China to be the global AI leader by 2030, and he is using it to tighten the country's domestic monitoring and social control – especially on the Uighurs.¹¹ China is also exporting its AI technology to other autocratic regimes, giving them the tools to monitor their populations. A wide range of countries, including Egypt, Ethiopia, Zambia, Kenya, Uganda, Mauritius, Serbia, Malaysia, Sri Lanka, Ecuador, Bolivia, and Venezuela have already bought Chinese surveillance equipment to monitor their populations. The long-term consequences of China having this technology in countries across the globe is chilling. The U.S. needs to move quickly to work with other democracies to set worker-centric standards for AI, ensuring that the technology is not used in ways that violate people's human rights and essential freedoms.

While language on cybersecurity in DEA and DEPA primarily focuses on cooperation, the USMCA and the U.S.-Japan Digital Agreement are more robust, addressing the importance of a risk-based approach to cybersecurity regulation. This is another area where the U.S. could introduce a stronger regulatory framework into a new digital agreement.

Fintech and electronic payments are sectors where China has leapt ahead with its own system. DEPA promotes transparency and a level playing field in this nascent sphere, which has the potential to enable SME growth. Ensuring that a future U.S.-Pacific digital agreement contains provisions on e-invoicing, express shipments, and the interoperability of electronic payments would support a worker-centric digital agenda.¹² Several U.S. agreements, including USMCA and the U.S.-Japan Digital Agreement prohibit governments requiring divulging of source-code and algorithms – a necessary bulwark against China's aggressive push to require such disclosures as a condition of market entry.

Furthermore, the growing number of decisions being made by algorithms, which already drive news content and advertising and could be used for decisions on credit and other consumer benefits – or broader policy issues. For example, a think tank in Canada reported on its government's experimental use of artificial intelligence in decisions around immigration and refugee status.¹³ This trend only increases the urgency of having an agreement which sets robust norms around algorithms' use.

Final Considerations

With a number of new countries, including Canada, the U.K. and Korea, expressing their interest in joining DEPA. DEPA is a logical starting point from which the U.S. can build a Pacific Digital Agreement.¹⁴ While Australia is not in DEPA, it has a high-standard digital pact with Singapore, the DEA, and the U.S. already has a high-standard digital agreement with Japan, making both logical partners. The U.S. should craft an accord with this group of countries, using their existing commitments, together with new ones on AI and facial recognition, to create a new, enforceable, digital agreement. Other countries could then join over time, and it could serve as a template for future pacts.

The new agreement should emphasize digital inclusion and accessibility for SMEs, as DEPA does, as well as provisions regarding stakeholder inclusion. Given that the CPTPP countries are signatories to a digital chapter, some may choose to eventually join the new agreement, and it is important to include a mechanism that would allow less digitally-sophisticated nations to phase in certain commitments.

Given the Administration's emphasis on the Indo-Pacific and the Quad, the question has arisen of whether India should be a partner in such an agreement. India, however, has recently promulgated data-localization requirements which pose significant barriers, according to the USTR's 2021 "National Trade Estimates" report.¹⁵ Trying to include India as a partner would slow negotiations for a Pacific digital agreement. That said, in the spring, the Quad leaders, representing Australia, India, Japan, and the U.S., affirmed their shared vision for a free and open Indo-Pacific and committed to launch a critical- and emerging-technology working group to facilitate cooperation on international standards and innovative technologies. This is an excellent forum and agenda to continue building consensus with India on digital policy.

President Biden should bring a proposal for a Pacific Digital Agreement to APEC.

With Trade Promotion Authority having expired on July 1, and with no immediate prospects for renewal, it would be difficult for a digital agreement to pass through Congress. However, the U.S.-Japan Digital Agreement was completed as an Executive Agreement and did not need Congressional approval. Unfortunately, the administration officials negotiating the U.S.-Japan pact did not consult with Congress, engendering ill will from members. A new digital executive agreement should be negotiated in close consultation with key lawmakers and congressional committees, to ensure it has

political support. Such an agreement should also draw bipartisan support, given its importance for countering China's regional influence.

As President Biden and his team plan for his participation in APEC and the East Asian Summit, a proposal for a regional digital agreement should be an initiative that the U.S. brings to the table. Such a proposal would send a well-received signal that the U.S. is eager to reengage in the region and codify shared values of transparency and democracy.

U.S.-EU Relations & Global Digital Governance

A New Opportunity

Biden's first overseas trip in June, to the G-7 summit, yielded a new tone in U.S.-EU relations after several uneasy years. This visit also included the first U.S.-EU summit since 2014. "[T]he United States and Europe laid the foundation for the world economy after World War II and now have to work together to write the rules of the road for the next generation, particularly in the areas of economics and emerging technologies," a senior Administration official told reporters at the time.¹⁶ The Biden-Harris Administration's approach, together with the shared history and values between the U.S. and EU, offers reasons for cautious optimism that the two can develop the foundation for a new technology and digital policy. Nonetheless obstacles and differences in approach remain, which the two will need to overcome.

The Administration's approach, together with U.S. and EU shared history and values, offers cautious optimism.

Building a coalition of like-minded technology-democracies to advance more open and democratic values in technology and digital policy is the most critical element in countering China's harmful approaches to tech and data governance. By 2030, China is poised to become the leading global spender on research & development.¹⁷ China has used the lack of U.S. global engagement over the past several years to put itself in leadership positions in key technology standard-setting organizations, pushing them to align with China's interests. It has also accelerated deployment of several key technologies, including AI and 5G. And China's government has used a wide array of subsidies to promote

investment in its domestic technology companies, subsidizing their exports and allowing them to greatly expand their global market share at artificially low costs – all while helping spread its autocratic internet standards.

To this end, the U.S.-EU Trade and Technology Council (TTC), announced following the U.S.-EU summit, is a necessary step toward building a broader digital governance framework. The Administration described the TTC’s major goals as, “to grow the bilateral trade and investment relationship; to avoid new unnecessary technical barriers to trade; to coordinate, seek common ground, and strengthen global cooperation on technology, digital issues, and supply chains; to support collaborative research and exchanges; to cooperate on compatible and international standards development; to facilitate regulatory policy and enforcement cooperation and, where possible, convergence; to promote innovation and leadership by U.S. and European firms; and to strengthen other areas of cooperation.”¹⁸

The TTC will establish 10 working groups, on the following issues:

- Technology standards cooperation (including on AI and Internet of Things, among other emerging technologies)
- Climate and green tech
- ICT security and competitiveness
- Data governance and technology platforms
- Misuse of technology threatening security and human rights
- Export controls
- Investment screening
- Promotion of SME access to, and use of, digital technologies
- Global trade challenges
- Reviewing and strengthening critical supply chains

The establishment of a U.S.-EU Joint Technology Competition Policy Dialogue was also announced. While such trans-Atlantic collaboration mechanisms are an important step towards countering China’s technology practices as well as boosting U.S. and EU technology and digital cooperation, much detail remains to be resolved regarding these discussions.

If the TTC’s working groups become focused and work towards concrete results, it has the potential to become the cornerstone for a “Tech 10,” a concept advanced by the Administration, ALI, and others: a coalition of like-minded technology-democracies working to promote more open and democratic values in tech policy and data governance.

Digital Friction

While the TTC has a broad and ambitious agenda, its success will hinge on its ability to show tangible and concrete, if modest, progress, while also building momentum to tackle tougher issues. As the U.S. and EU find their footing on areas of common interest, significant gaps remain on digital policy and data governance.

Driven partly by the fear of its tech sector falling behind, and partly by its own regulatory norms, the EU has pursued a separate digital and technological path, enacting a regulatory structure intended to protect and nurture its technology sector.¹⁹ The EU's Digital Markets Act (DMA) and Digital Services Act, legislative proposals that seek to regulate large online platforms, illustrate this approach.²⁰ The DMA would prohibit a narrowly-targeted set of companies – “digital gatekeepers” – from engaging in certain practices, including combining data collected from two different services belonging to the same company, promoting their own products through self-preferencing methods, and pre-installing some services.²¹ Some view the direction the EU is headed with this and other regulation as protectionist.

While some in the U.S. Congress also have concerns regarding large internet companies' anti-competitive practices, the Biden-Harris Administration has already called out the DMA as anti-American.²² The proposal is expected to be implemented in 2023, leaving time to adjust it. This will be a test of the U.S.-EU Joint Technology Competition Policy Dialogue, along with the TTC, and an indication of whether the two sides can maintain positive momentum.

Digital taxes have also been a tension point, but recent events are encouraging and provide reason for optimism. Just before the June G-7 summit, U.S. Trade Representative Katherine Tai announced the conclusion of the one-year investigations of Digital Service Taxes (DSTs) adopted by Austria, India, Italy, Spain, Turkey, and the United Kingdom, imposing additional tariffs on certain goods from these countries but immediately suspending them for 180 days to provide additional time to complete negotiations at the Organisation for Economic Co-operation and Development (OECD) and in the G-20 processes.²³

The OECD talks have advanced since Treasury Secretary Janet Yellen and her team took the reins and the G-7 communique announced a dual approach: Instead of taxing gross revenues, as France did, the G-7 deal will levy profits of the largest, most successful businesses globally (Pillar One), and will enact a new 15 percent minimum effective corporate tax rate in each country in which a business operates (Pillar Two).²⁴ On July 1, 130 countries announced that they reached agreement on that 15 percent rate.²⁵

The Biden-Harris administration's interest in not creating disparities in national tax rates in part drove this agreement. It could also ameliorate a long-standing European grievance over U.S. companies earning revenue from services in EU markets while headquartering in countries with low corporate tax rates.

Ultimately, the U.S. may have to accept some level of tax on its companies' e-commerce activities as a trade-off for avoiding even higher taxes in many countries, and to minimize compliance challenges stemming from different DSTs around the globe.

Privacy has been a third friction point. The EU's General Data Protection Regulation has tremendously influenced global legal norms for privacy and data protection. U.S. companies and those from other jurisdictions started building compliance mechanisms even before it took effect in 2018. In July 2020, in what is called the Schrems II decision, the EU Court of Justice struck down the existing Privacy Shield agreement between the U.S. and EU. It ruled U.S. personal data protection was not "essentially equivalent" to the European legal order.

The two sides are in talks about an enhanced Privacy Shield which would comply with the ruling, efforts which Commerce Secretary Gina Raimondo and EU Justice Commissioner Didier Reynders announced in March were "intensifying."²⁶ While the U.S. and EU affirmed during the recent summit their plan to keep working together to strengthen legal certainty in trans-Atlantic data flows, both sides were quiet on specifics. The Schrems II decision specifically requires limits on U.S. surveillance of EU citizens, something with which the U.S. has been reluctant to agree. That mandate will make it more difficult to forge an agreement without greater limitations on U.S. surveillance powers and effective remedies for EU citizens.²⁷ The EU has also suggested that the new privacy pact be ratified by the U.S. Congress, for fear that if it is merely an executive agreement a future Administration could easily cancel it. Unfortunately, this seems unlikely given the current tensions in Congress.

At home, a U.S. federal privacy regime has never been more urgent, as the number of Americans conducting critical work – from school to business to medicine – online has increased enormously over the pandemic. Certain vulnerable U.S. communities have been skeptical about using digital tools to address the crisis due to heightened concerns that personal information collected online could be used to violate their civil rights. U.S. privacy law must incorporate measures to protect civil rights and ensure that health and other personal information collected to address the Covid-19 crisis be used for only that purpose. Reps. Jan Schakowsky (D-Ill.) and Gus M. Bilirakis

(R-Fla.) and Sen. Richard Blumenthal (D-Conn.), chairs or ranking members of relevant subcommittees in their chambers, agreed publicly in May that it's past time to overcome the national impasse on federal privacy legislation.²⁸ Other members like Rep. Suzan DelBene (D-Wash.) are also advancing federal privacy legislation.

There are still other, broader obstacles to U.S.-EU engagement on digital governance. Distrust in the U.S. political system has some European voices favoring a hedge against a possible return of an “America First” president in 2025, and some EU member states have drawn closer to China as a result.²⁹ Moreover, the EU has traditionally been more reluctant to openly challenge China's trade practices, preferring to let the U.S. take the lead – and bear the brunt of any retaliation.

While there is still a long road ahead, there is cause for cautious optimism. European Commission Executive Vice-President Vladis Dombrovskis said recently: “[W]hatever challenges the EU and U.S. face, there is no stronger values-based alliance in the world.”³⁰ The recent European parliament vote to pause the ratification of the EU-China investment pact, in response to Beijing's treatment of its Uighur population, affirmed shared U.S.-EU values and could mean closer future alignment on dealing with China's harmful policies. Despite disagreements over how to manage both digital and technology policies and the social and economic consequences of technological change, both sides' shared principles on democracy, governance, rule of law, and human rights provide a foundation for cooperation. Both parties must realize that their shared values must rise above technical differences. Each side must be willing to make allowances while finding tangible areas of agreement on the issues – and understand that they are stronger standing together against China's autocratic internet practices, while collaborating to write democratic and transparent digital rules for the 21st century.

Conclusion

President Joe Biden's first speech to a joint session of Congress in April strongly emphasized standing up to unfair foreign trade practices and modernizing the U.S. industrial base to compete with China. Setting an affirmative agenda for global digital governance and codifying the rules of the road for the digital economy are important next steps for the Administration, to advance U.S. and global post-pandemic economic recovery, counter China's technology challenge, and ensure that America writes the digital rules for the 21st century.

COVID-19 has accelerated the pace of digitization across all parts of the global economy, and the U.S. should not cede digital leadership to China. It is time for the U.S. to move forward and advance global digital governance with EU and key partners in Asia, on two parallel tracks.

Such a deal would incorporate new worker-centric language together with existing high-standard language from DEPA, DEA, and the U.S.-Japan Agreement, and create new norms

on ethical use of AI, facial recognition, and technologies of the future. Indeed, recent reports indicate the National Security Council is working with relevant agencies to move forward on such an initiative.

Second, the U.S. and the EU should offer a vision and actionable roadmap for data governance and secure supply chains globally. Establishing the U.S.-EU Technology Council is a great starting point, which could be built on later to create a Tech 10.

The Administration must seize the moment for global digital leadership to ensure a better future for its citizens and ensure a digital future based on democratic values.

The U.S. should negotiate a Pacific digital pact with five or six countries already party to existing digital agreements.

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EXHIBIT 149

Table of Contents

Introduction & Summary	1
Part I: Investing in America	7
Promoting Access and Inclusion	8
Education & Training	9
Access to Equipment and Broadband	14
Spectrum	17
Net Neutrality	17
Adopting a Digital Governance Agenda	19
Privacy	23
Upgrading U.S. Technological Competitiveness	26
Federal Support for Research and Development (R&D)	
Needs a Boost	27
Immigrants Are a Vital Part of the U.S. Innovation Ecosystem	30
Protecting Our Technology	33
U.S. Government Structure Should Prioritize Digital Policymaking	39
Playing Offense, Not Just Defense: A Digital Marshall Plan	40
Investing in America Summary of Recommendations	42
Part II: Leading Globally	45
Setting a New Approach to China	46
Uniting Tech Democracies: The T-10	49
Establishing Broader Digital Governance and Trade Arrangements	54
Reaching Agreement on Global Digital Tax Issues	57
Leading Globally Summary of Recommendations	58
Conclusion	60
Endnotes	61

Introduction & Summary

The digital revolution is permeating all aspects of society, remaking the way people work and learn, changing the economic landscape, and altering America's relationships with the rest of the world. While this revolution has generated many benefits throughout society, the rapid change, accelerated by the global COVID-19 pandemic, has also created economic disruption, devastating many in the middle and working classes and posing challenges to American democracy. With the right policies, however, this revolution holds the potential to create a more inclusive and growing American economy with good American jobs, establish digital governance to protect democracy, support inclusive growth in developing countries, and position the United States (U.S.) as a global digital leader.

That is why the American Leadership Initiative (ALI) has convened and consulted with experts and key stakeholders from think tanks, academia, civil society, and business, together with elected officials, to develop a digital policy roadmap for the Biden Administration and Congress. This report represents a culmination of that work.

To reap the benefits of the digital economy, and avoid its pitfalls, America must launch a **Global Digital Strategy**, involving a whole of government approach, and including participation of business and labor representatives, and civil society stakeholders. Such a strategy should focus on two interrelated pillars: **Investing in America**, ensuring equal access to technology to close the digital divide and promoting policies to ensure American competitiveness; and **Leading Globally**, working with allies to create a global digital future that is open, transparent, and democratic.

America's global digital leadership requires citizens who have equal access to broadband, digital technologies, training, and education, so that they can fill the jobs of today and tomorrow, actions made more urgent by the unequal social and economic impacts of the pandemic. **Investing in America** must therefore start with a comprehensive look at how to

improve access to digital training at all levels, from grade school through community college and apprenticeships, to older workers who need to upskill for new jobs. It must include providing access to digital devices and broadband for all citizens and ensure that this training and technology is accessible to citizens living in rural America, African Americans, Hispanics, and other underserved communities.

To ensure American workers are gaining the right digital skills necessary to succeed in the future economy, government, corporate and labor partners must come to the table to significantly bolster education and training programs in new ways. By developing an inclusive digital agenda, including universal access to broadband, as well as freeing up new spectrum and tackling net neutrality, the new Administration can shift the U.S. economy towards greater income equality and prepare American workers to compete globally in an increasingly digital world.

The Biden Administration should also move to establish an Office of Global Digital Policy in the Executive Office of the President. This new office would coordinate digital policies, starting with the imperative of doubling U.S. federal investment in research and development; advancing a global digital governance agenda that allows citizens to safely use the internet; identifying a limited group of technologies for targeted support; encouraging policies that foster innovation, protect key technologies, promote exports; and supporting immigration reform, including provisions designed to attract and keep the best talent from abroad.

These efforts must be combined with a multipronged series of investment and export controls to protect key U.S. technologies and a Digital Marshall Plan to provide financing for U.S. technology companies. This financing would allow companies to compete on a level playing field with China's technology companies that receive government subsidized financing, not just to provide fair commercial competition, but to ensure that developing countries can purchase internet infrastructure consistent with an open, accountable, and democratic internet, as opposed to Chinese supplied

infrastructure, which supports an autocratic internet, allowing government monitoring and censorship.

With strong, inclusive domestic policies and funding, America and its workers will be positioned to compete and **Lead Globally**. To achieve such global leadership, the Biden Administration must discard the unilateral approach of the Trump Administration and establish an alliance with other liberal democracies that have advanced technology industries. These technology-driven democracies, the “T-10,” should work together to create a global governance agenda, based on shared values. This alliance should create a framework that will allow businesses, civil society, and citizens access to an internet that is open, democratic, and safe, as well as form a template for negotiating digital agreements with other countries, understanding that other countries may need to phase in or adapt parts of the agenda.

Finally, the U.S. must work with its allies to develop a coordinated approach to China, applying joint pressure to eliminate the subsidies and other non-market practices it uses to give its technology companies an unfair advantage, while jointly coordinating the protection of technologies vital to national security. This leadership will be important in safeguarding American interests and a democratic internet, especially when faced with a rising China, which is promoting an autocratic internet as an export and political strategy.

With the T-10 framework in place, the U.S. should negotiate additional digital arrangements. The next step should be the negotiation of a Pacific Digital Agreement, taking advantage of the digital agreements many of these countries have already negotiated among themselves. This agreement would also be a way for the U.S. to reassert its engagement in Asia, a region that has sorely felt the U.S. absence during the past four years.

A comprehensive digital strategy is broad and complex, touching on almost every aspect of the economy and people’s lives. New technologies offer the promise of solving many of the world’s challenges but also raise

new issues, like increasing economic inequality, managing the impact of violent and false narratives on social media, and the opportunity to abuse technologies like facial recognition. Our list of recommendations detailed in this report is not exhaustive, but rather provides a policy scaffolding – the key elements that must be in place for the U.S. to harness digital technologies to their best advantage, creating a more inclusive and growing economy at home and abroad, and a safer, more democratic world.

About the American Leadership Initiative

The American Leadership Initiative (ALI) is working with elected officials and other stakeholders to develop a 21st century vision and policy agenda for American global leadership, based on American interests and shared values. ALI's policy work is focused on five pillars: advancing inclusive and sustainable growth at home and abroad, pursuing smart trade policies, leading on climate, meeting the China challenge, and promoting democracy, human rights, and rule of law.

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Part I: Investing in America

Now is the time for a landmark investment in America's digital competitiveness to prepare the country for an increasingly digital post-pandemic economy. Such an effort should include investments in digital training and connectivity, the development of a digital governance regime and measures to upgrade America's technological competitiveness.

This must start at home with investments in digital education, training, and connectivity. These investments must come with implementation of diversity, equity, and inclusion policies to ensure that the benefits are widely shared among American workers without a college degree, women, Hispanics, African Americans, and indigenous Americans. This initiative would be a pivotal step toward closing income inequality in the U.S. and ensuring that all Americans have access to high-quality, good-paying jobs. Creating an inclusive and skilled workforce would strengthen American businesses, their employees, and ultimately, America's economic competitiveness.

The U.S. must also develop a comprehensive digital governance agenda that updates its policy approach to the digital economy. This digital governance agenda should embrace innovation and the potential economic and social benefits of new technology for all sectors, businesses of all sizes, and underrepresented voices, while seeking to protect consumers and citizens. It should also codify the American vision of an internet that is open, transparent, and democratic, as opposed to China's vision, which is one of censorship, monitoring and autocracy.

To promote U.S. technological competitiveness, particularly with respect to China, the U.S. should seek to reenergize U.S. competitiveness policy, including pieces that have shown dividends in the past: funding and incentives for research and development (R&D); identifying and protecting key technologies; implementing an immigration policy that attracts the best global talent;

new regulations to protect America's key technologies; and a Digital Marshall Plan to allow American firms to compete with China around the world and promote its democratic vision of technology.

A landmark investment in America's workers, its digital governance and technological competitiveness will lay the groundwork for a thriving domestic economy and position the U.S. to be a 21st century global digital leader.

Promoting Access and Inclusion

Throughout the Covid-19 pandemic, Americans have experienced more than ever how vital fast internet connections, digital devices and related skills are to daily life. Overnight, students turned to online learning, workers shifted to online work, and doctors offered telemedicine appointments, with several people in a household often using internet service at the same time. However, this online existence was not available to everyone, as 40 million people in the U.S. realized that they had unreliable internet service, or none at all.¹

A deep digital divide that drives economic inequality is undermining American economic competitiveness. This divide also disadvantages many American workers based upon race, geography, and level of education. As of 2019, Pew Research Center² reported that roughly three-in-ten adults with household incomes below \$30,000 a year do not own a smartphone. And more than four-in-ten don't have home broadband services or a computer. This reality increases U.S. economic inequality, leaving the U.S. unable to harness the full potential of its human capital, and weakening U.S. global competitiveness.

The continued digitization of many jobs hits low-skill workers and workers from marginalized communities especially hard, with an increasing number of traditional low-skill jobs now requiring digital skills. This trend will only accelerate over the coming years. Manufacturing workers and farmers need digital skills to operate computer-aided machines and farm equipment. Workers with a high school degree need digital skills to find work and earn a living wage. A recent Brookings Institution study concluded that acquiring digital skills

is now a prerequisite for economic success for American workers.³ Covid-19 has accelerated this trend and upskilling the population will be an essential component to recovery for the U.S. economy.

Access to affordable broadband and connected devices must be a national priority.

Access to affordable broadband, connected devices, digital training, and education for Americans must be a national priority, akin to the way the federal government prioritized the interstate highway system in the 1950s. This effort will require greater involvement and investment by business across the country and will only produce the desired outcomes if strong diversity, equity, and inclusion (DE&I) measures are implemented.

The following section regarding “access and inclusion” explores and offers recommendations to help close the digital divide by addressing several key areas: education and training, including apprenticeships and community college; access to equipment; spectrum allocation; and net neutrality, all of which need to be reprioritized and expanded as part of a package to invest in America. These changes will help ensure a much more inclusive economy and ensure that the U.S. has a workforce trained for the jobs of tomorrow and prepared to compete globally.

Education & Training

America’s economic strength relies on the education and skills of its labor force. Digitization of the workplace has been transformational — two-thirds of the 13 million U.S. jobs created in the past decade required medium or advanced levels of digital skills,⁴ while only 30 percent of jobs required no digital skills at all.⁵ Low- and middle-skill jobs are increasingly automated, threatening to displace as much as one-third of the workforce during the next decade, widening income inequality and deepening racial and regional divides. U.S. efforts to help displaced workers in transition have been inadequate. Unemployment insurance is too rigid and covers too few workers, and training programs are often unsuccessful at matching training to available jobs.

Meanwhile, foreign competitors are doing far more than the U.S. to prepare their workforces for the future. Denmark is a world leader in adjustment supports for unemployed and displaced workers.⁶ Singapore has created new lifelong learning benefits⁷ so its workers can continuously upskill. Germany boasts a much-heralded apprenticeship system⁸ in which 60 percent of youth train as apprentices in fields such as advanced manufacturing and IT, compared to just 5 percent in the U.S. Estonia has prioritized digital skills⁹ for its citizens from early on, ensuring that all schools have Wi-Fi, computers and digital training. Today, Estonia has the smallest performance gap¹⁰ out of Organization for Economic Co-operation and Development (OECD) countries between low- and high-income students.

By contrast, the U.S. ranks near the bottom among OECD countries on public spending on labor market programs as a share of GDP; and the trendline is headed in the wrong direction.¹¹

During the past 15 years, the Department of Labor's (DOL) budget for grants to states to support job training programs has fallen by more than half after counting for inflation. Worse, the past several decades have seen steady declines in private sector investment in workforce training – with a falling share of workers receiving on-the-job or employer-sponsored training.¹²

It is critical that opportunities be dramatically expanded for citizens to acquire the digital skills they need not only for jobs today, but for the jobs of the future. This is especially true for low-skilled workers, workers without a college education, workers of color and workers from other marginalized groups. As Covid-19 has shown, the first step in building digital skills is making sure the entire country has access to broadband. K-12 students must also have access to basic digital tools and computer classes to ensure that all students finish high school with the skills needed for good jobs, an essential step to reduce the glaring inequalities in American society. It is also critical that separate funding be available to ensure that STEM education is offered in K-12 schools serving historically disadvantaged groups.

Investing in digital training for workers who are currently unemployed or

in low-wage jobs and seeking to increase their skills is equally important. Before the pandemic, 6 to 7 million jobs were unfilled in the U.S., primarily because of a mismatch between worker skills and available jobs.¹³ A lack of digital skills is a major reason for this gap.¹⁴

In addition to repairing the inequalities in U.S. society and the economy, having a digitally-skilled population is also vital to ensuring that American business continues to have the talented labor force it needs to remain a global leader. A successful workforce model for the 21st century will require employers to think about how to develop the pipeline of talent needed to build their workforce.¹⁵ Corporations must partner with the government to upgrade and expand digital training and education systems to ensure that workers are gaining skills that will lead not only to existing jobs, but those in years to come. Microsoft launched a program in 2020 to help 25 million people globally acquire digital skills, and Qualcomm has a program to provide STEM education in classrooms across the U.S. While some companies have initiated programs, much more needs to be done. There needs to be a much more extensive and systemic approach to facilitate public-private partnerships, ensuring that digital training is available across all U.S. population groups and education levels.

Community College

Community colleges enrolled more than 5.7 million students in 2019.¹⁶ They play a particularly important role for students who need additional skills to find new or better paying jobs. In 2015, President Obama proposed legislation to make 2 years of community college free.¹⁷ While the legislation did not pass, a number of states have enacted programs to make community colleges free, especially for low-income families.

Funding should be expanded for Minority Serving Institutions (MSIs) and Historically Black Colleges and Universities (HBCUs), especially for their STEM and computer science programs, to ensure that the next generation's workforce harnesses the full potential of America's citizens. In addition to making community colleges accessible, community colleges must greatly expand their digital and technical skills training to meet the growing demand

for these skills in the workplace. These programs should be created in partnership with companies that can help design courses and training that could lead to jobs in those companies. Companies should also receive incentives to partner with community colleges in developing digital job preparedness programs. Google recently initiated its first federally registered apprenticeship program with the Borough of Manhattan Community College (BMCC), San Jose City College (SJCC) and the Austin Community College District (ACC) to train IT workers. Federal incentives are needed to encourage companies to greatly expand such programs.

Enacting federal legislation to make community college more affordable for low-income families on a national level and encourage creative partnerships with industry is critical. Such legislation should specify funding for digital training and create incentives for digital companies to partner with community colleges on that training.

Apprenticeships

Historically, the U.S. has not significantly supported apprenticeship programs. Unlike workforce training, apprenticeships are closely tied to the private sector. Programs are created when and where employers see a need, typically teaching job-ready skills that frequently lead to a long-term position with a given employer. Apprenticeships are an important tool to prepare students and workers for an increasingly digitized and automated economy and can be designed for students coming out of college, community college or high school. Apprenticeships can also narrow the post-secondary achievement gaps in both gender and race.¹⁸ Having learning take place mostly on the job, and providing participants with wages while they learn, is especially beneficial to students from low-income communities.

Demand is growing for apprenticeship programs in the U.S. In South Carolina, the state created “Apprenticeship Carolina” in 2007, in response to the business community’s call for a more highly skilled labor force. There are more than 34,000 apprentices in the state today.¹⁹

Other countries have long made use of apprenticeship programs with im-

pressive results. Apprenticeships are a key pathway to employment for young people in Germany, whether they are pursuing a blue- or white-collar profession, with 53 percent of young people starting their careers through apprenticeships. Companies consider training a social task and take pride in being a training-focused company. The government funds the development, implementation and promotion of apprenticeships, and partners with local governments to fund sectoral and vocational training systems that supplement the apprenticeship system.²⁰ The Swiss apprenticeship program operates similarly and is regularly rated the best in the world. Two-thirds of Swiss students enter apprenticeship training instead of 10th grade, where they spend three-to-four days in a job setting and one-to-two days in an academic setting. These programs last three to four years, with students a part of the workforce, alongside skilled adults, earning a paycheck.²¹

In the U.S., the role of the federal government in supporting apprenticeships has largely been registering individual programs that comply with federal standards (“Registered Apprenticeships”).²² The U.S. enacted Registered Apprenticeships 80 years ago under the National Apprenticeship Act, also known as the Fitzgerald Act, which required employers to meet certain labor standards and established regulations for their programs to be recognized by the U.S. Department of Labor (DOL) and culminate in a nationally recognized credential, issued by the DOL.²³

During the Obama Administration, there was a push to expand apprenticeship programs, including in new industries and for women and people of color.²⁴ Recent data show that these efforts have begun to pay off,²⁵ with U.S. apprenticeships growing from roughly 375,000 in 2013 to 633,000 in 2019,²⁶ yet still comprising only 0.3 percent of the total workforce. Historically, apprenticeships in the U.S. have been focused on manufacturing or trades, and accessed by mostly white men.²⁷ It should be a national priority to focus apprenticeships on digital skills and make these programs more accessible to women, Hispanics, African-Americans, and other marginalized communities. This effort can be done, in part, by partnering with MSIs, HB-CUs, and similar institutions.

National apprenticeship programs must be expanded in close consultation with employers. For the private sector, investing in apprenticeship programs provides an important opportunity to develop a pipeline of skilled labor. Such cooperation also ensures that workers are trained in digital skills that will be valuable for years to come. Incentives should be provided for companies to develop apprenticeship programs, and companies must take a leadership role in building out apprenticeships.

IBM started its digital apprenticeship program in 2017, where applicants need to have a high-school diploma or GED, and has hired about 500 apprentices so far, with plans for more.²⁸ While this program is a good start, the U.S. needs many times this number of apprenticeships to start to address its current and future needs.

In a positive development, the National Apprenticeship Act, which would allocate \$3.5 billion over the next five years to create 1 million new apprenticeship opportunities, passed the House of Representatives in December 2020.²⁹ Importantly, apprenticeship programs should be updated to ensure that American workers are trained for digital occupations and available jobs requiring digital skills – ranging from basic spreadsheet and word processing skills to more advanced programming or manufacturing. Private sector demands for digital skills training will only grow, as more and more companies in all sectors become “digital companies.” These apprenticeships should be available not just to young entrants to the job market, but also to older workers who will need new skills to retain or find good jobs. These programs must also expand the participation of women and minorities who are traditionally under-represented in apprenticeship programs.

Access to Equipment and Broadband

The second important component of maintaining America’s digital leadership and creating a digitally prepared workforce is upgrading America’s digital infrastructure and increasing access to equipment. Access to the internet is no longer a luxury, but an essential element to participate in the economy – as vital as access to electricity was a century ago. Even before the pandem-

ic, U.S. internet infrastructure lagged that of other developed countries. Last year, the U.S. ranked 10th in terms of internet connection speed, behind the Nordic countries, Japan, Hong Kong and South Korea, and 30th in terms of mobile download speed.³⁰

This lag in service is even more pronounced in low-income and rural America. According to a 2019 Pew Research Center survey, only 63 percent of rural Americans said they had broadband internet connection at home, as opposed to 91 percent and 94 percent for urban and suburban families, respectively.³¹ Thirty-five percent of farmers say they don't have enough connectivity to run their farm equipment.³² As recently as 2019, 29 percent of adults with household incomes below \$30,000 a year didn't own a smartphone, 44 percent didn't have home broadband services, and 46 percent didn't have a computer.³³ This gap impacts about 3 million American children (18 percent) who don't have broadband home service to do their homework.³⁴ Gaps in access to equipment and internet are especially stark for low-income Americans, a divide that hits Hispanic Americans and African Americans hard. One-third of African Americans and Hispanics — 14 million and 17 million, respectively — still don't have access to computers or tablets in their homes, and 35 percent of African American households and 29 percent of Hispanic households, do not have broadband.³⁵

In January 2020, the Federal Communications Commission (FCC) launched the Rural Digital Opportunity Fund which would allocate \$20.4 billion over 10 years to expand rural broadband.³⁶ However, FCC and industry experts estimate it will cost up to \$80 billion to achieve universal broadband connection in the U.S.³⁷ To address this need, the Center for Rural Innovation suggests creating a new federal loan program that would offer 50-year no-interest loans to communities and co-ops so rural public-private coalitions can build broadband networks.³⁸

There have been several bills introduced in Congress to expand broadband and accelerate deployment of the FCC 5G Fund for Rural America.³⁹ For example, Representative James Clyburn and Senator Amy Klobuchar both introduced legislation this summer that includes \$80 billion for the deployment

Investment in rural broadband must support installation of the latest 5G technology.

of nationwide high-speed broadband, funding for no-interest loans to communities as well as funding to subsidize internet usage for low-income households.⁴⁰

Investment in rural broadband must support installation of the latest 5G technology. Proposals have been advanced to put in older technology in rural areas, which would be less expensive, however, such an approach would leave these communities continually at a technological disadvantage to the rest of the country. When an investment is made, it should be in the newest technology to ensure technological parity for all communities. Given the urgent need, it is critical that the funding not be tied to administratively burdensome rules making it difficult to distribute, and funding should be targeted to those opportunities that allow for the rapid deployment of broadband. Congress must also provide funding to enable the FCC to establish accurate maps to identify where 5G is needed.

In addition to making the internet more accessible to rural and low-income Americans, programs should be established to subsidize computers, tablets, and smartphones for those below certain income thresholds. Each of these technologies is nearly ubiquitous among adults in households earning \$100,000 or more a year, with most upper-income households owning multiple devices. For those without devices, it means difficulty in accomplishing tasks that have become a necessity during Covid-19, like doing homework or accessing telemedicine appointments.

Investments should also be made to upgrade America's overall broadband system. The pandemic has seen a dramatic acceleration in internet usage, driving almost a year's worth of traffic growth in the span of a couple of weeks.⁴¹ This crisis has launched a paradigm shift in which millions of Americans have incorporated the internet as a critical part of their personal and professional lives. This will not change after the pandemic. This shift necessitates an upgrade to the national broadband system to allow for increased speed and traffic, whether through accelerating the move toward 5G, Open Ran, or other technologies.

Spectrum

Spectrum is a finite resource. Roughly 60 percent of spectrum bands are under government control and freeing up new spectrum can take more than a decade. To meet consumer demand and lead the world in 5G and innovation, wireless networks need hundreds of megahertz of new spectrum, especially the mid- and high-band spectrum, which 5G uses.

Several strategies are available to free up new spectrum. The first involves the FCC identifying where currently allocated spectrum is overly generous as compared to usage. This requires in-depth conversations with numerous stakeholders, including the public. Secondly, there are areas where spectrum may have been allocated on the premise of a future technology which never developed. Spectrum sharing, where the National Telecommunications and Information Administration (NTIA) works with the FCC and federal agencies to make spectrum available for wireless service providers to meet the ever-increasing demand for advanced services, while ensuring federal agencies have access to the spectrum to perform critical missions, is another means to free up spectrum that has seen some success.⁴² Finally, the Department of Defense (DOD) holds a significant amount of spectrum for national security purposes, some of which could be released for commercial use.

In sum, Congress, the FCC, and NTIA need to work together to free up additional spectrum for wireless use.⁴³ Policymakers have recently taken steps to unlock key spectrum opportunities, but that work needs to be accelerated to deliver a dedicated spectrum pipeline in the near-term.⁴⁴

Net Neutrality

Net neutrality refers to the concept that, notwithstanding reasonable network management practices, internet service providers (ISPs) should treat internet traffic equally, regardless of its kind, source, or destination.

Little regulation existed to ensure these protections in the U.S. before 2010, while other countries moved forward with rules intended to balance the interests of both ISPs and users.⁴⁵

In the early 2000s, consumer complaints arose due to service providers prioritizing certain content flowing through their cables and cell towers and blocking or slowing other content. Telecom companies can block or slow access to a service like Skype, or slow down Netflix or Hulu, to steer consumers to keep their cable package or buy a different video-streaming service from which the service provider would benefit. For example, in one of the first efforts to enforce early net neutrality rules in 2005, North Carolina ISP Madison River blocked Vonage, a service for making telephone calls over the internet. The FCC fined Madison River and ordered it to stop blocking.⁴⁶

Civil society groups have argued that the lack of net neutrality disadvantages lower income consumers, who may be offered slower speed services. Telecom companies have asserted that net neutrality regulations will stall the development of new internet technologies and hamper efforts to separate data that is more essential and mission critical; for example, data transmitted between autonomous cars or medical devices.

In 2015, the FCC issued a sweeping net neutrality order that changed the classification of internet service from an “information” to a “common carrier” service. The internet had originally been classified as a “Title I information service” or a Title I service under FCC rules. This meant that the service and its service providers would be left largely unrestricted by the FCC, in contrast with a “Title II common carrier service,” which is more strictly regulated. The difference between the two services has been characterized as the difference between a luxury, like cable television, and protected and ensured telephone service.⁴⁷

In 2017, those rules were revoked, and new FCC rules eliminated the common-carrier status for service providers, along with restrictions on blocking or slowing content. Instead, the new rules require that providers disclose information about their network-management practices.

While Congress has been unsuccessful in its attempts to pass legislation restoring the internet’s Title I status or otherwise supporting net neutrality, several U.S. states have passed legislation to make net neutrality a require-

ment. Washington became the first in March 2018, and Oregon followed soon after.⁴⁸ California passed one of the most comprehensive net neutrality laws of all, but the rules are currently on hold amid a legal challenge from the federal government.⁴⁹

The European Union, in contrast, approved rules in 2015 requiring service providers to handle internet traffic equally, leaving flexibility to restrict traffic when network equipment was operating at its maximum capacity. The rules also allow traffic restrictions to protect network security and handle emergency situations.

Some have argued that the net neutrality debate should consider the Internet of Things (IoT), which is already increasing its share of internet traffic, beyond discussion of video streaming and other applications.⁵⁰ In a letter to the FCC, officials in New York, San Francisco, Portland, and other U.S. cities said that giving control of the internet to ISPs through the reversal of 2015 net neutrality rules would affect smart city projects, making it costlier and more difficult for city governments to deploy IoT technologies related to safety and smart street lights.⁵¹

The U.S. has long been a leader in developing policies that balance free speech and consumer protection with opportunities for research and business innovation. Congress should return to the question of creating balanced legislation on net neutrality that provides equal access to all consumers, while creating incentives for businesses to provide internet access for all.

Adopting a Digital Governance Agenda

The U.S. has long led in technology innovation, and U.S. tech companies are key drivers of economic growth and competitiveness. American digital services exports are now \$517 billion per year, generating a U.S. digital trade surplus of \$220 billion. U.S. companies rank high in global market share for artificial intelligence, hardware, e-commerce, digital advertising, operating

systems, the app economy, cloud technologies, social media, the sharing economy, data analytics, and other innovative internet technologies. Finally, digital services are helping U.S. small businesses overcome new challenges during the Covid-19 pandemic. One in three small- and medium-sized businesses say they would not have survived Covid-19 without digital tools.

Yet, America is at an inflection point on geopolitical leadership in technology policy. Since the advent of the internet in the 1990s, the U.S. approach to technology has encouraged: private sector-led innovation; keeping the underlying platforms open and borderless; a bottoms-up, multi-stakeholder approach to standards; a balance between fair use and content infringement; balanced liability regimes; a sectoral approach to privacy; and freedom of expression. This policy framework has traditionally been the model for other countries to build their own digital economies.

To continue leading the world, the U.S. must update its own policy approach to the digital economy in a way that protects consumers and citizens, but embraces innovation, an open internet, and the potential economic and societal benefits of new technology for all sectors, businesses of all sizes, and underrepresented voices.

The current lack of a comprehensive digital governance agenda in the U.S. poses challenges for companies operating here. In no area is this more apparent than privacy, where the U.S. is one of few countries without comprehensive federal legislation governing privacy issues, instead relying on a patchwork of state regulations providing guidance ranging from minimal to, in the case of California, comprehensive. More importantly, this lack of a domestic agenda impedes America's ability to advocate for a global digital governance model that reflects values of openness, transparency, and democracy, as opposed to China's governance model of censorship, monitoring, and autocracy.

The digital governance model that becomes prevalent over the next decade will shape America's competitiveness, security, and jobs for the foreseeable future.

Digital governance encompasses a broad range of issues ranging from cross-border data flows and data storage, to standards, privacy, taxation, cybersecurity, competition, and content moderation. Safe and open cross-border data flows and no requirements for local data storage are widely agreed to by OECD countries and are already in recent trade agreements such as the United States-Mexico-Canada Agreement (USMCA). While USMCA includes a provision on cybersecurity, international disciplines governing cyber must be significantly expanded.

The U.S. government must also significantly expand the resources it devotes to international standards setting bodies, through the State Department and the National Institute of Standards and Technology (NIST). China devotes significant resources to staffing international telecommunications standards organizations, which affords it a significant role in shaping technology standards. The U.S. must increase the resources it devotes to these bodies to ensure the nation has a voice with respect to global standards, particularly in newly evolving technologies like AI. (See the Leading Globally section of this paper for additional discussion of standards setting bodies.)

Two issues that are critical to digital governance, content moderation – in particular, the need to protect children – and competition among technology companies, are outside the scope of this paper, so they will be addressed only briefly. Regarding content moderation, it is essential that the U.S. reach a national consensus that acknowledges the necessity of keeping the internet a safe and credible avenue for gathering and sharing both personal and business information.

The inability of social media companies to stop malicious actors from weaponizing such social platforms, as happened with ethnic violence in Sri Lanka, genocide in Myanmar, as well as extremist rhetoric in the U.S., has

The digital governance model that becomes prevalent over the next decade will shape America's competitiveness, security, and jobs for the foreseeable future.

resulted in increased frustration. Following the Christchurch massacre in March 2019, New Zealand's Prime Minister Ardern and France's President Macron arranged a gathering of heads of state and tech CEOs in an attempt to "bring to an end the ability to use social media to organize and promote terrorism and violent extremism." The group issued the Christchurch Call, an agreement between governments and tech companies to eliminate terrorist and violent extremist content online. Forty-eight countries and the United Nations Educational, Scientific and Cultural Organization (UNESCO) have signed onto the call, as well as several tech companies including Google, Facebook, Twitter, and YouTube. The Trump Administration declined to sign, citing First Amendment concerns, but said it was aligned with the agreement's principles. The issue of regulating extremist language online has become more urgent in the wake of the January 6 attack on the Capitol, which was planned publicly on social media. While regulating extremist language online is still under debate in the U.S., it is critical that it be addressed in line with global norms.

As the U.S. seeks to lead on values of transparency, openness, and democracy with other techno-democracies, addressing these issues at home in the U.S. – whether through a legal regime or a more voluntary process – will be critical.

Secondly, there is a great deal of debate surrounding competition policy for America's large technology giants, and competition cases are currently being litigated in the courts. Competition policy in the technology sector must take into account the important need to safeguard consumer protections and promote a business environment that fosters innovation and entrepreneurship, while viewing technology companies' size and impact through a global lens.

While each of these regulatory issues is important in defining digital governance, this paper will focus primarily on the issue of privacy, where an urgent need for federal legislation exists. The issues of taxation and cybersecurity, which depend on international consensus, are addressed in the Leading Globally section of the paper.

Privacy

The lack of a comprehensive national framework for privacy, as well as lingering questions on the taxation of the digital economy, have put the U.S. government on its back foot in negotiations with trading partners around the world. It has also made the U.S. an overly complex regulatory market for its own companies, as well as for technology users.

The U.S. is the only developed country in the world that does not have a comprehensive federal privacy standard governing its data. A comprehensive privacy regime is important to ensure consumer protection and corporate responsibility, while guaranteeing transparency and enforcement. In 2019, the Government Accountability Office (GAO) recommended: “Congress should consider developing comprehensive legislation on internet privacy that would enhance consumer protections and provide flexibility to address a rapidly evolving internet environment.”⁵² Since then, several strong privacy bills have been introduced in Congress. In particular, the comprehensive privacy bills proposed by Senate Commerce Committee Chairman Roger Wicker (R-MS), Ranking Member Maria Cantwell (D-WA) and Senator Jerry Moran (R-KS), and bills proposed by members of the House Energy & Commerce Committee, Congresswoman Suzan DelBene (D-WA), and others, are historic in their scope, strength, and sophistication.

NIST is also developing a voluntary privacy framework as a tool for organizations to adopt, identify, assess, manage, and communicate about privacy risks. While this framework will be a useful tool, it is not intended to address the legislative gap in the U.S.

Most Americans have become frustrated by the lack of adequate privacy protection. According to a recent KPMG study, 97 percent of Americans say data privacy is important to them, with 87 percent viewing privacy as a human right.⁵³

A federal privacy regime has also become more urgent during the pandemic as more Americans are conducting critical business, like telemedicine, on-

line. Former Federal Trade Commission (FTC) Commissioner Julie Brill, in her recent Senate testimony, pointed out that the lack of a privacy regime in the U.S. has hampered the ability to use health-related data to better respond to the Covid-19 crisis. She highlighted that Covid-19 has disproportionately impacted African Americans and other vulnerable populations.⁵⁴ Yet many people in these communities are skeptical about using digital tools to address the crisis due to heightened concerns that personal information collected could be used to violate their civil rights. U.S. privacy law must incorporate measures to protect civil rights and ensure that health and other personal information collected to address the Covid-19 crisis be used for that purpose only.

The Global Perspective

For several decades, the OECD has played a role in promoting respect for privacy as a fundamental condition for the free flow of personal data across borders. The first OECD privacy principles were established in 1980 and have been periodically updated, the latest being in early 2020.⁵⁵ The guidelines stress the importance of national strategies for privacy protection, together with improved interoperability between national regimes.

The European Union's (EU) General Data Protection Regulation (GDPR) has had tremendous influence on global legal norms for privacy and data protection. The GDPR, which went into effect in 2018, regulates the processing of personal data of individuals who are EU data subjects, including cross border data transfers. As an EU regulation, the GDPR applies directly as law to EU member nations. The GDPR also has extensive extraterritorial provisions that apply to processing of personal data outside the EU, regardless of place of incorporation or geographical area of operation of the data controller/processor. A number of non-European countries have adopted regimes that are GDPR compatible, including South Korea, Australia, New Zealand, Brazil, Chile, and Japan, which has updated its laws to be more aligned with GDPR and established "reciprocal adequacy" agreements with the EU.

APEC Cross Border Privacy Rules ("CBPR") is another major regional framework regulating transfer of personal data between APEC member nations. It is a voluntary accountability scheme that initially requires acceptance at

the country level, followed by independent certification by an accountability agent of the organization seeking to join the scheme.

In 2016, the U.S. and the EU established a “Privacy Shield” framework to provide companies on both sides of the Atlantic a mechanism to comply with data protection requirements when transferring data between them. The Privacy Shield was struck down by Europe’s highest court in July 2020, based on findings that the protection of personal data in the U.S. was not “essentially equivalent” to the European legal order. While this decision (“Schrems II”) casts a shadow of uncertainty over the future of EU-to-U.S. data flows, it also provides a unique opportunity to bring together the EU, U.S., and other like-minded democratic nations to further the protection of personal data while preserving a common vision for an open, transparent, and democratic internet.

In the absence of federal privacy legislation, states have taken matters into their own hands. California passed the California Consumer Protection Act (CCPA), which took effect in January 2020 and incorporates the core privacy rights that exist in GDPR and other global privacy laws.

Recognizing that more was needed to ensure that the responsibility for protecting privacy was borne by companies and not just by individuals, the proponents behind CCPA introduced the California Privacy Rights Act (CPRA) initiative, which overwhelmingly passed into law this past November. CPRA requires companies to uphold additional obligations from GDPR, including to engage in data minimization and purpose limitation, and to assess the risk of their data collection and use practices. Further, CPRA introduces protections for sensitive data and children, and provides individuals with the ability to opt-out of advertising activities of large companies on third-party websites.

Washington state has also advanced the Washington Privacy Act (WPA), a bill that would build upon the current global standard for privacy protection set by GDPR, an updated version of which has been introduced again in the most recent legislative session. Several other states are currently considering similar legislation.

The U.S. has traditionally sought a balanced approach between trade, privacy, and security.⁵⁶ Some in the U.S. regard the GDPR as more restrictive, thus offering a higher level of privacy protection, while the CBPR is viewed as more conducive to business. During the Covid-19 pandemic, however, American concerns have become more urgent. That, together with the fact that GDPR is increasingly becoming the de facto global privacy standard, and with the invalidation of the Privacy Shield, many companies have scrambled to ensure they can meet European privacy norms to be able to sell in the EU.

The U.S. should move rapidly during the next congressional session to adopt federal privacy legislation that adheres to principles of data portability, interoperability, transparency, and user consent, and is thus GDPR compatible. Adopting such legislation would avoid a confusing patchwork of standards across different states, move the world toward stronger privacy standards, and promote a more robust environment for cross-border transfers of data to grow exponentially. The OECD should also be engaged to promote globally interoperable solutions to these issues.

Upgrading U.S. Technological Competitiveness

The U.S. dominated technological innovation for decades, leading the world into a highly connected economy, powered largely by U.S. innovation. While the U.S. continues to be a leader in the digital economy, China's national technology drive, as seen in its Made in China 2025 initiative,⁵⁷ its growing budget for research and development, and its aggressive drive to dominate technology market share in third countries, have challenged U.S. technology leadership. These challenges should awaken the U.S. from complacency and drive a coordinated and targeted federal effort to ensure U.S. technological competitiveness in the coming decades.

The U.S. is competing in a global landscape, with many countries using coordinated industrial policies to advance their industries in the technology race. Given China's subsidization of its R&D and technology industries, the playing

field is not level. A key element to addressing the China technology challenge is to strengthen U.S. competitiveness. While the U.S. technology private sector remains strong and innovative, it must be bolstered by a broad government effort to strengthen the U.S. scientific and technological base and adopt policies that will allow the U.S. to maintain global technology leadership.

Just as the U.S. mobilized to address the strategic threat of the Soviet Union and the economic threat of Japan, it can similarly mobilize a comprehensive effort to advance U.S. competitiveness. In addition to identifying and implementing the right policies, U.S. values are an important element of U.S. competitiveness. The U.S. approach to competitiveness should advance an affirmative narrative of openness, transparency, and democracy, and the strategy should be broader than just competition with China, though that is key.

Such a strategy should include several policy priorities: increasing federal support for innovation, including funding for basic R&D and early stage technologies; targeting support for a limited group of critical technologies; creating a path for immigration that is in the U.S. national interest, recognizing that openness strengthens U.S. innovation; upgrading our government bureaucracy for a digital age; and finally, creating a Digital Marshall Plan to promote U.S. technology – and technology policy – abroad.

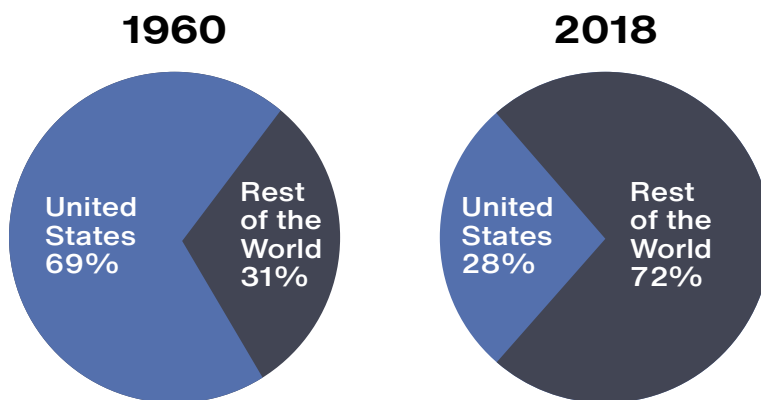
Federal Support for Research and Development (R&D) Needs a Boost

The U.S. became a global leader in R&D in the 20th century, funding as much as 69 percent of annual global R&D in the 1960s. But by 2018, the U.S. share had fallen to a little over 25 percent. This decline is not the result of a reduction in U.S. R&D investments, but rather increases in investments by other countries, reflecting an increasingly competitive global innovation landscape.

The global concentration of R&D performance continues to shift from the U.S. and Europe to Asia. Japan, Singapore, South Korea, and Taiwan have all seen science and technology as essential to economic security. For example, South Korea increased spending on R&D⁵⁸ as a percentage of GDP from 2.1 per-

cent in 2000 to 4.5 percent in 2017. China increased spending on R&D from \$13 billion in 1991 to \$410 billion in 2016 – and now accounts for roughly 20 percent of global R&D.⁵⁹ In contrast, U.S. government spending on R&D as a percentage of GDP fell from a high of 2.25 percent in 1962 to 0.6 percent in 2019.⁶⁰

Figure 1
U.S. Share of Global R&D



Sources: 1960: CRS analysis of U.S. Department of Commerce, Office of Technology Policy, *The Global Context for U.S. Technology Policy*, Summer 1997. 2018: CRS analysis of Organisation for Economic Co-operation and Development (OECD) data, Main Science and Technology Indicators, OECD.Stat.

Notes: Rest of the World includes the members of the OECD (less the United States), Argentina, China, Romania, Russia, Singapore, South Africa, and Taiwan. R&D expenditures by other countries are not included but are likely to be small in relative terms. In estimating total global R&D, CRS used the most recent year's reported R&D expenditures for three countries (Argentina, Singapore, and South Africa) that had not reported data for 2018.

Moreover, the federal government's R&D spending as a share of overall U.S. R&D spending has been on the decline. After 1980, U.S. R&D was increasingly conducted at private facilities and motivated by business concerns responding to market stimuli and tax incentives. Rather than serving long-term strategic objectives such as nuclear deterrence or space exploration, private sector R&D has focused on shorter-term goals, such as product development and process improvement. Private-sector R&D investment has risen, but it is not a substitute for federally-funded R&D directed at national economic, strategic, and social concerns. U.S. leadership in science and technology is at risk because of a decades-long stagnation in federal support and funding for research and development.

Year	U.S. Business R&D Spending (% of Total)	U.S. Government R&D Spending (% of Total)
1980	47.6	46.5
1995	59.4	35.5
2000	69	26.2
2005	63.3	30.8
2010	56.9	32.6
2015	62.5	25.3
2018	62.4	23

Source: UNESCO and OECD historical data on R&D expenditure

Increased federal support for R&D, particularly at the level of basic research, is an important and appropriate step to bolster the U.S. innovation ecosystem in a new, more competitive global environment. The bulk of federal funding for R&D is for basic and applied research, which often require consistent and substantial funding over long periods, and is not easily replaced by funding from the private sector.⁶¹ In the past, basic research funded by the federal government has contributed to innovation for computer chips, the internet, and GPS. This is important long-term foundational research that the private sector doesn't have the capacity to undertake. Even as U.S. technology companies lead research in AI and other emerging technologies, history has shown that U.S. companies have relied on basic research funded by the federal government to advance their own research and bring technology to market.⁶²

To remain competitive, both domestically and globally, studies have shown that the U.S. needs to increase federal R&D spending at least to 1980s levels, or doubling as a share of GDP.⁶³ As it faces increasingly fierce global competition, the U.S. risks ceding its edge to breakthroughs that occur elsewhere in the world or losing U.S. researchers to other countries that are funding cutting-edge projects not funded in the U.S. Further, to the detriment of individuals around the world, there is a risk of innovative global technologies being built without the values that Americans, among others, believe in and aspire to.

In addition to broad increases in the U.S. research and development budget, the U.S. needs to fund targeted support for a limited group of critical technologies. Past federal commitments to prioritize so-called industries of the future, including a commitment to double non-defense R&D spending on AI and quantum information science (QIS) by 2022, are a step in the right direction. Another important initiative is the CHIPS Act, a bill introduced in June 2020, which includes tens of billions of dollars in research and manufacturing investments and incentives to strengthen U.S. leadership in semiconductor technology, which is critical to national security and economic strength. The bill was passed on January 1, 2021, as part of the National Defense Authorization Act (NDAA) as Title XCIX, “Creating Helpful Incentives to Produce Semiconductors for America,” which authorizes federal incentives to promote semiconductor manufacturing and federal investments in semiconductor research. Federal government investment in semiconductor research is currently only a fraction of total semiconductor R&D in the U.S. and has been relatively flat as a share of GDP for many years; and U.S. semiconductor manufacturing growth has lagged other countries. This legislation would level the playing field between the U.S. and other countries that provide significant incentives to their semiconductor industries.

Fortunately, there is strong bipartisan support in Congress to restore U.S. federal R&D funding to 1.2 percent of GDP, as well as develop targeted R&D funds for specific critical technologies.⁶⁴ If this funding is approved, it would mark an important and meaningful step in reinvigorating the U.S. innovation ecosystem.

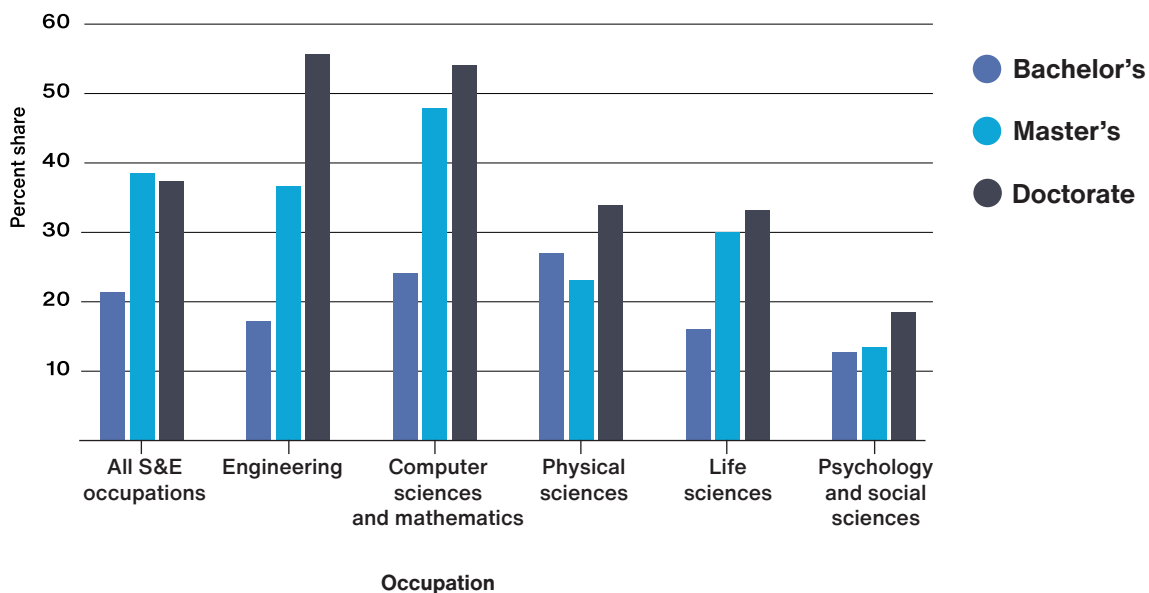
Immigrants Are a Vital Part of the U.S. Innovation Ecosystem

As many experts and historians have recognized, immigration policy is really innovation policy. Openness to global talent has facilitated America’s innovation enterprise in both commercial markets and military applications and has been a strength of its system.⁶⁵ The debate on immigration needs to be refocused on its contribution to the nation’s well-being broadly, as well as its importance to the tech sector.

Foreign-born workers—ranging from long-term U.S. residents with strong roots in the U.S., to more recent immigrants—account for 30 percent of workers in science and engineering (S&E) occupations. In many S&E occupational categories, the higher the degree level, the greater the proportion of the workforce who are foreign born. More than one-half of doctorate holders in engineering, computer science, and mathematics occupations are foreign born (see chart below). In comparison, about 18 percent of the overall population and 17 percent of the college graduate population in the U.S. are foreign born.

**Figure 9: National Science Board
Science & Engineering Indicators | NSB-2020-01**

Foreign-born individuals in S&E occupations in the United States, by level of degree and occupation: 2017



Source: <https://nces.nsf.gov/pubs/nsb20201/u-s-s-e-workforce>

Welcoming immigrants into the U.S. technology sector is important because it strengthens American society, and because of the skills many of these individuals bring. However, it is essential to consider possible security risks posed by some Chinese students and scientists. Security challenges and state-sponsored espionage via the U.S. education system and research labs are real and need to be addressed. But the response should be to increase scrutiny of our screening processes, not to undermine longstanding values

related to openness, including immigration, which is crucial to the U.S. competitive advantage in innovation.

Immigrants have made significant contributions to the U.S. innovation and entrepreneurship ecosystems. The National Foundation for American Policy finds that 55 percent, or 50 of 91, of the country's \$1 billion startup companies had at least one immigrant founder.⁶⁶ Immigrants make up roughly 15 percent of workers in the U.S., yet they are 80 percent more likely than native workers to become entrepreneurs, according to the study.

First- and second-generation immigrants are launching businesses across the spectrum, from small sandwich shops with one or two employees, to major tech firms with thousands of workers.⁶⁷

Yet, the U.S. has seen a sharp decline in visas for both foreign students (-44 percent) and specialty workers (-18 percent) since 2015.⁶⁸ Actions by the Trump Administration to limit H-1B visas have hampered tech firms that rely on top global talent. The denial rate for applicants trying to extend their visas grew from 4 percent in 2016 to 12 percent in 2018 and to 18 percent in the first quarter of 2019.⁶⁹ The Trump Administration also proposed ending the work authorizations for H-4 visa holders (the spouses of H-1B visa holders), making it yet more difficult to attract and retain talent.

In addition, in June 2017, the Department of Homeland Security (DHS) proposed ending the International Entrepreneur Rule, which provides temporary residency to foreign entrepreneurs starting a business in the U.S. Other countries, such as Australia and Canada, are using these developments to lure talent.

In October 2020, the Trump Administration introduced two regulations to make it harder for foreign skilled workers to qualify for H-1B visas and harder for U.S. companies to afford to hire them.⁷⁰ One regulation would have narrowed the definition of a "specialty occupation" and the number of occupations that would qualify. Another regulation would have significantly increased the required wage rates employers would have to pay and make it more costly for employers to hire foreign skilled workers. However, these

rules were set aside by a U.S. district court on procedural grounds.

Restrictive immigration regulations could force companies to move high-skilled and high-paying jobs offshore. Research from earlier this year indicates that skilled immigration restrictions may have “secondary consequences that have been overlooked in the immigration debate: multinational firms faced with visa constraints have an offshoring option, namely, hiring the labor they need at their foreign affiliates.”⁷¹ This would be yet another setback in the development of America’s innovative capacity.

Restrictive immigration regulations could force companies to move high-skilled and high-paying jobs offshore.

In December 2020, the Senate passed an amended version of the Fairness for High Skilled Immigrants Act (S. 386/H.R. 1044).⁷² While much remains to be worked out between the House and Senate versions, fixes such as eliminating per-country caps on employment-based immigrant visas and making it easier for H1B workers to change jobs are positive developments. Congress and the Administration should work together to facilitate the ability of U.S. companies to employ H-1B foreign workers, as well as obtain L-1 visas for transfers for intracompany executive-level workers, and H-4 visas for dependents of H1B workers, where they are needed in the U.S. economy, and to move forward on comprehensive immigration reform that is integral to our country’s competitiveness and national security.⁷³ President Biden’s first moves turned immigration policy in the right direction, recognizing the value that immigrants bring to American society and establishing a more humane approach to immigration. Additional steps are needed, however, to ensure the right policies are in place to support innovation and the U.S. technology ecosystem.

Protecting Our Technology

Rather than pursuing a strategy of protecting an expansive range of technologies, the U.S. is best served by identifying a limited number of key technologies, together with certain data that will fuel critical new innovation and insights and protecting those very well – a “small gardens, high walls” technology strategy.

Current and Future Export Controls

In May and August 2019, the Department of Commerce added Huawei and its affiliates to the “Entity List” of foreign companies to which it is illegal for Americans to provide a good or service without a license.⁷⁴ The orders were intended to prevent essential American-made semiconductor inputs from getting to Huawei directly and electronic design automation (EDA) tools to its subsidiary chip designer HiSilicon, ultimately hampering Huawei’s ability to produce telecom equipment.⁷⁵

The Department of Commerce implemented additional rounds of export controls in May and August 2020.⁷⁶ Under the foreign-produced direct product (FDP) rule, the Commerce Department effectively put new limits on sales by American companies of a new part of the semiconductor supply chain—manufacturing equipment—to chipmakers overseas, also rocking the market for dominant U.S. manufacturers.

While these controls did inflict some pain on the target, they also had negative side effects. Within the U.S., the controls at times caught technology that was widely available in the global market and promoted foreign products over U.S. products in the global market. The controls also created great uncertainty in the investor and research communities. Unilateral controls also disadvantaged U.S. companies, since foreign companies were not subject to the same controls. The Center for New American Security asserts that “unilateral controls create incentives to invest in the development and production of the items outside of the U.S. and do not necessarily restrict their ultimate transfer to countries of concern—while harming the industrial base of the country imposing the control.”⁷⁷

At the same time, an export control regime that depends on broad unilateral controls and granting company exceptions raises the potential for mismanagement. Government officials have to decide on exceptions, arising from company petitions, on a case-by-case basis, creating concerns over cronyism, non-transparency, and discrimination.⁷⁸

In China, the controls empowered voices that called for more drastic state

measures to counter U.S. technological dominance. Among customers of U.S. technology in China, the controls exacerbated a perception that the supply of U.S. technology is unreliable and should be designed out of new products.

Export controls should be targeted and enforced in concert with U.S. allies.

The processes for implementing U.S. export controls should be adjusted in several ways. The 2018 Export Control and Reform Act (ECRA) made progress in this direction. ECRA directed the Commerce Department’s Bureau of Industry and Security (BIS) to conduct an interagency review process to identify so-called “emerging and foundational technologies.”⁷⁹ These are intended to be technologies that historically have not been subject to export controls under multilateral regimes, but are nonetheless essential to U.S. national security. In 2018, BIS issued an Advance Notice of Proposed Rulemaking (ANPRM) seeking comment on criteria for identifying emerging technologies that are essential to U.S. national security. The ANPRM listed 14 categories, including artificial intelligence, quantum technology, robotics, and advanced surveillance technologies. Once identified as an emerging technology, they would be open to control by BIS rules. Moreover, investment in this area of technology would trigger mandatory filings under the Foreign Investment Risk Review Modernization Act (FIRRMA) under some circumstances. Along with a companion effort around foundational technologies, which closed its public comment period in October 2020,⁸⁰ these controls are a key part of the strategy to identify and protect critical U.S. technology – to create high walls around small gardens.

Export controls should not be placed on long-established technologies that are available outside the U.S., or on published technology and information sources, even if they are among potential “emerging” technologies. These controls would allow foreign competitors to take market share from U.S. companies, further undermining U.S. economic security and global digital leadership.

Finally, export controls should be targeted and enforced in concert with U.S. allies. However, it is a fair criticism that processes like those in the multilateral Wassenaar Arrangement on Export Controls for Conventional Arms

and Dual-Use Goods and Technologies move too slowly. The U.S. can try to thread the needle by seeking out a more targeted approach to export controls with like-minded countries.⁸¹ This would prevent China from accessing the technology from other countries and allow countries to jointly implement controls as part of a broader China strategy developed in concert with allies.

Foreign Technology Investment in the U.S.

There has been increasing concern in recent years that the Chinese government has attempted to obtain U.S. technology through joint venture investments with U.S. companies or through investments in start-up companies. The Committee on Foreign Investment in the United States (CFIUS) is an inter-agency committee of the U.S. Government that reviews the national security implications of foreign investments in U.S. companies or operations. While not always the case, Chinese investments in certain U.S. industries have been subject to CFIUS reviews.

In 2018, Congress passed FIRRMA to modernize CFIUS and close gaps that allowed investments in sensitive U.S. industries to avoid CFIUS review. In particular, FIRRMA⁸² expanded CFIUS to include jurisdiction over non-controlling investments in sensitive industries from a U.S. national security perspective – critical technology companies, critical infrastructure companies and companies managing large pools of personally identifiable information on U.S. citizens. While FIRRMA is certainly not intended to only apply to China, concern over the increasing use of Chinese joint ventures into which U.S.-origin technology is transferred, Chinese low-level investments in U.S. start-up technology companies, and Chinese deals potentially being structured to circumvent CFIUS, were significant considerations driving bipartisan support for the legislation.

Securing the Information and Communications Technology Supply Chain

Even before Covid-19, U.S. policymakers were giving increased attention to securing the U.S. supply chain, including in the technology sector. The Information Technology Industry Council (ITI) summarizes key federal actions since 2014,⁸³ including:

- 2019: Executive Order 13873 empowers the Commerce Secretary to prohibit or mitigate information and communications technology and services (ICTS) transactions that pose risks and take a “case-by-case, fact-specific approach” to determine what transactions will be prohibited or subject to mitigation. The proposed rule does not identify specific technologies or participants. Commerce issued an interim rule on January 14, 2021, identifying six foreign adversaries, including China and Russia, and allowing Commerce to create additional processes to assess transactions.⁸⁴
- 2019: A Federal Communications Commission rule forbids use of Universal Service Fund (USF) subsidies for the purchase of equipment from Huawei and ZTE and provides reimbursements to small and rural carriers who may have to replace such equipment as a result.
- 2018: The Department of Homeland Security’s National Risk Management Center (NRMC) established the ICT Supply Chain Risk Management (SCRM) Task Force, a U.S. public-private supply chain risk management partnership, with the critical mission of identifying and developing consensus strategies that enhance ICT supply chain security.
- National Defense Authorization Acts (NDAA): Each year, NDAA added requirements to strengthen supply chain security, including banning certain products from Chinese companies and in certain use cases in the U.S.

While the executive order and Commerce’s proposed regulation seek to close the gaps on transactions that ECRA or CFIUS would not cover, there is concern that they are overly broad and heavy-handed and create uncertainty in the market. The success of U.S. technology companies depends greatly on the health and vitality of suppliers in other nations and the ability to trade with them.⁸⁵ The U.S. government must address security concerns with a comprehensive, whole-of-government approach to ensure consistency among the numerous government and public-private initiatives focused on supply chain security.⁸⁶

U.S. technology companies have long advocated for approaches to supply chain security to be country-agnostic, establishing objective evaluation criteria to block or mitigate transactions, rather than blanket country restrictions.

Some advocates have asserted that the conflation of national security with economic protectionism will only serve to hurt U.S. companies in the long run, encouraging the same actions by other countries that want to limit market access to U.S. competition.

China plays a big role as both a supply and demand hub in global value chains, and U.S. measures to secure its own ICT supply chain should not ignore this. As with the iPhone and other examples,⁸⁷ it is clear that the information and communications technology supply chain will not return to the U.S. in full. However, U.S. policymakers can map supply chain networks of national significance,⁸⁸ including for semiconductors and associated high-technology industries, and then work with allies to build out a trusted supply chain framework. This framework, combined with carefully targeted export control measures, is critical to protecting key U.S. technologies.

Other Thoughts on Identify and Protect

Shoring up U.S. cyber defenses tops the list of policies that are key to protecting U.S. technologies. There are many recommendations⁸⁹ in this space, including for the NTIA, in coordination with the Cybersecurity and Infrastructure Security Agency (CISA) and the National Security Agency (NSA), to undertake a comprehensive review of core internet vulnerabilities to begin the remediation and removal of technologies and entities compromised by China and to strengthen the federal government's ability to secure critical infrastructure and respond to 21st century threats. Much work has been done already, including the development of the Department of Defense's Cybersecurity Maturity Model Certification (CMMC) for its suppliers.

Similarly, on personnel, though the right immigration policies in science and engineering fields are vital to America's innovation ecosystem, the U.S. should find better methods to screen individuals and university funding sources related to early-stage technologies and other technology areas deemed essential to national security.

Finally, while efforts by new U.S. entities like In-Q-Tel, a CIA-funded venture capital firm, to invest in startups⁹⁰ in areas like AI and machine learn-

ing, data analytics, and autonomous systems are positive, they may not be enough to counter China's venture capital attention to early stage technology. Congress should incentivize continued venture capital investment in America's most innovative start-ups.⁹¹ For example, the bipartisan New Business Preservation Act, introduced by Sens. Amy Klobuchar (D-MN), Chris Coons (D-DE), Tim Kaine (D-VA), and Angus King (I-ME), builds on the previously successful State Small Business Credit Initiative (SSBCI) by establishing a program, administered by the Treasury Department, to allocate \$2 billion to states on a population basis to attract private venture capital. It would offer a one-to-one match of federal dollars with venture capital investment in promising startups, particularly in states outside the major venture capital centers.⁹²

U.S. Government Structure Should Prioritize Digital Policymaking

While many parts of the U.S. government play key roles in formulating policy for the digital economy, each has different equities and controls only pieces of what could make up a full digital strategy. To be an effective leader of democracy in a quickly advancing world, the U.S. government bureaucracy must prove itself willing to evolve with the times.⁹³

In 1976, Congress established the White House Office of Science and Technology Policy (OSTP) to provide the Executive Office of the President with advice on the scientific, engineering, and technological aspects of the economy, national security, homeland security, health, foreign relations, the environment, and the technological recovery and use of resources. Since its establishment, OSTP has varied in leadership and strength and has not played a strong role in driving a coordinated global digital strategy for the U.S. The move to elevate OSTP to a cabinet level agency is a welcome step in the right direction.

Even before OSTP was established in the Executive Branch, the Office of Technology Assessment (OTA) served as a nonpartisan body to advise Congress on the implications of science and technology applications. However, it

closed in 1995, and some argue this closure reduced the ability of Congress to grapple with technologically complex issues, not to mention helping to increase Congress' dependence on lobbyists.⁹⁴ Having a reliable information source on technology for members of Congress will be critical as it seeks to legislate on a range of digital issues.

America's allies have seen the need to focus digital policy efforts across their governments. Japan, for example, has plans to establish a digital policy agency.⁹⁵ This agency will focus on promoting e-governance and improving coordination on policymaking for information technology and may be led by a figure drawn from the private sector.

The U.S. federal government has no shortage of agencies devoted to science and technology, but what is lacking is an overarching body to drive coherent and comprehensive digital economy policy efforts and a forward-leaning global strategy. An Office of Global Digital Strategy in the Executive Office of the President (EOP) Office, like the Office of the U.S. Trade Representative, with its lean and expert staff, would go a long way to coordinating across various government agencies, weaving together disparate pieces of technology policymaking. Such an agency would coordinate domestic policy and regulatory issues, lead U.S. engagement in a coalition of techno-democracies, and host classified, private sector advisory committees to advise on both global competition and innovation cooperation with other countries.

Playing Offense, Not Just Defense: A Digital Marshall Plan

The U.S. must also focus on how to increase competitiveness in global markets. The Chinese government invests billions in its technology companies, positioning them to win sales through subsidized government financing, which makes it difficult for U.S. technology companies to compete on fair terms, and leaves developing countries without an option to purchase an open, democratic internet.

In 2015, China launched the Digital Silk Road, investing \$200 billion in a global digital infrastructure.⁹⁶ This effort is a subset of China's larger Belt

The U.S. must launch a “Digital Marshall Plan.”

and Road Initiative, a government-sponsored global infrastructure initiative with \$340 billion invested to date.⁹⁷ The Chinese government is using these resources to offer subsidized loans to its companies, including Huawei, as well as foreign assistance grants to government customers, to capture digital market share, especially in the developing world. The effort's reach is broader than just equipment – when developing countries buy Chinese equipment, they receive the tools to censor and control their internet, while leaving their networks vulnerable to Chinese government cyber theft and interference.

In addition to seeking agreements from other countries to remove Huawei equipment from their telecom networks, the U.S. needs an offensive strategy⁹⁸ that allows U.S. companies and workers to compete on a level playing field with Chinese companies that have received government subsidized financing, while offering real alternatives for underdeveloped countries looking for affordable, reliable technology and the opportunity to purchase internet infrastructure consistent with an open, accountable, and democratic internet. The U.S. must launch a “Digital Marshall Plan” to make the financing of American digital infrastructure in the developing world a strategic priority. As part of this initiative, the U.S. should also provide technical assistance to develop internet regulations that allow open commerce, respect for privacy and protection of human rights.

The new International Development Finance Corporation (IDFC) should play a large part in this initiative. The IDFC 2020 budget is \$60 billion, with only \$1 billion of investments to date, and only one small project in the telecommunications sector.⁹⁹ Its next budget should earmark \$50 billion for digital exports, with an emphasis on matching financing for U.S. companies competing with Huawei in areas like data center storage and cloud networking.

A second leg of the U.S. export financing toolbox is the U.S. Export-Import Bank (EXIM) which provides financing to support U.S. exports. Part of the Digital Marshall Plan should include easing the requirements for U.S. companies to access EXIM financing, especially in the case of companies competing with Chinese technology companies. EXIM should be directed to

implement “national interest” waivers of strict U.S. content requirements for export support in key projects and change its content methodology to calculate content to include the value of intellectual property (IP) developed in the U.S. Finally, part of this plan should involve earmarking funds from the U.S. Agency for International Development (USAID) for technical and regulatory training for the digital sector.

U.S. embassies in foreign countries provide vital advocacy support for U.S. companies selling in those markets. The U.S. Department of Commerce has a Digital Attaché program that includes trained staff in 12 key foreign markets who support U.S. companies, including by navigating foreign digital policy and regulatory issues, and are part of Commerce’s comprehensive effort to address 21st century trade barriers and help the digital economy thrive. The State Department runs a similar modest program for Foreign Service Officers. Given the extremely rapid expansion of digital exports to every country in the world, these programs should be expanded, with training in digital policies and regulations in most key embassies.

Invest in America Summary of Recommendations

Access and Inclusion

- **Education and Training:** Launch a federal initiative to ensure that digital skills are taught in all K-12 schools nationally.
- Increase federal spending on digital training programs, especially for workers who are unemployed or in low-wage jobs. Programs should be designed to be fully inclusive of women, people of color, and individuals from other marginalized groups, which are traditionally under-represented in digital training. Partner with MSIs to help make these programs more accessible. Companies should be incentivized to expand their training programs.
- Continue the trend of expanding federal support for apprenticeship programs and provide tax credits to businesses to further incentivize their

participation. Pass the National Apprenticeship Act of 2020, with amendments to focus on digital apprenticeships, and ensure that the apprenticeships are accessible to workers from marginalized communities.

- Enact federal legislation to make community college more affordable for low-income families, as well as create incentives for companies to partner with community colleges on digital skills training.
- Increase funding to MSIs and HBCUs for STEM and computer science training, to promote apprenticeships for their graduates.
- **Equipment and Broadband:** Make a historic investment in America's connectivity to close the digital divide, including by subsidizing internet access and equipment access for low-income families. Upgrade the U.S. broadband network. Pass the Accessible Internet for All bill, which allocates \$100 billion for nationwide broadband and programs to make the internet affordable for low-income households.
- **Spectrum:** Free up additional spectrum for wireless use.
- **Net Neutrality:** Enact federal legislation to balance consumer protection interests with incentives to business to create internet access for all.

Digital Governance

- **Privacy:** Pass federal privacy legislation during the next congressional session that is GDPR compatible and embodies principles of data portability, interoperability, transparency, and user consent.
- **Content Moderation:** Endorse the Christchurch Call and build on this with a techno-democracy coalition to develop rules around disinformation and extremist content online.

U.S. Technological Competitiveness

- Double current U.S. federal R&D spending on basic research to 1.2 percent of GDP.
- Establish a process to identify a limited group of critical technologies that would benefit from targeted support, such as is envisioned in the CHIPS Act.

- Return H1B and related visa issuances to previous levels and move forward on visa reform that reflects U.S. values of openness, recognizes immigrant contributions to our innovation ecosystem, and incorporates adequate screenings for access to sensitive and early-stage technologies.
- Protect U.S. technologies with a “high-walls, small gardens” approach to export controls, supply chain security, and foreign investment screening that is well-coordinated with industry.
- Establish a Global Digital Policy Office in the Executive Office of the President to coordinate and advance strategy across all government agencies for both U.S. domestic and foreign digital policy and strategy.
- Appropriate \$50 billion in funding for a Digital Marshall Plan to be administered through the IDFC and USAID, to enable U.S. companies to win globally against heavily subsidized competitors like China and give developing countries the opportunity to purchase equipment consistent with a democratic internet. Update EXIM’s qualification criteria to allow for “national interest” waivers of EXIM’s export content requirements and change its U.S. content methodology to include the value of IP.

Part II: Leading Globally

As the internet has evolved, digital technology has become an ever more critical part of the global economy. The economic impact of the internet was estimated to be \$4.2 trillion in 2016, making it equivalent to the fifth-largest national economy. In 2018, digitally deliverable service exports amounted to \$2.9 trillion, or 50 percent of global services exports.¹⁰⁰ However, the benefits from this activity have been distributed unequally, with more than half the world's citizens having little or no access to the internet, limiting their ability to participate in the increasingly important digital economy.¹⁰¹

Yet, international collaboration governing the digital economy has lagged. While small groups of countries have negotiated agreements covering some pressing issues of today's digital economy, coherent global digital governance remains largely elusive. The U.S., which has historically been the architect of global governance, was absent from the global stage during the Trump Administration as this digital transformation escalated.

With legitimate concerns over privacy and cybersecurity, countries have responded to the global regulatory vacuum by enacting a wide range of regulatory and trade measures which restrict data flows, limiting the ability of their citizen to benefit from the internet, impeding the ability of American companies to do business in their borders, and potentially undermining U.S. national security.¹⁰²

Of greater concern are countries like China, which use digital restrictions to censor the internet and to monitor and control their citizens. When China sells its digital infrastructure equipment to developing countries, it also exports its internet regulatory principles, including the means to censor, monitor, and suppress citizens.¹⁰³

Now is the time for the U.S. to position itself as a global digital leader in the 21st century. It must assert its leadership to create consensus around a global digital governance agenda; and it must unite its allies on issues such as digital privacy, taxation, standards, and protection of key technologies. This

consensus is needed to ensure that the world doesn't splinter into different regulatory blocs, creating havoc for global digital commerce and stifling global growth. U.S. leadership is particularly needed to develop standards for new technologies, including for artificial intelligence and facial recognition, which will protect consumers and human rights. Most importantly, U.S. leadership is needed to ensure that the American vision of an internet that is open, accountable, and democratic prevails globally, and that countries around the world have access to that internet.

As discussed in the first section of this paper, the largest piece of the U.S. strategy to become a global digital leader starts by **Investing at Home**, including addressing the inequalities in technology access, significantly increasing federal R&D spending, protecting key technologies, passing federal privacy legislation, and energizing global competitiveness through a Digital Marshall Plan.

The second priority is **Leading Globally**. The most important step for the Biden Administration will be to repair relationships with its allies and develop a coordinated approach to address China's policies. The Biden Administration will need to shift from the ill-conceived unilateral approach of the Trump Administration, and work with its allies to develop a global digital trade and governance agenda, based on shared values, including a vision of an open and democratic internet. A new strategy should involve a multipronged series of international collaborations, starting with an alliance of those countries most aligned with the U.S., the tech-democracies, and then branching out to include agreements with other countries.

Setting a New Approach to China

Parallel to the rapid growth of the global digital economy has been the growing role of China in this sector. Over the past quarter century, the U.S. has been the undisputed global technology leader. However, China's rapid rise as a technology power poses new challenges for the U.S. and the global community. By 2030, China is poised to overtake the U.S. to become the leading

global spender on research & development (R&D).¹⁰⁴ And China has surpassed the U.S. in deployment of several key technologies, including artificial intelligence applications like facial and voice recognition, 5G technology, and digital payments, and is advancing quickly in the development of other areas of AI, quantum computing, and other critical technologies.

Bolstered by plans like Made in China 2025, a strategic plan to make China one of the world's most innovative countries by 2025 and a leading global science and technology power by 2049, China has worked to move up the manufacturing value chain and claim its place as a technological power in the world. In addition to large investments in R&D and technology development, the Chinese government has also used a wide array of subsidies to promote investment in its domestic technology companies and subsidize their exports, allowing its companies to greatly expand their global market share at below market costs. For example, in 5G, China's subsidization of Huawei has led to the rapid deployment of their products globally. This has translated into market share with Huawei leading the global mobile base station market in 2020 with a total share of 28.5 percent, up from 27.5 percent in the previous year.¹⁰⁵

At home, the Chinese government has imposed investment and ownership restrictions on U.S. technology companies in China, and cajoled or required the transfer of American technology and intellectual property to Chinese enterprises.¹⁰⁶ In many cases, China then closed its market to foreign technology, allowing its companies to grow in their protected domestic market.

There is bipartisan agreement that the U.S. needs to change its approach to the U.S.-China relationship. Unfortunately, U.S. policies towards China over the past four years have been scattershot. Furthermore, tariff policies have not yielded structural changes in China that would benefit the U.S. economy, yet they have cost Americans billions of dollars. While the U.S. government has imposed expanded and useful export controls against Huawei, ZTE, and other Chinese companies, these have been implemented without sufficient public consultation or a comprehensive strategy. And all of these actions have been taken by the U.S. unilaterally, without coordination with our allies.

Even with wide bipartisan agreement on the threat China poses to U.S. global leadership on technology, U.S. policymakers diverge on whether our China strategy should move us toward complete decoupling with China, or a more nuanced and targeted, but still aggressive, set of policy responses. Complete decoupling, with no dialogue channels or business relationships, carries significant national security and economic implications. For example, the Boston Consulting Group estimated that a full decoupling with China would reduce the U.S. semiconductor sector's revenue by 37 percent and lower its global market share to 30 percent; by contrast, China's market share would rise from 3 percent to 31 percent.¹⁰⁷ But beyond U.S. commercial losses, decoupling in all areas means U.S. government and its private sector have less visibility into what China is doing and capable of, putting the U.S. at a disadvantage and making it harder to influence China. More strategic assessments are needed to determine where to maintain interdependence with China and where to surgically focus protection of U.S. technologies and market share.

Some have asserted that interdependence with China is a vulnerability. While this may be true in some areas, it is not for all. Leading thinkers have put forward new paradigms for the U.S.-China relationship, such as "principled interdependence"¹⁰⁸ or "limit, leverage, and compete,"¹⁰⁹ which involve cooperating where possible, yet addressing and limiting the risks posed by China's high technology drive. U.S. attempts to protect the country from the risk posed by China need to be done as part of a larger strategy, in consultation with companies and other stakeholders, and in collaboration with allies. The recent U.S. decision, for example, to ban TikTok and WeChat, was done in a rushed, arbitrary way, using emergency economic authority, only to be overturned in court.¹¹⁰ The U.S. should develop objective standards by which to evaluate potential economic and security threats to American technology and especially American data.

The U.S. must be clear-eyed about the challenges that China poses and address them accordingly. The U.S. must also stand steadfast by its commitment to human rights and other core U.S. values. At the same time, it should

build on areas of common interest with China. The two countries should identify shared interests, for example on the environment, healthcare, and nuclear proliferation, and build good will on those separate tracks. Engaging with China has value, even if it offers no near-term possibility for agreement on some strategic issues.¹¹¹ Regular government to government dialogs have value in keeping the diplomatic door open. This does not mean a posture that is any less aggressive on the policies that matter most. The U.S. can continue to implement policies that pressure China on other, more difficult issues, and deliver consistent messaging on what changes the U.S. wants to see in China's policies.

Uniting Tech Democracies: The T-10

The most critical element in addressing the China challenge is building a coalition of like-minded technology democracies to advance more open and democratic values in technology policy, while countering China's harmful approaches to technology and data governance.

This small group of liberal democracies with advanced technology sectors would include 10-12 countries. In their recent Foreign Affairs piece on the subject, Jared Cohen and Richard Fontaine argue for including the U.S., France, Germany, Japan, and the United Kingdom, which all have large economies and innovative technology sectors, Australia, Canada, and South Korea, which have smaller economies but are also important players in technology, and Finland and Sweden, which are telecommunications and engineering powerhouses.¹¹² Some have also advocated for including India and Israel, owing to the global reach of their flourishing technology and startup sectors. Both the U.K. and the EU have recently made similar calls for an alliance of tech-democracies to align tech policies and coordinate approaches vis-a-vis China.¹¹³

The agenda of such a "T-10" alliance could be quite broad, including agreement on issues such as data privacy and digital tax, government access to

data, as well as trade issues, including enabling cross border data flows and limiting server localization requirements. It should also include efforts to safeguard citizens from harmful and illegal content online. Most importantly, the tech democracy alliance should advance a vision and system of governance for the global digital ecosystem that is open, accountable, and democratic.

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The tech-democracies should look to align policies and collaborate across a wide range of areas, both those that seek to protect key technologies or challenge China's unfair practices, as well as those that bolster key technologies. For this effort to have a meaningful chance to succeed, the U.S. and Europe must make progress on overcoming divisions on key technology policy issues such as privacy, competition, and tax (see more below). Japan can play a crucial bridging function, given its strong relations with the U.S. and adequacy determination from the EU. Together, the U.S., EU, and Japan, can form the core of the new alliance.

This new global governance framework will allow businesses, citizens and civil society access to an internet that is open, democratic, and safe. It will also form a template for expanding these concepts through negotiating digital agreements with other countries, understanding that other countries may need to phase in or adapt parts of the agenda.

Export Controls

As mentioned in the Invest in America section of this paper, in 1996, a group of 42 countries agreed to a voluntary arrangement to control exports and transfers of goods on an agreed upon list of sensitive technologies, called the Wassenaar Arrangement. The process of updating the products and technologies on this list has proven to be lengthy and cumbersome, leading the U.S. to impose unilateral export controls on certain technologies, forbidding their export to China. These recent controls have not been coordinated with allies, eroding their effectiveness. In addition to coordinating through

Wassenaar on future controls, the T-10 should identify technologies of key concern and coordinate on a nimbler set of controls for those technologies.

Supply Chain Measures

The Trump Administration had legitimate concerns regarding the security risks of using Huawei network technology, however its approach of strong-arming other nations to eliminate Huawei from their networks, while mostly successful, was not ideal. The T-10 should work together to develop a common set of principles for building out 5G networks and ensuring that countries have access to safe and secure equipment in their networks. Such an approach could be expanded to include supply chains for other important technologies and build on the Prague Proposals, a security framework for 5G networks.¹¹⁴

Cybersecurity

Cybersecurity is a massive global problem with economic, security and human rights implications. The 2017 WannaCry ransomware attack infected hundreds of thousands of computer networks in 150 countries, with losses totaling up to \$4 billion.¹¹⁵ According to the U.S. Council of Economic Advisers, malicious cyber activity caused between \$56 billion and \$109 billion in damage to the U.S. economy in 2016 alone.¹¹⁶ More recently, the hacking of numerous government agencies in December 2020, thought to be engineered by Russia, could have far reaching national security implications.¹¹⁷ While the United Nations and other groups have launched international efforts to coordinate cybersecurity norms and regulations, these large initiatives have had limited success due to differences in goals and levels of transparency among nations. The T-10 could lead by developing agreement around cybersecurity norms and incentives to encourage adoption of those norms.

Coordinated Trade Actions

China has long subsidized its companies and especially its technology companies. As the Center for American Progress and others have noted, China provides a wide array of direct and indirect subsidies that reduce Huawei's operational costs, speed time to market for its products, and allow it to price

its products well below prices set by competitors.¹¹⁸ Chinese state banks also provide generous financing to Huawei's customers on terms most commercial banks cannot match. While Huawei is the most obvious example of this strategy, China uses these practices broadly with many of its technology companies.

The World Trade Organization's (WTO) Agreement on Subsidies and Countervailing Measures (ASCM) is out of date and did not contemplate many of the subsidies currently employed by China. Efforts by the U.S., the EU, and Japan to reform the WTO rules governing industrial subsidies and state-owned enterprises led to progress in January 2020, and should be continued. The trilateral group agreed that the list of subsidies prohibited under the ASCM should be expanded and proposed changes to make it easier to impose countervailing duties on actionable subsidies.¹¹⁹ The T-10 should collaborate on this effort to impose disciplines on China's subsidies.

The T-10 should also work together to investigate below-market-rate loans by the China Development Bank and consider filing a joint WTO case against these below market financing measures.

Standards Setting

China has allocated significant resources toward the hundreds of international standards setting organizations and is in leadership positions in many of these groups, allowing it to advocate for global adoption of Chinese standards. Melanie Hart, previously with the Center for American Progress, notes that U.S. private sector participants in standards bodies may represent their own companies' interests, while the Chinese government requires Chinese firms to vote as a bloc to support China's proposals and to support Chinese nationals for leadership roles in standards bodies.¹²⁰

Adoption of Chinese standards by these bodies facilitates sales of Chinese products and could have troubling implications for human rights and democracy. Standards recently advocated by China would encourage top-down internet control, which Lindsey Gorman of the German Marshall Fund pointed out could be used to silence journalists or activists who run afoul of the government.¹²¹ The U.S. should work with other tech democracies to assert

greater leadership in international standards setting bodies and ensure fair and transparent processes in those organizations. The T-10 needs to take the lead on setting standards for new technologies, like IoT, AI, and apps, to ensure that shared values of democracy and openness are infused in the outcomes of standards setting for internet and information technologies.

Joint Research & Development

While China's share of global R&D spending is rising, Georgetown's Center for Security and Emerging Technology (CSET) notes that the U.S. and its allies together still comprise a majority of global R&D. Given this fact, to compete with China, CSET asserts that America's future lies in technical alliances. Similarly, the Harvard Belfer Center recommends that "deepened U.S.-EU cooperation across the entire AI ecosystem is necessary to advance a more secure, safe, and prosperous world."¹²² Working together on a humancentric approach, focusing on technology's impact on people and human rights, and dealing with issues such as facial recognition will be key.

While countries in the T-10 compete in many areas of technology development, the alliance could agree on joint R&D projects in a few key strategic areas, such as 5G and its successors, where China's subsidies make it difficult for others to enter the market. As Cohen and Fontaine point out, joint funds could be used to support non-Chinese 5G companies as they transition to a next generation open radio access network (ORAN) system.¹²³

Financing

There are several measures the T-10 countries could use to counter China's subsidization of its exports. First, the T-10 countries should work together to encourage China to adopt the OECD Export Credit Arrangement, a framework for the orderly use of officially supported export credits to encourage competition among exporters based on quality and prices of goods and services exported, rather than on the most favorable officially supported export credits.¹²⁴ The OECD arrangement limits financing terms and conditions (repayment terms, minimum premium rates, minimum interest rates) to be applied when providing officially supported export credits, as well as on the

use of tied aid by the participants.¹²⁵ The Arrangement also contains various transparency provisions. These provisions would help to ensure China's Belt-and-Road Initiative and China Development Bank loans are financed based on market principles and not just subsidies to Chinese exporters.

Secondly, the T-10 should explore joint financing for technology exports. The Competitiveness section of this paper discussed the concept of a Digital Marshall Fund – a fund dedicated to providing competitive export financing for U.S. technology firms competing with Huawei or other Chinese companies offering subsidized financing. The T-10 could explore collaborating on such a fund and use it to support technology companies competing with Chinese companies using subsidized financing, as well as to support Nokia and Ericsson, which currently provide the only 5G alternatives to Huawei. Such a fund would provide developing countries that want to purchase trusted 5G or other technologies that promote open and democratic values an affordable alternative to Chinese technology.

Establishing Broader Digital Governance and Trade Arrangements

Beyond the T-10, there are important opportunities for broader digital alliances and agreements. While not as comprehensive as the T-10, these alliances and agreements would serve an important role in codifying rules for digital governance and trade with a broader range of countries. No global rules govern digital trade, which covers everything from e-commerce to bank transfers to telemedicine. Global e-commerce sales alone topped \$3.5 trillion in 2019.¹²⁶ Covid-19 has only accelerated e-commerce growth and the importance of the digital economy as services like tele-health and education are increasingly moving across traditional borders, increasing the need for all countries to have access to an internet that is open, accountable, and democratic.

In 2019, 76 countries in the WTO formally launched negotiations on an e-commerce agreement.¹²⁷ However, given the large number of countries

involved, including Russia, China and others who have different approaches to key issues, these negotiations are moving slowly and may result in little action or an agreement with a low level of ambition.

Several regional agreements incorporating higher standards for compliance have provisions that lay the groundwork for a broader digital agreement. The USMCA, for example, made progress developing rules for digital trade and governance,¹²⁸ and was one of the first trade agreements to include provisions on cybersecurity. The digital trade rules in USMCA provide a clear, simple bar to data localization; clarify circumstances in which privacy and data protection exceptions can be made; recognize the APEC CBPR as a valid system for data transfers; and include commitments on cybersecurity. The agreement also provides that parties will consider creating a forum to promote cooperation on digital trade issues, including those related to cybersecurity. Like approaches reflected in the USMCA, the U.S.-Japan Digital Trade Agreement provides a baseline from which to work and represents a “comprehensive and high standard.”

Several other countries have negotiated agreements that provide ideas on which to build. Singapore, New Zealand, and Chile have finalized an open plurilateral agreement, the Digital Economy Partnership Agreement (DEPA), which includes provisions governing digital identities, data flow, and AI. The agreement will enter into force when at least two of the parties have completed the domestic legal processes required, as it did for New Zealand and Singapore on January 7, 2021,¹²⁹ and it is open to other WTO members to join. DEPA is novel in that it allows countries to join certain modules, rather than requiring adoption of the full agreement.¹³⁰

Singapore and Australia also concluded a bilateral digital agreement in March 2020, and Singapore and South Korea recently launched negotiations on a digital agreement. These agreements go beyond the digital rules in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and include provisions for nondiscriminatory treatment of electronic transactions and other consumer protections.

Capacity exists to go further toward establishing rules that foster trust in and responsible use of technology and enable more people in the U.S. and worldwide to enjoy its benefits. Negotiating agreements with a larger number of countries is important to gain broader consensus regarding digital governance, facilitate the flow of data across borders, develop global digital standards, and encourage regulatory cooperation.¹³¹

Given DEPA, USMCA, and the other digital deals in the region, along with CPTPP, the time is ripe for the U.S. to pursue a Pacific digital agreement to set high standards and rebuild trust in the region. This initiative would build on momentum in the Asia-Pacific region, counter trends toward a more fragmented approach to digital trade, and ensure that these countries enact a democratic internet governance agenda.

No.	Digital Trade Provisions	USMCA	CPTPP	A-HKFTA	SLSFTA	KORUS FTA	EUJEPa	EUSFTA
1	Elimination of customs duties on digital products and/or electronic transmissions	YES	YES	YES	YES	YES	YES	YES
2	Non-discrimination against digital products	YES	YES	NO	YES	YES	NO	NO
3	Electronic authentication and electronic signatures	YES	YES	YES	YES	YES	YES	PARTIAL
4	Paperless trading	YES	YES	YES	YES	YES	NO	PARTIAL
5	Domestic electronic transactions framework	YES	YES	YES	YES	YES	PARTIAL	NO
6	Online consumer protection	YES	YES	YES	YES	YES	YES	NO
7	Personal information protection	YES	YES	YES	YES	NO	NO	NO
8	Measures against unsolicited commercial electronic communications	YES	YES	YES	NO	NO	YES	NO
9	Cybersecurity	YES	YES	NO	NO	NO	NO	NO
10	Cross-border transfer of information	YES	YES	YES	YES	PARTIAL	YES	YES
11	Prohibition of data localisation	YES	YES	YES	YES	NO	NO	NO
12	Cross-border transfer of information by electronic means and prohibition of data localisation for financial services	NO	NO	NO	NO	PARTIAL	NO	NO
13	Liability of intermediary service providers	YES	NO	NO	NO	NO	NO	PARTIAL
14	Non-disclosure of software source code and related algorithms	YES	PARTIAL	PARTIAL	NO	NO	PARTIAL	NO
15	Open government data	YES	NO	NO	NO	NO	NO	NO
16	Cooperation	YES	YES	YES	YES	YES	YES	YES

Source: <http://asiantradedecentre.org/talkingtrade/comparing-digital-rules-in-trade-agreements>

Building bridges toward the EU will also be critical in creating an environment for the healthy development of digital trade. If the U.S. and EU can bridge their divides, they can form the core of a global alliance of countries whose

approach to technology is grounded in openness and respect for privacy and other fundamental rights. Such an agreement could be reached in the context of larger U.S.-EU negotiations, or as a foundation for the T-10 Alliance described above.

A Pacific Digital Agreement would be another prong in the broader effort to build a system of global digital governance. Such an agreement will also be important in reasserting U.S. engagement and leadership in Asia, a region that sorely missed U.S. engagement during the Trump Administration. An alliance of techno-democracies (T-10) followed by a Pacific Digital Agreement will go a long way to setting global digital governance norms and are key pieces of a U.S. strategy to bolster digital leadership.

Reaching Agreement on Global Digital Tax Issues

With global digital trade increasing exponentially, countries have become increasingly interested in taxing that trade to generate revenue. This interest has become more urgent with Covid-19, as federal coffers are over-stretched and countries are looking for new ways to raise funds. Digital taxation has been a contentious issue in recent years, with deep divisions between the U.S., which would generally like to avoid taxes on digital companies, since many of the largest digital companies are American, and the EU and other countries, including Brazil and India, which would like to tax those companies to bring in more revenue. Many in the U.S. recognize that international tax rules need to be updated to address widespread digitalization and the changes it has created. And the widespread use of remote work brought on by Covid-19 will lead to further changes to our thinking about the location of economic activity and how it should be taxed.

In 2019, the U.S. launched a Section 301 investigation into France's digital service tax (DST), arguing that the tax, which would only impact companies earning over 750 million euros globally, would primarily affect U.S. firms, and would therefore be de facto discriminatory.¹³²

The OECD issued a report in 2019 suggesting an approach to develop a framework for digital taxation, along with some broader related tax issues like Base Erosion and Profit Shifting (BEPS). Negotiations are proceeding and there was hope that an agreement could be reached in 2020, but divisions among the parties have, to date, precluded an agreement.

In early June 2020, the U.S. voiced frustration that countries were continuing to propose or impose DSTs while the negotiations were in progress. In response, it launched Section 301 investigations against nine countries plus the EU,¹³³ and later the same month announced that it was pulling out of the OECD negotiations.¹³⁴ With talks at a stalemate, countries moving forward to impose DSTs, and the U.S. threatening to impose tariffs in retaliation, the risk of a trade war is significant.

The U.S. should rejoin the OECD talks, both to resolve this issue and as a show of good faith to its allies. Early indications on this from the new Biden Administration are encouraging. We must prioritize negotiating an agreement governing DSTs that will facilitate as well as minimize friction in global digital trade. The U.S. may eventually have to accept some level of tax on its companies' e-commerce activities as a trade-off for avoiding even higher taxes in many countries, and to minimize compliance challenges due to different DSTs across the globe.

Leading Globally Summary of Recommendations:

Tech-Democracies

- The U.S. should build a coalition of like-minded technology democracies (T-10) to develop a high standard digital governance agenda advancing open and democratic values to counter China's autocratic approaches to technology and data governance.
- The T-10 should coordinate efforts in a variety of areas, including privacy, export controls, supply chain measures, cybersecurity, network and data

security, online safety, and technology standards. As a point of departure for this effort, the U.S. and Europe must reduce current divisions over technology policy and strengthen cooperation with Japan.

- The T-10 should pursue coordinated trade actions, including increasing disciplines against subsidies in the WTO to address China's practices, explore filing a joint WTO case against China Development Bank loans, and encourage China to join the OECD Export Credit Arrangement.
- Finally, the T-10 should consider pursuing joint R&D in key technology sectors, as well as joint financing to allow companies in member countries to compete with Chinese companies on a level playing field.

Pacific Digital Agreement

- The U.S. should negotiate an Asia-Pacific Digital Agreement that embodies the values of democracy and openness, using existing regional building blocks, like key provisions in USMCA, the U.S.-Japan Digital Trade Agreement, the DEPA Agreement between Singapore, New Zealand and Chile, and CPTPP. Such an agreement will also play an important role in reestablishing U.S. engagement in Asia.

Digital Tax

- The U.S. should rejoin the OECD talks and prioritize negotiating an agreement governing digital service taxes which will be key to eliminating a rift with EU allies, laying the groundwork for the broader T-10 digital governance agenda. The U.S. may have to accept some level of taxation as part of that compromise.

Conclusion:

The digital future is already here, dramatically accelerated by a pandemic that has changed how the world works, learns, and plays – trends that will escalate in the years to come. Now is the time for the U.S. to launch a comprehensive global digital strategy. The risks of not seizing this opportunity are immense, posing existential risks to the U.S. economy and global democracy. The Biden Administration must seize this moment to launch a comprehensive, whole of government, digital strategy, providing good jobs for workers sidelined by automation and upgrading U.S. competitiveness, positioning the U.S. to become a global digital leader. The Administration must also work with its allies to develop a digital governance structure and jointly pursue policies to meet the China challenge.

The digital revolution is at an inflection point – with the right policies and investments, the new Administration can create a better future for its citizens and forge a new era of U.S. global leadership based on shared democratic values.

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PUBLICATIONS

**U.S. Digital Leadership is Vital for Women-Owned
Businesses and Their Workers**

Digital tools are especially important for women-owned businesses looking to expand to international markets. Since women have a harder time accessing capital, they are more reliant on digital tools to grow their businesses. Digital tools provide women exporters with a global reach and ability to sell their products or services to a broader audience without the need for capital-intensive physical shops. The recent pause in the U.S. government's participation in negotiations on digital policies will disproportionately affect U.S. micro, small and medium-sized businesses (MSMEs), particularly women-owned companies. The U.S. government should rejoin digital trade negotiations and restore its leadership in the digital arena.

The 2023 holiday shopping season continued to be dominated by online sales, with e-commerce sales of \$253.7 billion, an increase of almost 11% compared to e-commerce sales during the 2022 holiday season.¹ The pandemic accelerated the growth of digital commerce and shifted the retail landscape permanently.

These same digital tools have been particularly important for women-owned businesses that are looking to expand to international markets and customers. Women-owned businesses are more reliant on digital tools to grow their business, with most using technology to grow rather than expanding their physical presence or locations. People around the world will buy from U.S. websites such as Tory Birch or Fenty, while downloading Taylor Swift's music or using the event-hosting app Eventbrite.

The OECD defines digital trade as exports that are digitally ordered and/or digitally delivered² and includes items bought online and shipped cross-border as well as services delivered digitally such as music or business services. The U.S. is the world's leader of digital trade, with 16.5% of the world's cross-border digitally delivered goods and services American-made.³ Other countries are rapidly growing their digital trade, with India, China, and Ireland growing digital trade by more than 75% and up to 93% year-on-year.

U.S. leadership is needed to keep our commercial leadership in digital trade. Ensuring cross-border data flows, enabling data privacy regimes that protect local consumers and facilitate data flows, and protecting against forced disclosures of source code that expose U.S. companies to thefts of their innovations have been long-standing positions of the U.S. government. These positions protected U.S. exporters and the jobs of their workers, as the U.S. advanced digital trade policies that addressed the market and non-market access barriers and created a level playing field.

The U.S. Trade Representative recently announced that they would pause their support for certain policies while the U.S. looks at potential changes in domestic regulations. This leaves the U.S. on the sidelines of important global conversations about data and digital policies at a time when many other countries are moving forward with more restrictive policies. It is important for the U.S. government to reengage in digital negotiations in the WTO and IPEF to establish a global governance agenda that reflects U.S. standards and values.

The absence of U.S. leadership will disproportionately affect U.S. micro, small and medium-sized businesses (MSMEs) and particularly women-owned companies who are more likely to use digital tools to reach international markets and customers. Companies that export are important to the U.S. economy - on average, women-owned firms that export pay more, are more productive, employ more workers, and report higher average sales than women-owned firms that do not export. The asset-light nature of digital trade allows women to take part as equals in the global economy, as digital trade levels the playing field for women business owners. As an example, eBay revealed that 97% of the women sellers on their platform export, reaching customers on average in 15 different countries.

Digital tools allow women-owned firms to reach new markets without requiring incremental investments or capital. In a recent report by the Trade Experettes⁴, many of the women exporters interviewed about their experience didn't even know they were exporters - they had created digitally delivered content and apps for their local markets

which were being sold around the world. As an example, a hairdresser started a new line of business giving online tutorials on how to treat and style textured hair. She reached a global audience using a videoconference service provider without physically crossing any borders.

While women can face added hurdles due to the “digital divide” and lack of training or access to the internet, during COVID we saw that many women managed to overcome these impediments and export for the first time.

Digital trade is critical for U.S. women exporters, and we need the U.S. government to get back into the negotiations:

- *Global Reach without Physical Presence*: Digital tools provide women exporters with a global reach and ability to sell their products or services to a broader audience without the need for capital-intensive physical shops that require financing and capital. Data localization requirements, differing data privacy requirements, and cross-border data restrictions would create barriers that would require investments and make exporting more challenging.
- *Lower Trade Barriers*: Digital trade can also reduce trade costs as countries and companies streamline export processes by reducing paperwork, easing customs procedures, and minimizing logistical challenges. Digitally delivered goods or services have traded without customs tariffs for 25 years due to the E-Commerce Moratorium, lowering the complexity of trading those goods. This is especially beneficial for women exporters, who have a harder time accessing capital for their business,⁵ and are therefore more reliant on digital technologies to make international trade more accessible and cost-effective. The Moratorium, if not renewed, will expire in 2024 creating a host of new, complex customs issues for all digital exporters.

- *Online Marketing Tools:* Acquiring new customers is one of the hardest parts of growing a business, and being able to use digital tools to reach customers on their mobile devices or other digital devices is critical for women trying to grow their businesses.

While the Administration launched several post-covid programs to make the internet more accessible to women and other underserved communities, more needs to be done. The U.S. worker-centered trade policy, by pausing its support of digital trade, is not upholding the Biden Administration's National Strategy on Gender Equity and Equality. While women own 39% of the businesses in the U.S.⁶ and employ 12 million people⁷, U.S. worker-centric trade policy has a heavy focus on manufacturing industries like steel (17% women⁸), aluminum (19% women⁹), automobiles (23% women¹⁰), mining (10-17% women), and clean technology (32%). Creating more pathways for women to move into these industries can help, but even more critical is supporting these businesses and restoring U.S. leadership on digital trade

For the factors outlined above, the U.S. government needs to urgently restore its leadership on digital trade. Existing trade agreements allow exemptions and flexibility for changes in domestic regulations, so the current pause seems unnecessary. Data can be a means of production, a tradable asset incorporated in a finished product, or an ingredient to enable cross-border trade of physical goods. A lack of consistent cross-border data policies will undermine U.S. exports, create cyber security vulnerabilities, and create data silos limiting visibility on supply chains. The challenges this creates will disproportionately affect women exporters. For all these reasons, the U.S. urgently needs to return to the negotiating table, which will support both the Administration's worker-center trade and their efforts on gender equity and equality.

Notes

1. [U.S. holiday season online retail sales 2023 | Statista](#)

2. See OECD Handbook for Measuring Digital Trade, Second Edition
3. World Trade Organization, Global Trade Outlook and Statistics, April 2023
4. [E-Commerce 2023 — TradeExperettes](#)
5. [Women Business Owners Still Face Difficulties in Obtaining Capital \(forbes.com\)](#)
6. [National Strategy on Gender Equity and Equality \(whitehouse.gov\)](#)
7. [WBENC](#)
8. Bureau of Labor Statistics
9. Bureau of Labor Statistics
10. Bureau of Labor Statistics; International Trade Commission

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5 WAYS THE U.S. CAN DRIVE THE ... BUILDING AN EV AND CRITICAL SUPP

EXHIBIT 151

DIPLOMACY WORLD

The high stakes Indo-Pacific Economic Framework

Published: 09 April 2022

Reading Time: 5 mins

M [Joshua Meltzer](#)
jack

IN BRIEF

US President Joe Biden will launch the Indo-Pacific Economic Framework (IPEF), his administration's key initiative for economic engagement with the Indo-Pacific, in April 2022. Since former president Donald Trump withdrew from the Trans-Pacific Partnership – now the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) – China has, in part through its RCEP membership, strengthened its economic links throughout the region. With Beijing now seeking membership of the CPTPP, US economic leadership and credibility are at stake in the Indo-Pacific.

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While the Biden administration recognises the urgency of an affirmative [economic strategy](#) in the region, its approach reflects US political constraints. It is unclear where the Republican Party stands following its turn away from free trade since 2016. The Biden administration also seems determined to bring labour unions along with new trade initiatives, so it is avoiding the agreement becoming a treaty in need of congressional approval. It hopes instead to conclude an Executive Agreement by the end of 2023 when the United States will host APEC and before the US presidential election heats up.

The IPEF will not produce a traditional free trade agreement (FTA). More importantly, it will not provide improved market access through tariff elimination, a key reason why countries sign FTAs with the United States. Washington is instead proposing four IPEF pillars.

The first is fair and resilient trade rules in areas like digital trade, labour and the environment. The second is supply chain resilience. The third is infrastructure and green technology. The fourth is tax and anti-corruption. While the United States will encourage countries to participate in all four pillars, they may participate in IPEF if they join at least one.

A key challenge for Washington will be convincing other countries to accept high-standard and binding trade rules without receiving market access. As in previous trade agreements, the United States will most likely seek high labour standards, but the significant TPP labour market reforms to which Vietnam, for example, agreed were made politically possible by the promise of greater US market access.

Washington will also be making demands against a backdrop of uncertainty over whether the next president will seek to pull the United States out of the IPEF – a feat that is easier to achieve with an Executive Agreement rather than a Senate ratified treaty.

If the United States can address these challenges, the [initiative](#) may deliver significant economic gains for COVID-19 recovery, digital transformation and environmental transition – all areas of priority for Washington and its partners. Digital trade commitments that facilitate trusted data flows should promote digital trade and business among IPEF members. The IPEF might also provide enhanced investment in more resilient and secure supply chains, as well as infrastructure, clean energy and capacity building.

The United States-Mexico-Canada Agreement (USMCA) provides a useful insight into the potential gains from an agreement on new rules. The USMCA was a renegotiation of NAFTA, under which tariffs were already zero, making it primarily about new trade rules in areas such as digital trade and labour regulations. According to the United States International Trade Commission, the USMCA will [increase exports](#) to Canada and Mexico by 5.9 and 6.7 per cent, respectively. A big part of these projected economic gains come from the trade policy certainty gained from USMCA rules in areas such as digital trade.

The IPEF is an opportunity to build on the bipartisan support for the USMCA – the first large free trade agreement backed by the AFL-CIO labour union, which passed the US Senate 89-10 in 2020, compared to the 60-38 vote in favour of NAFTA in 1993. The agreement's enhanced and binding labour and environmental provisions, a rollback on access



The IPEF will not require congressional approval, but the USMCA will still inform the administration's approach because bipartisan political support is needed to reduce the political risk that a future administration pulls out. The agreement's role as a geostrategic counter to China should also enhance its appeal.

This leads to membership. The United States could broadly invite Indo-Pacific governments into the IPEF as a show of US support and engagement. But the challenge of negotiating meaningful commitments with a large number of countries, and the US imperative to complete an IPEF agreement in 2023, points towards a more limited set of initial participants. This would likely include governments supportive of free trade like Australia, New Zealand, Singapore, Japan, South Korea, as well as key ASEAN countries such as Vietnam, Malaysia and Indonesia.

India should also be invited to join the IPEF. The strategic rationale is clear — the very notion of an Indo-Pacific is hollow without Indian participation. While India is typically protectionist when it comes to trade, the IPEF does not make any demands to lower tariffs. The IPEF also comes at a time when India has clarified its strategic concerns with respect to China. Increasing China-Russia alignment may also lead India to seek even closer relations with the United States.

The IPEF is an opportunity to promote US leadership and deepen US ties with Indo-Pacific countries at a critical geopolitical moment. While pursuing an economic agreement is domestically controversial, the importance of the IPEF is clear. The challenge will be finding a path to achieve a high-standard IPEF agreement, consistent with US domestic constraints, while providing sufficient benefits to attract US Indo-Pacific partners.

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- ASIA
- ASIA PACIFIC
- COMPREHENSIVE AND PROGRESSIVE AGREEMENT FOR TRANS-PACIFIC PARTNERSHIP
- CPTPP
- ECONOMICS
- FREE TRADE AGREEMENTS
- FTA
- GEOPOLITICS
- GEOSTRATEGY
- INDO-PACIFIC
- INDO-PACIFIC ECONOMIC FRAMEWORK
- IPEF
- JOE BIDEN
- NAFTA
- REGIONAL TRADE
- UNITED STATES-MEXICO-CANADA AGREEMENT
- US PARTNERS
- USMCA

One response to “The high stakes Indo-Pacific Economic Framework”

vjie king says:

[April 10, 2022 at 8:43 am](#)

The proposed IPEF is a reactive rather than a proactive initiative, a US response to CPTPP and RCEP, of which it is not a participant. US has got to be there and assumes leadership role; it doesn't matter what. It appears to be a more political rather than economic framework, aiming to pull in Asian countries to reinforce its 5Eyes, QUAD four, AUKUS three collectives, with the sole mission of containing and isolating China. No different from US BBB to counter China's BRI. Earlier when China set up AIIB, to complement World Bank and IMF, Obama did everything to kill it.

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EXHIBIT 152

REPORT *Published August 3, 2023 • 10 minute read*

Supply Chains and Value Chains, Explained

Joshua Kendall, Economic Fellow, 2022–2023, Gabe Horwitz, Senior Vice President for the Economic Program, Zach Moller, Director of the Economic Program

Americans spent a whopping \$5.9 trillion last year on everything from dishwashers and dog beds to trampolines and TVs. ¹ Each of those products went on a unique journey—from creative ideas to raw materials, to a finished product shipped by air, sea, or land. That journey has been under increasing scrutiny as the pandemic ground supply chains to a halt, visible in spontaneously empty shelves that formerly contained toilet paper or specific brands of cereal. While many of those issues have now been resolved, new supply chain issues have emerged as a result of the war in Ukraine and complicated issues with China. One example is beyond the war’s human cost, countries and products that depended on Ukraine and Russia’s combined 24% of global wheat exports are feeling a supply chain strain. ²

To help policymakers understand the intricate steps that go into making a product—and the implication that journey has on jobs and the broader economy—we dig into supply chains and their close sibling value chains below. Specifically, we examine how products are made and brought to consumers, the impact on jobs, and questions over how much should be made in America.

Concept to Constituent: How products are made and brought to consumers

A product’s journey from an inventor’s mind to a consumer’s hand involves numerous steps. The different parts of that process can be broken down into a *supply chain* and *value chain*.

Supply Chains

A supply chain details the steps by which raw materials are turned into finished products.³ A supply chain can exist entirely within one country or could stretch across many different borders. For example, Wilson’s “The Duke” American football has its entire supply chain in the United States.⁴ It’s made from leather crafted in an American factory from cows that are processed in American slaughterhouses and fed on American grass and corn.⁵ Conversely, automotive vehicles are extremely complex machines that often include parts from all over the world.

While each product has its own unique supply chain, the general steps include:⁶



Consider an insulated travel mug from YETI:⁷

- YETI personnel in the United States forecast demand and process orders for drinkware.
- Third-party manufacturers located in China, Malaysia, Mexico, and Thailand create the mugs from materials including polyethylene, polyurethane, and stainless steel, to name a few.⁸
- YETI works closely with manufacturers to connect them with raw and intermediate materials suppliers, direct production, and ensure product quality and manufacturing efficiency.

- International shipping companies such as Germany-based Deutsche Post AG transport the finished mugs to distribution centers in the United States, Canada, Australia, New Zealand, the United Kingdom, and the Netherlands.

By examining a product's supply chain, one can understand the multinational effort to supply the global economy.

Value Chains

Rather than focusing solely on a good's physical production, a value chain represents how each step in a product's lifecycle contributes to its eventual value.⁹ While a value chain could exist entirely within a single nation, it is usually applied to internationally traded goods.¹⁰ By tracing a product's value chain, we can see how some of the dollars we spend on foreign goods end up back in our domestic pockets.

There are numerous steps in a value chain, but these can be boiled down to the following:¹¹



For example, China exports a lot of smartphones, but they contain value from American programmers, American chemists, Congolese miners, Singaporean chip producers, and Dutch shipping companies among many others.¹² While purchasing a smartphone may appear to put money only in China's pocket, entities throughout the value chain helped make that product—and received compensation.

Returning to YETI, examining the product through its value chain provides an understanding of its value beyond its physical components.¹³

- YETI marketers in the United States study industry trends and consumer preferences.
- American development staff create and test prototypes. Designs are shared with brand ambassadors in the United States and a handful of international markets to ensure the product is usable.

- YETI development staff distribute product molds and machinery to manufacturing partners. This begins the production process which includes technical operations, quality assurance, and manufacturing.
- YETI markets the product through traditional, digital, and social media, product ambassadors, and original short films. This activity is focused in the United States, but also exists in Europe, the English-speaking Pacific, and Japan.
- In the United States, mugs journey from distribution centers in Memphis, Tennessee and Salt Lake City, Utah to the stores in which they will be sold. In international markets, distribution centers are housed in Australia, Canada, the United Kingdom, New Zealand, and the Netherlands.
- Consumers purchase the product either from retailers, one of YETI's 13 owned and operated stores, or from an online marketplace.
- Support staff are available for customers to contact with questions and concerns.

The sale of each mug pays for this entire process. When someone purchases a brand-new YETI tumbler, a portion of that \$38 goes to Thai manufacturers, American designers, German logistics companies, Dutch warehousing staff, and a litany of other people that contributed value to the product.

Jobs: How many, where are they, and what are they doing

Making a product evokes images of workers clad in protective gear on an assembly line, and shipping a product conjures up a port worker or truck driver. But that overlooks the complexity of 21st century production. With global value chains and supply chains, American exports and imports both have an effect on US jobs. The global interconnectedness supports American exports and the requisite jobs—while simultaneously broadening the array of raw materials and intermediate goods used in American manufacturing. Imports also support American jobs as the value chain demonstrates how a portion of the sales price of imported items is often paid to American workers.

Export Jobs

According to the Department of Commerce's International Trade Administration, exports support 9 million jobs in the United States, roughly 6% of the nation's workforce.¹⁴ A quarter of these jobs

are in manufacturing, but other value-adding types of jobs such as professional services, finance, and transportation feature prominently.

For the manufacturing and transportation/warehousing industries, exports are particularly important. Respectively, exports support 20% and 13% of all jobs in those sectors.¹⁵ Further, exports are pivotal to the goods-producing parts of the American economy. Exports support 20% of the nation's goods-producing jobs.¹⁶

Import Jobs

Given varying definitions of what constitutes an “import-supported job” and the mathematical approach to estimating them, it is challenging to approximate how many jobs imports support. Some estimates range as high as 21 million jobs, about 16% of national employment.¹⁷ This includes jobs ranging from retail salespeople to manufacturing firms that import parts and materials and often overlap with export-supported jobs. For example, a dock worker is equally supported by imports and exports. Roughly 40% of all US employees work at firms that import goods or services, even if their *specific* jobs don't rely on imports.¹⁸

Jobs by Geography and Industry

There is significant variation in trade's impact on employment based on geography and industry. For example, in Texas, exports support 7.7% of the state's workforce, while they underpin only 1.3% of Wyoming workers.¹⁹ Geographic diversity is due in large part to a state's proximity to borders, as it is much easier for California to have a thriving port industry relative to South Dakota. Conversely, industrial variation in exports stems mostly from the kinds of products they produce. It is much easier to export Harley Davidsons than haircuts.²⁰ Further, any given industry may have specialized jobs beyond the production process, such as HAZMAT-qualified drivers for transporting certain chemicals and other raw materials.

The Global Question: To trade or not to trade?

Even though the vast majority of supply chains are global, there is a longstanding debate over whether Americans can and should make everything ourselves. At its core, this is a balancing act—between reliability, variety, available labor, and a host of other decisions. Both perspectives have economic benefits and ramifications, and wise trade policy balances the two.

Here or there?

Over the years, the United States has at times pursued targeted policies to promote self-sufficiency and limited trade (also known as autarky in its extreme). For example, the CHIPS Act acknowledges that semiconductors are too important to the American economy to rely predominantly on international suppliers.²¹ The act has incentivized billions of investment dollars to build factories and hire Americans. Further, the recent Infrastructure Investment and Jobs Act included a provision which preferences American materials and manufactured products.²² These bills had clear tradeoffs on cost, security, and promotion of local jobs.

However, there are some goods or materials we simply cannot produce here. Americans love coffee, but the nation's climate prohibits us from growing enough to satisfy our habit.²³ Devoting all of Hawaii's land to coffee cultivation wouldn't come close.

Further, trade gives the US economy flexibility—in what we consume, produce, and prioritize in the sectors and skills at which we are comparatively skilled.²⁴ Our workforce has exceptionally skilled scientists, engineers, and managers, which allows many Americans to focus on those jobs while other countries focus on different parts of the production process. The value chain demonstrates how these indirectly related fields contribute to trade-supported jobs, as they provide some of the value that makes trade efficient enough to employ longshoremens, truck drivers, and factory workers.

Policymakers must also recognize how trade can sometimes lead to job loss for domestic workers. Programs like Trade Adjustment Assistance are key aspects of trade policy that support the entire US workforce, and even more can be done to help workers with job and skill training before economic change happens.²⁵

Friend/Near shoring

In the debate over where to make things, there is a push by some to do more “friend-shoring” and “nearshoring.” These phrases refer to prioritizing trade with neighboring countries (nearshoring) or our formal or informal allies (friend-shoring). Both efforts are responses to some of the vulnerabilities found in international trade—from COVID-induced shipping snarls to war.

Friend-shoring helps our supply/value chains be more transparent and, hopefully, reliable. The United States' existing relationship with friendly nations enables better communication on trade issues and lets investors from both nations feel comfortable financing new ventures. Further, friend-shoring ensures that the value chain rewards our allies instead of our geopolitical and economic competitors.

Alternatively, nearshoring can spur bilateral trade that will employ Americans in both import- and export-heavy sectors. ²⁶ The proximity lowers transportation costs and potential disruptions while simultaneously encouraging cooperation in border regions. For example, Texas exports more than any other state, with Mexico being its primary recipient. Both border regions invest billions in each other's productive capacity and pursue complementary parts of the value chain (aircraft parts, computer parts, and semiconductors in Texas, and trucks, automotive parts, and finished computers in Mexico). ²⁷

Of course, policies that change existing supply chains have some tradeoffs along with their benefits. Our friends and neighbors have the capacity to satisfy much of our demands, but they do not have the same competitive advantages as others. A YETI tumbler made in Sweden or Canada would be much more expensive than one made in Thailand.

Trade Policy in Action

The best example of both friend-shoring and nearshoring is the United States-Mexico-Canada Agreement (USMCA). The policy has been largely successful as the two nations are our biggest trading partners—doubling US-Chinese trade—and are our largest export markets. ²⁸

Beyond the numeric volume of North American trade, *what* we import and export between each country illustrates the value chain's symbiotic nature. Looking at US-Mexico trade numbers, we often trade the same products back and forth (machinery, fuel, vehicles, etc.). ²⁹ However, each partner imports and exports specific kinds of goods, enabling each economy to specialize in how they add value. We export machinery like integrated circuits, office machinery, and engines, while we import machinery such as computers, video screens, and broadcasting equipment. ³⁰ American intermediate manufacturers, designers, and raw material extractors contribute their expertise to the products we export to Mexico, and the more finished goods we import enable our workforce to utilize their skills. Put simply, we export materials to Mexico, who builds them into productive products, which lets us add value and create more materials we can export.

TOPICS

TRADE 103

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EXHIBIT 153

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Five Things to Know About the Indo-Pacific Economic Framework

Joshua Kendall, Economic Fellow, 2022-2023

A little-known acronym still on the horizon *could* be one of the Biden Administration's biggest economic accomplishments. The Indo-Pacific Economic Framework (IPEF) is the Administration's new effort to economically unite over a dozen countries that together constitute 40% of the world's GDP. Why this region? The Indo-Pacific is 60% of the world's population. It brought almost a trillion dollars of investment into the United States. And it supports key US supply chains and more than 3 million American jobs. ¹

Notably, IPEF is taking a different approach to global engagement than trade agreements of old. Because of that, here are five key points to know about the Indo-Pacific Economic Framework.

1. IPEF is broad, but it's not everything.

The Department of Commerce (DoC) and United States Trade Representative (USTR) are developing the agreement from the US side and have separated IPEF into four *pillars*, each addressing a global economic concern. A nation can participate in whichever pillars they prefer.

- The **trade pillar** will increase and facilitate international commerce and promote sustainable growth. ² Notably, this pillar does *not* expand market access or reduce tariffs.
- The **supply chains pillar** will increase resiliency by supporting critical industries and expanding international communication on supply issues. ³
- The **clean economy pillar** will unite governments, the private sector, and workers to catalyze innovation for the low carbon energy transition. ⁴
- The **fair economy pillar** will fight corruption, improve tax administration, and coordinate action between IPEF partners. ⁵



THIRD WAY

Fourteen Nations Have Joined IPEF



While that is a lot of names to write on a masthead, this lineup bodes well for IPEF's prospects. These are some of the most advanced economies in the world alongside some with the greatest growth potential. ⁶ What's notable is also who is not on the list—namely, China. President Trump's withdrawal from the Trans-Pacific Partnership (TPP) shook the region's confidence in American economic leadership, a gap which China was eager and quick to fill. ⁷ With IPEF, the Biden-Harris Administration is reestablishing the United States as a reliable economic collaborator and counterweight to China. ⁸

2. It's an executive agreement, not a trade deal.

While the acronym may remind you of NAFTA, CAFTA, or USMCA, IPEF is not a free trade agreement (FTA). The distinction is notable, as it means that participating nations won't increase market access/reduce tariffs and that Congress isn't required to debate and vote on the agreement. ⁹ In short, IPEF greases the wheels of trade.

Despite lacking increased market access, IPEF has some appealing distinctions from an FTA. For one, it has the potential to be easier to implement, as participants don't need to completely restructure their economies to be in alignment. This ease also leads to a lower barrier to entry, visible in a participant list broader than just the United States' regional allies. ¹⁰

However, free trade proponents have justified concerns. A low barrier to entry means that the subsequent policies could be less robust, as bringing 14 economies into regulatory alignment can be very difficult.

3. Workers take center stage.

While an American cattle rancher and a Vietnamese textile worker may not face the same challenges, both could benefit from IPEF policies. Each IPEF pillar encourages labor to participate in the framework, reflecting President Biden's commitment to a worker-focused economic agenda. ¹¹ Negotiators have yet to publicly discuss specific policies, but there is broad consensus amongst participants that IPEF should keep workers employed, expand opportunities, and increase fairness in the workplace.

This is important because the Indo-Pacific region has a challenging human and labor rights record. ¹² Poor wages, unsafe working conditions, and labor abuses are rampant, despite US provisions mandating that trade partners eliminate such practices. ¹³ The Administration hopes to cultivate higher labor standards and increase transparency throughout the entire supply chain, ensuring that workplace abuse can be identified and ended. ¹⁴

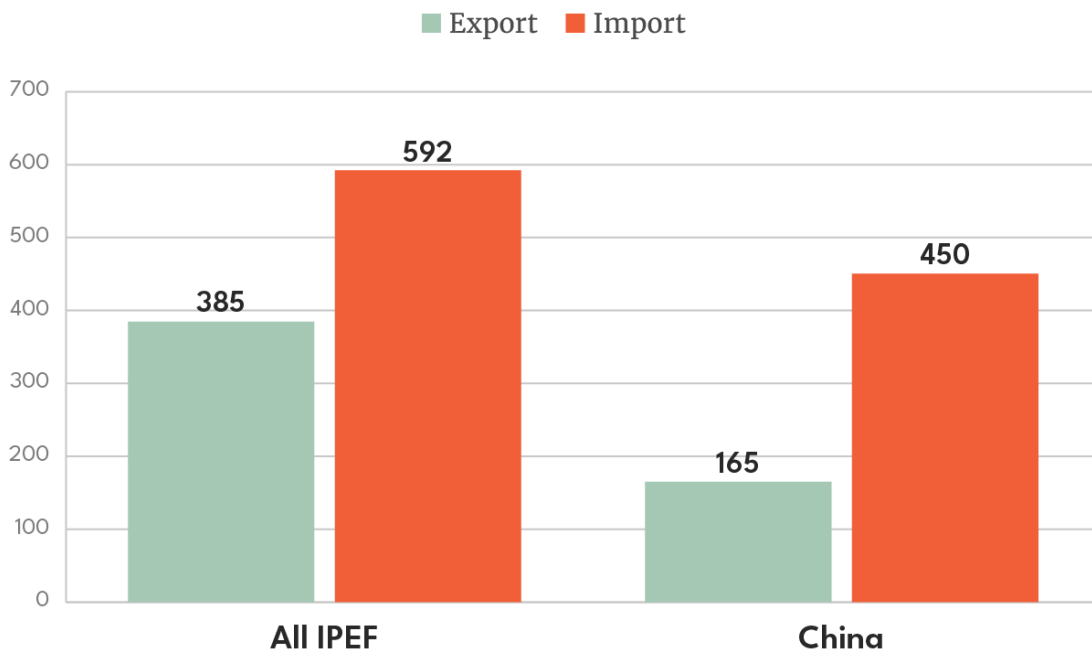
Economic opportunity in the digital economy also features prominently, as the DoC is collaborating with 14 major American companies to bring at least seven million digital education and training opportunities to women and girls in the region. ¹⁵ These endeavors hope to bolster the Indo-Pacific's position in tomorrow's economy, digital or otherwise.

4. IPEF has a massive market size.

While much of what is written about Indo-Pacific trade discusses the region's supply chain significance, its prominence as an export market is just as important. IPEF nations are vital to many sectors of the US economy, as they import everything from software to soybeans. IPEF participants currently receive approximately 19% of US exports (\$385 billion), a number which is likely to increase as the region continues to grow.¹⁶



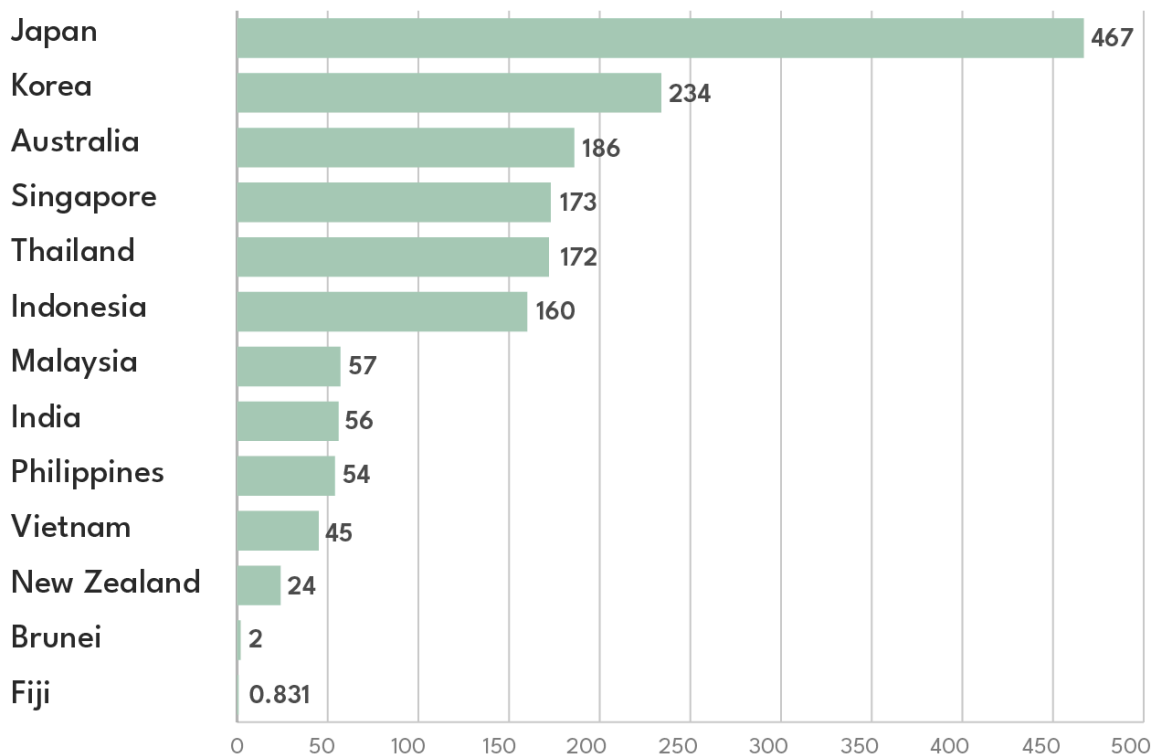
US Imports and Exports with IPEF Nations and China (\$ billions)



Source: Author calculations from “Countries & Regions.” United States Trade Representative, 2020. <https://ustr.gov/countries-regions>. Accessed 31 Oct. 2022.

Exports to IPEF nations support 1.6 million American jobs, with many in agriculture, mining and extraction, and manufacturing.¹⁷ In addition, while famed for its semiconductor manufacturing, IPEF nations also are approximately 30% of global semiconductor imports.¹⁸ Combined with the CHIPS Act's investment in high tech manufacturing, IPEF can help make the United States competitive in this rapidly expanding industry. Small businesses stand to benefit too. Economic analysis from the Global Innovation Forum shows that a robust digital trade component to IPEF could mean a 35% increase in sales for small business exporters, a gain of \$72 billion.¹⁹

American Jobs Supported by Exports to IPEF Nations (thousands)



Source: Author calculations from “Countries & Regions.” United States Trade Representative, 2020. <https://ustr.gov/countries-regions>. Accessed 31 Oct. 2022.

5. There are still questions to be answered.

Despite being five months old, many questions remain for IPEF. For instance, **will there be more participants?** Nearly all of Southeast Asia is participating and other nations are welcome to join. However, Pacific rim nations like Mexico and Chile were involved in the TPP but are absent from IPEF. Canada is interested in joining and Secretary Blinken voiced his support provided the other participants agree. ²⁰ While every nation is participating in the supply chain, clean economy, and fair economy pillars, India’s abstention from the trade pillar shows that participation need not mean total commitment. ²¹

What about Taiwan? Its absence is noteworthy, especially given the Administration’s recent commitments to the nation’s security. ²² The Taiwanese government had expressed interest in IPEF, but as of October 2022 Taiwan is not included. ²³ However, bipartisan discontent with

Taiwan's exclusion and the prospect of a bilateral American-Taiwanese FTA mean that Taiwan will likely remain a key topic of discussion. ²⁴

Will Congress have a role in IPEF? The constitutional difference between *economic framework* (a goal of the Administration) and *trade agreement* (congressional treaty-making power) has not persuaded Congress to relinquish input into this effort. ²⁵ Nonetheless, US Trade Representative Katherine Tai has stated that negotiators and Congress must work together to realize IPEF's full benefits. ²⁶ What form this will take and the subsequent effect it has on the framework remain unclear.

The Administration hopes to conclude talks around November 2023. Until that point, negotiators would do well to engage with industry, labor, the trade community, and Congress. People know what to expect from an FTA. An economic framework leaves a lot of questions unanswered—and room for a diverse cross section of voices to contribute.

TOPICS

TRADE 103

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EXHIBIT 154

Unpacking the IPEF: Biden's Indo-Pacific Trade Play

One year after the Joe Biden administration unveiled its Indo-Pacific Economic Framework, the agreement still doesn't look like a traditional trade deal and could end up falling short of its ambitions.

Article by Inu Manak

Last updated November 8, 2023 5:00 pm (EST)

Containers are loaded at the Port of Singapore, the second largest port in the world. Bernd von Jutrczenka/picture alliance/Getty Images

The Joe Biden administration's first major trade initiative, the Indo-Pacific Economic Framework (IPEF), is generating its most intensive round of discussions yet this month. With the Asia-Pacific Economic Cooperation summit around the corner, the Biden administration is racing to finish negotiations on the trade pillar to signal to China that it remains deeply engaged in the region despite the United States' absence from the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), from which former President Donald Trump withdrew.

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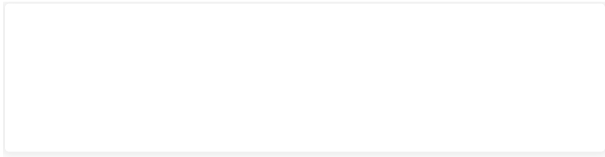
Thirteen countries have joined the IPEF talks with the United States: Australia, Brunei, Fiji, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, South Korea, Thailand, and Vietnam. (Taiwan had hoped to join but was left out.) Collectively, the IPEF participants account for about 40 percent of the global economy.

The IPEF negotiations are organized into four pillars. U.S. Commerce Secretary Gina Raimondo is leading talks on three of these (supply chains, climate, and tax and anticorruption), and the trade pillar is led by U.S. Trade Representative (USTR) Katherine Tai. While each pillar is advancing at variable speeds, the Biden administration has made notable progress this year. However, U.S. trading partners and members of Congress remain concerned that the lack of emphasis on tariff reductions and other market access issues could lead to a missed opportunity to deepen economic ties across the Indo-Pacific. Here's how the talks could unfold and what we know so far.

Pillar One: Connected Economy

Renewing America

Ideas and initiatives for renewing America's economic strength.



The trade pillar will cover three general issues: digital trade, labor, and the environment. U.S. proposals will likely follow the U.S.-Mexico-Canada Agreement (USMCA), which Tai has referred to as “a new model for trade agreements.” The digital trade chapter of the USMCA enshrines several U.S. policy objectives, including a prohibition on customs duties on digital products, restrictions on data localization (or forcing companies to store user data within a country), and a ban on rules that restrict cross-border data transfers. The commitments in the USMCA digital trade chapter are more stringent than those in the CPTPP, so trade policy experts expect the United States to push for their adoption in the IPEF. At the same time, advocacy groups that fear the digital trade rules will limit regulations on large technology firms, such as Google and Facebook, have pressured the Biden administration to change course. In late October 2023, the United States withdrew some of its proposals from digital trade talks at the World Trade Organization (WTO) that are embedded in USMCA; it is likely that IPEF’s digital trade pillar will reflect this new watered down policy stance.

The environmental and labor chapters [PDF] in the USMCA are also more stringent than those in the CPTPP. Tai has expressed support for the labor chapter’s Rapid Response Mechanism (RRM), which allows the United States to threaten trade penalties if factories in Mexico are allegedly denying collective bargaining rights. Although the RRM has raised several procedural and substantive concerns, it is likely to

become a feature of any future U.S. commitments on labor. However, the IPEF countries might not feel the same pressure to accept these obligations as Mexico did. Pillar two pulls in aspects of the RRM, but does not have a means to enforce it. Whether these provisions will be copied over into the trade pillar is unclear.

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Pillar Two: Resilient Economy

This pillar aims to address supply-chain challenges in part by creating rules that can help governments and companies quickly respond to disruptions. It became the first pillar to wrap up negotiations in May 2023. The Department of Commerce shared the text of the agreement in September of that year and stated: “The proposed Supply Chain Agreement is designed to enable IPEF partners to work together collaboratively to make supply chains more resilient, efficient, transparent, diversified, secure, and inclusive, including through information exchange, sharing of best practices, business matchmaking, collective response to disruptions, and supporting labor rights.”

The twenty-five page agreement is filled with hortatory language, and does not include any mechanisms to compel compliance. Notably, it sets up three institutions: the IPEF Supply Chain Council, which will develop “action plans” to improve competitiveness

and resilience on “critical sectors or key goods”; the IPEF Supply Chain Crisis Response Network, which will act as an emergency communications channel to help governments respond to supply chain disruptions; and the IPEF Labor Rights Advisory Board, which will identify labor rights concerns and offer recommendations to address the risks emanating from them. How these institutions will function in practice remains to be seen. While private sector participation will be vital here, it is not clear how businesses will execute the agreement’s vision for cooperation.

Furthermore, while an early-warning system on supply-chain shortages and efforts to map supply chains for critical sectors could be helpful, IPEF is not the best forum to respond to all types of disruptions, such as global pandemics. In 2020, I argued that the WTO should play such a role because it already has a robust institutional infrastructure to promote transparency. Improving transparency and responsiveness between the WTO’s 164 member countries instead of IPEF’s 14 would also create larger opportunities for cooperation and ensure that no country is left behind in these efforts. There is also much the United States can do domestically, such as improving port efficiency to reduce shipping bottlenecks.

On labor, the agreement recognizes “the critical role that labor rights play in increasing the resilience, efficiency, productivity, sustainability, transparency, diversification, security, fairness, and inclusivity of IPEF supply chains.” Each government agreed to promote “the implementation of labor rights in its economy and the domestic enforcement of its labor laws.” Covered labor rights are drawn from the International Labor Organization Declaration and include freedom of association and the right to collective bargaining, the elimination of forced and child labor, the elimination of discrimination of employment and occupation, a safe and healthy work environment, and acceptable conditions of work, such as working hours and a minimum wage. While there is language modeled after the USMCA’s facility-specific rapid response labor mechanism that allows for allegations to be made against specific firms for failing to

uphold certain labor rights, the IPEF does not have a means to enforce any of these allegations since there is no market access that can be taken away, such as in the USMCA.

Overall, the supply chain agreement lays out the Biden administration's vision for resilience, but relies on the goodwill of each IPEF government and their firms to cooperate.

Pillar Three: Clean Economy

This pillar tackles many climate-related issues, such as renewable energy, decarbonization, energy efficiency standards, carbon removal, and methane emissions reduction. There is potential for overlap between these discussions and environmental talks in the trade pillar. Two IPEF partners, Fiji and New Zealand, are already engaged in talks on the Agreement on Climate Change, Trade, and Sustainability (ACCTS), which is far more ambitious than what has been presented so far for the IPEF. The ACCTS establishes a link between trade and sustainability and aims to reduce barriers to trade in environmental goods and services, curb harmful subsidies on fossil fuels, and offer voluntary guidelines on ecolabeling. Instead of reinventing the wheel, the IPEF partners should consider existing approaches.

Pillar Four: Fair Economy

This pillar will focus on tax and anticorruption policies and is likely to enshrine existing multilateral commitments on these issues, to which not all of the IPEF members subscribe. Biden has identified fighting corruption at home and abroad as a core national security interest, and this pillar will support those broader efforts [PDF]. Examples include the Asia-Pacific Economic Cooperation initiative to improve business ethics in two important export sectors: medical devices and biopharmaceuticals.

IPEF Could Be U.S. Response to CPTPP

The IPEF could serve as the Biden administration’s answer to the United States’ absence from the CPTPP, but there is one major element missing: market access (i.e., tariff elimination). In congressional testimony, Tai emphasized that market access would be off the table because, in her view, traditional trade agreements have led to “considerable backlash” in the United States. However, without market access, it’s unlikely that the United States will be making many new commitments in the trade pillar, and therefore the final agreement would provide little overall benefit to U.S. consumers and companies. Furthermore, IPEF excludes two of the United States’ closest trading partners—Canada and Mexico—though it is possible they could accede to the agreement later. Their absence is unfortunate, however, given their experience with expediting trade, and doing so with an eye to post-9/11 security concerns.

“
Without a more substantial trade component,
the IPEF will likely be a missed opportunity to
deepen economic ties across the Pacific.
”

— Inu Manak, *CFR Fellow for Trade Policy*

Additionally, the final format of the IPEF deal remains unclear. Typically, negotiations of this scale are pursued with input from Congress, which grants the president Trade Promotion Authority (TPA) [PDF], subjecting the final deal to an up-or-down vote. However, there is no indication of substantive congressional involvement in the IPEF, and Biden has not sought TPA. It is possible that the IPEF could take the form of a trade executive agreement, which could raise concerns about transparency and durability. The Biden administration has received bipartisan pushback on this approach, and it is possible that Congress takes action to require consultation on the remaining

IPEF pillars, and subject the final text to a vote, as it has done with the U.S.-Taiwan Initiative on 21st Century Trade. How the tug-of-war on trade authority plays out between Congress and the Executive branch could ultimately hinder progress on IPEF's implementation.

Whether the content of the IPEF will be legally binding and subject to dispute settlement remains an open question. It is possible that the administration will copy the unilateral enforcement mechanism from the Trump administration's Phase One trade deal with China, though such a tool would make enforcement difficult, if not impossible. The supply chain pillar includes provisions for consultations between the governments, but there is no process to resolve a dispute other than finding "a mutually satisfactory resolution as soon as practicable."

What's clear so far is that, in its current form, the IPEF does not resemble a trade agreement, which is likely why the USTR is playing such a minor role. Without a more substantial trade component, the IPEF will likely be a missed opportunity to deepen economic ties across the Pacific.

EXHIBIT 155

Experts react: Biden's new Indo-Pacific Economic Framework

By Atlantic Council



Introduced during Biden's first Asian tour in Japan earlier this week, **the Indo-Pacific Framework, or IPEF**, is a US-led framework for an economic partnership between members of the Quad along with Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, South Korea, and New Zealand. The framework is a means for the countries to solidify their relationship and engage in economic and trade matters concerning the Indo-Pacific region. The IPEF comes five years after the US withdrawal from the Trans-Pacific Partnership and is seen as a means to counter China's dominance in the region and reassert American influence.

Potential for better trade and investment cooperation

The Indo-Pacific Economic Framework announced at the QUAD meeting in Japan also includes Korea and eight other like-minded Asian nations and excludes China. It makes an important start on investment and technology development for energy. While it's not a free trade agreement it opens the door for further areas of collaboration.

At the moment QUAD countries are more dependent on China than with each other and the IPEF could be a useful way of examining how to friend-shore supply chains for greater resilience and mutual benefit to each other. It sends an important signal in the Indo-Pacific region that trade and investment will be an important pillar of cooperation.

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Falling short of a free trade agreement

The launch of the Indo-Pacific Economic Framework (IPEF), led by the United States under the Biden administration and including thirteen other countries, is welcome and offers some interesting potential as outcomes are negotiated over the next two years. However, despite some of the hyperbole coming from some officials in the Biden administration, it falls short of the potential scope of a free trade agreement (FTA). An FTA would cover market access, wide-ranging rules for related trade and regulatory approaches, and cooperation initiatives. IPEF appears to cover

only the second and third of those pillars, explicitly leaving out market access. There is no reason an FTA could not cover some of the likely groundbreaking elements of IPEF, such as resilient supply chains, decarbonization, and infrastructure, as well as areas like digital trade, labor, environment, good regulatory practices, and trade facilitation, all of which have been included in past FTAs.

So it's important to put the official rhetoric in perspective and hope that the United States can be cured of its allergies to FTAs soon after the mid-term elections. The United States has far more to gain in preferential trade and effective partnership with allies to counter China through an Indo-Pacific FTA than through IPEF. That said, the line-up of countries is impressive, particularly in including the most important members of ASEAN and India. There will be an interesting kabuki dance that develops over how far India's participation goes. For example, insiders are well aware that India could tank a meaningful digital agreement if it were to seek to join that effort.

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Moving towards regional integration and resilient supply linkages

The recent announcement of the Indo-Pacific Economic Framework constitutes a cautious step in the direction of regional integration and resilient supply linkages. IPEF contributes to a critical message that the United States understands the significance of pro-active economic engagement in the world's most dynamic region. Over time, it may form part of a cogent alternative to China's state-backed model. The Framework's unfamiliar ambitions, however, underscore the fractured consensus on trade policy in the United States and help explain Asia's lukewarm response to the roll-out.

US-China contention, the pandemic, and war in Europe all point to the importance of IPEF's supply chain pillar. High-quality standards on infrastructure and, in particular, the prospect of financing green energy solutions in developing Asian countries, is welcomed. And progress on corruption and tax evasion could help rebuild people's confidence in international commerce.

What is missing is a US commitment to market access. Reciprocal agreements to reduce tariffs lack sufficient congressional backing, and multilateral trade agreements have become verboten in the current political climate. The administration plans to offer other, less visible carrots to participants to allow them to benefit from US prosperity. Without tangible incentives, foreign capitals may not be moved to make costly concessions on cross-border data flows, environmental and labor standards, and other topics of interest to Washington.

The ghosts of TPP are also reflected in IPEF's flexible and inclusive character. IPEF members were not asked to commit to specific pillars in Tokyo. The hard work of negotiating commitments lies ahead. Enforcement remains an open question.

India likes this formula's flexibility, which is consistent with the country's historic caution towards economic openness and stated desire to practice self-reliance. While it remains possible that India could choose to join IPEF's trade pillar, that remains highly unlikely. India did decide to participate in the broader initiative—not necessarily a foregone conclusion. Taken together with several noteworthy bilateral trade agreements recently inked by New Delhi, these moves suggest a new, more outward economic orientation.

At the highest levels of government, India may be coming around to the conclusion that reviving the economy and creating more, good urban jobs for millions of ex-farmers depends on export-led growth. IPEF may offer India a pathway to pursue a much-needed, deeper economic integration with the region and, in the process, reduce its trade dependence on an assertive China.

India's coalition in support of two-way trade and global economic integration is more fragile than in the United States. On the whole, American businesses favor openness more than their Indian counterparts. The country's environmental and labor standards are sensitive subjects for this nationalist government, and its 1.4 billion citizens' data is increasingly guarded like a national treasure. Prime Minister Modi has some hard choices in front of him as IPEF negotiations get underway.

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