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Chair Carper, Ranking Member Cornyn and Members of the Subcommittee, thank you for the opportunity to testify today.

I am a senior fellow at the Brookings Institution where I work on digital trade issues as well as on emerging technologies such as artificial intelligence.

Today I will focus my testimony on the opportunities of ecommerce and digital services trade for the US, with a focus on the opportunities for small and medium sized enterprises (SMEs). I will also discuss evolving global AI regulation. In both these cases I will outline how digital trade commitments – whether in Free Trade Agreements (FTAs), Digital Economy Agreements (DEAs) or the Indo-Pacific Economic Forum (IPEF) negotiations, can support growth in ecommerce opportunities, in digital services trade and support AI regulation and R&D consistent with US values and strategic objectives.

What is digital trade?

There is no globally agreed definition of digital trade, however it is a term increasingly used to describe an ecosystem that is more expansive than "e-commerce," which is focused on trade in goods and services purchased online.[1] Digital trade includes the important role of cross-border data flows, and how data and digital technologies such as cloud computing and Artificial Intelligence (AI) can enable trade. The Organisation for Economic Co-operation and Development (OECD) defines digital trade as digitally-enabled transactions of trade in goods and services that can either be digitally or physically delivered and involve consumers, firms, and governments.[2] Underpinning digital trade is the movement of data. Data is not only a means of production, but also an asset that can itself be traded, and a means through which global value chains are organized and services delivered. Furthermore, it indirectly supports physical trade by enabling implementation of trade facilitation.

The increasing scope of digital trade is reflected in various free trade agreements that now have digital trade chapters in place of e-commerce chapters.[3] These digital trade chapters include new

[1] WTO Work Programme on E-Commerce, 1998 definition of e-commerce is "the production, distribution, marketing, sale or delivery of goods and services by electronic means."
[2] https://www.oecd.org/trade/topics/digital-trade/.
[3] For example, the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) and United States-Mexico-Canada Agreement (2019) include digital trade chapters whereas the US-Australia FTA (2005) and US-Singapore FTA (2004) have e-commerce chapters.

commitments such as not to prohibit cross-border data flows and require data localization as a condition for doping business, subject to GATS Article XIV style exceptions.[4] Another trade policy development is the shift to digital economy agreements (DEAs), such as the U.S.-Japan Digital Trade Agreement or the Australia-Singapore Digital Economy Agreement.[5] These are digital only agreements that often do not include new market access and instead focus on developing the rules and norms that can support digital trade. This includes regulation that builds trust in data flows and facilitates e-commerce.

Opportunities from digital trade

Digital trade commitments, whether in FTAs or DEAs can deliver potentially significant economic gains. The most recent assessment of the economic impacts of digital trade commitments was the U.S. ITC assessment of the economic impacts of USMCA that was published in April 2019.[6] According to the ITC assessment, a key driver of the economic gains for the U.S. from the USMCA come from its digital trade chapter. These rules were found to have a significant, positive impact on industries that rely on cross-border data flows, including for firms in the services economy, manufacturing, and agricultural industries, all of which rely on data and information flows in their business models, supply chains, and for international trade.

The following outlines the key elements of digital trade on how cross-border data flows enable e-commerce, services, and manufacturing exports, and can strengthen global value chains.

E-commerce and opportunities for small and medium-sized enterprises

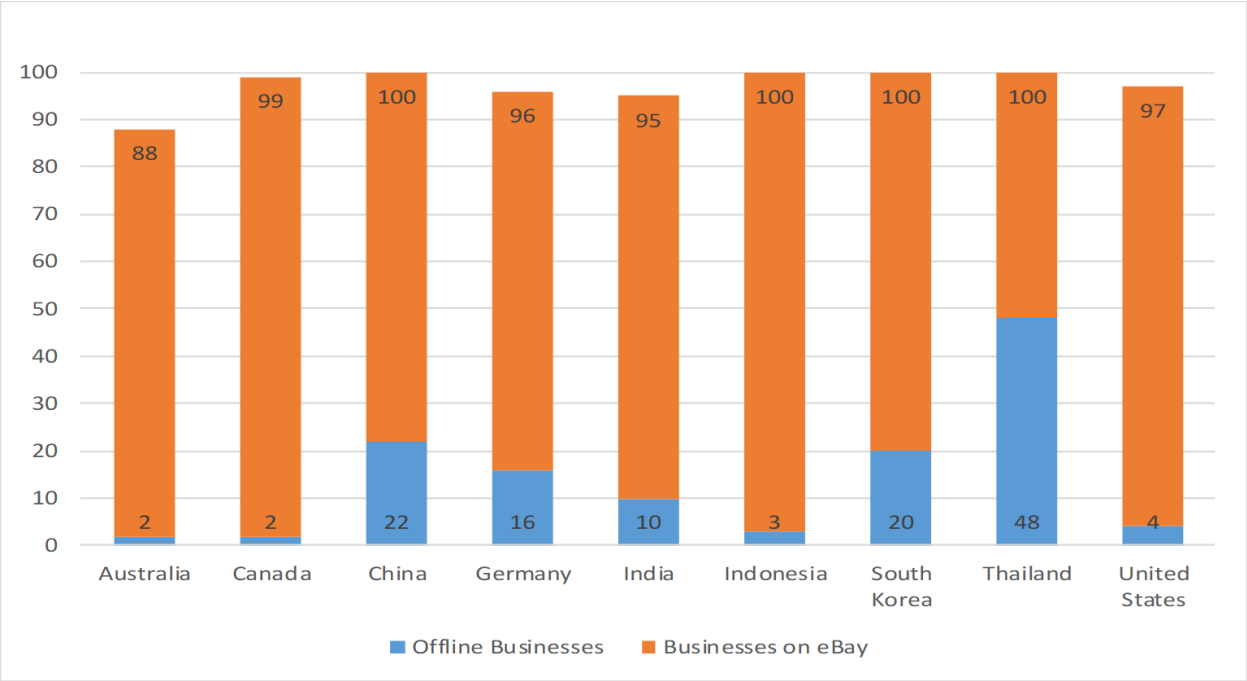
There has been a lot of attention on the opportunities for SMEs of doing their business online, and therefore reaching customers globally. This was an early promise of the internet in the 1990s and early 2000s that was not fully realized. While a lot of companies did build websites, this did not necessarily translate into sales in other countries. There were several reasons for this outcome, including payment systems that were costly and often could not support some of the elements required for cross-border e-commerce, such as processing returns. There was a lack of trust among consumers purchasing goods from businesses in third countries with limited recourse if the goods failed to arrive or were defective or damaged. It was also difficult to deliver the product in a timely and cost-effective way due to costly delivery services and inefficient customs processes.

This has now changed. E-commerce presents a real opportunity for SMEs to export and reach customers globally, allowing small businesses to thrive and scale. A key development has been platforms such as eBay, Amazon, Etsy, Mercado Libre in South America, and Lazada in Asia. These platforms solve many of the previously mentioned problems. They provide integrated payment solutions, trust mechanisms, cheap and effective dispute settlement procedures, and

[4] See for example USMCA Article 19.11 and Article 19.12.
[5] Agreement Between the United States of America and Japan Concerning Digital Trade
[6] United States International Trade Commission. "U.S.-Mexico-Canada Trade Agreement: Likely Impact on the U.S. Economy and on Specific industry Sectors", April 2019 U.S.-Mexico-Canada Trade Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors (usitc.gov).

links to express delivery services. Figure 1 compares SMEs on eBay that export compared to their offline peers. As can be seen, in the U.S. for example, 97 percent of small businesses on eBay export.

Figure 1: Small businesses almost always export on ebay



Source: eBay Small Online Business Growth Report 2016

The opportunities for SMEs to engage in digital trade has been enabled by various trade commitments. For instance, the WTO trade facilitation agreement has helped reduce the costs of getting goods through customs in many markets globally. In trade agreements such as the USMCA, commitments to raise the de minimus levels for customs duties support the economic viability of smaller value transactions, often a staple of SME sales. Commitments on electronic signatures and electronic authentication provide important legal frameworks that allow for digital cross-border transactions. Commitments to not restrict data flows and to encourage interoperability among digital payment systems also enable the platforms that SMEs rely on to be global.

Another element that supports SMEs is access to digital technologies such as cloud computing. In fact, the cloud is an important enabler of a range of key inputs for all businesses. This includes leading edge software and computing capacity that is secure and available anywhere with an internet connection. Cloud also supports businesses that provide access to attorneys, marketers, design professionals, and financial advisors on an at-need basis, supporting flexible and cost-effective solutions for small businesses.

The U.S. leads the world in digital service trade

The discussion around digital services leads to the broader observation that digital trade and cross-border data flows enable digital services exports. Before turning to digital services, it is worth noting the importance of services as a component of U.S. trade.

According to the U.S. Census Bureau, the U.S. services trade surplus (September 2021-September 2022) was $236.6 billion. This is a familiar and long-term trend—the U.S. has been exporting more services than it imports for over 30 years. Services now comprise around 40 percent of total U.S. trade.

But services are an even more significant part of overall U.S. trade than this share of services exports would suggest. This is because around 30 percent of U.S. goods exports comprise services value added services used in the production of goods. The net result is that over 60 percent of total U.S. exports comprise services.

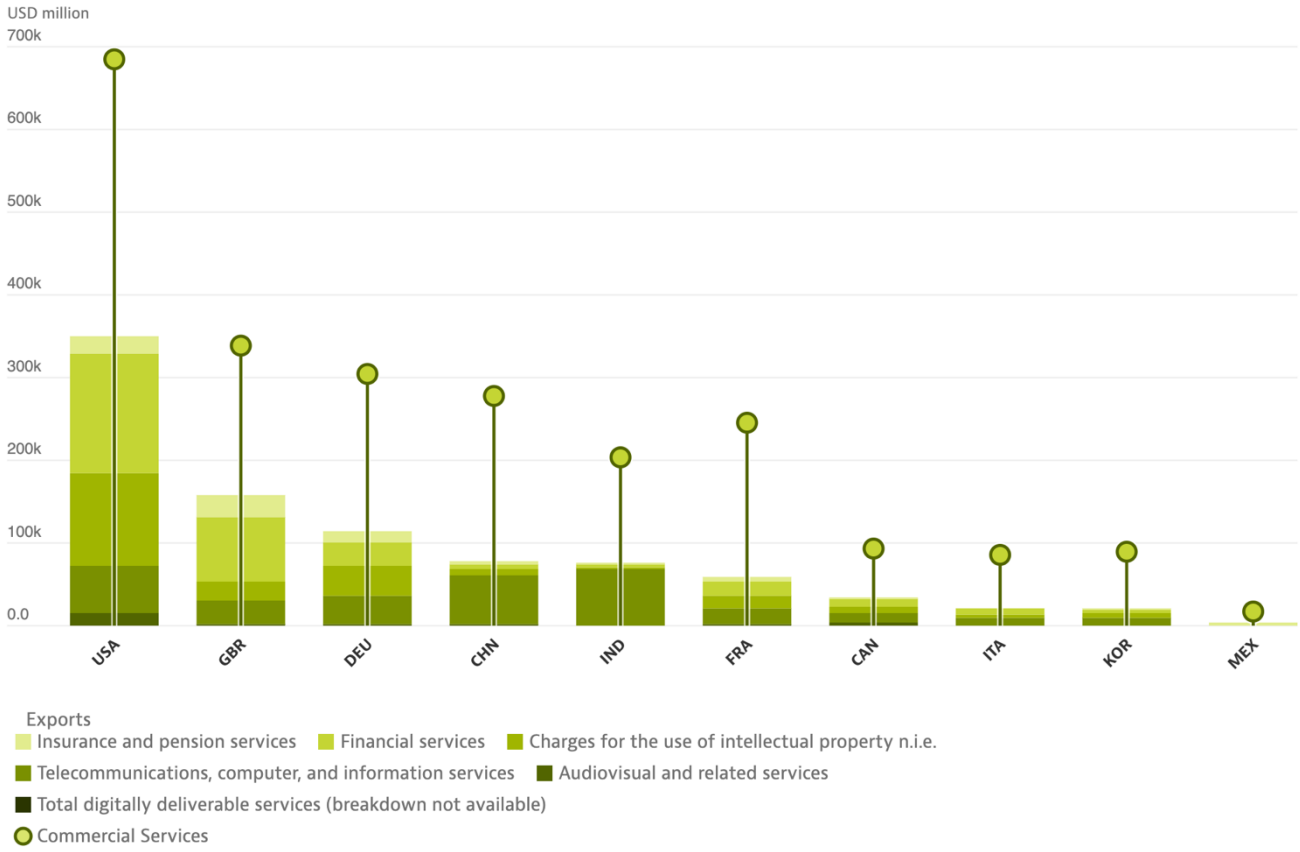
The World Trade Organization (WTO) identifies four ways or modes that services can be exported:

1. *Mode 1*: In a cross-border manner—where the service supplier does not leave the U.S. and provides the service online. This is a key vehicle for digital or online services trade.
2. *Mode 2*: When someone comes to the U.S. to consume a service such as tourists or students.
3. *Mode 3*: Where a U.S. business sets up a subsidiary overseas to provide a service, such as when Citibank opens a branch in Germany and provides financial services through that branch. Though in this example, much of this communication between the U.S. and the German branch will be online data will flow to enable communication, transfers for banking, and which allow the company to operate, such as information for human resources.
4. *Mode 4*: Services are traded internationally when people work in another country, a relatively small component of how services are exported.

These examples underscore that a lot of services can be exported and provided online. The following graph shows digitally-deliverable services as a share of commercial services trade. Commercial services are key business inputs and comprise insurance and pension services, financial services, charges for the use of intellectual property, telecommunications, computer, and information services, and audiovisual and related services. Many of these services would be familiar to the average American consumer or small business owner. For example, PayPal is a digital financial service that enables cross-border e-commerce transactions on eBay, but also supports many e-commerce sites. Charges to IP can range from software licensing fees paid by a business to the commissions paid for artworks on Etsy. Small business owners may subscribe to Apple's iCloud in order to streamline the storage and security of data, as well as facilitate collaboration across platforms, such as Microsoft Teams. Digital native companies such as Allbirds or Bombas build their businesses almost exclusively using online advertising and social media networks to reach potential customers globally.

As can be seen in Figure 2, the U.S. is the world's largest exporter of digitally-deliverable services, over three times larger than its nearest competitor Germany and 2.2 times larger than the UK. Moreover, 51 percent of U.S. exports of commercial services are digitally deliverable.

Figure 2: Digitally-deliverable exports of commercial services

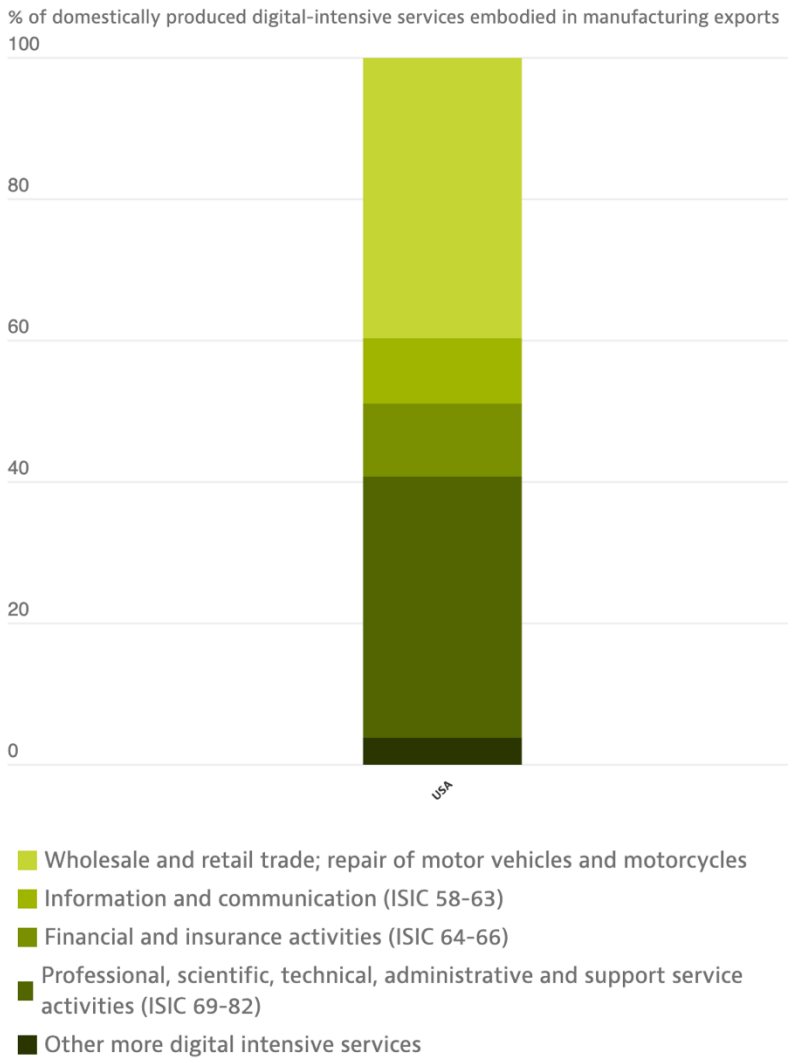


Source OECD (2020), https://goingdigital.oecd.org/indicator/71

Digitally-deliverable services are also important for manufacturing competitiveness

As outlined, services comprise approximately 30 percent of U.S. manufactured exports, and many of these are digital services. The table below shows the percentages of domestically produced digital intensive services embodied in manufactured exports.

Figure 3: Digitally-intensive services value embodied in manufacturing exports



Source: OECD (2018) (https://goingdigital.oecd.org/indicator/70)

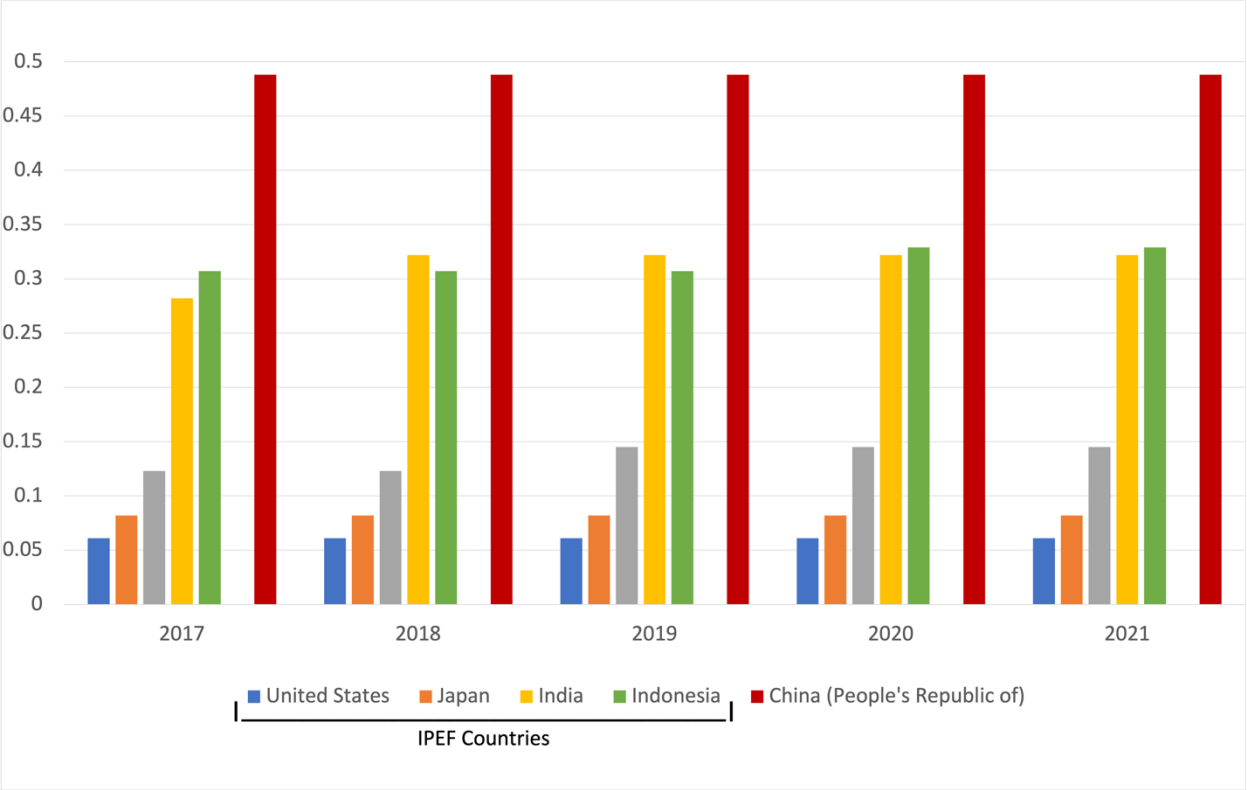
As can be seen, digital services used in manufacturing comprise professional, scientific, administrative, financial, ICT, and wholesale retail trade. For example, steel production is increasingly digitally intensive, relying on smart plants that knit together the manufacturing processes digitally to increase efficiency, and use AI systems that monitor and make adjustments to maximize performance. These types of uses of data and digital services play out across manufacturing—in automobiles, aircraft, medical products, and so on.

Growing restrictions on digital trade

The digital trade opportunities for U.S. exporters increasingly face a global environment with high restrictions on digital trade. The OECD digital trade restrictiveness index shows relatively low levels of restrictions in the U.S. and relatively high levels of restrictions in Japan, India, and

Indonesia—a set of countries participating in the Indo-Pacific Economic Framework (IPEF) negotiations. These restrictions also pale in comparison to China, which has one of the world's most restrictive digital trade regimes. They range from various personal data protection, cybersecurity and national security laws that prohibit or severely restrict cross-border transfers of information. These laws often impose local data storage and processing requirements on companies that collect "important data," a broad and vaguely defined term. Many countries prevent U.S. companies from directly providing cloud computing services, including computer data processing and storage services and software application services provided over the Internet. Many digital trade restrictions are also hurdles to electronic and internet-enabled payment services such as slow licensing processes and data localization requirements.

Figure 4: OECD digital services trade restrictiveness index



Digital trade and artificial intelligence

Digital trade also affects access to and the development of key digital technologies such as AI. Indeed, U.S. National Security Advisor Jake Sullivan has identified three families of technologies: (1) computing-related technologies that includes AI; (2) clean energy technologies; and (3) biotechnologies, all of which will affect U.S. security.[7] While the U.S. is a world leader in AI, many countries are moving to regulate AI and expand AI R&D in ways important for

[7] Remarks by National Security Advisor Jake Sullivan at the Special Competitive Studies Project Global Emerging Technologies Summit | The White House

ongoing U.S. leadership in AI, and to which digital trade agreements can respond. This includes AI regulation that can restrict AI development and use. For instance, the European Union's AI Act that is moving through the EU Parliament will regulate high risk AI. In addition, Canada recently tabled its Artificial Intelligence and Data Act (AIDA). Meanwhile, China, which holds a unique position in the international AI landscape as both a chief collaborator with the U.S. on AI R&D and competitor, has begun to roll out its own AI governance framework. This includes regulations on the development and deployment of AI algorithms, as well as increased control over Chinese technology firms leading in AI development. China is also exporting its model for AI regulation to other countries in the Indo-Pacific and globally.

Some countries are using FTAs and DEA to support AI specifically, but the U.S. has yet to do so. Relevant ways that digital trade commitments can support AI regulation and R&D include around access to data, agreements on using technology standards developed in multistakeholder standards setting bodies, agreement that AI regulation should be risk-based, and support for collaboration on AI R&D among like-minded countries.

The following table was developed in the Forum on Cooperation in AI (FCAI), which I co-lead with Cameron Kerry and Andrea Renda. FCAI is a track 1.5 dialogue among seven governments, industry, and civil society that aims to identify areas for international collaboration in AI.[8]

Figure 5: Digital trade commitments can support AI

Required
Best endeavors
None

CPTPP (2018) - Comprehensive and Progressive Agreement for Trans-Pacific Partnership
USMCA (2019) - United States–Mexico–Canada Agreement
UK-Japan CEPA (2020) - United Kingdom–Japan Comprehensive Economic Partnership Agreement
EU-UK TCA (2020) - EU–UK Trade and Cooperation Agreement
RCEP (2020) - Regional Comprehensive Economic Partnership
NZ-UK FTA (2022) - New Zealand - United Kingdom Free Trade Agreement
US-Japan DTA (2019) - US-Japan Digital Trade Agreement
Australia-Singapore DEA (2020) - Australia-Singapore Digital Economy Agreement
DEPA (2020) - Digital Economy Partnership Agreement
TTC (2021) - US-EU Trade and Technology Council
Quad - Quadrilateral Security Dialogue

		Data Governance (cross-border data flows, no data localization, no source code)	Open Government Data	Cooperation on Regulation and Conformity Assessment	Using and Cooperation on International Standards		Support Cross-border R&D	AI Compute (Access to chips and processing power)	Export controls and investment screening
Free Trade Agreements with Digital Trade Chapters	CPTPP (2018)	No data localization commitment for financial data			Goods	Services		Lower Tariffs	
	USMCA (2019)			General	Goods			Lower tariffs	
	UK-Japan CEPA (2020)			General	Goods	Services			
	EU-UK TCA (2020)	Carve-out for privacy		General			General		
	RCEP (2020)	Self-judging exception		General	Goods	Services			
	NZ-UK FTA (2022)			AI Specific	Goods	Services	AI Specific		
Digital Economy Agreements	US-Japan DTA (2019)								
	Australia-Singapore DEA (2020)			AI Specific	Technology Standards Specific		AI Specific		
	DEPA (2020)			AI Specific					
Forums for Cooperation	TTC (2021)			AI Specific	AI Specific		AI Specific		
	Quad (2021)				AI Specific		AI Specific		

This table shows the ways that trade agreements can support AI. While the USMCA and the U.S.-Japan Digital Trade Agreement include relevant commitments, none of these are AI specific. In contrast, other countries have taken the next step and began articulating AI specific commitments. For example, the Australia-Singapore Digital Economy Agreement, the EU-UK

[8] The Forum for Cooperation on Artificial Intelligence (brookings.edu)

Trade and Cooperation Agreement, and the New Zealand-UK Free Trade Agreement include AI-specific commitments. While the U.S. does continue to focus on AI in other spaces, such as the TTC and the Quad, digital trade commitments present an important opportunity to influence AI regulatory developments, ensure markets are open and competitive, and support AI R&D among allies and partner countries.

Conclusion

The U.S. has been perhaps most effective at developing a world class digital economy that has created a range of new opportunities for digital trade for both small and large businesses. However, to date the U.S. has not sufficiently engaged nor shaped the rules and norms for how digital trade should assess risks that impact access to new markets. The U.S. should therefore work in cooperation with many governments that are working hard to regulate and develop their own digital economies and shape the terms of digital trade. And most importantly, U.S. leadership in developing rules that govern digital technologies such as AI is needed to ensure that AI is appropriately regulated and developed consistently with U.S. values. The forthcoming IPEF negotiations is the next opportunity for the US to craft the next generation of digital trade rules that can support a range of economic opportunities that digital trade provides.