

Measuring the U.S. Digital Economy: Current Progress and Ongoing Research

Bank of Chile's Fifth Statistics Conference

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U.S. digital economy statistics

- Overview & results for 2021

Selected BEA research related to the digital economy

- Digital intermediation services
- “Free” digital media (Rachel Soloveichik)
- Digital activity within multinational organizations (Jen Bruner)

BEA's digital economy estimates represent 4 categories of goods and services based on the OECD's framework

1. Infrastructure

- a. ICT hardware
- b. Software

2. E-commerce

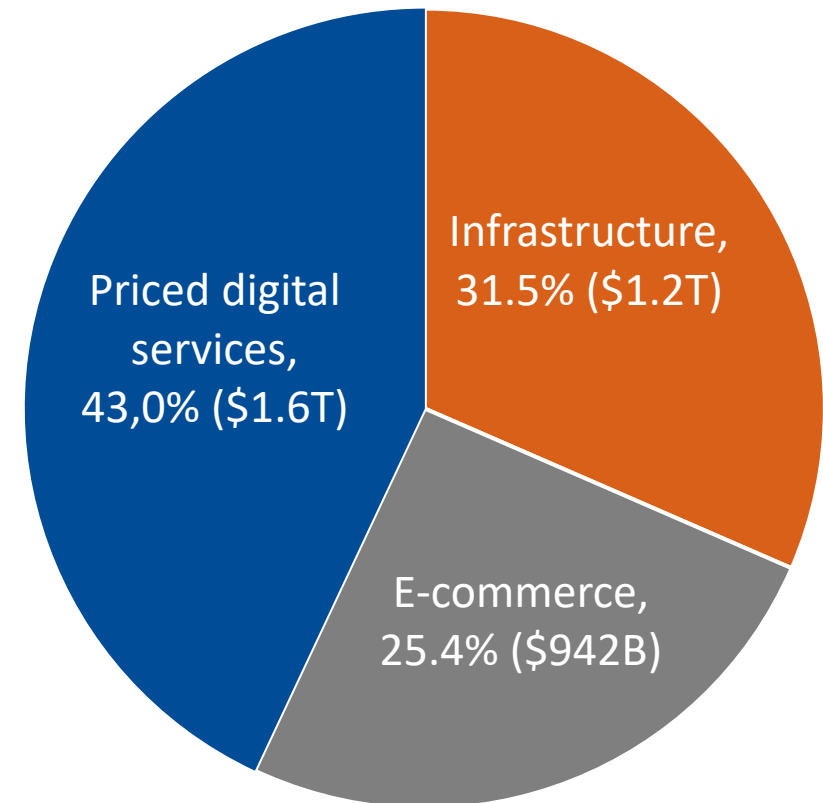
- a. Business-to-business e-commerce
- b. Business-to-consumer e-commerce

3. Priced digital services

- a. Cloud services
- b. Telecommunications services
- c. Internet and data services
- d. All other priced digital services

4. Federal non-defense digital services

Digital Economy Gross Output by Major Category, 2021



Digital economy results overview, 2021

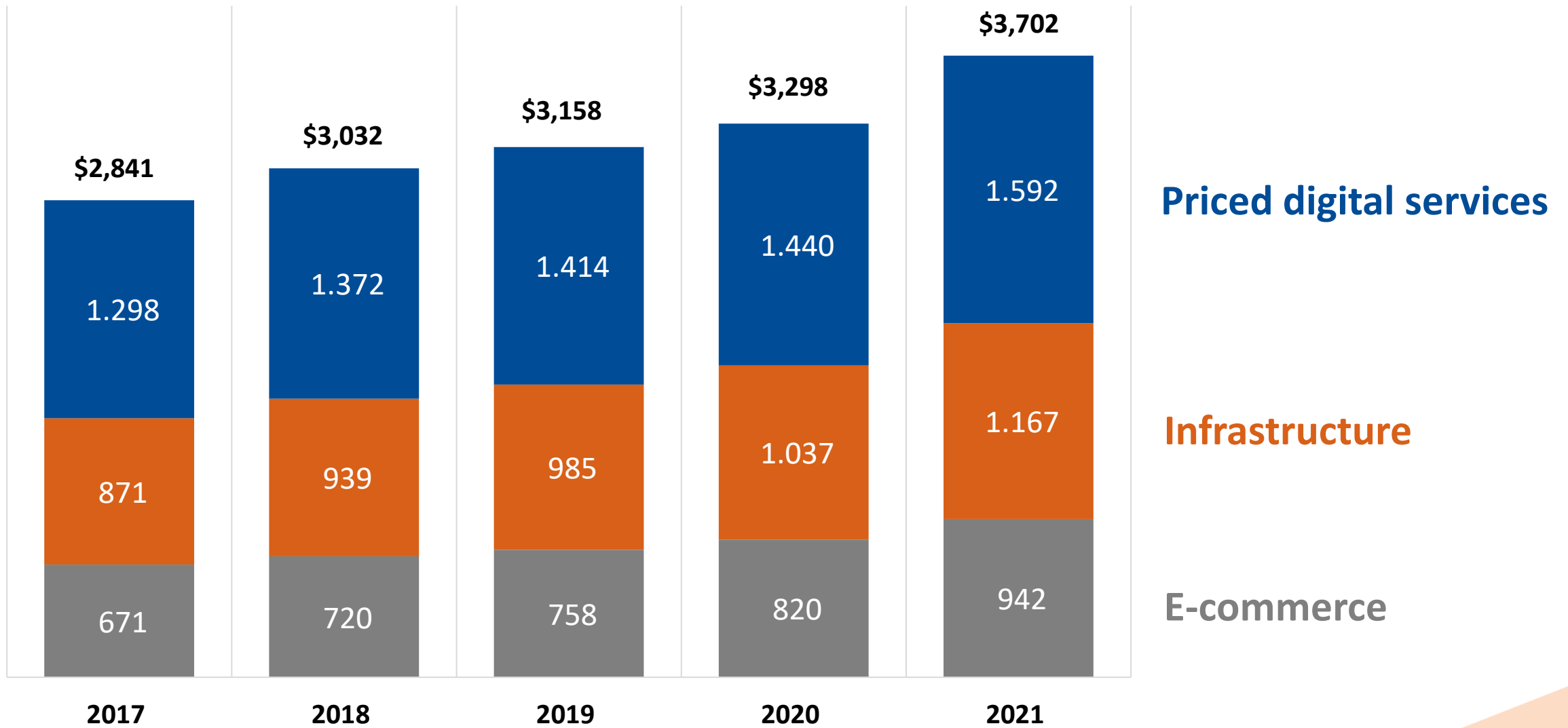
	Digital Economy, 2021	% of U.S.
Gross output	\$3.7 trillion	8.9
Real gross output [chained 2012 dollars]	\$3.6 trillion	
Value added (GDP)	\$2.4 trillion	10.3
Real value added [chained 2012 dollars]	\$2.5 trillion	

Digital economy results overview, 2021

	Digital Economy, 2021	% of U.S.	2020-2021 Digital Economy Growth (%)	2020-2021 U.S. (%)
Gross output	\$3.7 trillion	8.9	12.3	13.2
Real gross output [chained 2012 dollars]	\$3.6 trillion		10.0	6.2
Value added (GDP)	\$2.4 trillion	10.3	10.9	10.7
Real value added [chained 2012 dollars]	\$2.5 trillion		9.8	5.9

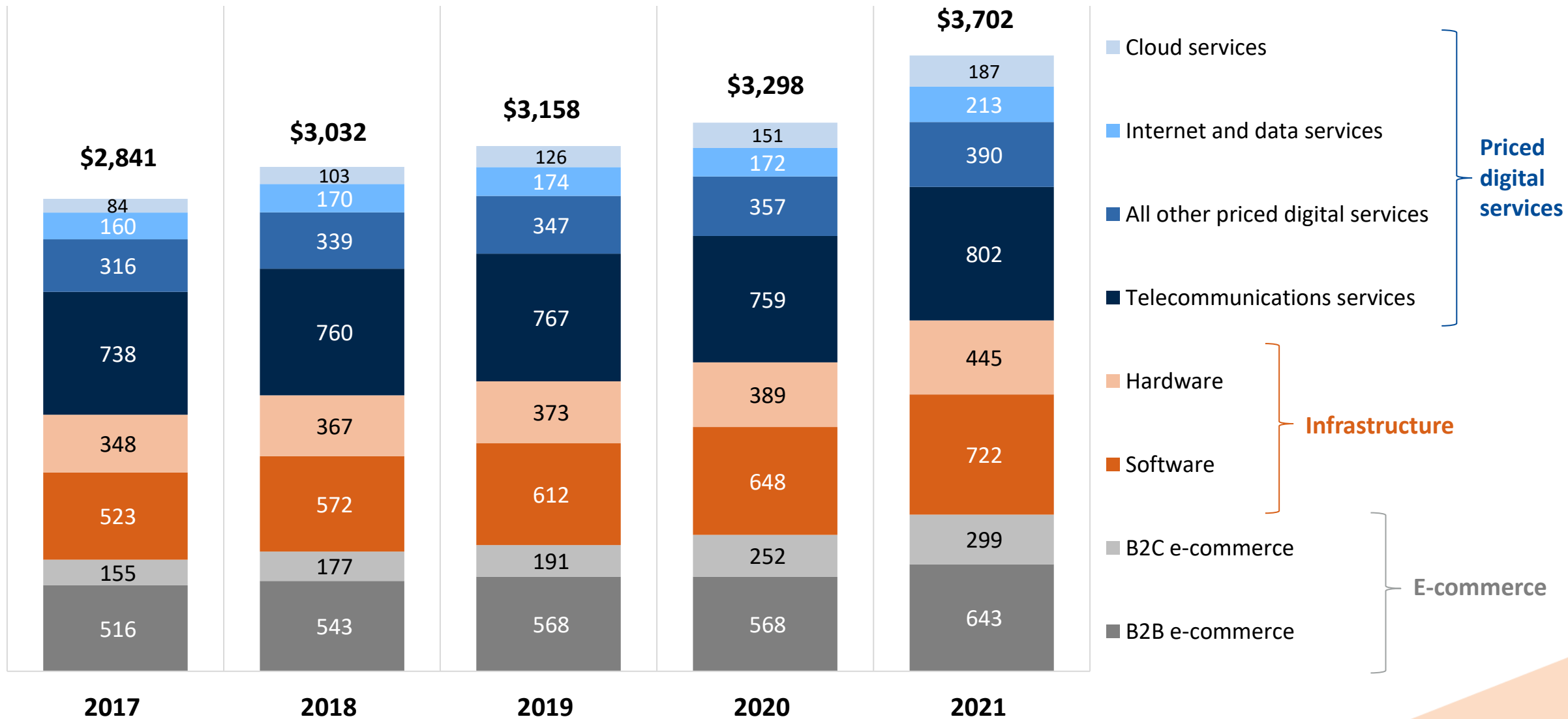
Digital economy gross output by activity, 2017-2021

[Billions of dollars]



Digital economy gross output by detailed activity, 2017-2021

[Billions of dollars]



Future research for BEA's digital economy research



Improve and expand digital economy statistics

- Digital intermediation services, such as rideshare

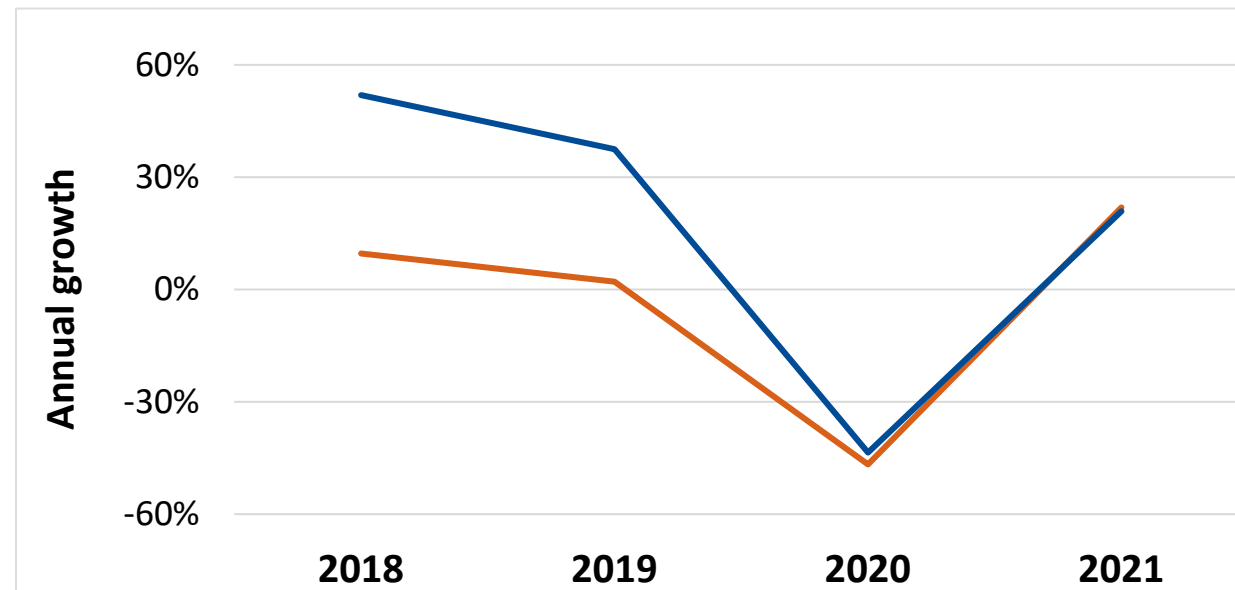
Continue research on emerging topics in the digital economy

- Measuring “data as an asset”
- New price indexes for software and cloud services
- Valuing “free” digital services
- Developing digital trade statistics

Estimating digital intermediation services for **rideshare services**: experimental results from two approaches

Gross output	2017	2018	2019	2020	2021
Financial reports for rideshare companies (bottom-up)	\$5,067	\$7,699	\$10,588	\$5,979	\$7,229
Electronic revenue for taxi services industry (top-down)	\$6,333	\$6,942	\$7,089	\$3,777	\$4,605

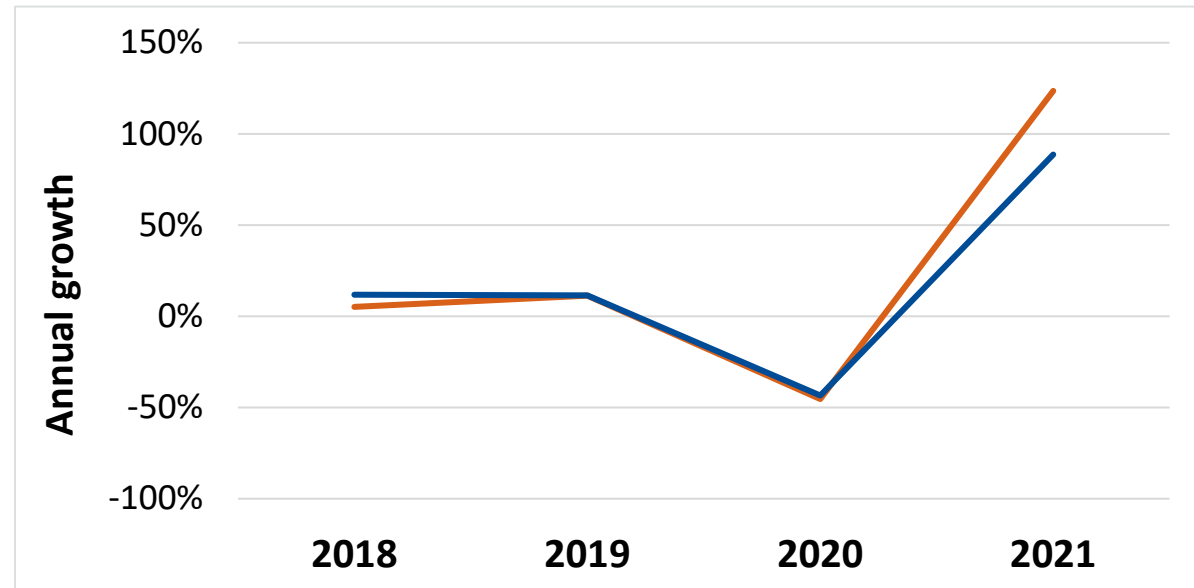
Millions of U.S. dollars



Estimating digital intermediation services for **travel services**: experimental results from two approaches

Gross output	2017	2018	2019	2020	2021
Financial reports for travel services companies (bottom-up)	\$8,231	\$9,208	\$10,275	\$5,814	\$10,971
Electronic revenue for travel agencies industry (top-down)	\$15,685	\$16,498	\$18,378	\$10,044	\$22,451

Millions of U.S. dollars



Valuing “free” digital media as a payment to consumers: Impact on real GDP

Advertising is a three-way transaction:

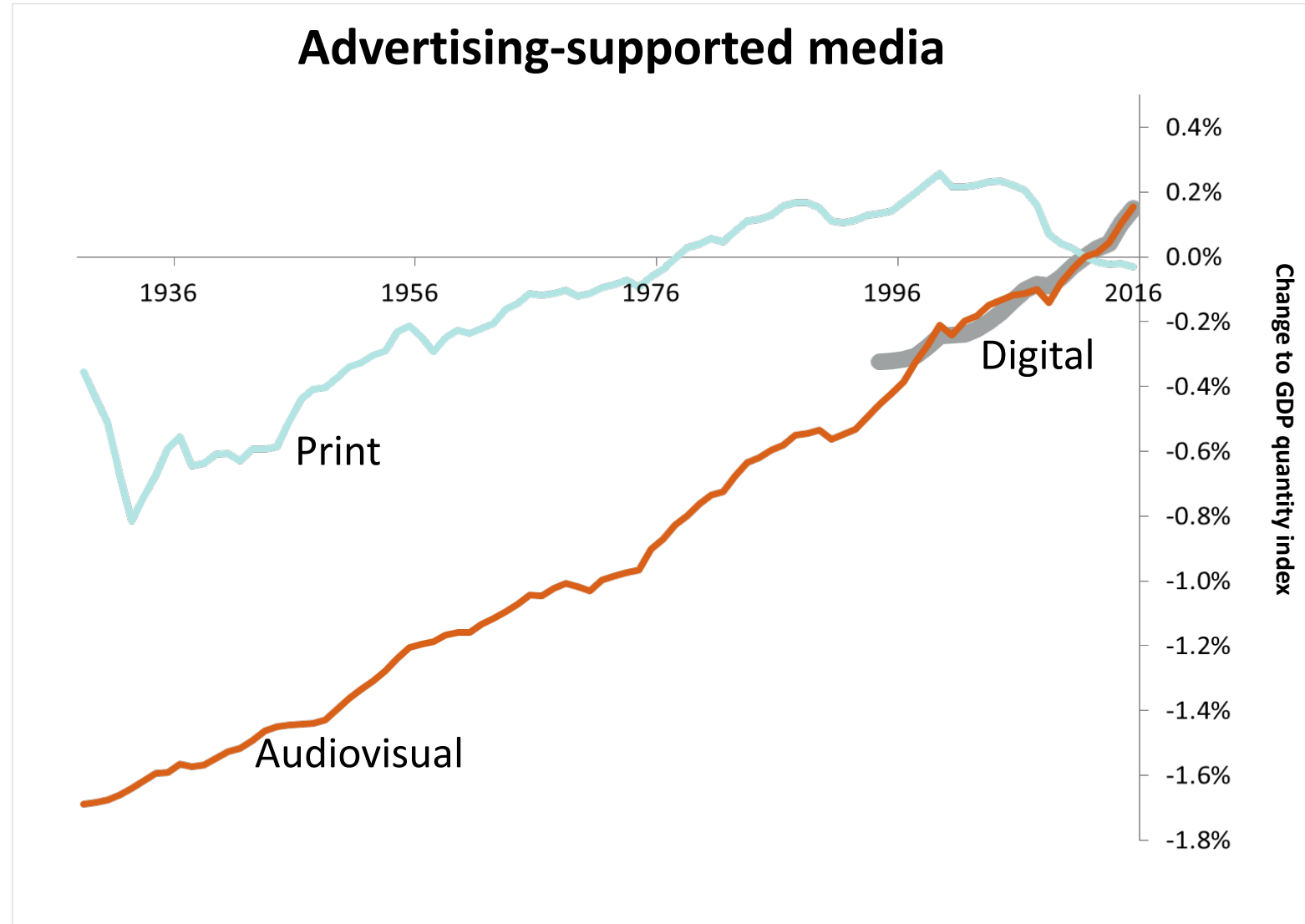
Users barter viewership for media company content



Media companies resell the viewership to outsiders



Resold viewership is used by outsiders



Survey of digital activity within multinational enterprises

Section C — Digital Economy Activities

- Sales or gross operating revenues reported in this section should be included in the total for sales of services reported in **55**.
- Estimates — If actual data are not available, or only partial data are available, provide estimates and label as such. Data provided in this section may be reasonable estimates based upon the informed judgment of persons in the responding organization, sampling techniques, prorations based on related data, etc.

For cloud computing services, what are the U.S. Reporter's values for:

Cloud computing services — 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. They offer a range of resources, such as access to processing, storage, and networks; platforms for customers to deploy their own applications; and readymade software.

		\$ Bil.	Mil.	Thous.	Dols.
57 Sales or gross operating revenues, excluding sales tax?	3151	1			000
58 Costs and expenses, excluding employee compensation, associated with providing these services?	3152	1			000
59 Number of employees engaged in providing these services?	3153	1			

For digital intermediation services, what are the U.S. Reporter's values for:

Digital intermediation services — Services that 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. The platform does not take economic ownership of the goods nor does it provide the services that are being sold.

60 Sales or gross operating revenues, excluding sales tax? <i>Report fees and commissions only, not the value of the goods or services sold on the platform</i>	3154	1			000
61 Costs and expenses, excluding employee compensation, associated with providing these services?	3155	1			000

Source: BEA Form BE-10A, 2019 Benchmark Survey Of U.S. Direct Investment Abroad

Contacts

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<https://www.bea.gov/data/special-topics/digital-economy>