

Trade in Value Added: Update on Work with NSF



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BEA Advisory Committee Meeting

- Motivation
- International Engagement
- Single-Country Trade in Value Added (TiVA) Statistics
- Looking Forward

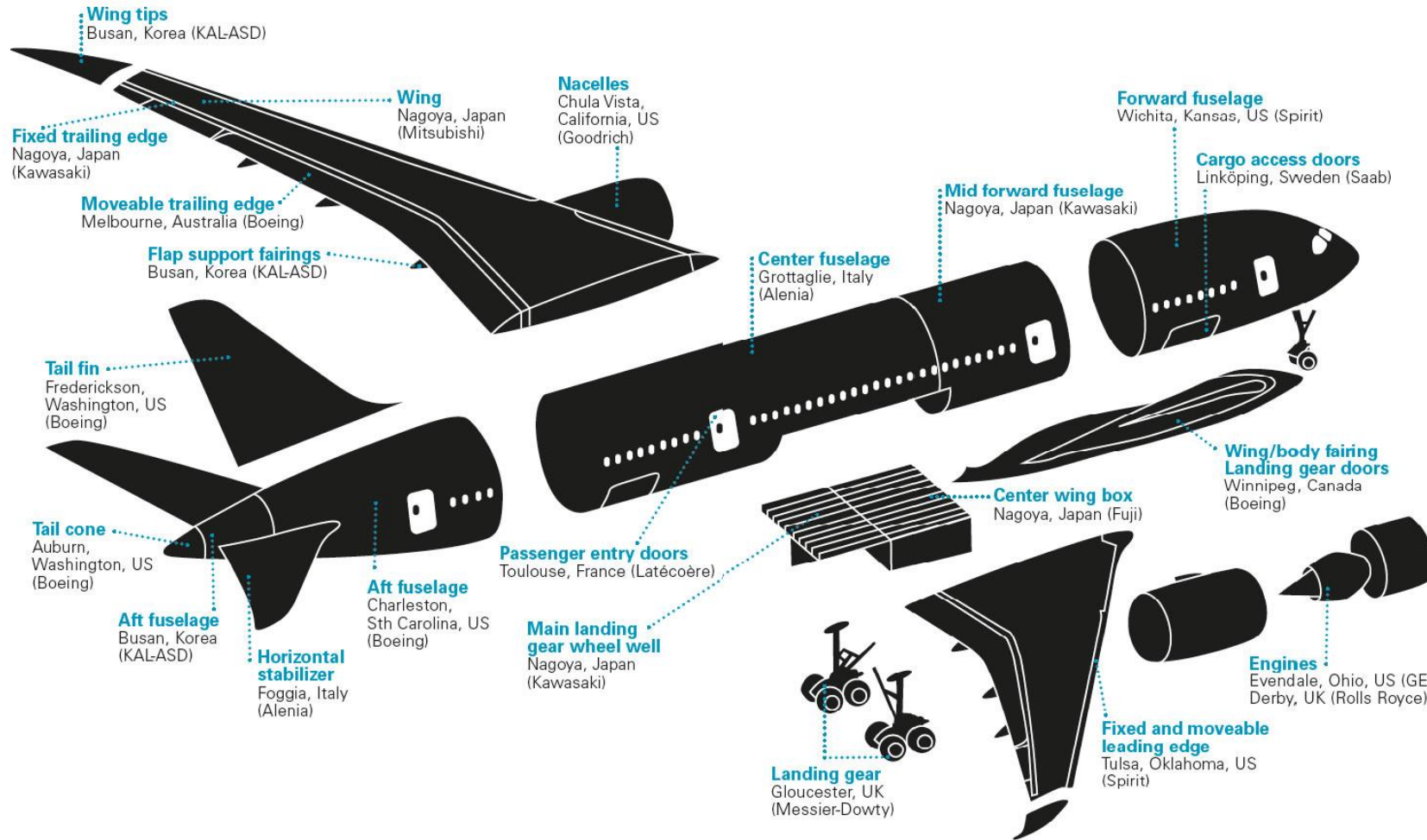
Why is Trade in Value-Added (TiVA) important?



- Countries produce statistics on gross exports and imports of goods and services via their national accounts
- However, these data do not reflect the origin of value embedded in these goods and services or how they are ultimately used
- TiVA statistics:
 - Show the origin of value added in the goods and services consumed in a country
 - Trace where the value added created by a country is absorbed worldwide
 - Provide additional insights into bilateral trade linkages

Motivation continued:

Global Value Chains



International Engagement to Support Global Value Chain Statistics



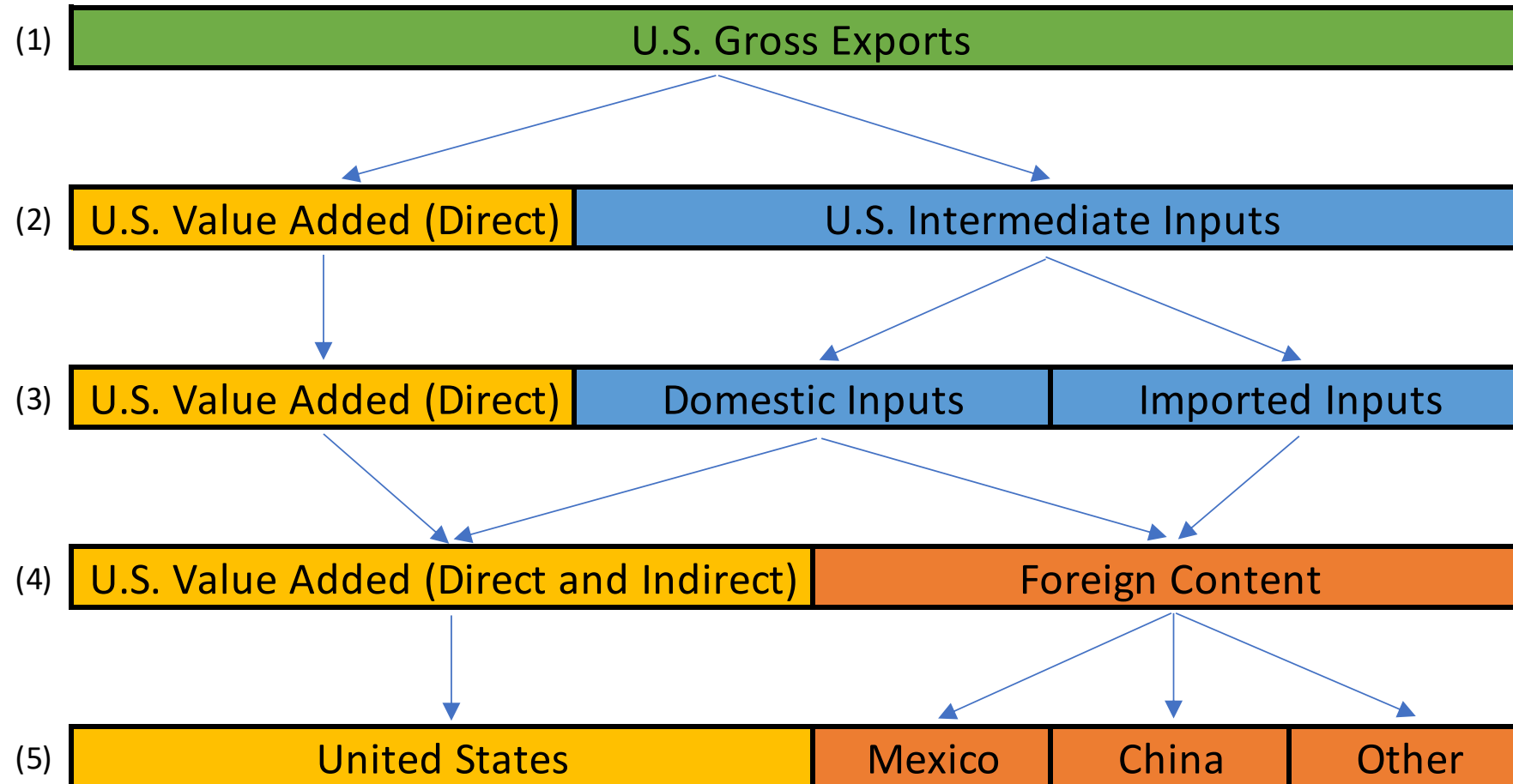
- OECD-WTO
 - Ongoing support for world TiVA database
 - Engagement with Expert Group on Extended Supply-Use Tables
 - <https://www.oecd.org/sti/ind/measuring-trade-in-value-added.htm>
 - <https://www.oecd.org/sdd/na/oecd-expert-group-on-extended-supply-use-tables.htm>
- Asia Pacific Economic Cooperation (APEC)
 - Development of APEC regional TiVA statistics
 - Regional capacity building efforts
 - <https://www.apec.org/Publications/2021/02/APEC-TiVA-Initiative-Report-Two---Better-Understanding-Global-Value-Chains-in-the-APEC-Region>
- North America
 - Collaboration to develop a North America regional TiVA database
 - Bilateral trade asymmetries
 - https://www.usitc.gov/publications/332/working_papers/02202018_an.htm

- BEA engaged in a new collaboration with the National Science Foundation (NSF)
- Goal: Better understanding of the role of science & technology (S&T) industries in domestic and global supply chains
- Approach: BEA is working with NSF's National Center for Science and Engineering Statistics (NCSES) to develop U.S. TiVA statistics in a single-country framework and to expand the coverage of S&T industries in BEA's industry statistics

- Key goal of BEA/NSF collaboration is to explore development of TiVA statistics in a single-country framework:
 - Relies primarily on the U.S. supply-use tables
 - No direct use of a multi-country supply-use framework
- Advantages:
 - Timely results
 - Detailed results
 - Greater consistency with official statistics
- Disadvantages:
 - Cannot fully decompose global supply chain without link to multi-country I-O framework

Single Country Decomposition Concept

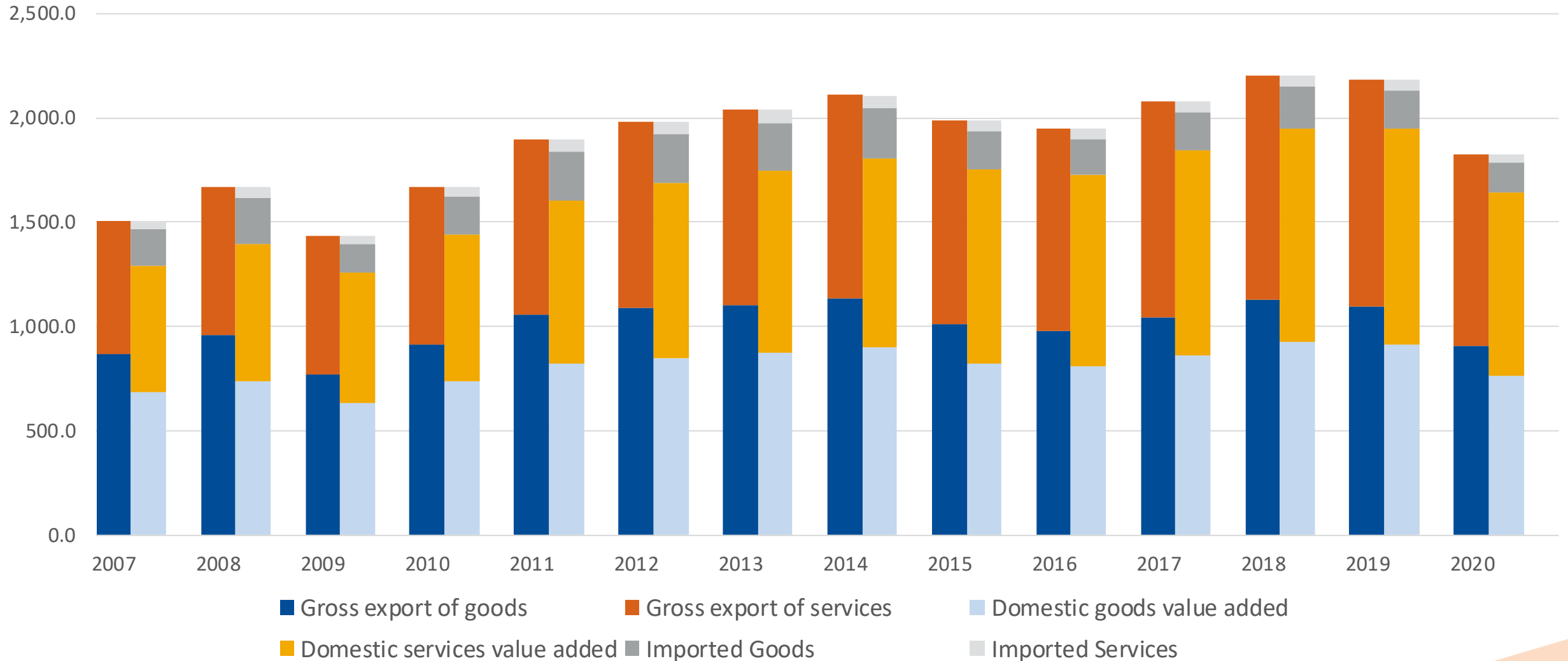
CONCEPTUAL DECOMPOSITION OF GROSS EXPORTS



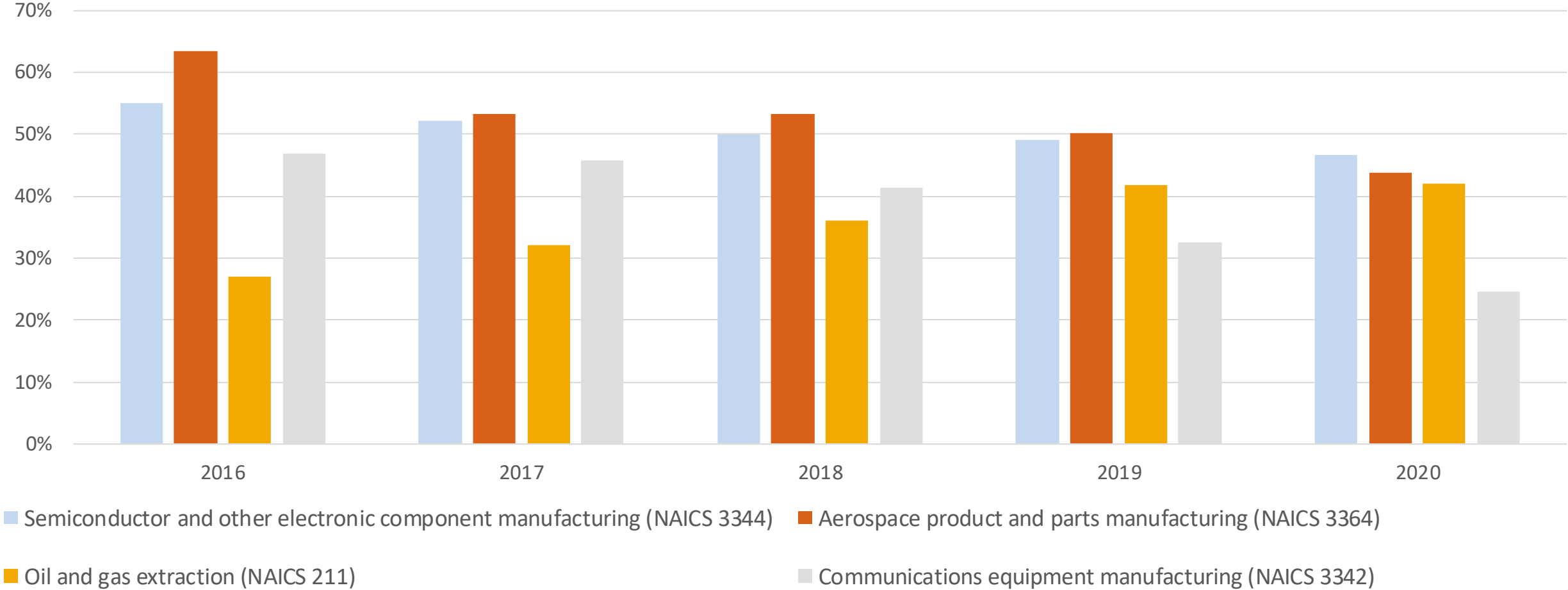
- Initial Results (2007-2020) to be released in Fall 2021
- Expanded SUT from current 71- to 81-industries, additions include:
 - Semiconductors
 - Communications equipment
 - Aerospace products and parts
 - Pharmaceuticals and medicine
 - Navigation/measurement/electromedical equipment
 - Software publishers
 - Scientific R&D services
- Data will be provided for five countries/regions:
 - Canada
 - Mexico
 - China
 - Europe
 - Rest of World

Decomposition of Gross Exports, 2007-2020

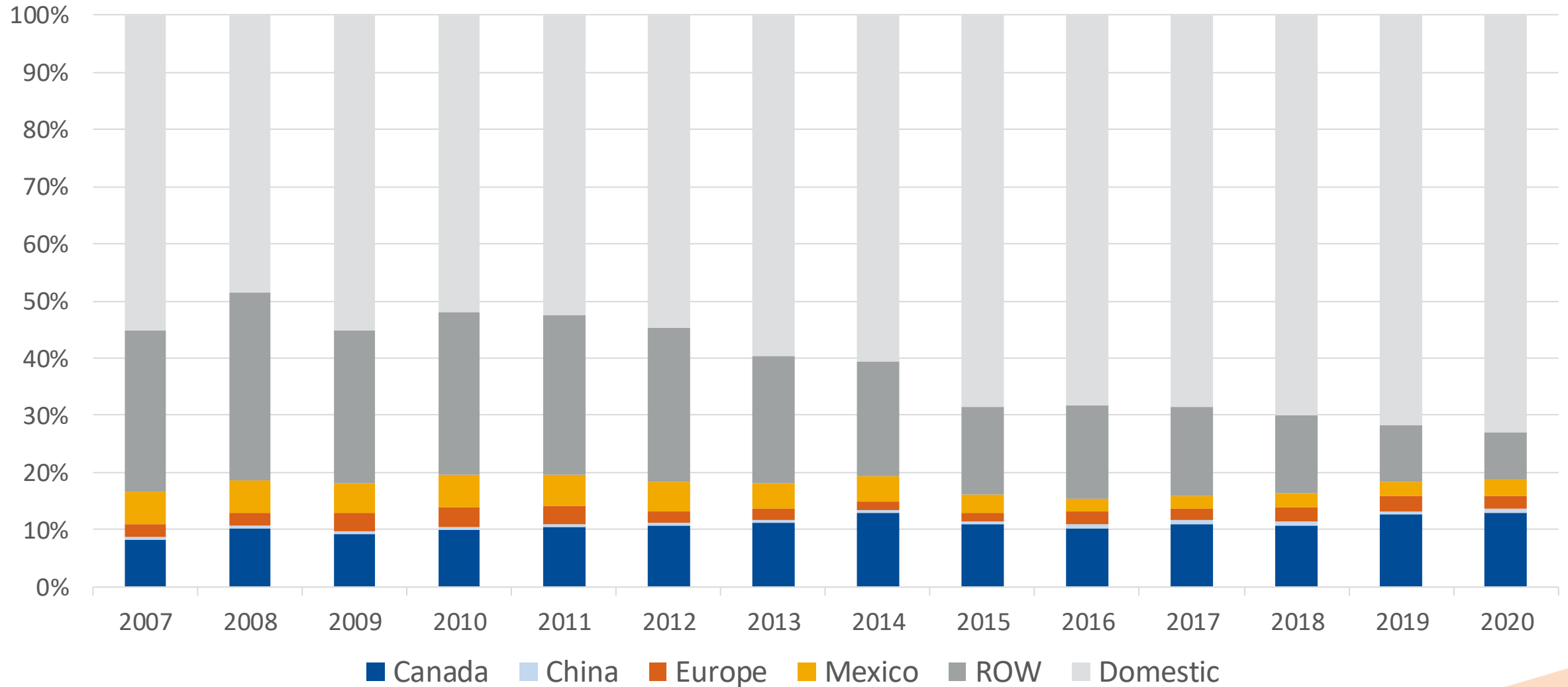
(Billions of Current Dollars)



Value Added Exports as a Share of Total Value Added, 2016-2020

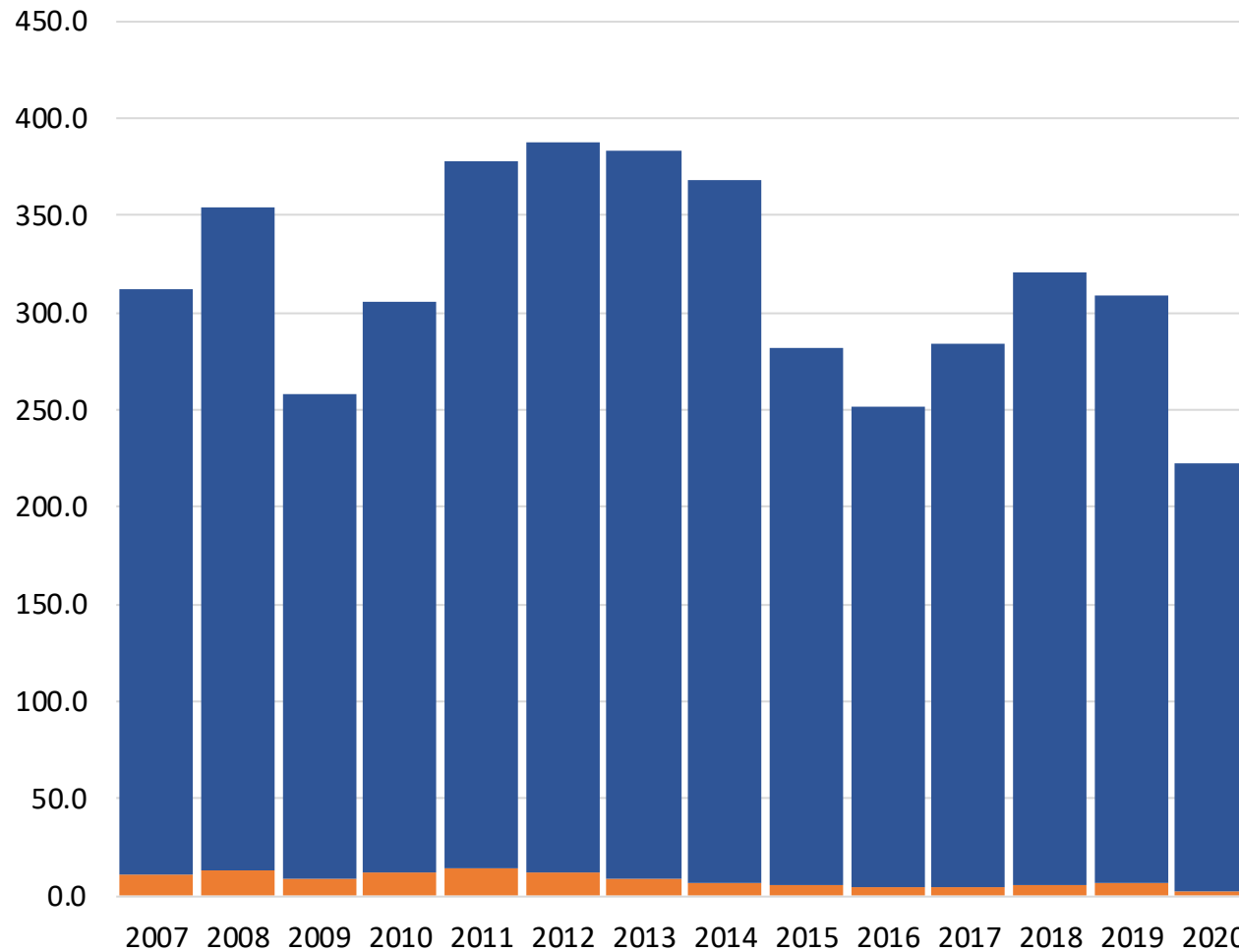


Sources of Value in Petroleum and Coal Product Exports, 2007-2020



Value Chain: PCE for Gasoline and Other Motor Fuel, 2007-2020

(Billions of Current Dollars)



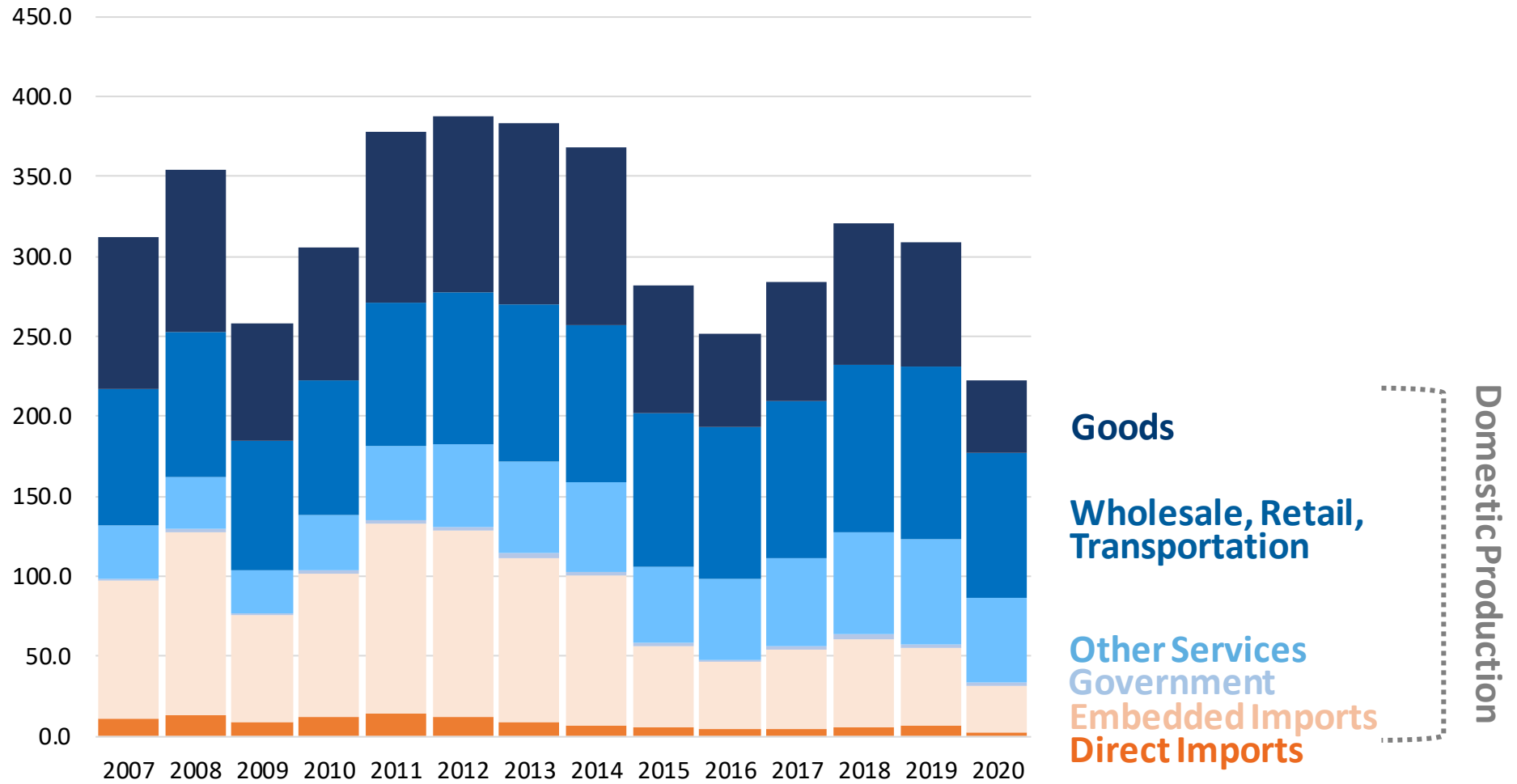
Domestic Production

Imports

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Value Chain: PCE for Gasoline and Other Motor Fuel, 2007-2020

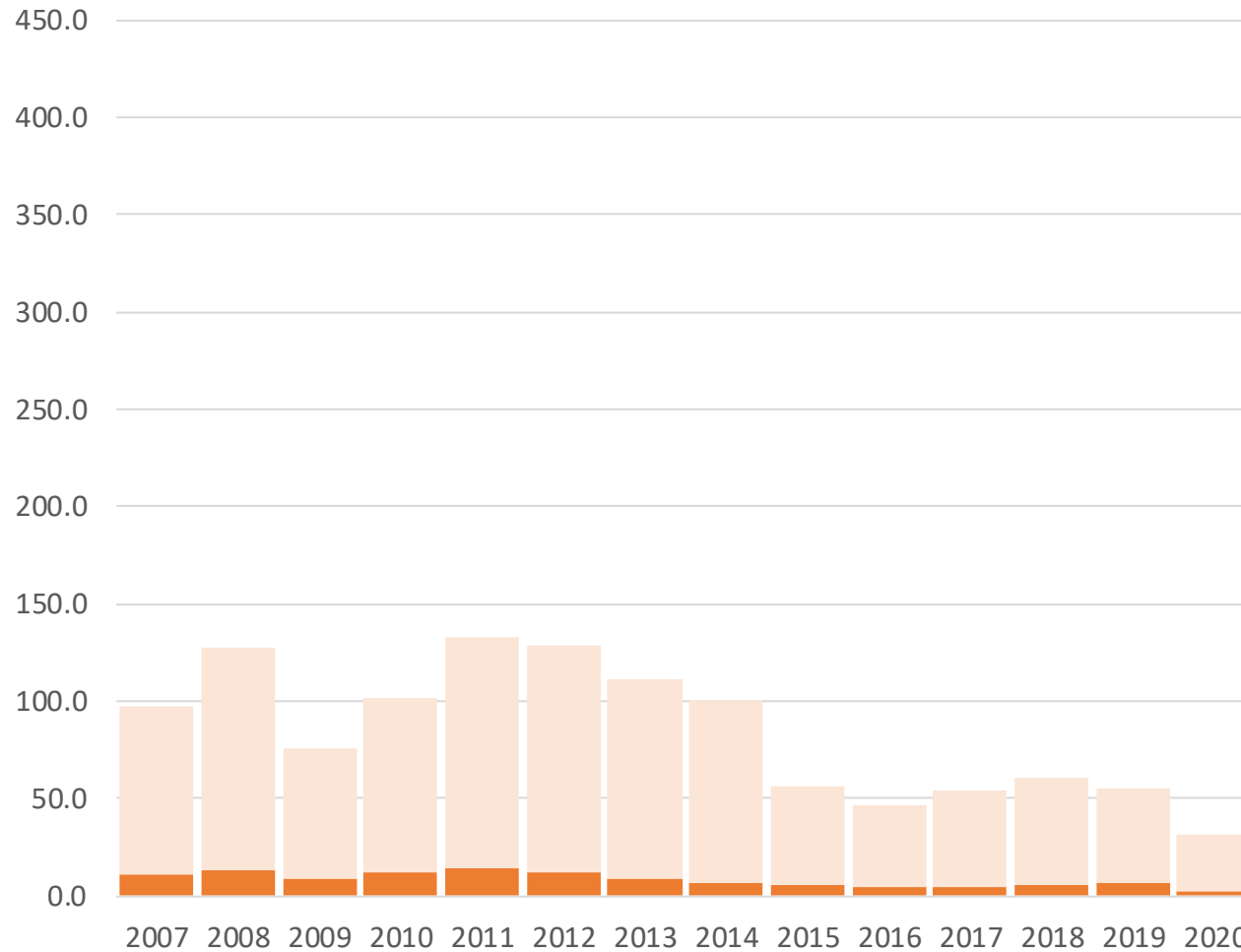
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U.S. Bureau of Economic Analysis

Value Chain: PCE for Gasoline and Other Motor Fuel, 2007-2020

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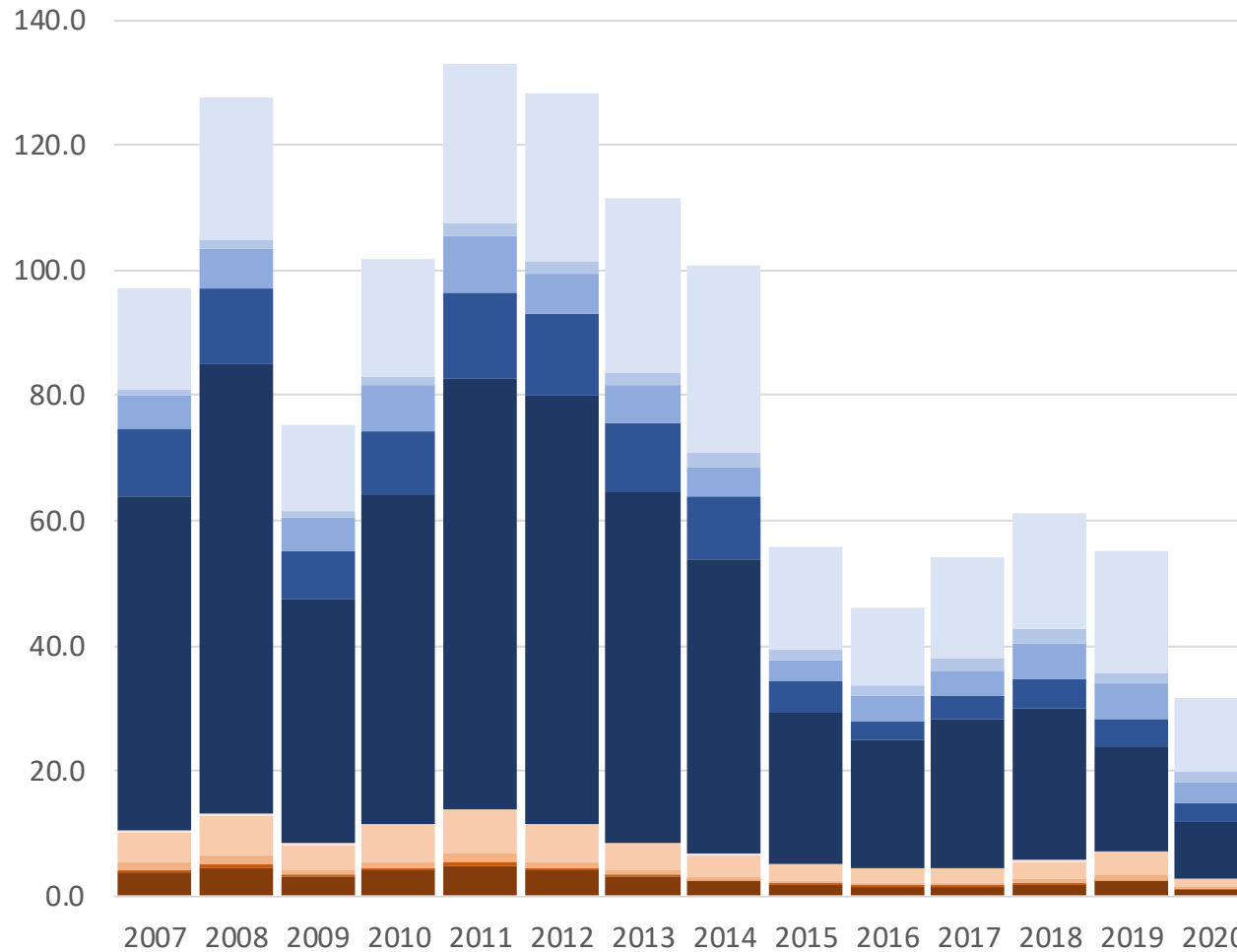


U.S. Bureau of Economic Analysis

Embedded Imports
Direct Imports

Value Chain: PCE for Gasoline and Other Motor Fuel, 2007-2020

(Billions of Current Dollars)



- Canada - Embedded
- China - Embedded
- Europe - Embedded
- Mexico - Embedded
- ROW - Embedded
- Canada - Direct
- China - Direct
- Europe - Direct
- Mexico - Direct
- ROW - Direct

U.S. Bureau of Economic Analysis

What's Next for TiVA?

- Year 2
 - Possible publication at 140-industry level
 - Research possible estimation at 400-industry level
 - Continue work on extended supply-use tables
- Year 3
 - Re-evaluate regional breakouts
 - Possible publication at 400-industry level
 - Move toward incorporation of extended supply-use tables
- And beyond:
 - Decomposition of value added into capital and labor services
 - Decomposition of capital services by type of asset
 - Real TiVA statistics
 - Hybrid model

- Which industries should BEA consider prioritizing for future releases?
- Which regional breakouts would be most beneficial to include in this dataset?
- How should the data be organized and presented to maximize their accessibility and usefulness?
- What can BEA do to inform data users of the uses and benefits of these new data?