Measuring Global Supply Chains: An Update from BEA

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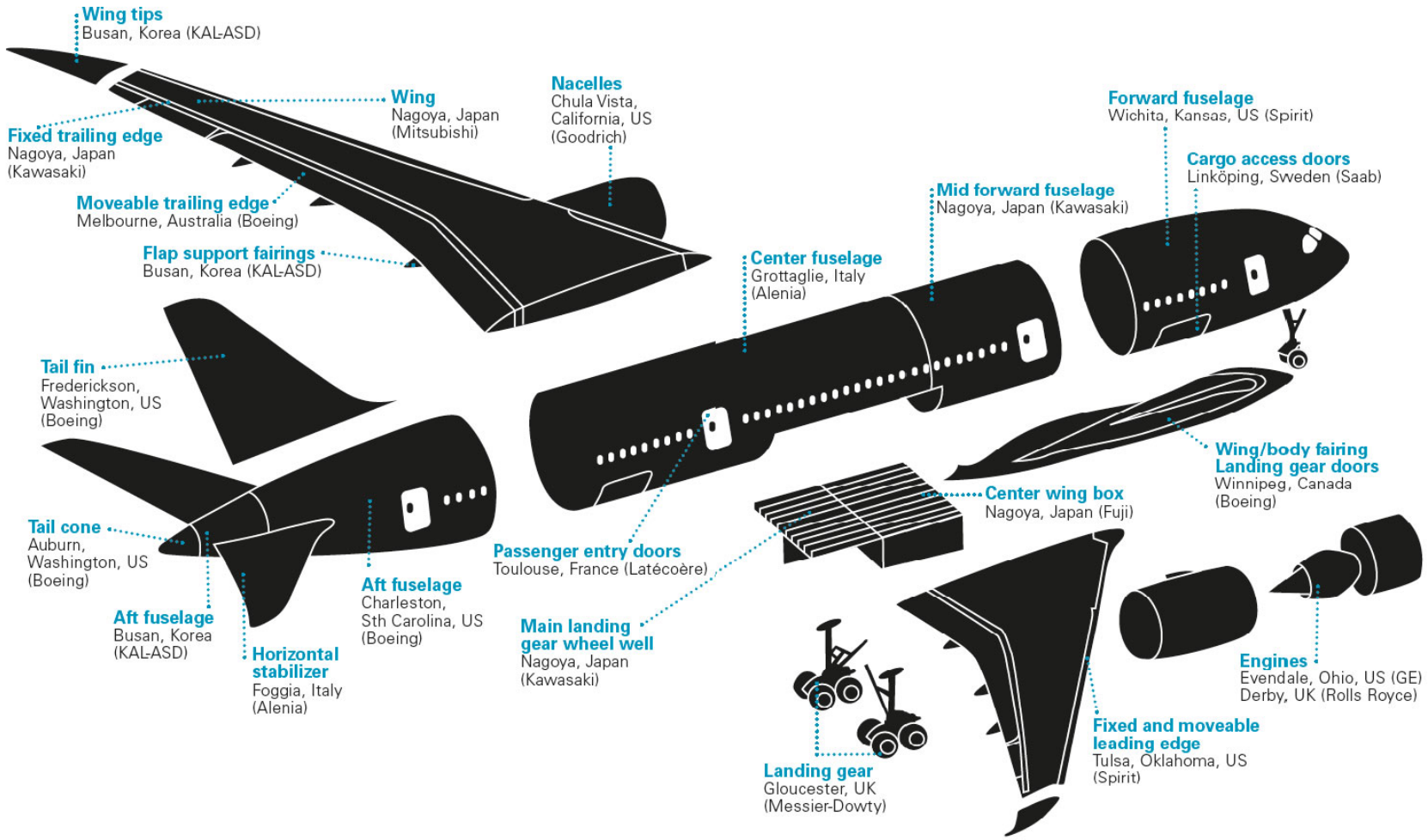
Federal Economic Statistics Advisory Committee

Outline

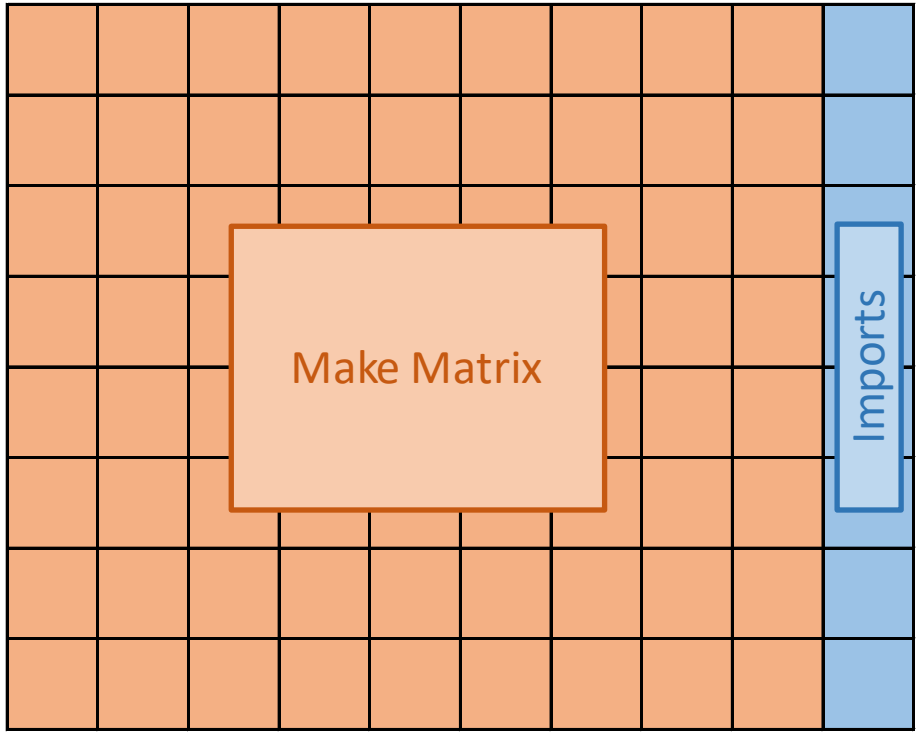
- Background
- Current Work
  - National Trade in Value Added (TiVA) Statistics
  - US-Canada Regional TiVA Model
  - Extended Supply-Use Tables for Multinational Enterprises
- Looking Forward

Background: Why do global supply chains matter?

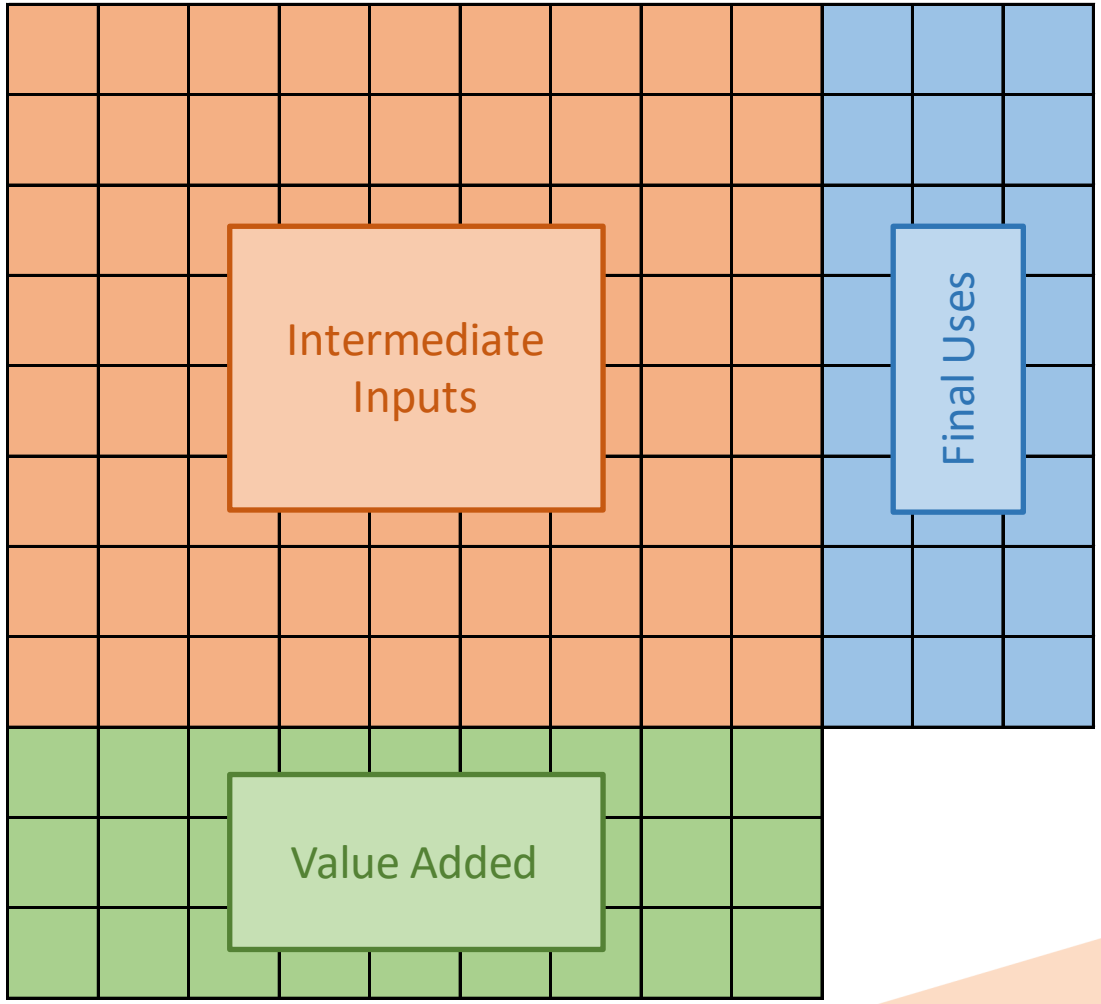


Background: Modeling U.S. Participation in Global Supply Chains

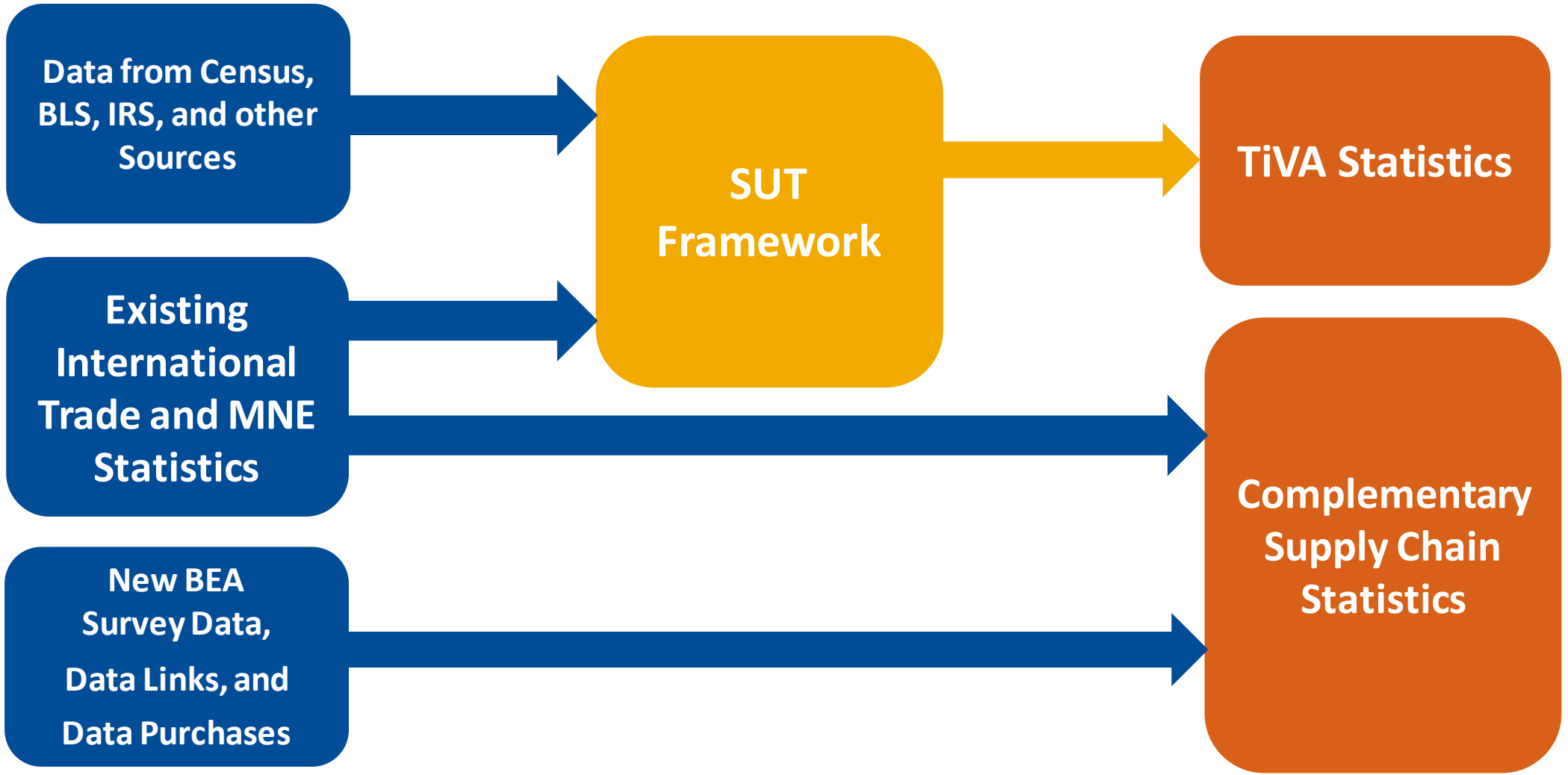
Supply Table



Use Table



Background: BEA Global Supply Chain Strategy



Background: Past and Current Initiatives

- Support for international Trade in Value Added (TiVA) initiatives
  - OECD-WTO
  - Asia Pacific Economic Cooperation (APEC)
  - North America TiVA Working Group
- Ongoing efforts:
  - Development of national TiVA statistics (in collaboration with the National Science Foundation)
  - Collaboration with Statistics Canada on a US-Canada regional supply-use table
  - Research on extended supply-use tables (investigating the role of multinational corporations)

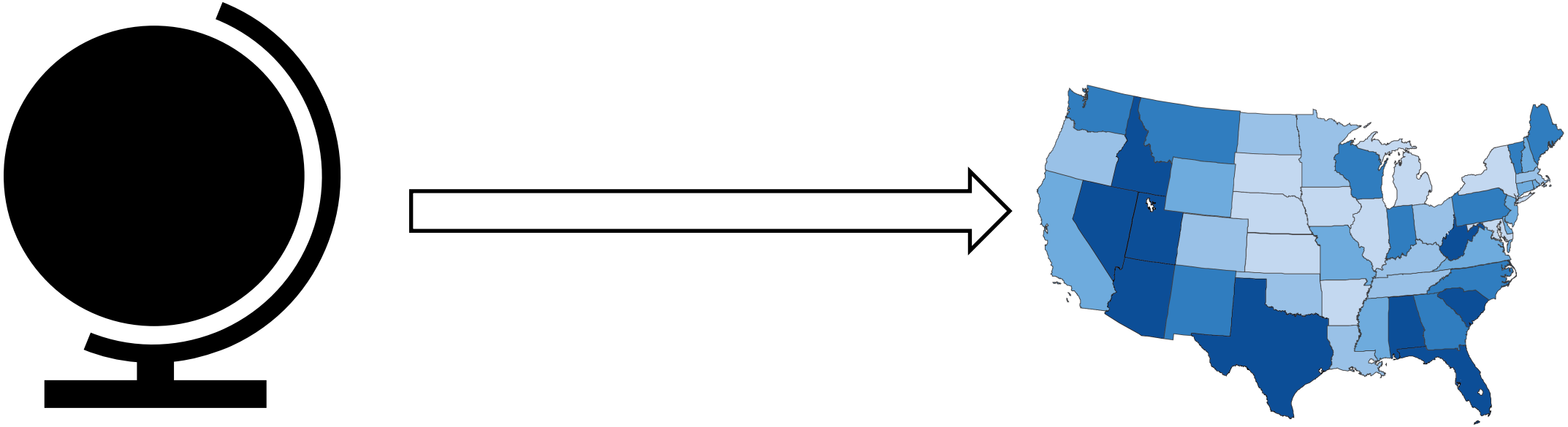
Feedback and discussion

- How would you prioritize the different paths forward on global supply chains described in this presentation?
- Are there specific metrics or specific ways of presenting the data that would increase the usefulness and accessibility of the TiVA dataset for users?
- Are there other types of metrics BEA should consider developing in order to facilitate the study of GSCs?

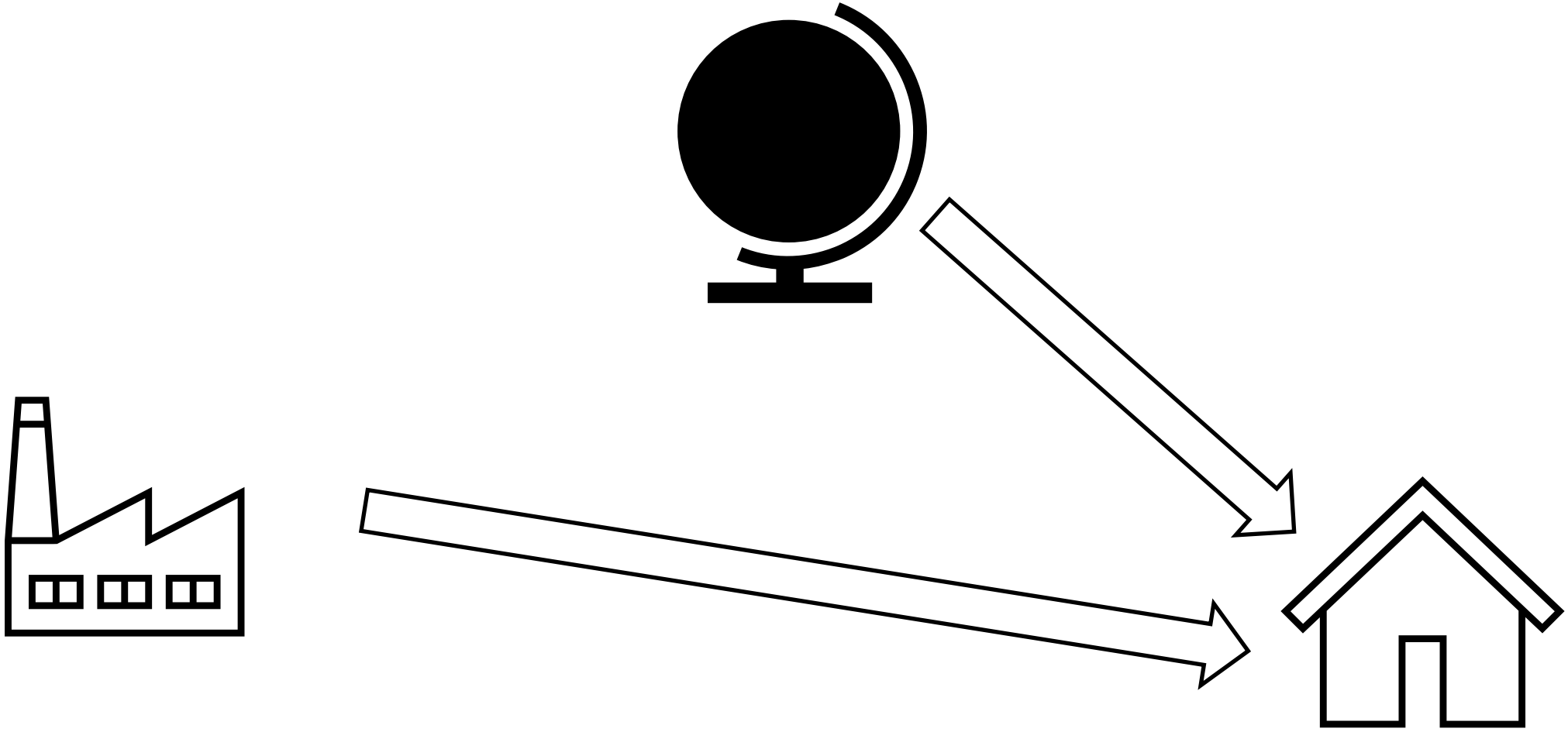
National TiVA Statistics

- December 2021: Prototype National TiVA Statistics released in collaboration with the National Science Foundation (NSF):
  - Industry Detail: 81 Industries
  - Regional Breakout: Canada, China, Europe, Mexico, and Rest-of-World
- March 2023: Expanded prototype statistics released
  - Industry Detail: 138 Industries
  - Regional Breakout: Canada, China, Europe, Japan, Mexico, Rest-of-Asia, and Rest-of-World
- March 2024: Latest publication
  - Incorporating results from the 2023 Comprehensive Update of the National Accounts

National TiVA Statistics

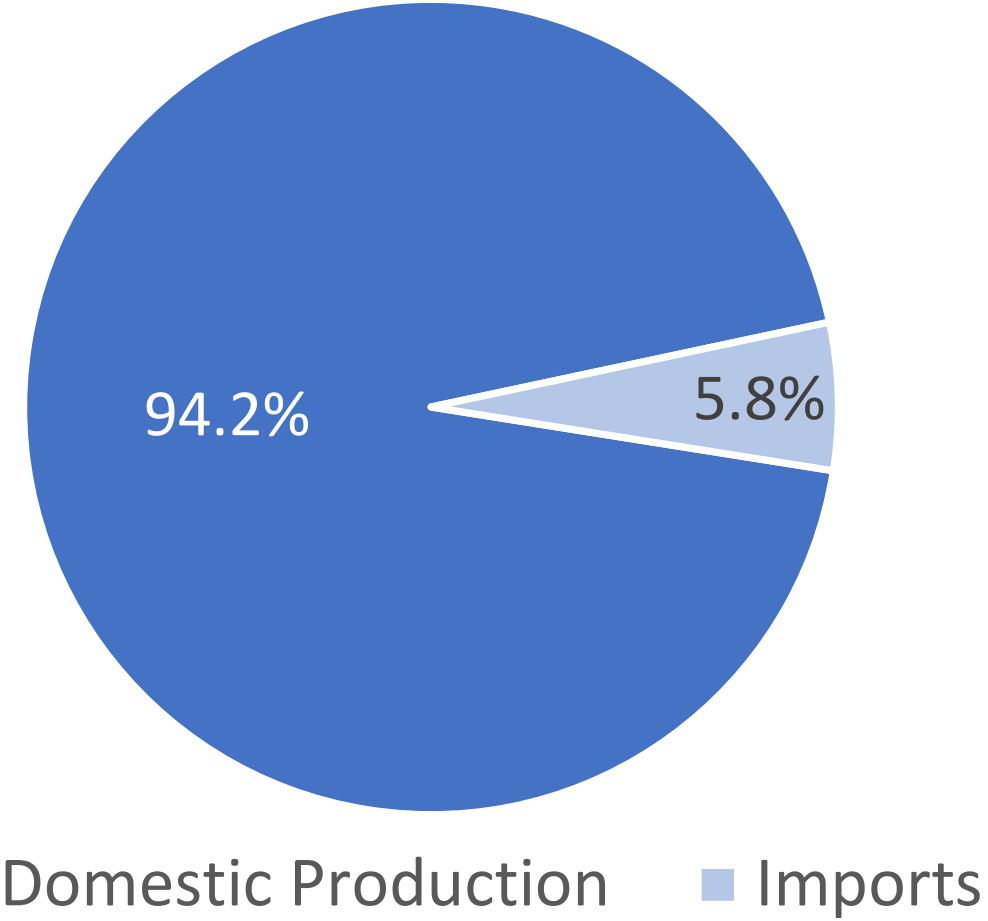


National TiVA Statistics



National TiVA Statistics

Sources of Goods and Services in Personal Consumption Expenditure (2019)



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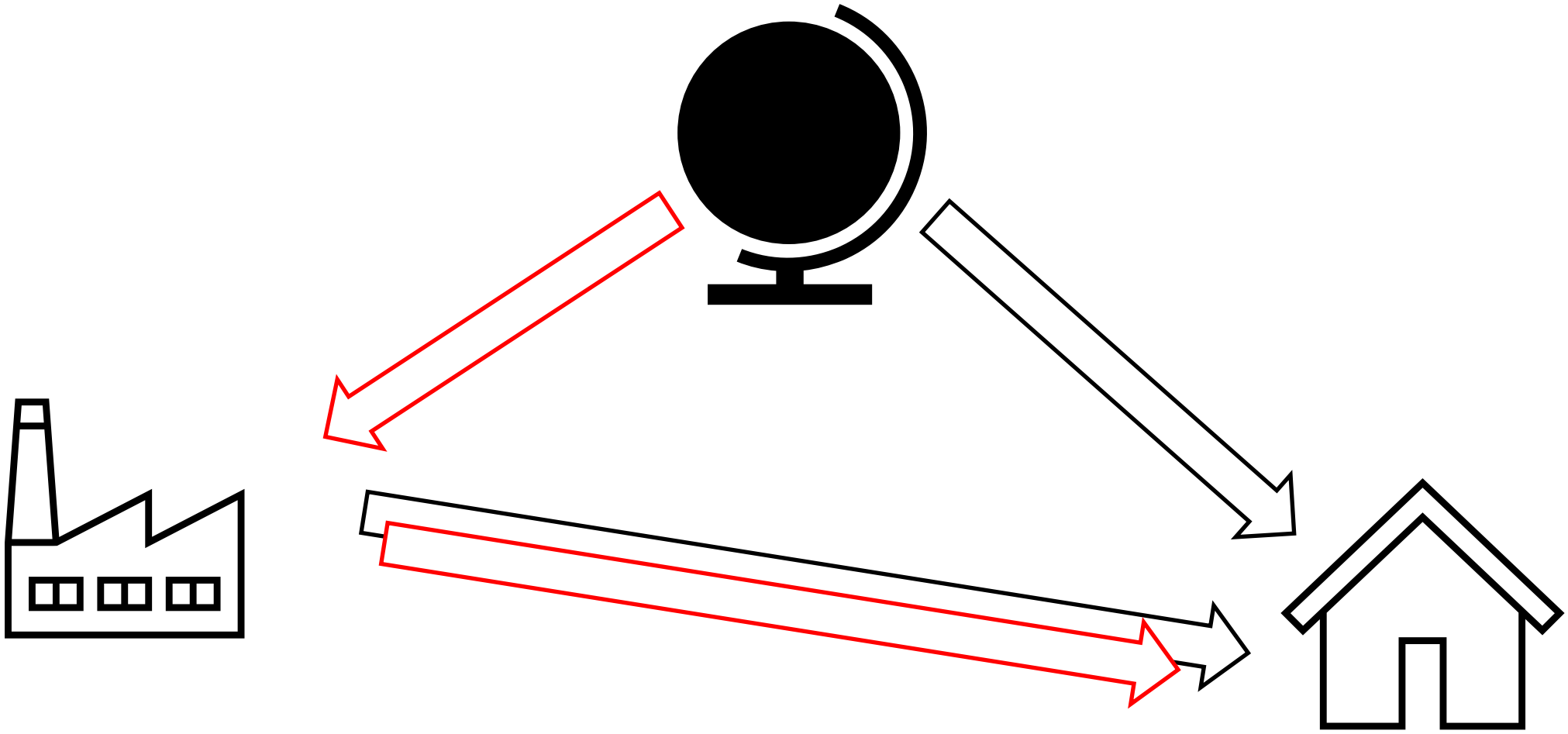

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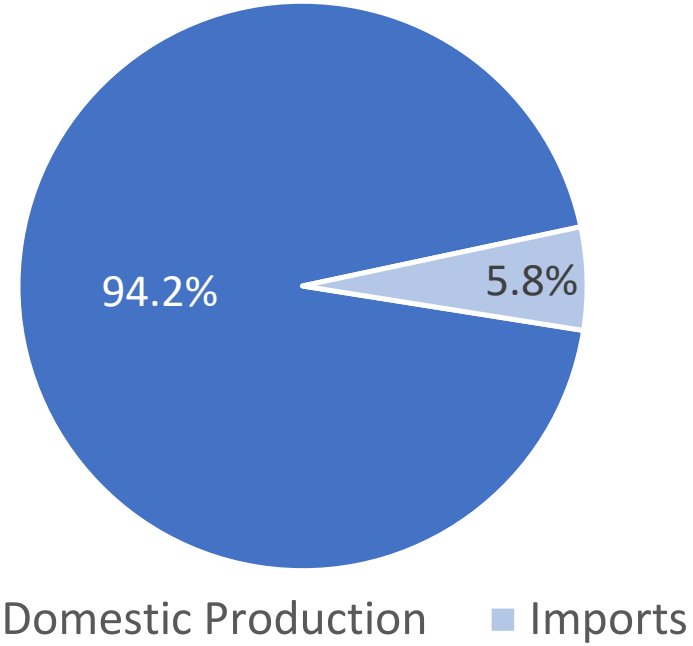
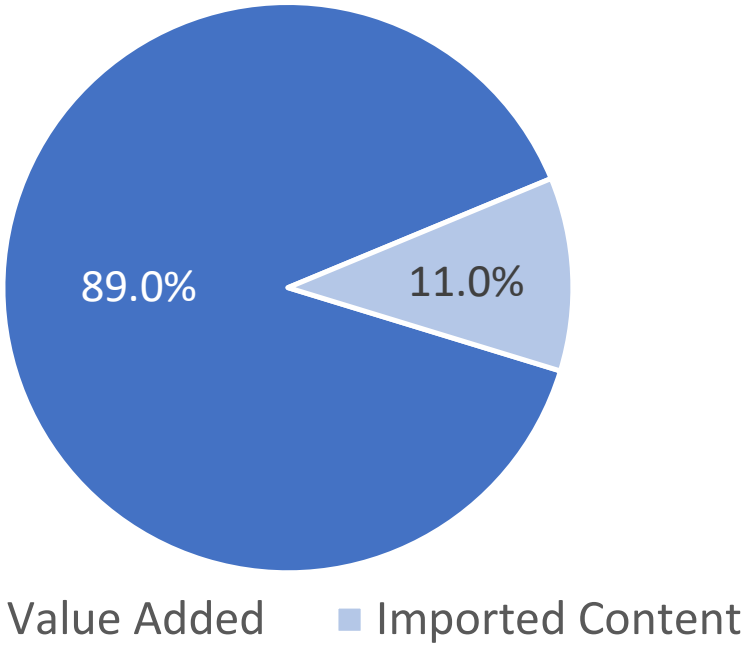


Sources of **Value** in Goods and Services in Personal Consumption Expenditure (2019)



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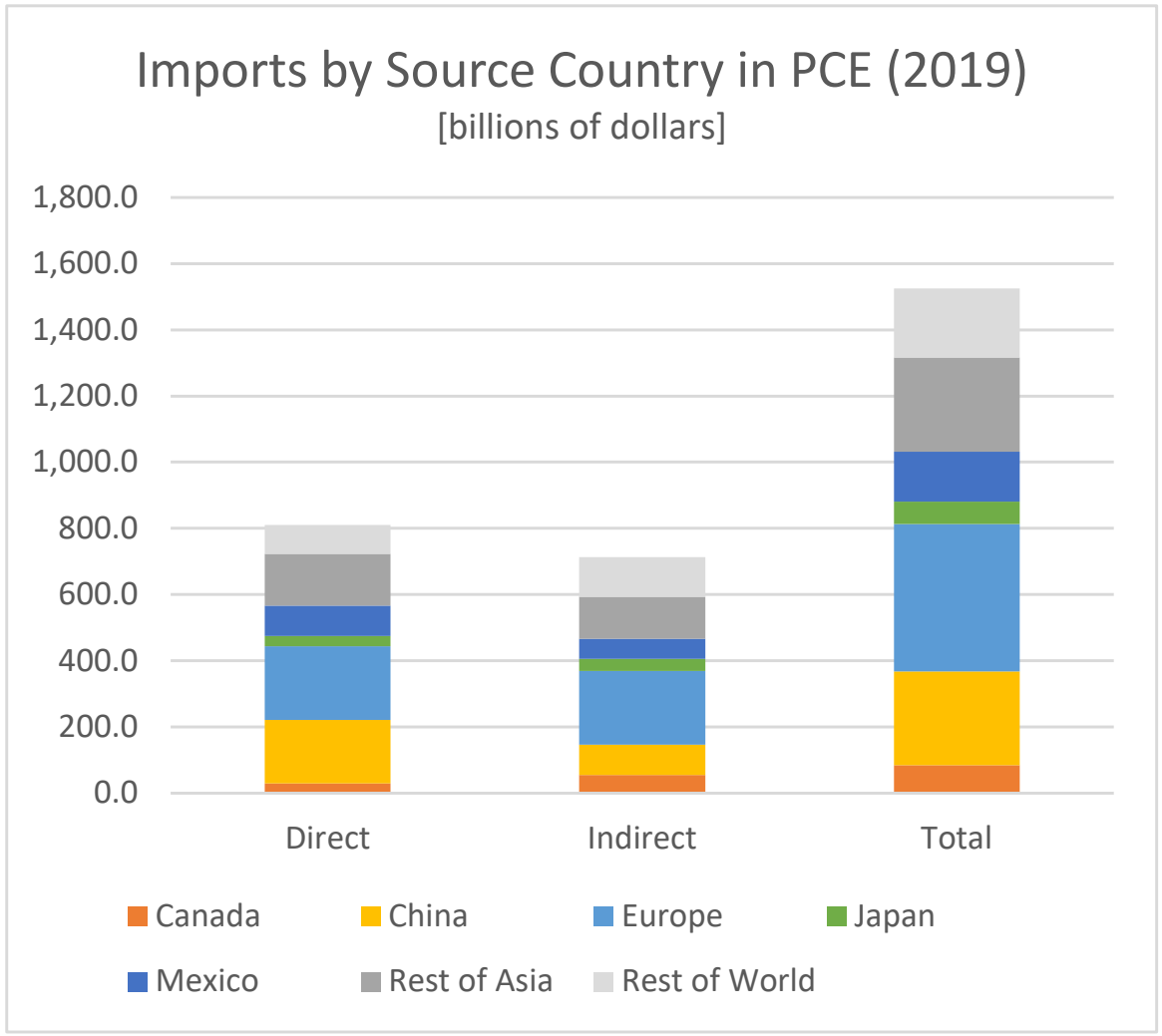

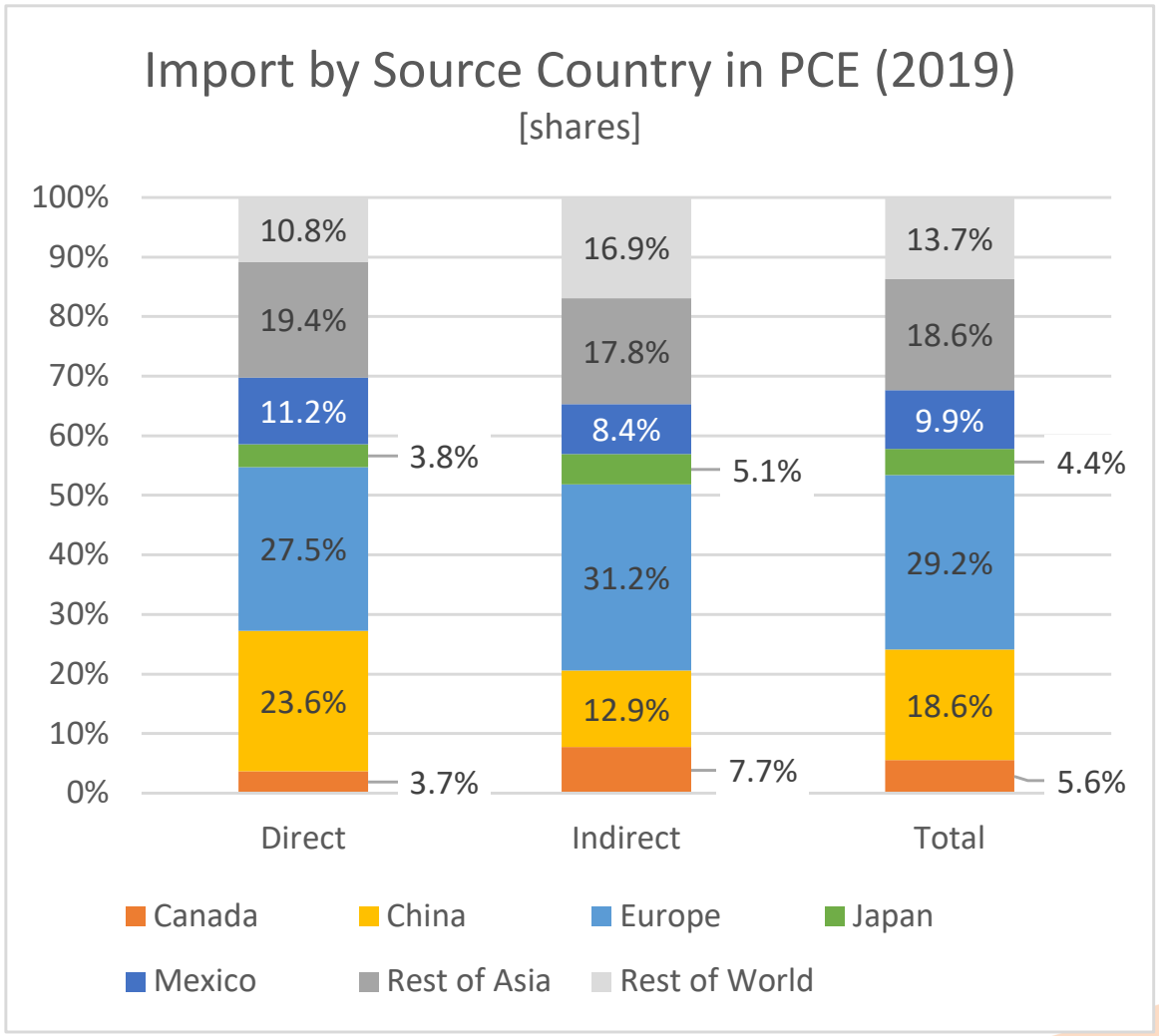

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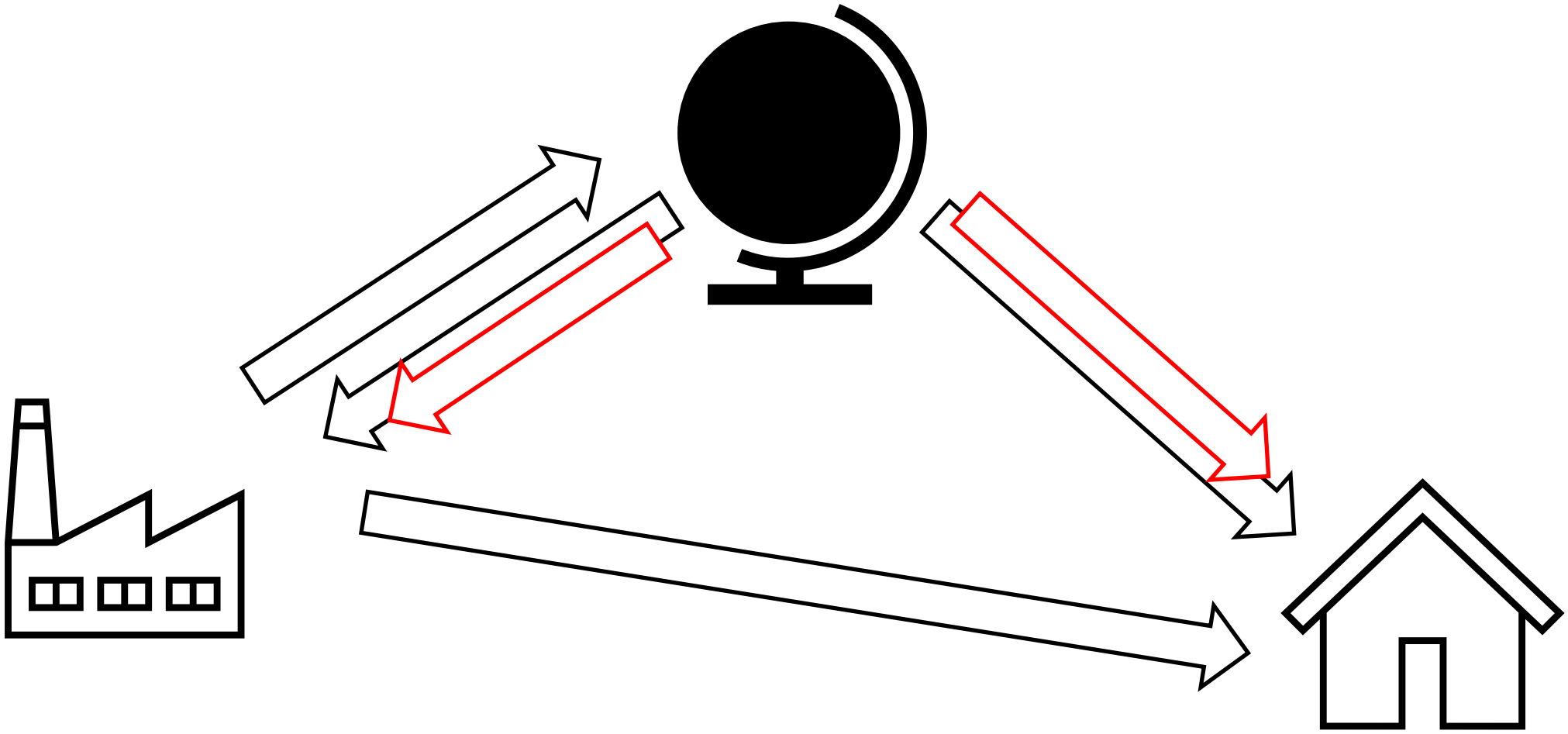
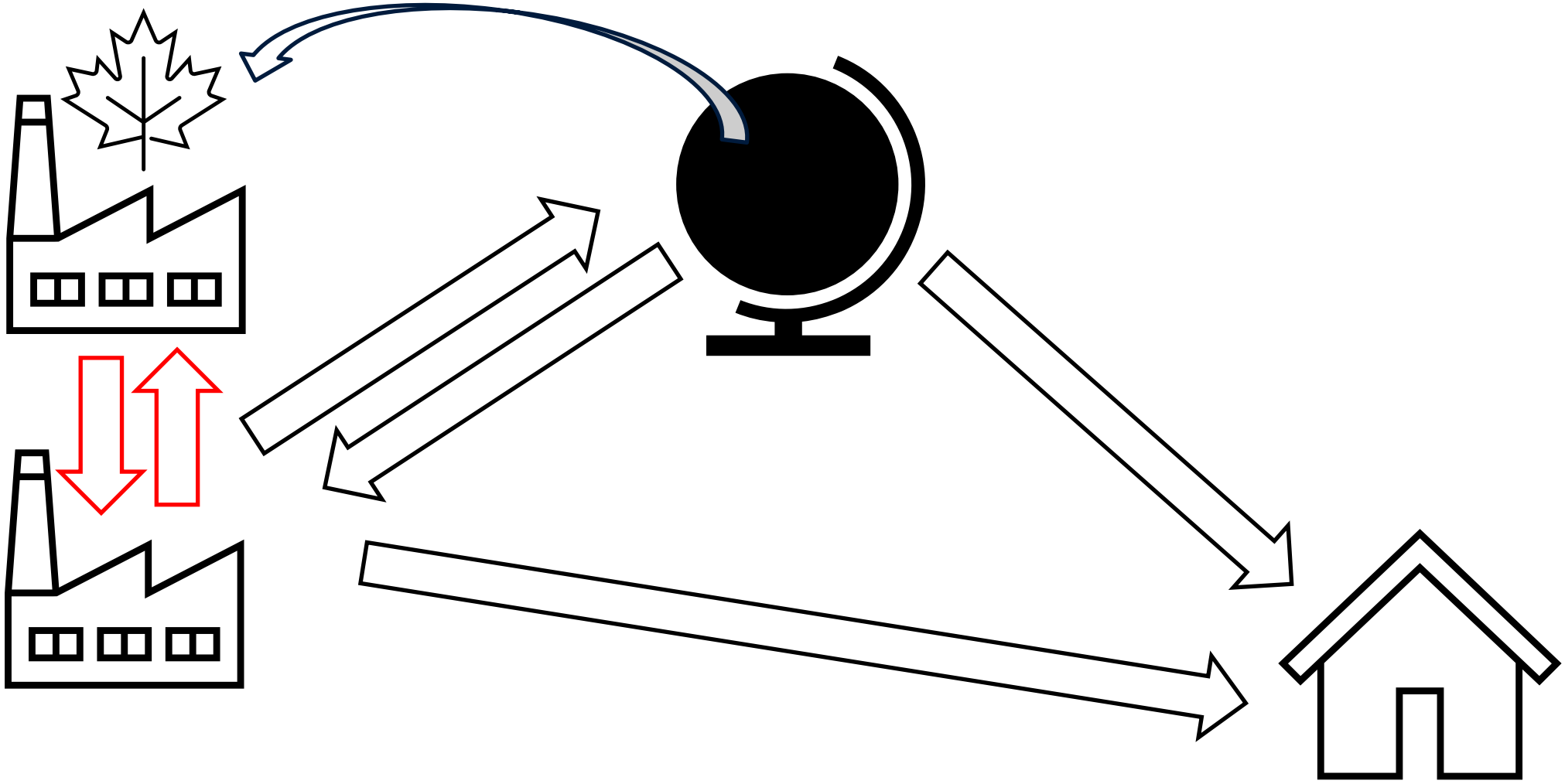


US-Canada Regional TiVA Model



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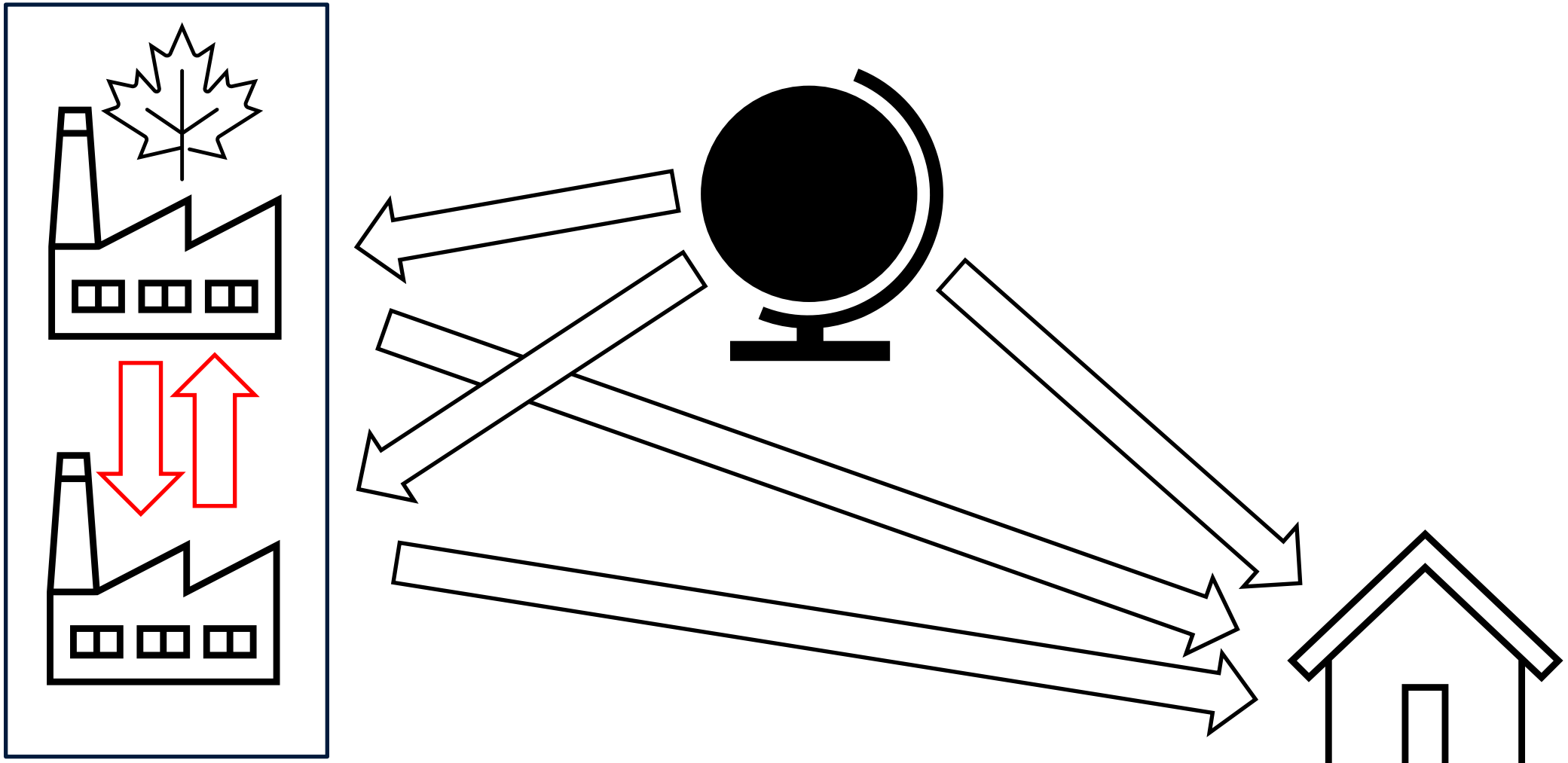
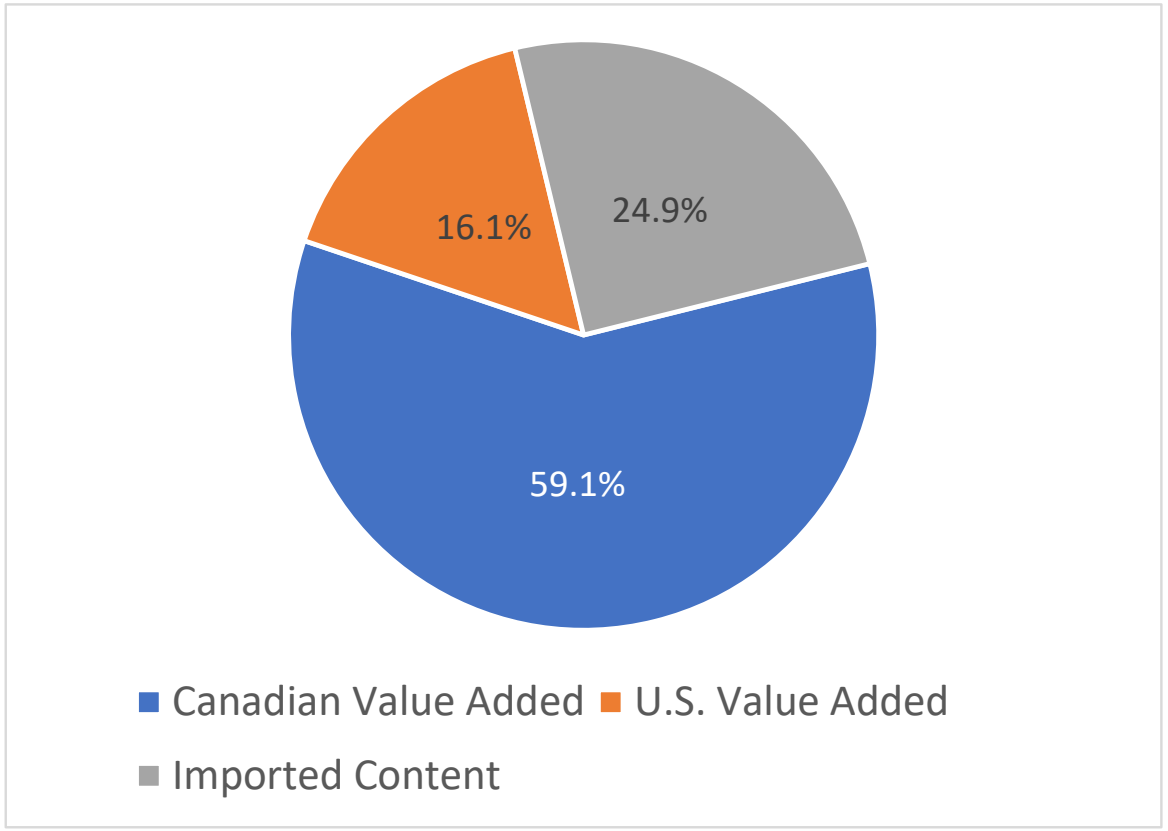
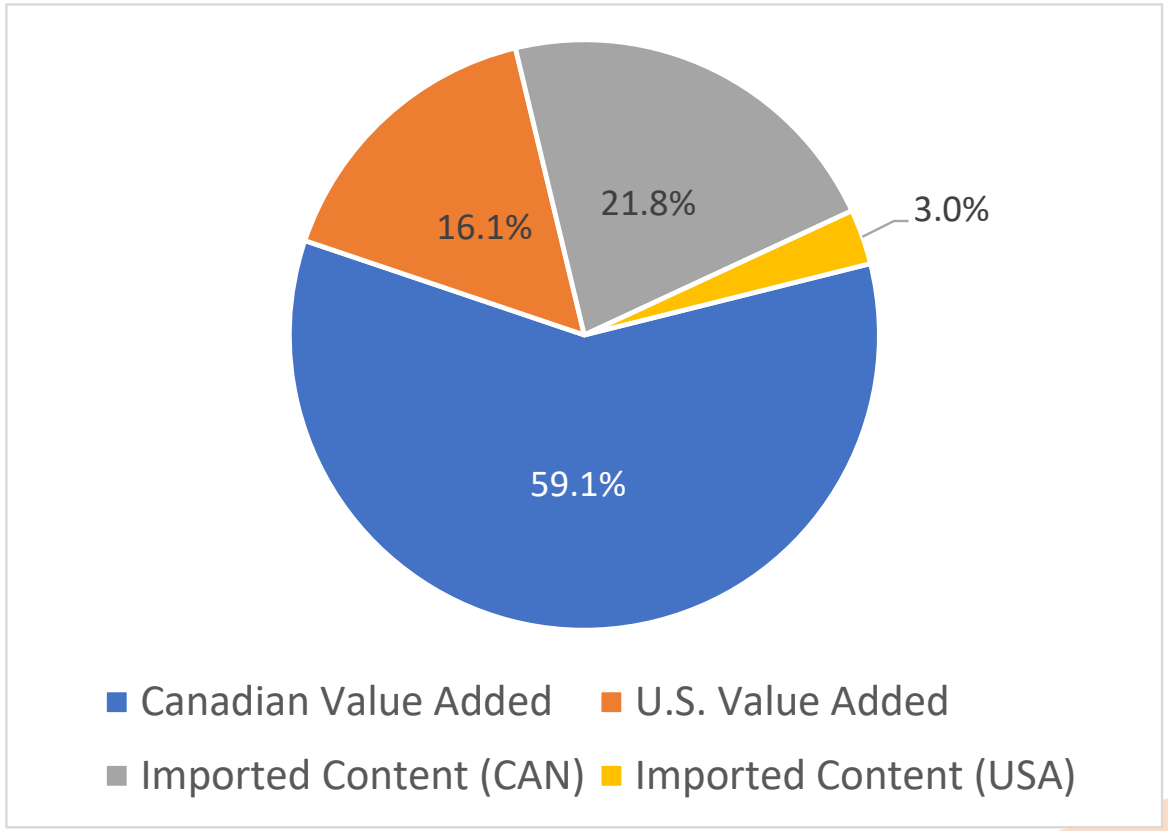


US-Canada Regional TiVA Model

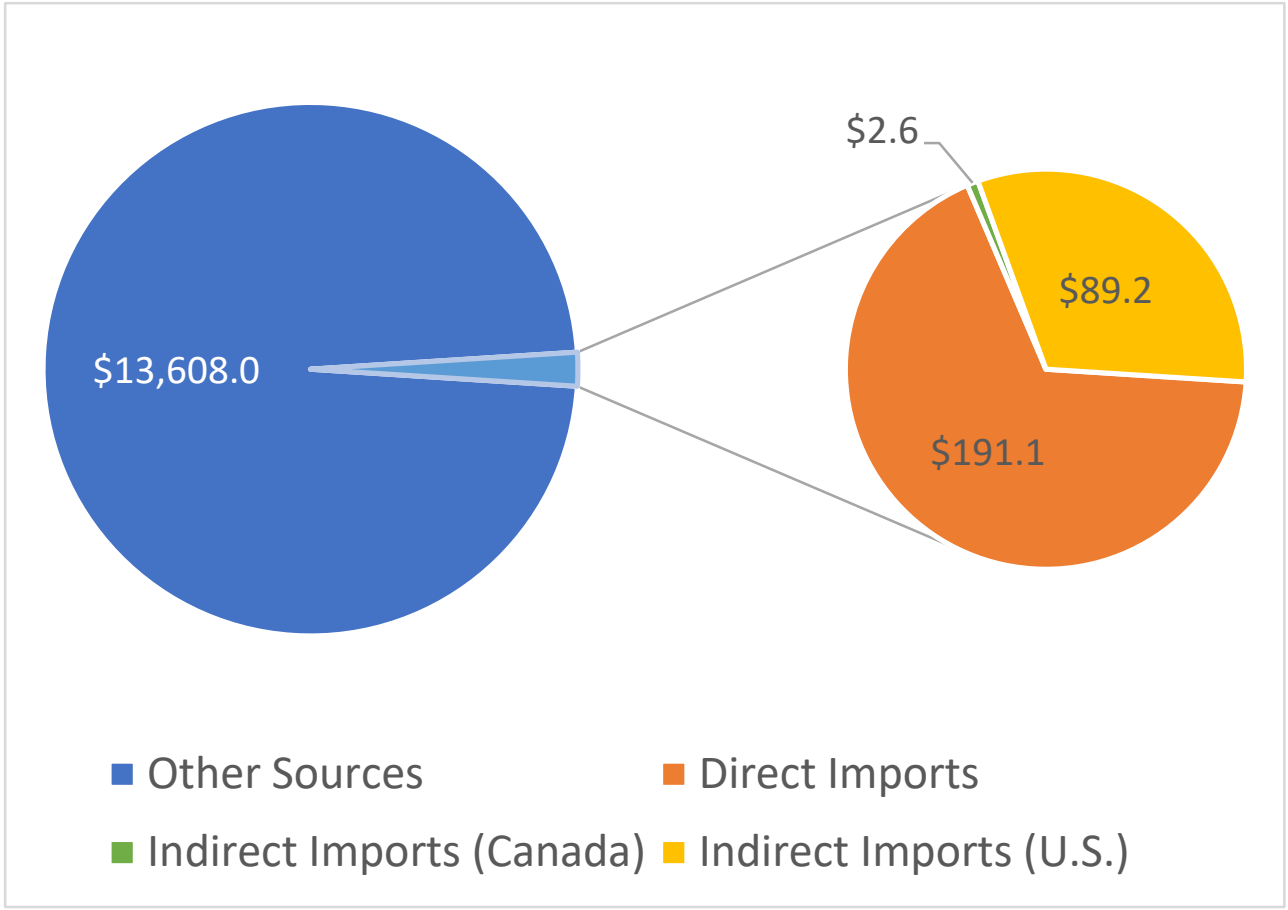
Sources of Value in U.S. Direct Imports from Canada for PCE (2019)





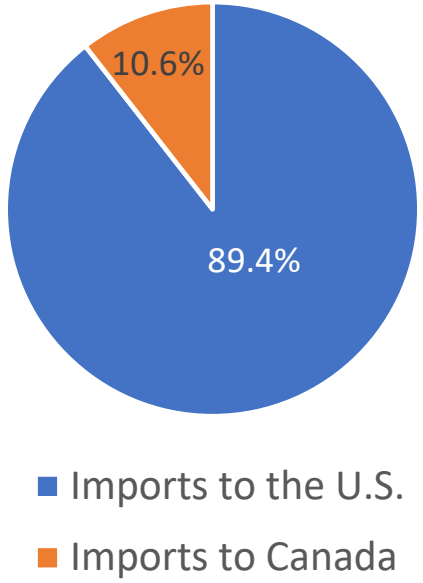
US-Canada Regional TiVA Model

Total Chinese Imports in PCE (2019)

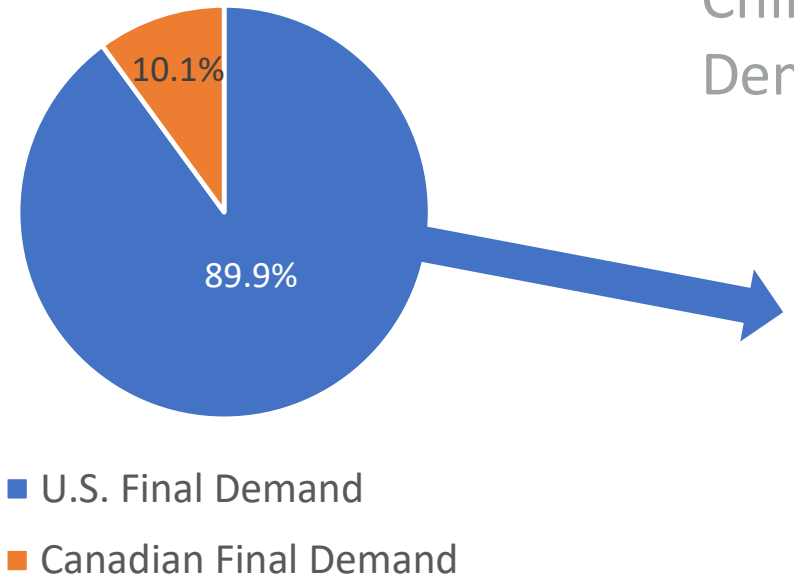


US-Canada Regional TiVA Model

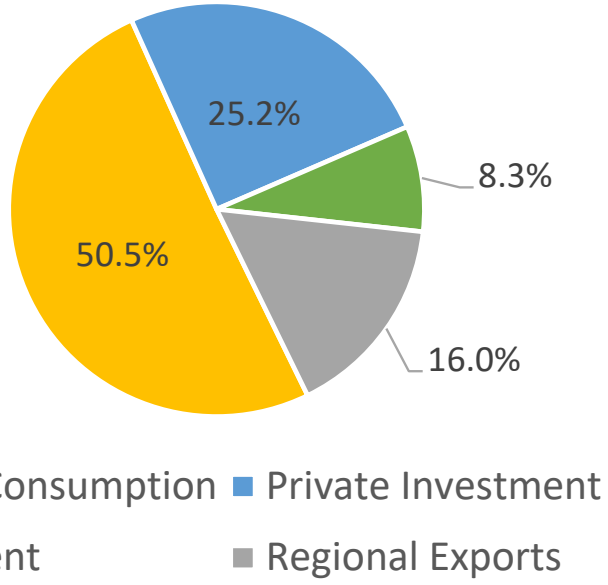
Regional Imports from China by Destination (2019)



Regional Imports from China by Final Disposition (2019)



Chinese Imports in U.S. Final Demand (2019)



Extended Supply-Use Tables for Multinational Enterprises

- Preliminary extended supply table based on microdata now complete.
- Comparison with top-down extended supply table underway.
- Next: Development of microdata-based extended used table

Looking Forward: Increased Granularity

- Expanded industry detail
  - Expand annual 138-industry tables to include full suite of input-output products
  - Produce annual 400-industry input-output products (including TiVA)
  - New 400-industry tables set stage for possibility of GDP by industry statistics at this level of detail
- Expanded country detail
  - Expand TiVA statistics beyond the seven regions currently covered (Canada, China, Europe, Japan, Mexico, Rest of Asia and Pacific, Rest of World)

Looking Forward: Increased Timeliness

- Accelerate production of quarterly Gross Output by Industry statistics to be released concurrently with the second estimate of GDP
  - Release at 60 days after the end of the reference period (versus current 90 days)
  - A prerequisite for a similar acceleration of GDP by Industry statistics
- Begin publication of quarterly supply-use tables
  - Unpublished tables used in production of GDP by industry statistics
  - Additional resources needed for methodology and system improvements and regular pre-release review
  - Foundation for quarterly TiVA statistics

Looking Forward: Special Projects

- Integrate the supply-use framework with the industry level production account (ILPA)
  - Decomposition of value added into capital and labor services
  - Decomposition of capital services by type of asset
- Constant-dollar supply-use tables
  - Provides a foundation for real TiVA statistics

Feedback and discussion

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