Competitiveness of U.S. Beef Exports:
Results from Import Demand Analyses

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Real. Life. Solutions.

Examine price sensitivity across major exporting countries and selected destination markets.

Price Impacts at the Global Level

Competitiveness of U.S. Beef in Japan

Competitiveness of U.S. Beef in China

$$e_{(p)} = \frac{dQ/Q}{dP/P}$$

$e_{(p)}$ = price elasticity
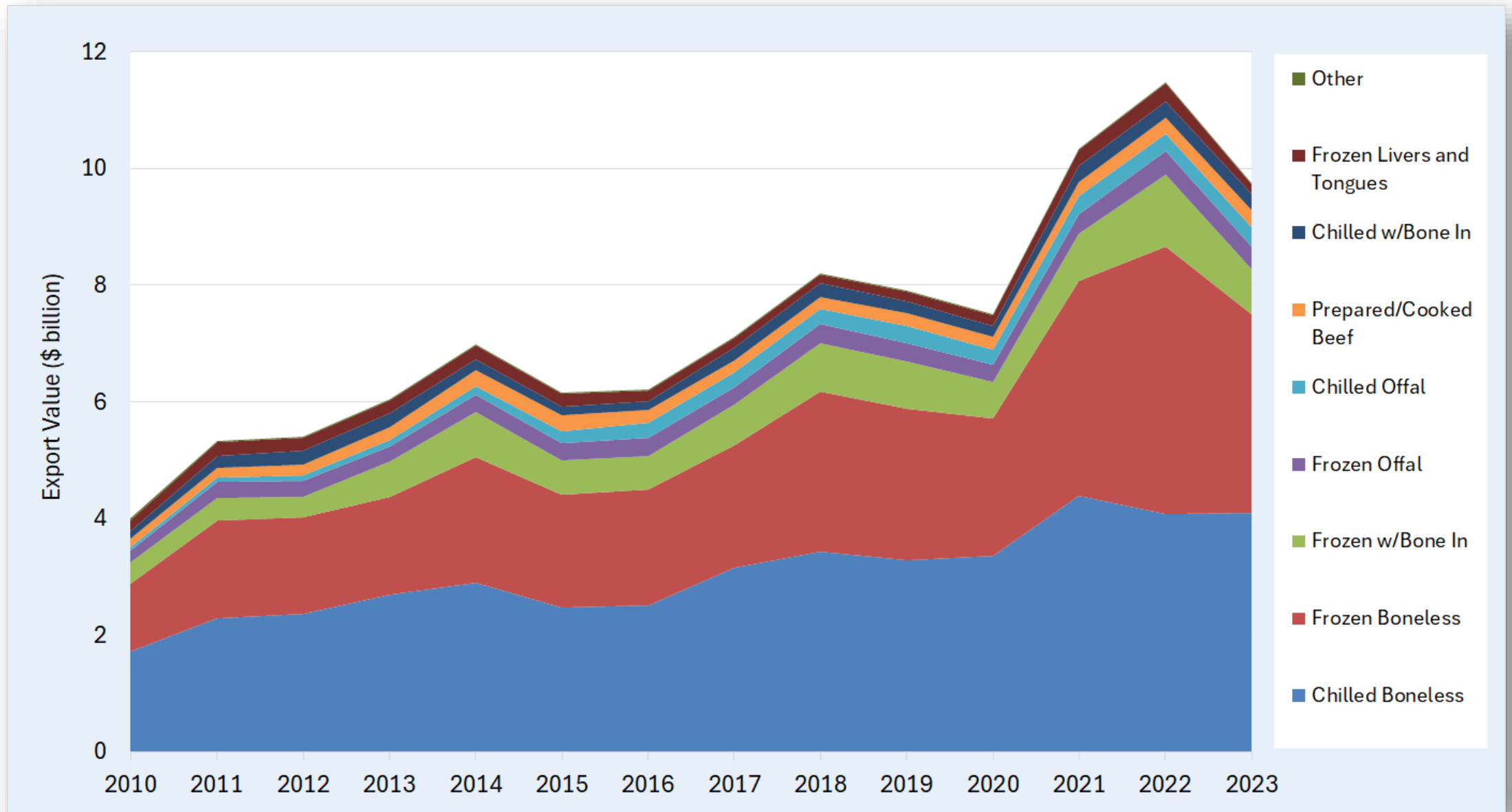
Q = quantity of the demanded good

P = price of the demanded good

Own-Price Elasticity of Demand

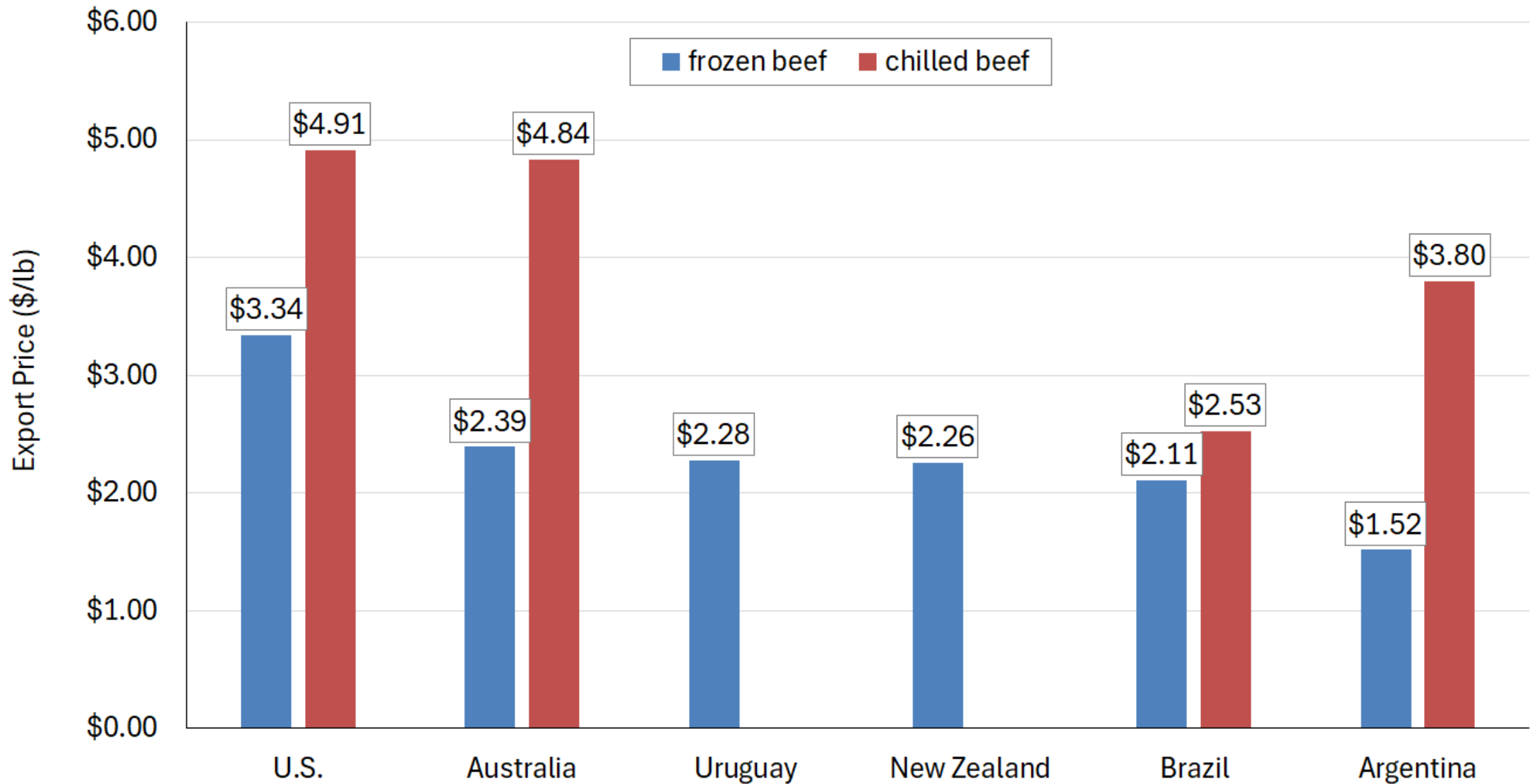% change in the imported quantity given a 1% change in import price.

Cross-price elasticities were also estimates but not reported in the presentation.

U.S. Beef Exports by Product Category: 2010 – 2023

Legend:
- Other
- Frozen Livers and Tongues
- Chilled w/Bone In
- Prepared/Cooked Beef
- Chilled Offal
- Frozen Offal
- Frozen w/Bone In
- Frozen Boneless
- Chilled Boneless

Y-axis: Export Value ($ billion)

Source: U.S. Department of Agriculture, Global Agricultural Trade System (GATS)

Export Prices for Top Countries: 2023

Bar chart showing Export Price ($/lb) for frozen beef and chilled beef by country:

Country	frozen beef	chilled beef
U.S.	$3.34	$4.91
Australia	$2.39	$4.84
Uruguay	$2.28	
New Zealand	$2.26	
Brazil	$2.11	$2.53
Argentina	$1.52	$3.80

HS 0202 – *meat of bovine animals, frozen*, and HS 0201 – *meat of bovine animals, fresh and chilled.*
Source: UN Comtrade Database

Own-price elasticity estimates based on global import demand analysis
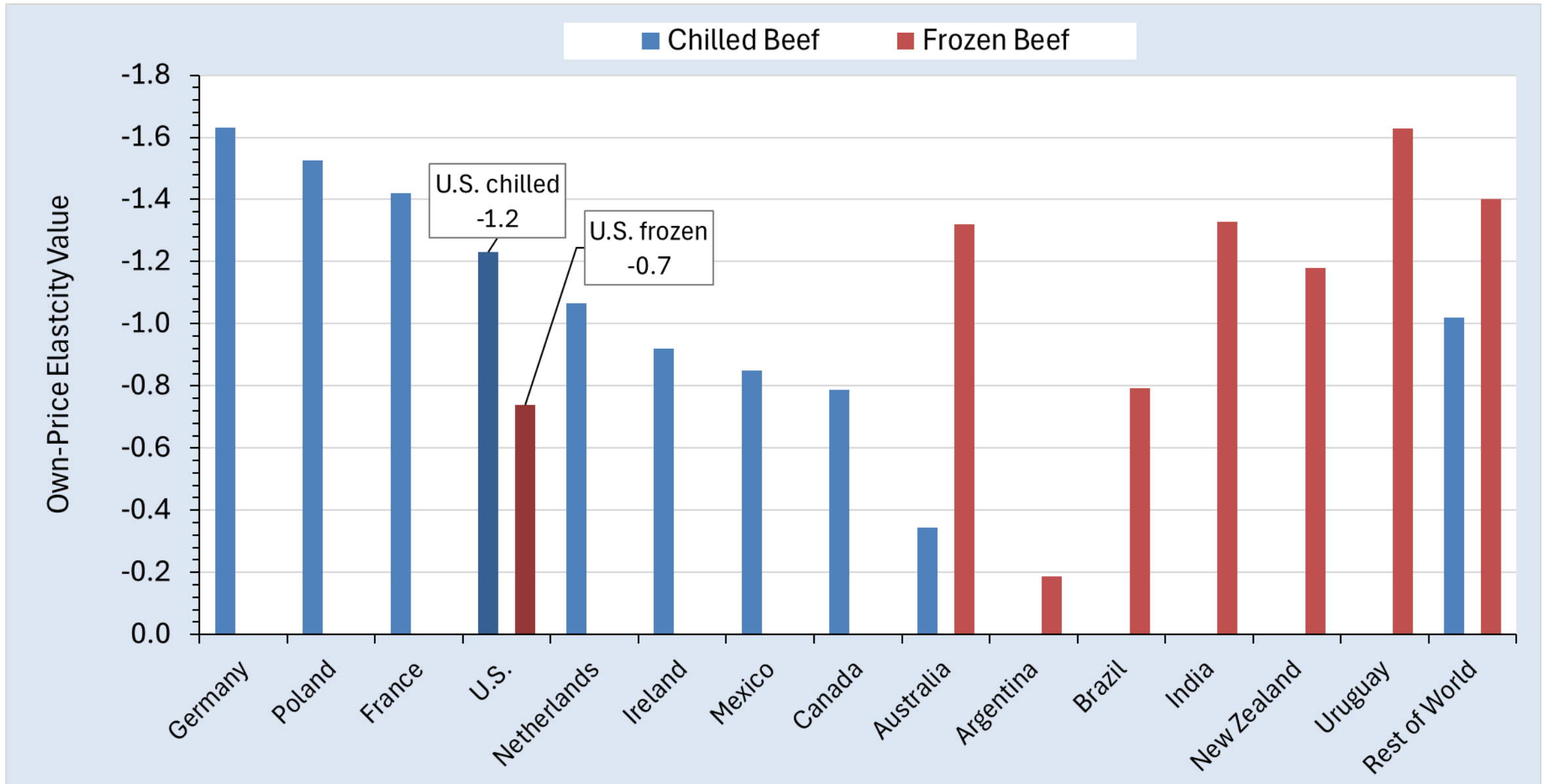
Source: Estimate by Authors based on import data from UN Comtrade.

Quick Facts: Japan

- Second leading market for U.S. beef exports ($1.8 billion).
- Primary competitor is Australia.
- U.S. is now the leading supplier.
- Exceptional recovery since the BSE ban was lifted in 2006.
- Main export is chilled boneless beef.
- USJTA and implications (CPTPP)
- Offal products have a higher value/price than muscle cuts.
- Japanese import data allow for analysis by primal cut (2010:1 – 2023:12).

Import demand own-price elasticity estimates in Japan

| Primal Cut	Country	Elasticity Value
Brisket and Plate	Australia	-2.30
	U.S.	**-1.43**
	ROW	-2.28
Chuck and Round	Australia	-1.49
	U.S.	**-2.08**
	ROW	-2.40
Loin and Other	Australia	-1.58
	U.S.	**-1.12**
	ROW	-1.48

Note(s): Long-run uncompensated own-price elasticities. Estimates are significant at the 0.01 level.

Quick Facts: China

- In 2019, China became the largest beef importing country in the world ($8.2 billion); China imported a record $18.0 billion by 2022.
- Third leading market for U.S. beef exports ($1.7 billion).
- Primary competitor is Brazil, the leading supplier.
- Exceptional recovery since the BSE ban was lifted in 2016.
- Main export is frozen boneless beef.
- Trade war and Phase One Trade Deal: both impacted Chinese demand for U.S. beef.
- Analysis examines implications of the BSE ban.

Chinese beef imports: 2013-2023
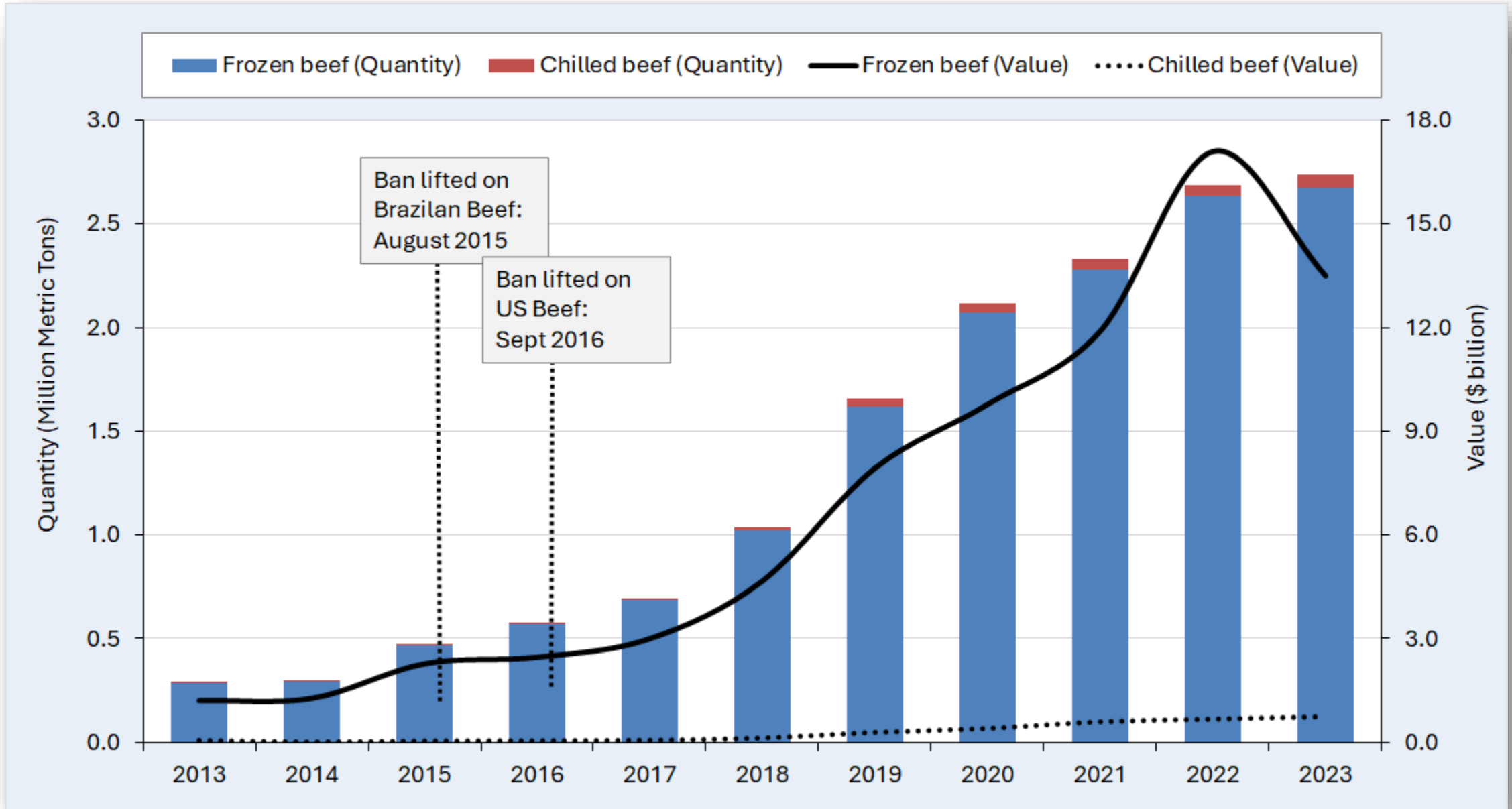
Source: U.S. Department of Agriculture, Global Agricultural Trade System (GATS)

Short-run own-price elasticity (uncompensated) in China ($\partial \ln q_i / \partial \ln p_i$)

	2016:1 - 2023:12	2018:1 - 2022:10
Argentina	-1.66***	-1.15***
Australia	-0.76***	-0.95***
Brazil	**-0.43***	-0.52***
New Zealand	-0.66***	-0.78***
Uruguay	-1.55***	-0.95**
U.S.		**-1.39***
ROW	-0.46***	-1.71**

Note: Standard errors are in parenthesis. ***, **, and * denote significance levels 0.01, 0.05, and 0.10, respectively. ROW is *rest of world*.

Global Beef and Veal Exports: 2000 – 2023/24
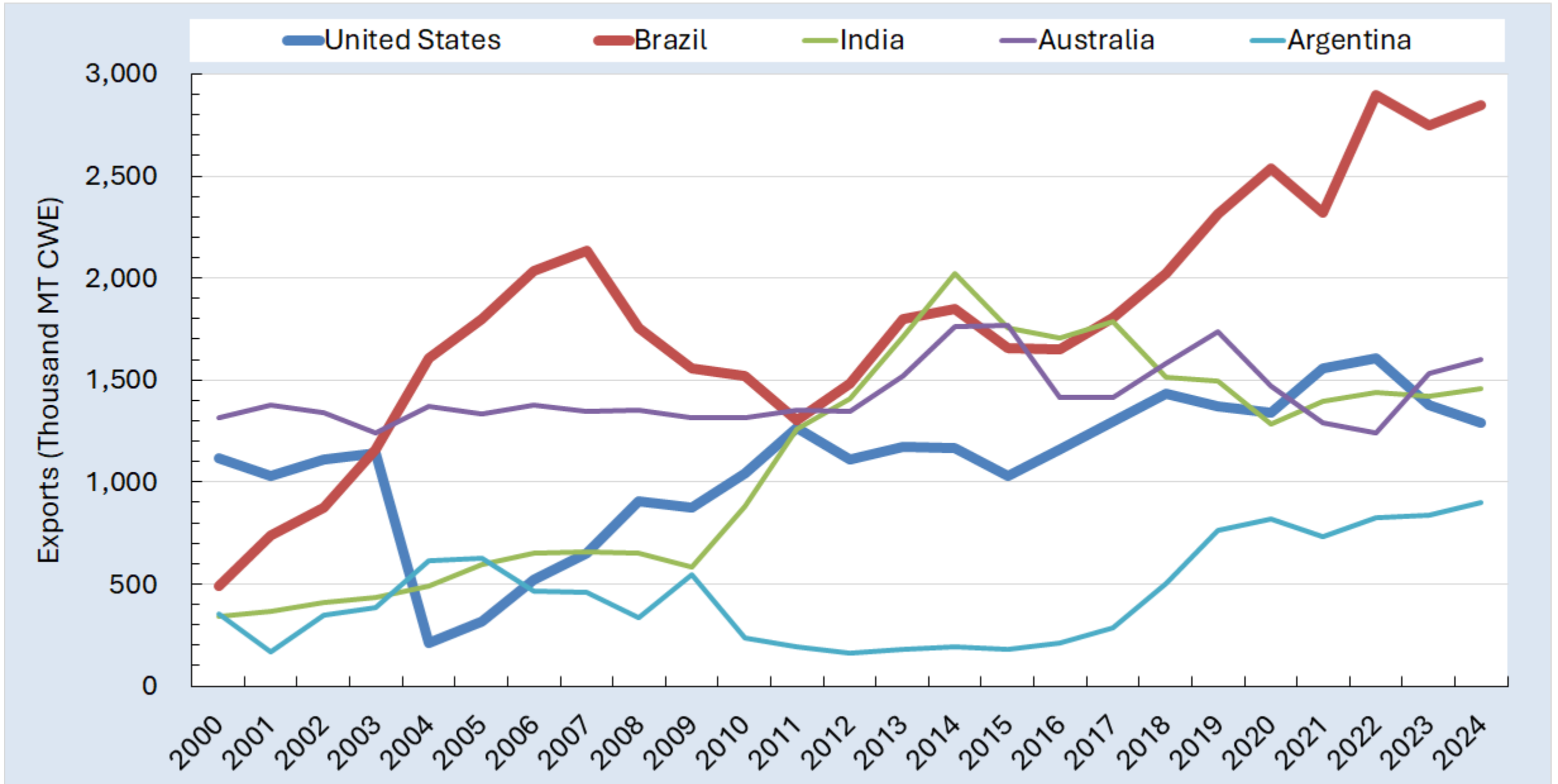
Source: U.S. Department of Agriculture, FAS PSD Database

Papers in Review (and in Progress)

(In Review) "Analysis of Japanese Beef Imports: Exploring Source and Primal Differentiation and their Implications for Tariff Liberalization" Muhammad, Andrew, Md Deluair Hossen, and Karen Lewis DeLong

(In Progress) "The Rise of Beef Demand in China: Effects of Policy and Exporter Competition" Muhammad, Andrew, Md Deluair Hossen, and Constanza Valdes

(In Progress) "Impacts of Product Form on Japanese Beef Demand" Slater, Christina Slater, Andrew Muhammad, and Karen Lewis DeLong

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