

Adjustments for Economic Indicators

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Overview

- Construction Price Indexes
- International Trade Real Data
- Monthly Real Dollar Estimates of Wholesale Sales

Construction Price Indexes

Available Price Indexes

- Single-family houses sold
 - Published quarterly at the national level.
 - Published annually at the regional level.
 - Laspeyres type index only.
- Single-family houses under construction
 - Published monthly and annually.
 - Only a national index is published.
 - Laspeyres and Fisher.

Available Price Indexes

- Multifamily housing units under construction
 - Published quarterly at the national level
 - Fisher type index only

All indexes and their methodology available here:
<https://www.census.gov/construction/cpi/current.html>

Data Sources

- U.S. Census Bureau
 - Survey of Construction (SOC) provides sales prices (single family and housing characteristics collected from the monthly
 - Value Put in Place Survey (VIP) provides multifamily housing value and units, construction start and end dates
- Bureau of Labor Statistics(BLS) provides weekly wage data by state
- National Oceanic and Atmospheric Administration (NOAA) provides cooling degree day data by state

Price Index Methodology

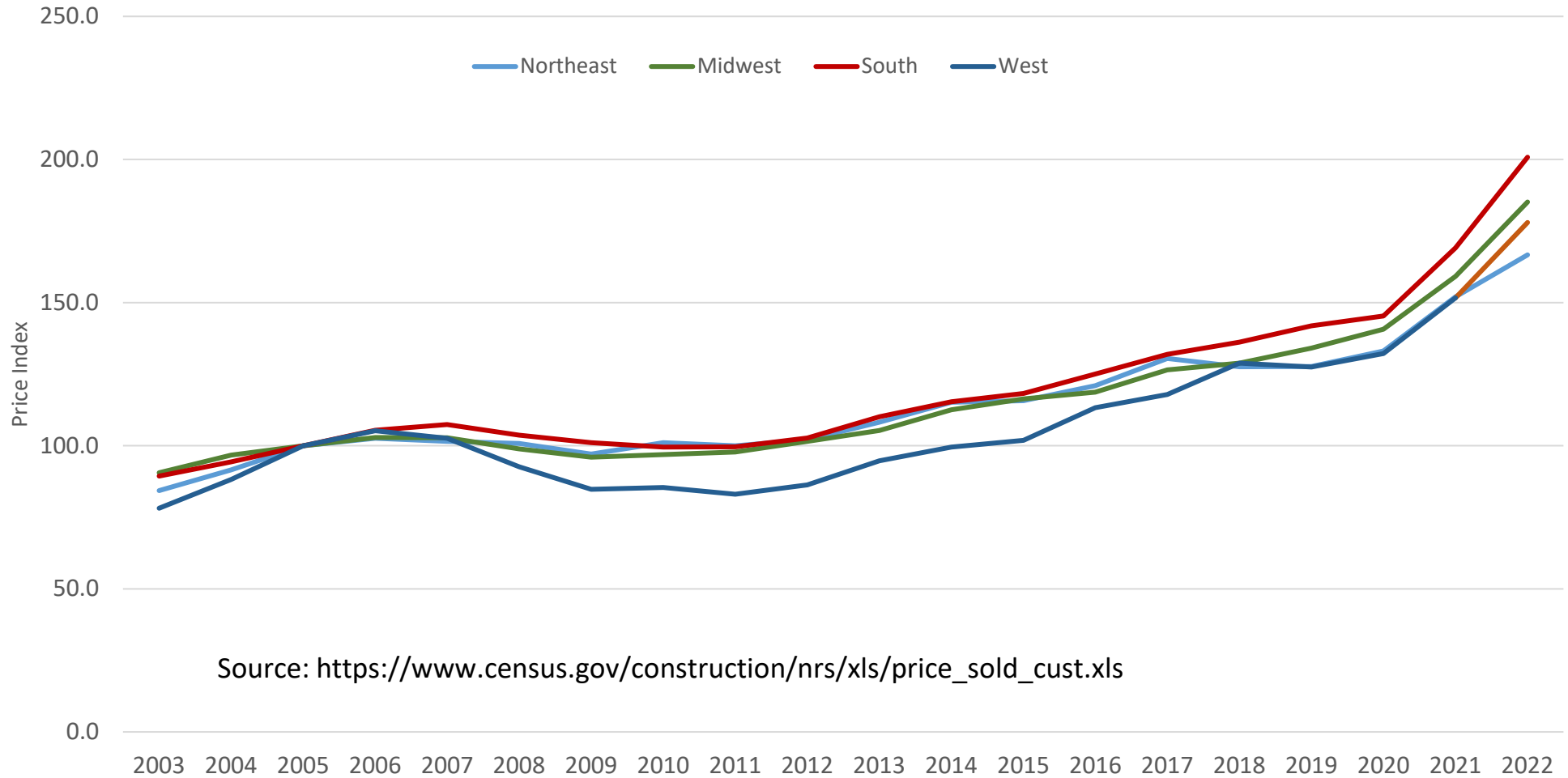
There are three types of price indexes:

- Laspeyres (Constant Quality)
 - Answers the question “How much is the sales price today for the same quality house as in the base period?”
- Paasche (Output Deflator)
 - Answers the question, “What is the difference in price in today’s average house in today’s dollars versus the same house in base period dollars?”
 - Quality not held constant
- Fisher Ideal (Price Deflator)
 - Answers the question, “What is the (unbiased) value of today’s homes being constructed in current dollars?”

Examples of Characteristics (single-family)

- Log of square footage (floor area)
- Geographic Location (Divisions or specific states)
- Metropolitan area location (MW only)
- Number of Bedrooms/Bathrooms
- Number of Fireplaces
- Type of Parking Facility(no garage/1-2 car/3+ car)
- Presence of a deck
- Type of Foundation (no basement/finished/unfinished)
- Construction Method (Stick-built/Modular)- (MW only)
- Primary Exterior Wall Material (groupings region specific)
- Heating System (NE and WE only)
- Type of Ownership (Condo by region)
- Central A/C

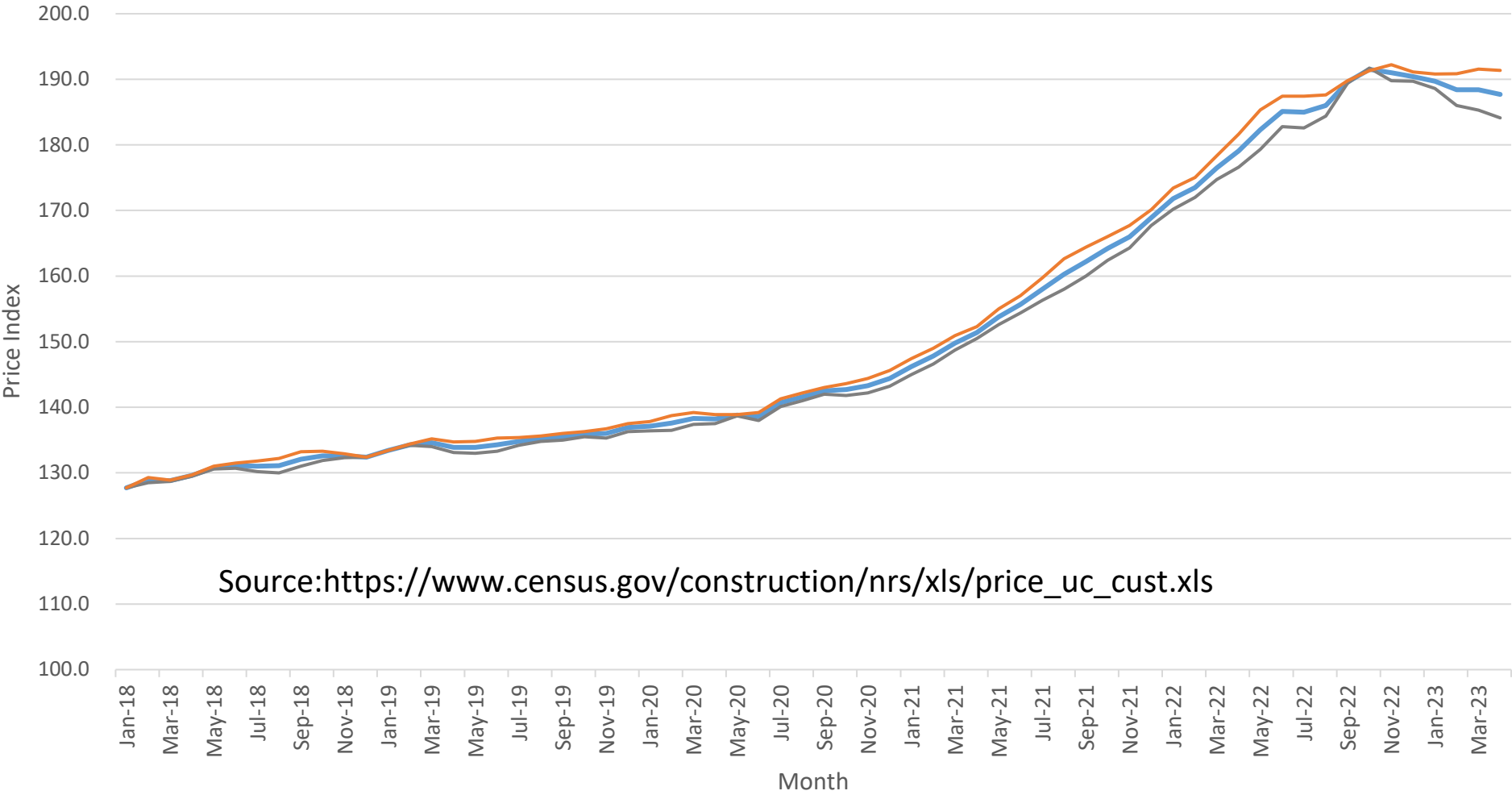
Price Index (Laspeyres) of New Single-Family Houses Sold



Source: https://www.census.gov/construction/nrs/xls/price_sold_cust.xls

Price Indexes of New Single-Family Houses Under Construction

Fisher (Deflator) Laspeyres (Fixed) Paasche

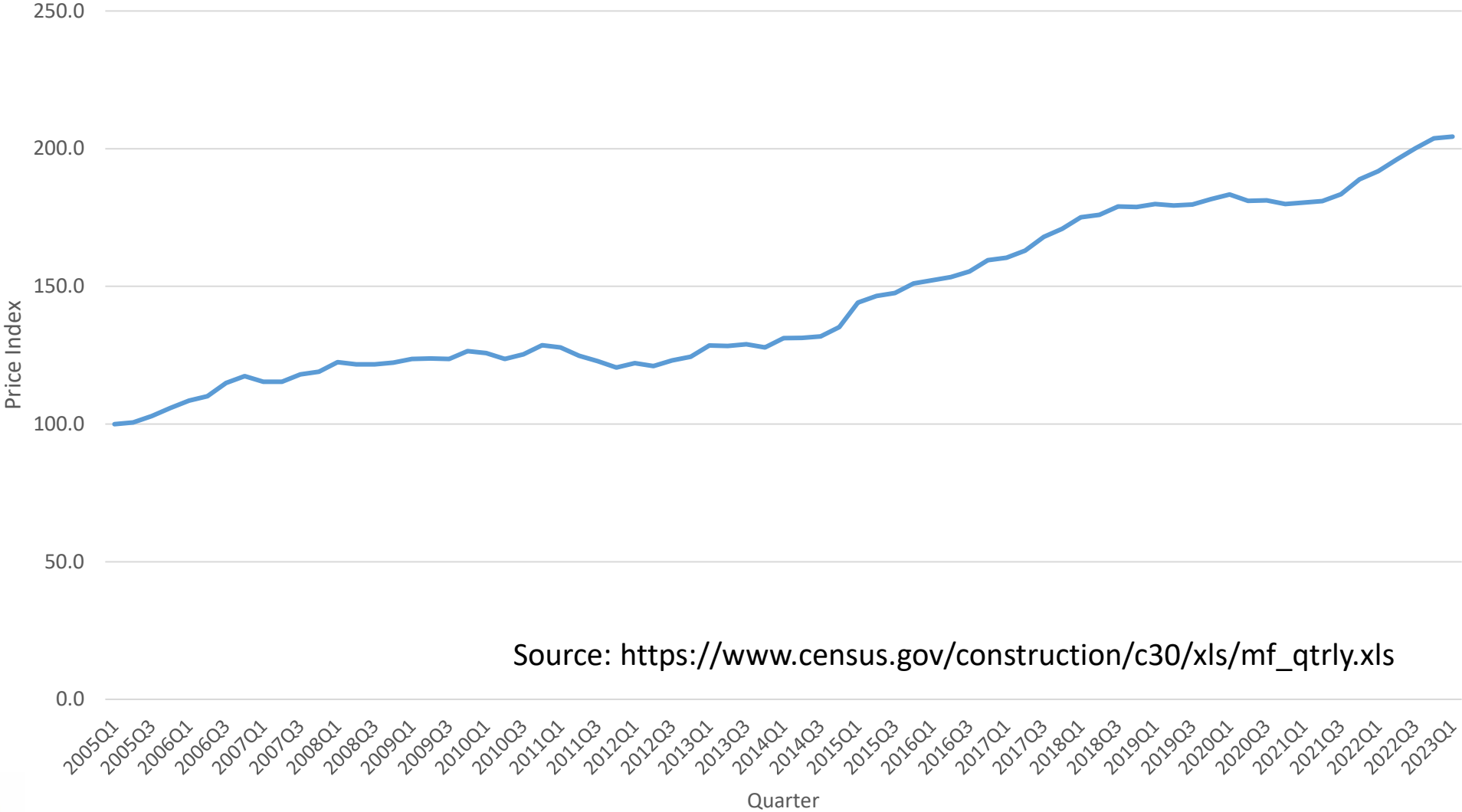


Source: https://www.census.gov/construction/nrs/xls/price_uc_cust.xls

Examples of Characteristics (multifamily)

- LOG of square feet per unit
- LOG of number of units
- Bathrooms per unit
- Bedrooms per unit
- Proportion of units with A/C
- Proportion of units with parking
- Proportion of units in buildings with 4 or more floors
- Weekly wage rate data (by State)
- Cooling degree days data (by State)

Price Deflator(Fisher) Index of Multifamily Residential Units Under Construction



Source: https://www.census.gov/construction/c30/xls/mf_qtrly.xls



International Trade Real Data

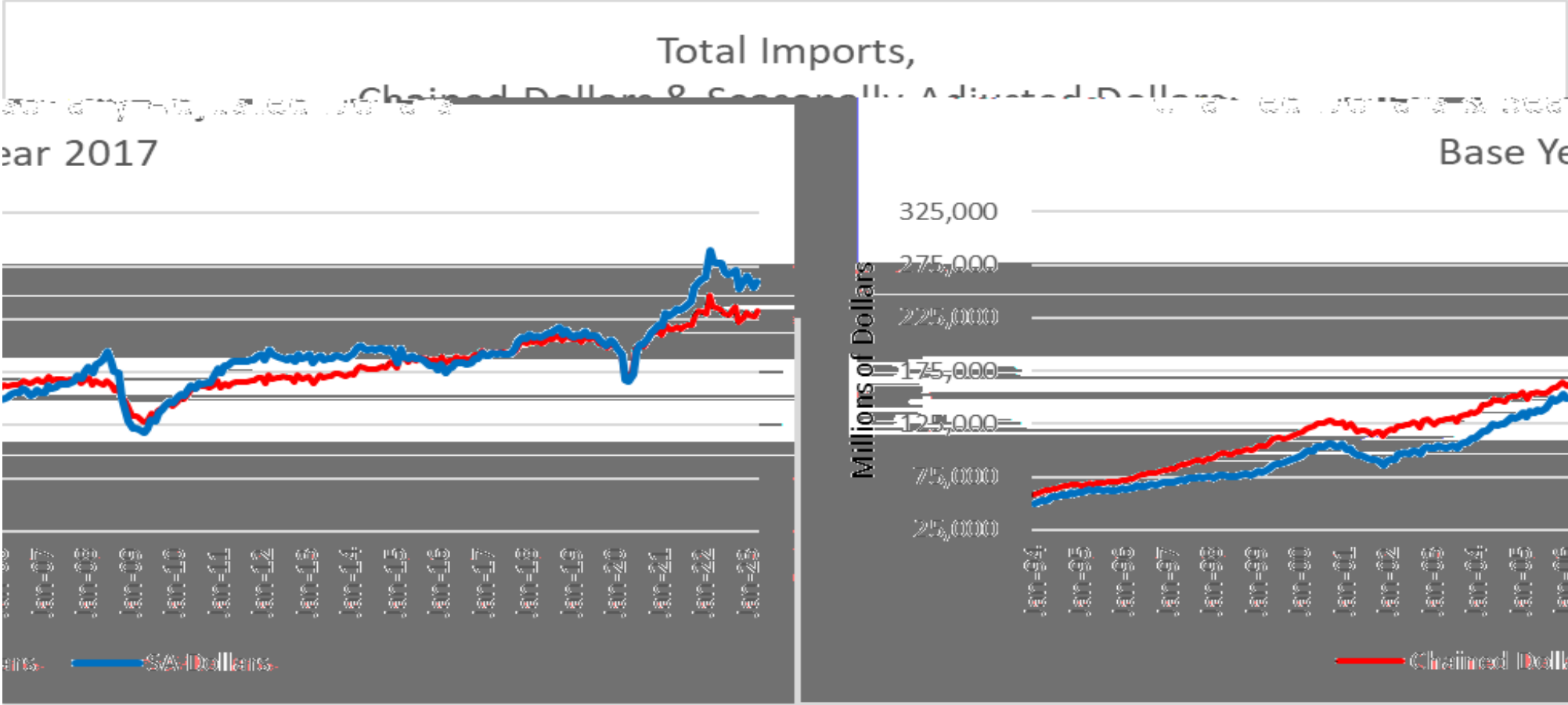
ITP Real Dollar Adjustment

- Adjust import/export data for price changes (inflation/deflation)
- Prices used back to 1994
- Adjusting prices depends on a base year, the year the dollar value is based on
- Base year updated every five years (will be 2017 with upcoming Annual Revisions)
- Use BLS indexes and trade data to calculate deflators on a monthly basis
- Some deflators are seasonally adjusted
- Chained dollar methodology used for press release exhibits

ITP Real Dollar Adjustment

- 291 import/export end-use series deflators
- More than 35 chained-dollar categories (18 for the U.S. International Trade in Goods and Services) for imports and exports
- Create graphs and reports each month to identify and explain larger price changes

Total Imports - Goods

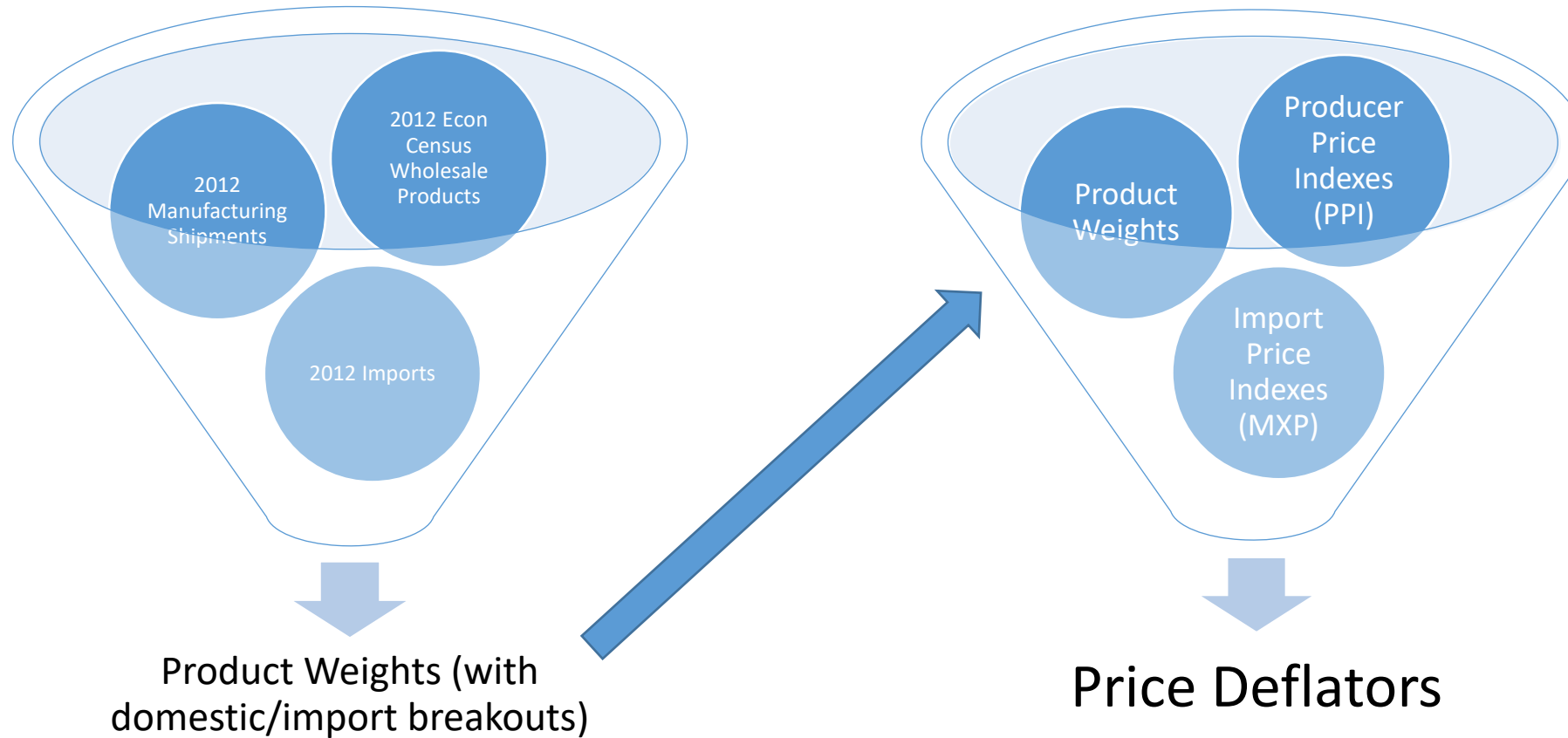


Monthly Real Dollar Estimates of Wholesale Sales

Real Dollar Estimates of Wholesale Sales

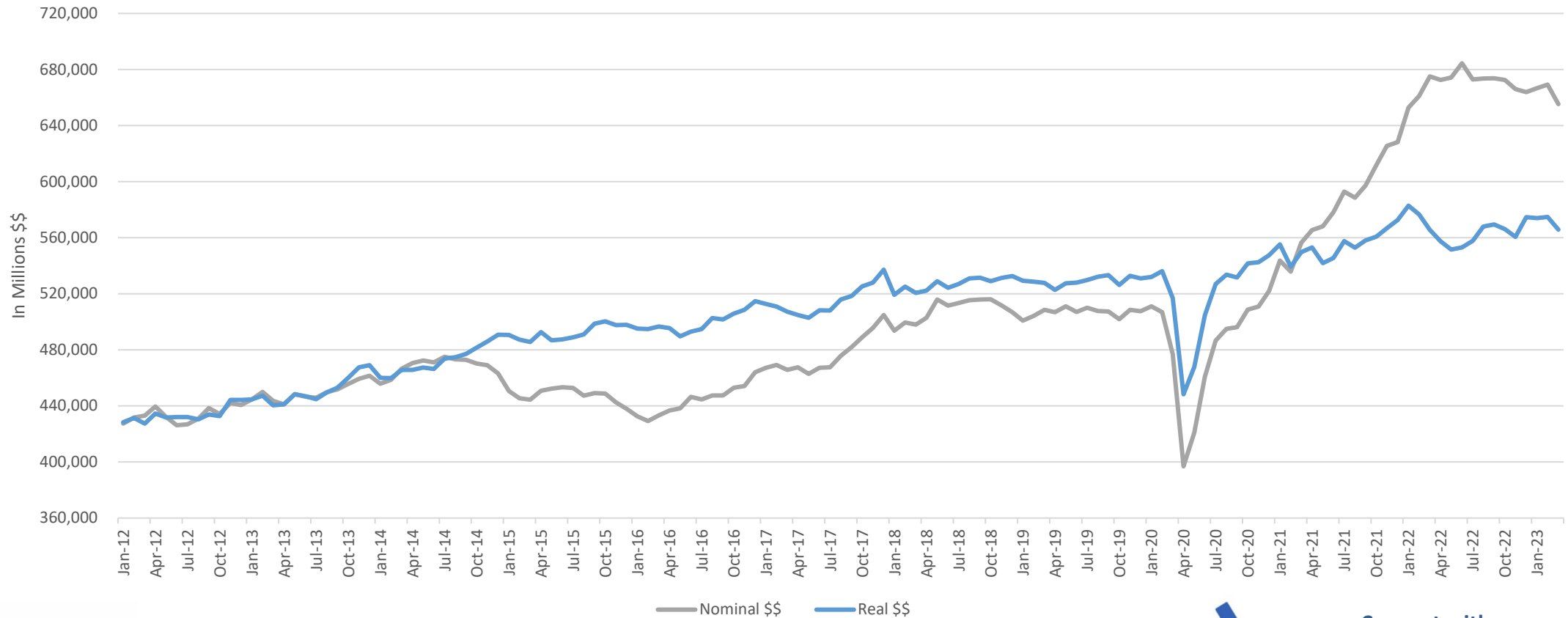
- Coverage to match MWTS (only merchant wholesale excluding MSBOs)
- All 4-digit wholesale NAICS, plus Total Wholesale, Durable/Nondurable goods
- Time series starting in 2012 (Base year = 2012 as well)
- First released as an experimental data product on September 19, 2022
- Follows the lead of International Trade and BEA price adjustment processes
- Leverages published wholesale and import data from Census and Bureau of Labor Statistics (BLS)

From Nominal to Real



Census Real vs Nominal Wholesale Sales

Total Merchant Wholesale Sales, Except MSBO's
Base Year = 2012, Seasonally Adjusted



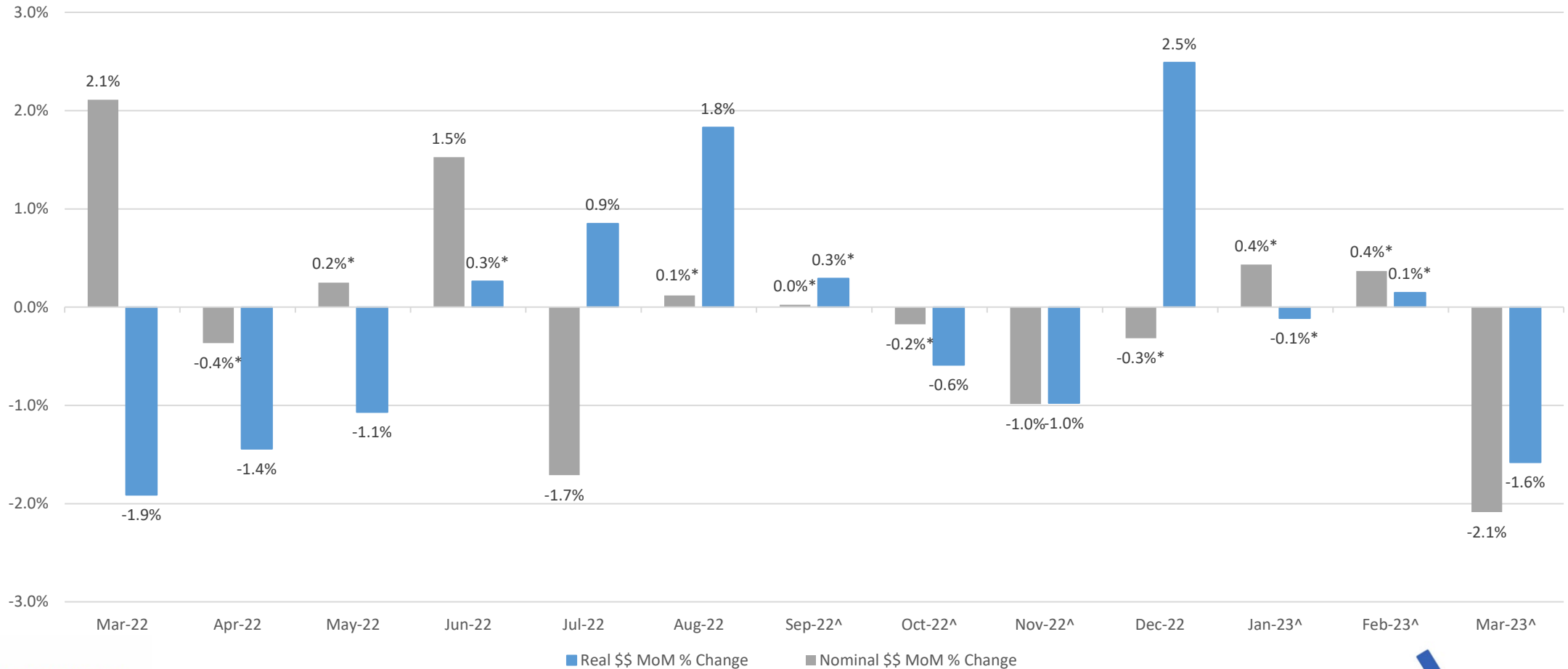
Sources: U.S. Census Bureau, Monthly Wholesale Trade Survey, March 2023, released May 8, 2023
U.S. Census Bureau, Monthly Real Dollar Estimates of Wholesale Sales, March 2023



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Census Real vs Nominal Wholesale Sales

Total Merchant Wholesale Sales, Except MSBO's
Base Year = 2012, Seasonally Adjusted



* The 90 percent confidence interval includes zero. There is insufficient evidence to conclude that the actual change is different from zero
 ^ Month-over-month percent changes for nominal dollar and real dollar estimates are not significantly different at the 90% confidence interval
 Sources: U.S. Census Bureau, Monthly Wholesale Trade Survey, March 2023, released May 8, 2023
 U.S. Census Bureau, Monthly Real Dollar Estimates of Wholesale Sales, March 2023, released May 8, 2023

