



2022.10.05 ICIS: Global Industry & Economic Outlook and USA Demographic Shifts

Webinar

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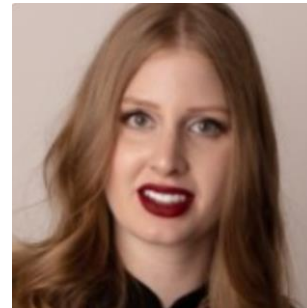
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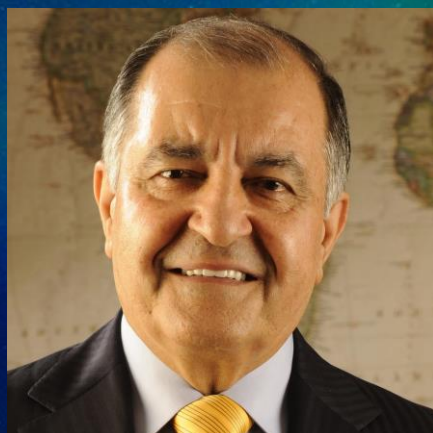


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11.10 Unleashing the Transformational Power of Diversity in STEM



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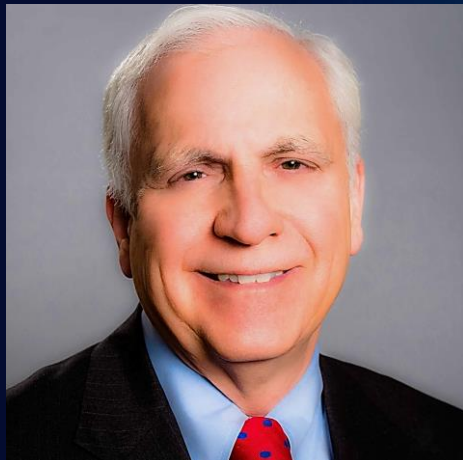
Agenda

01. Introduction

02. Presentation

03. Open Q&A session

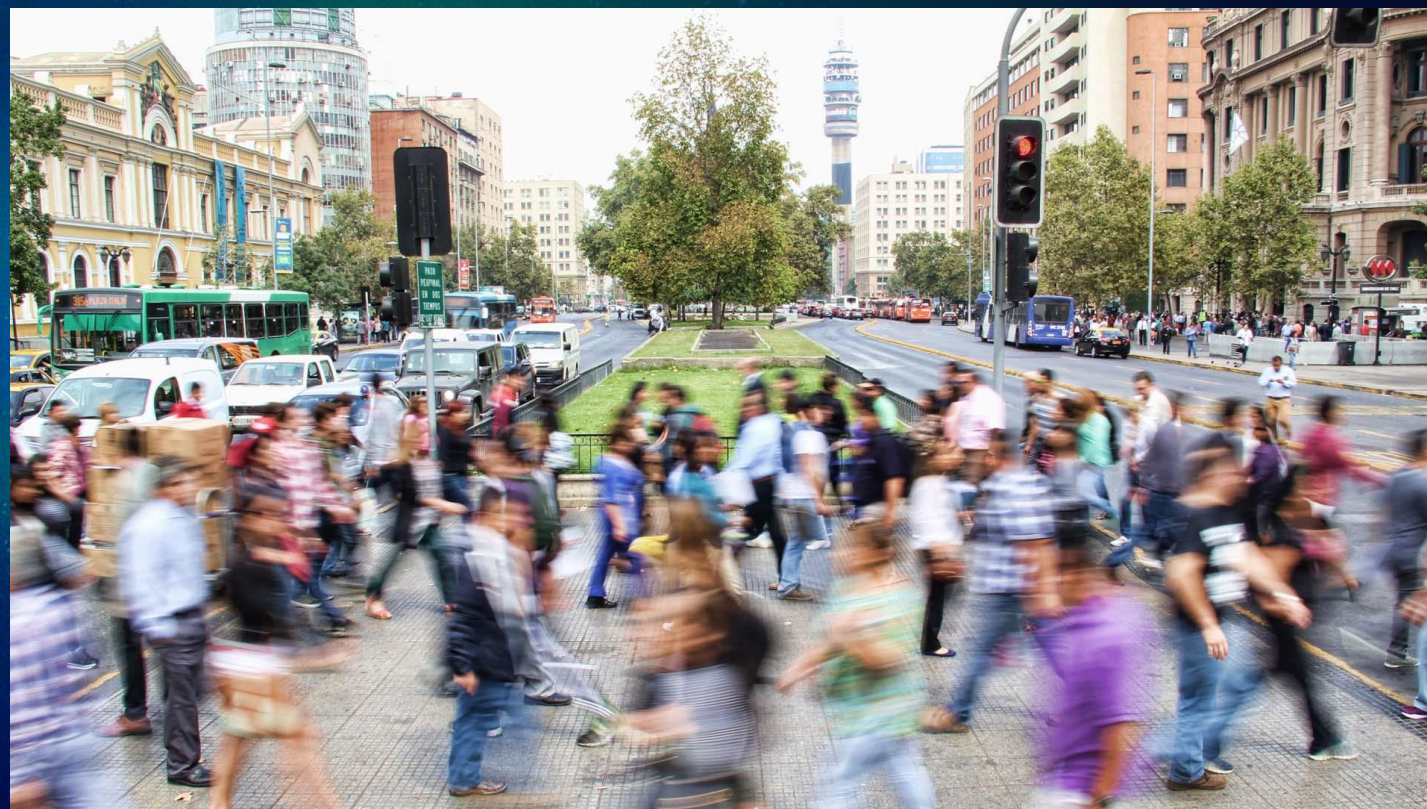
10.05 Webinar: Global Industry & Economic Outlook and USA Demographic Shifts



Kevin Swift

ICIS

Sr Economist for Global Chemicals



Global Industry & Economic Outlook and USA Demographic Shifts

Chemical Marketing & Economics

5 October 2022

Kevin Swift

Senior Economist for Global Chemicals

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Outlook for economic growth being slashed...



Real GDP outlook – September vs. February

Year	World	Russia	Euro Area	United Kingdom	United States	China
February:						
2021	5.8	4.4	5.3	7.4	5.7	8.1
2022	4.4	2.6	4.0	4.7	3.7	5.2
2023	3.3	1.8	2.3	2.3	2.5	5.2
September:						
2022	2.6	-6.5	2.8	3.4	1.8	2.9
2023	1.7	-2.7	-0.2	0.0	0.4	4.6
2024	2.8	1.7	1.9	1.7	1.6	4.8

...while outlook for inflation being raised



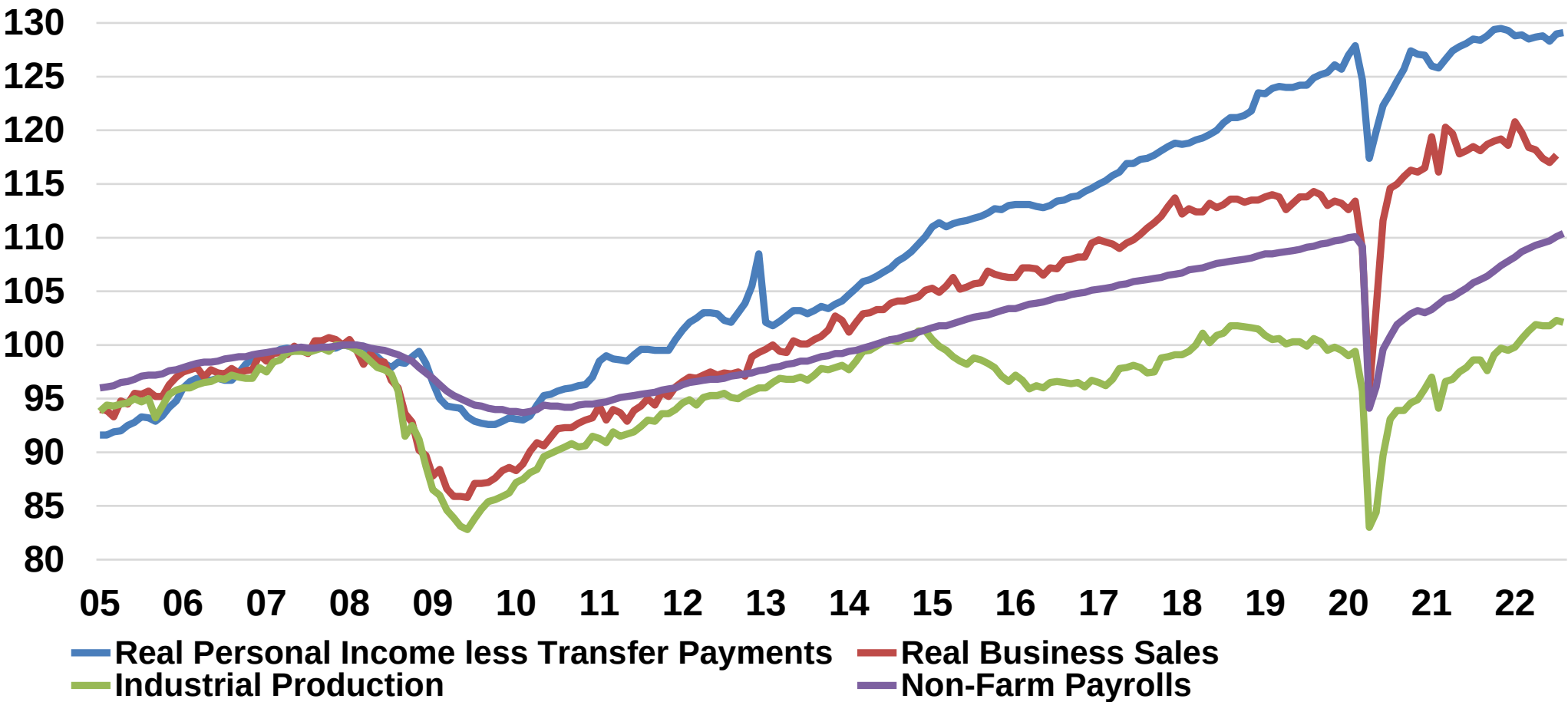
Inflation (CPI) outlook – September vs. February

Year	World	Russia	Euro Area	United Kingdom	United States	China
February:						
2021	3.8	6.7	2.6	2.6	4.7	0.9
2022	3.9	5.7	3.3	4.8	5.6	2.2
2023	3.1	4.2	1.8	2.5	2.6	2.3
September:						
2022	7.6	15.8	8.2	9.1	8.0	2.4
2023	4.7	8.7	4.9	5.7	4.0	2.3
2024	3.4	6.9	2.2	2.3	2.5	2.0



Four key indicators used by NBER to determine peaks and troughs in the U.S. business cycle are mixed

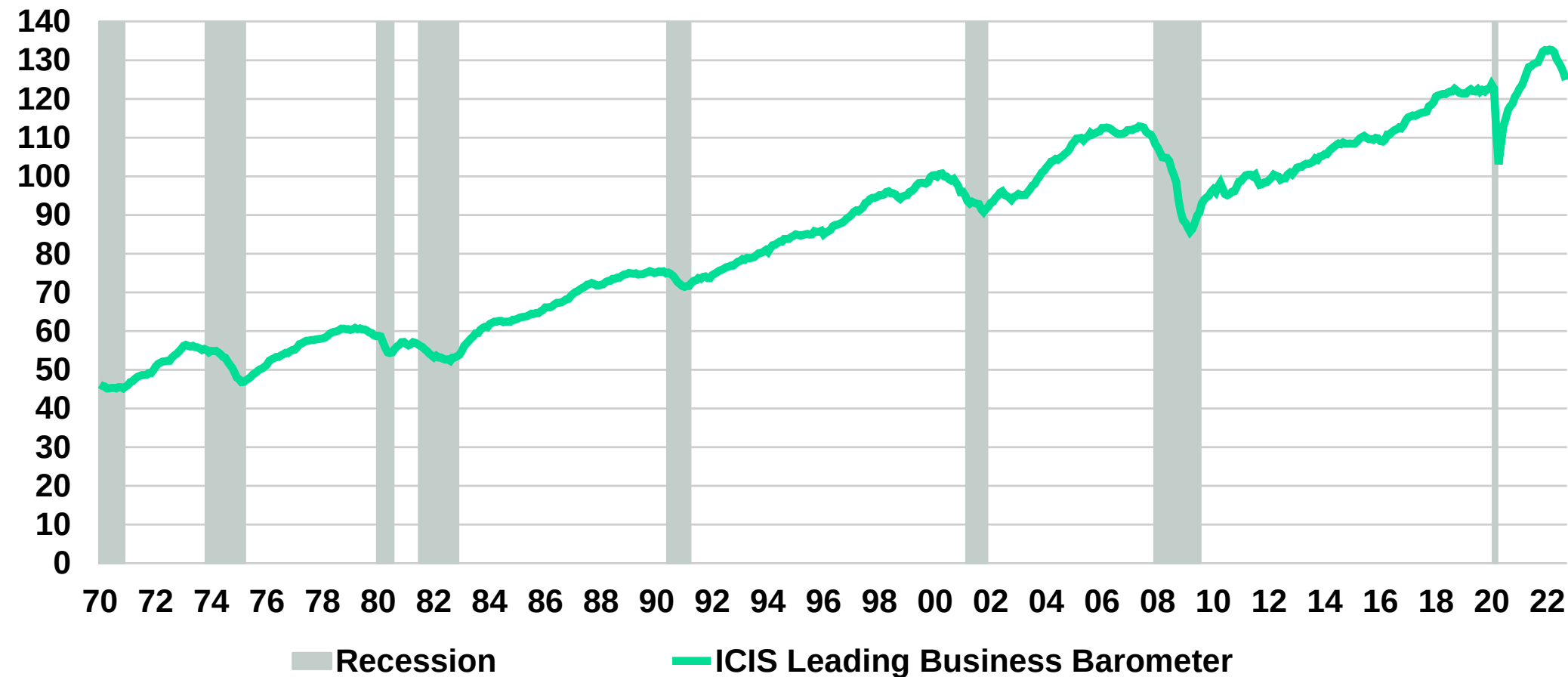
Indexed where Previous Business Cycle Peak (December 2007) = 100





The ICIS leading business barometer fell again in September, with signals suggesting a turn in the economic cycle

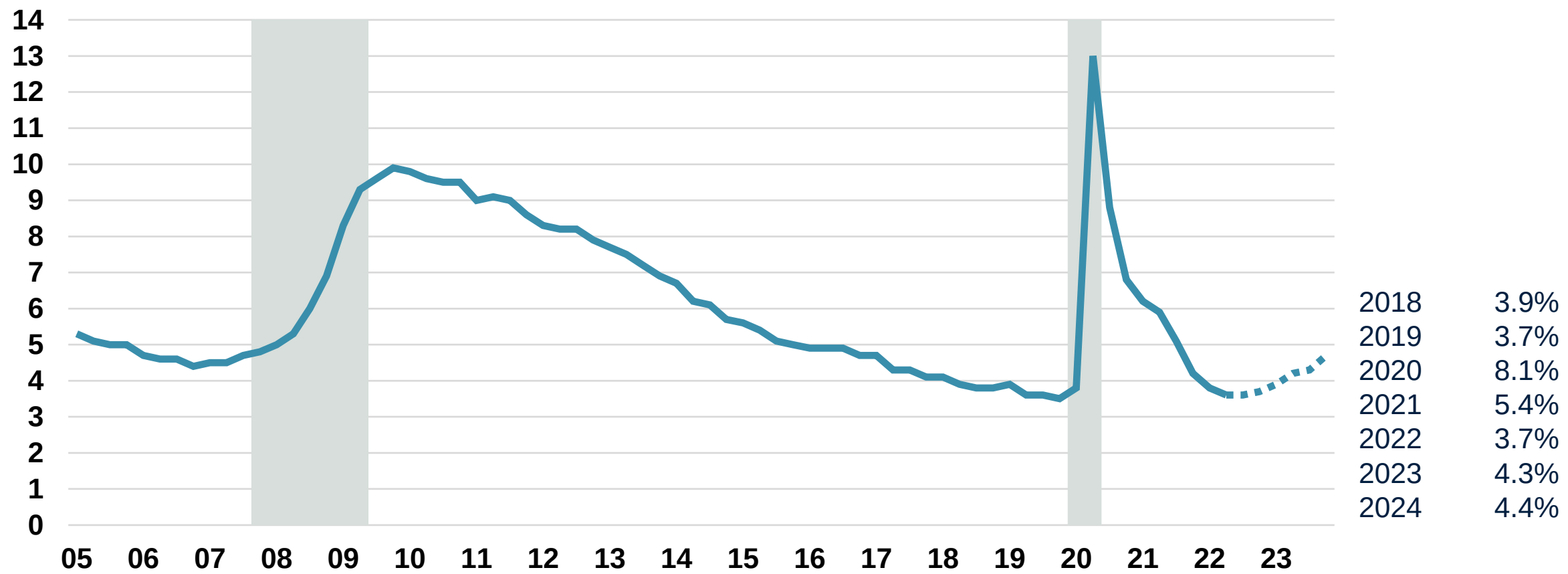
Index where 2012 = 100



Despite economic slowdown (and recession?) demographics suggest tight labor markets and relatively low unemployment rate



Unemployment Rate (%)

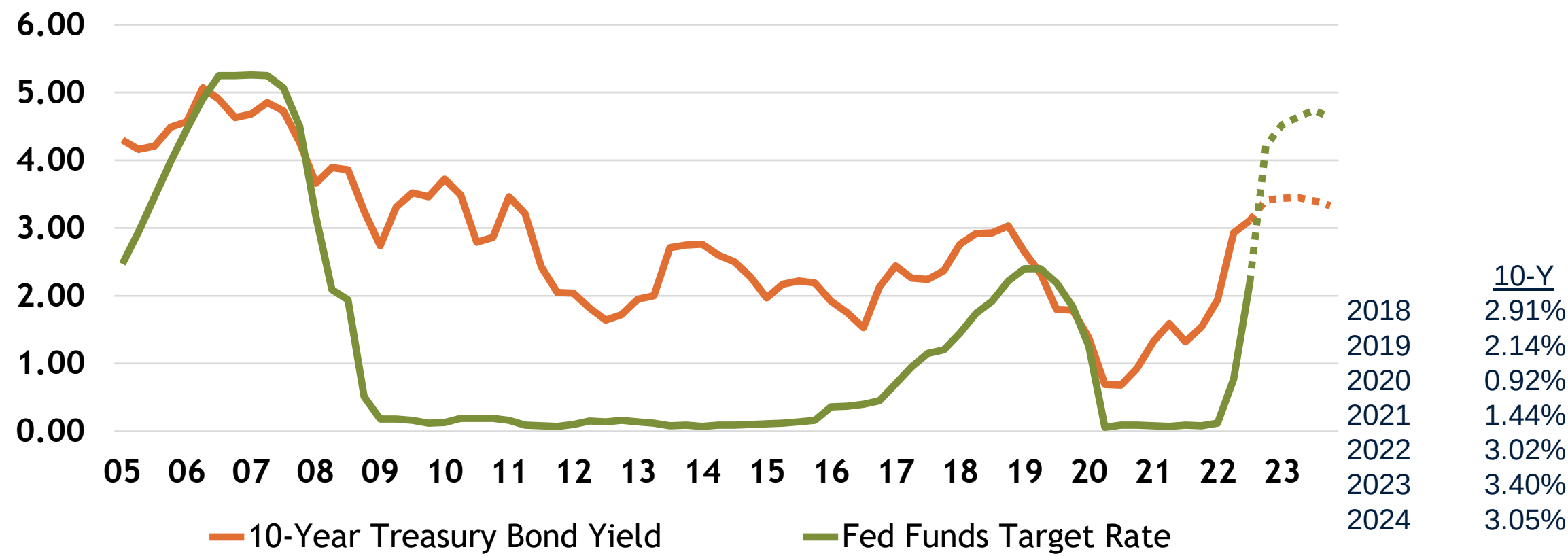


Sources: Bureau of Labor Statistics and ICIS analysis

Interest rates are edging up and yield curve is inverting



Fed Funds Target Rate and 10-Year Treasury Note Yields (%)

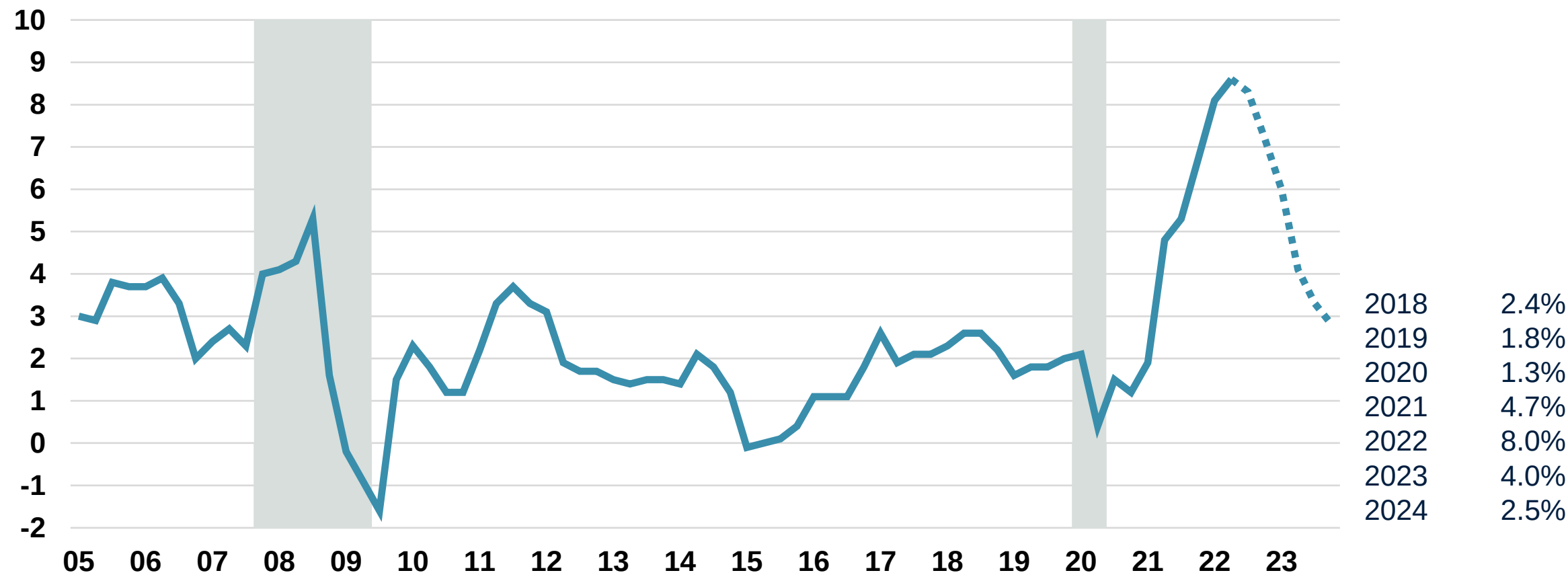


Sources: Federal Reserve and ICIS analysis



With supply chain issues and too much monetary and fiscal stimulus, inflation is running “hot” but has likely peaked

% Y/Y Change in Consumer Prices

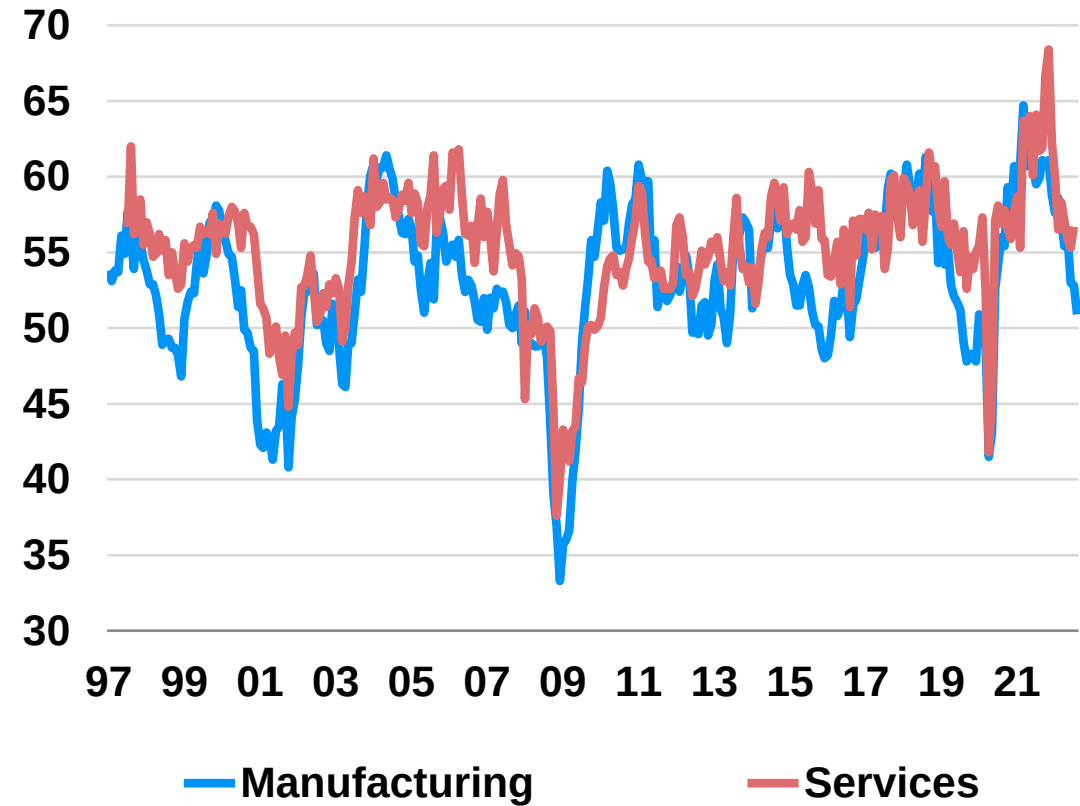


Sources: Bureau of Labor Statistics and ICIS analysis

US PMIs point to slowing growth



Diffusion Index



Manufacturing PMI Details



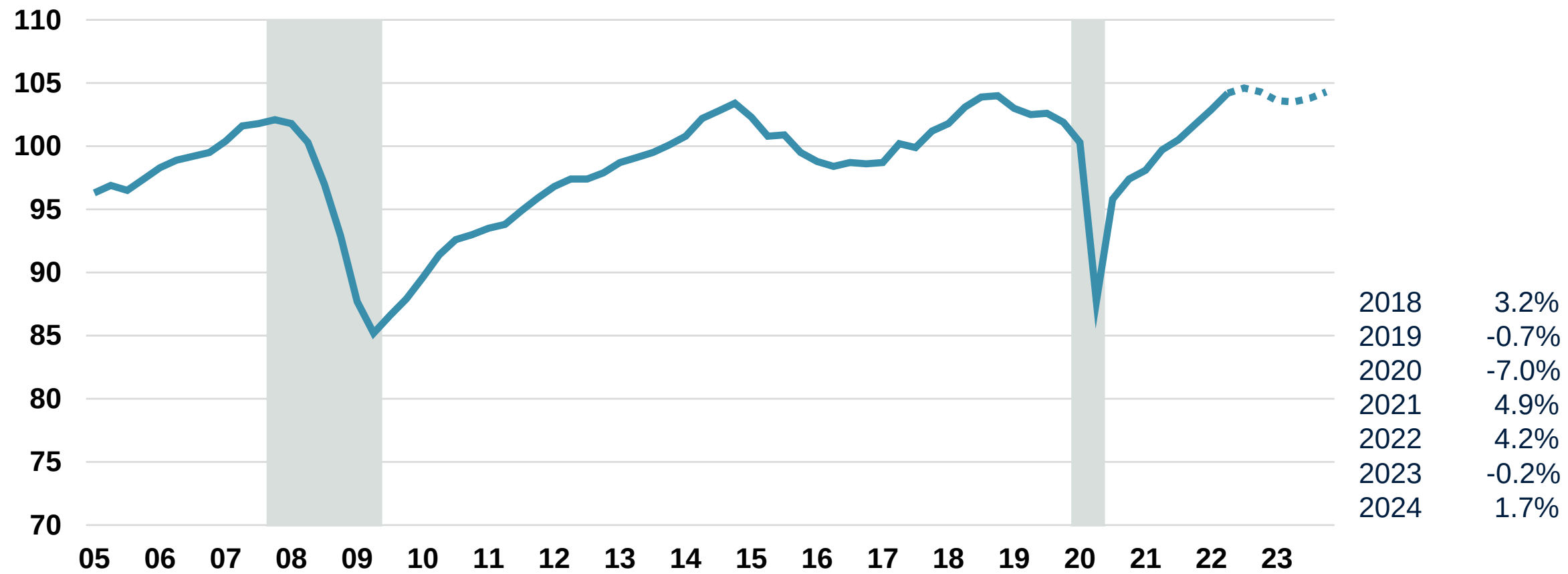
Note: An index of 50 or over indicates that the sector is expanding, while an index below 50 indicates that it is declining.

Source: Institute for Supply Management



Good start to year but industrial production will wane amid softening end-use demand, high dollar, and inventory correction

Industrial Production – Index where 2017=100 (SAAR)



Sources: Federal Reserve and ICIS analysis

Resilient US industrial growth in 1Q but slowing in 2H and into 2024

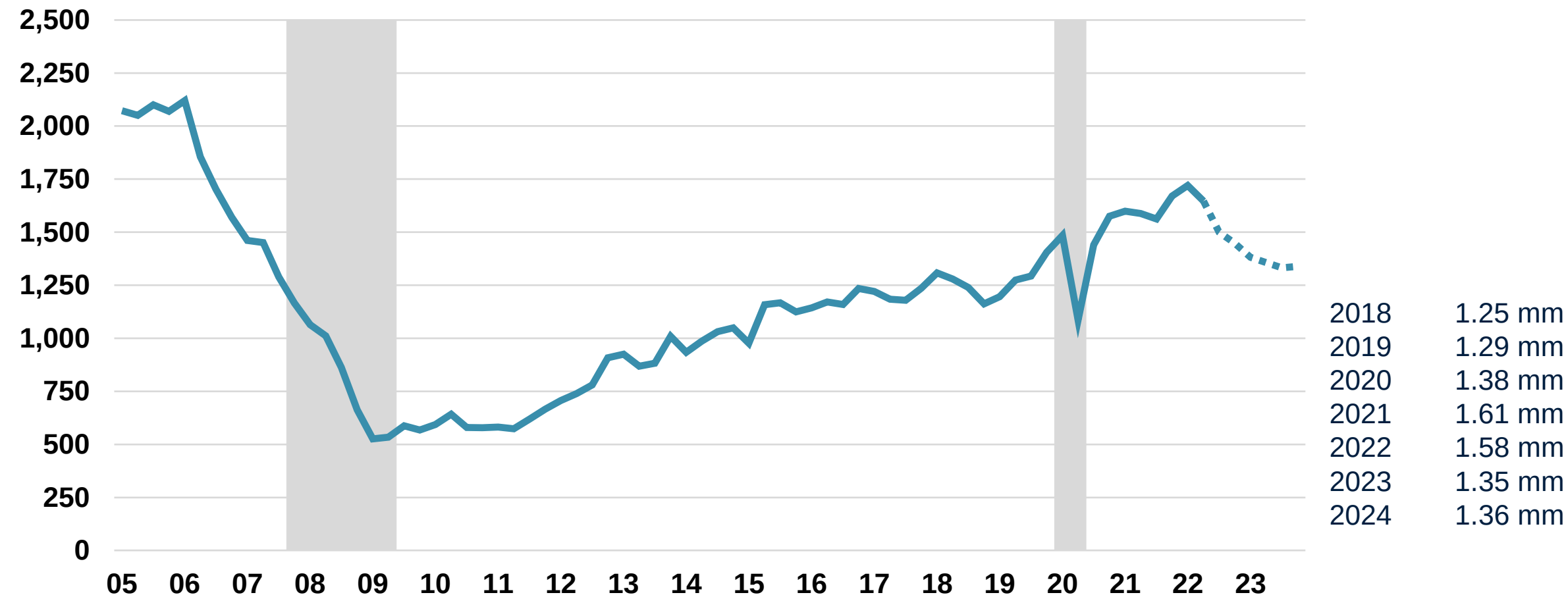


Industry / % Change in Output	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Industrial Production	3.2	-0.8	-7.2	5.4	4 $\frac{1}{4}$	- $\frac{1}{4}$	1 $\frac{1}{2}$
Food, Beverages & Tobacco	-0.2	-0.3	-1.4	1.9	2 $\frac{1}{4}$	1	1
Textile Mill Products	-1.4	-2.1	-9.3	6.0	$\frac{1}{2}$	-2 $\frac{1}{2}$	-3
Paper	-0.9	-0.8	-4.3	0.3	1 $\frac{1}{2}$	$\frac{3}{4}$	- $\frac{1}{4}$
Printing	0.4	-3.6	-12.1	7.4	4	-1	$\frac{1}{4}$
Petroleum Refining	-0.1	0.0	-16.1	7.2	6 $\frac{1}{2}$	$\frac{1}{2}$	1
Pharmaceuticals	-2.9	0.6	-1.1	11.1	4 $\frac{1}{4}$	1 $\frac{3}{4}$	1 $\frac{3}{4}$
Chemicals	-0.4	-5.6	-3.5	1.4	5 $\frac{3}{4}$	$\frac{1}{2}$	1
Plastic Products	2.3	-2.4	-4.9	5.2	6	2	2 $\frac{1}{4}$
Tires & Rubber Products	6.1	-4.9	-19.3	11.0	2	1 $\frac{3}{4}$	1 $\frac{1}{2}$
Wood Products	0.4	-4.8	-2.4	5.5	3 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$
Iron & Steel	3.4	-6.1	-16.9	19.2	-3 $\frac{1}{4}$	1	2
Fabricated Metal Products	4.6	-2.0	-7.6	4.1	5 $\frac{1}{2}$	$\frac{3}{4}$	1 $\frac{3}{4}$
Machinery	4.6	-3.1	-6.1	10.6	7 $\frac{1}{2}$	1 $\frac{1}{4}$	2
Computers & Electronics	4.9	0.9	3.7	8.0	4 $\frac{3}{4}$	1 $\frac{1}{2}$	2
Semiconductors & Components	6.3	-0.2	3.7	11.8	7	3 $\frac{3}{4}$	4
Appliances	1.8	2.3	5.6	11.5	1 $\frac{3}{4}$	-2 $\frac{1}{4}$	1
Motor Vehicles & Parts	4.1	-3.0	-15.7	9.5	6	3	2
Aircraft & Parts	-0.3	-0.7	-20.1	16.6	5 $\frac{1}{4}$	3 $\frac{1}{2}$	2
Furniture	1.1	-5.8	-5.4	2.0	7	$\frac{3}{4}$	1



Rising house prices and interest rates are eroding affordability; activity has peaked for this cycle

US Housing Starts - Thousands of Units (SAAR)

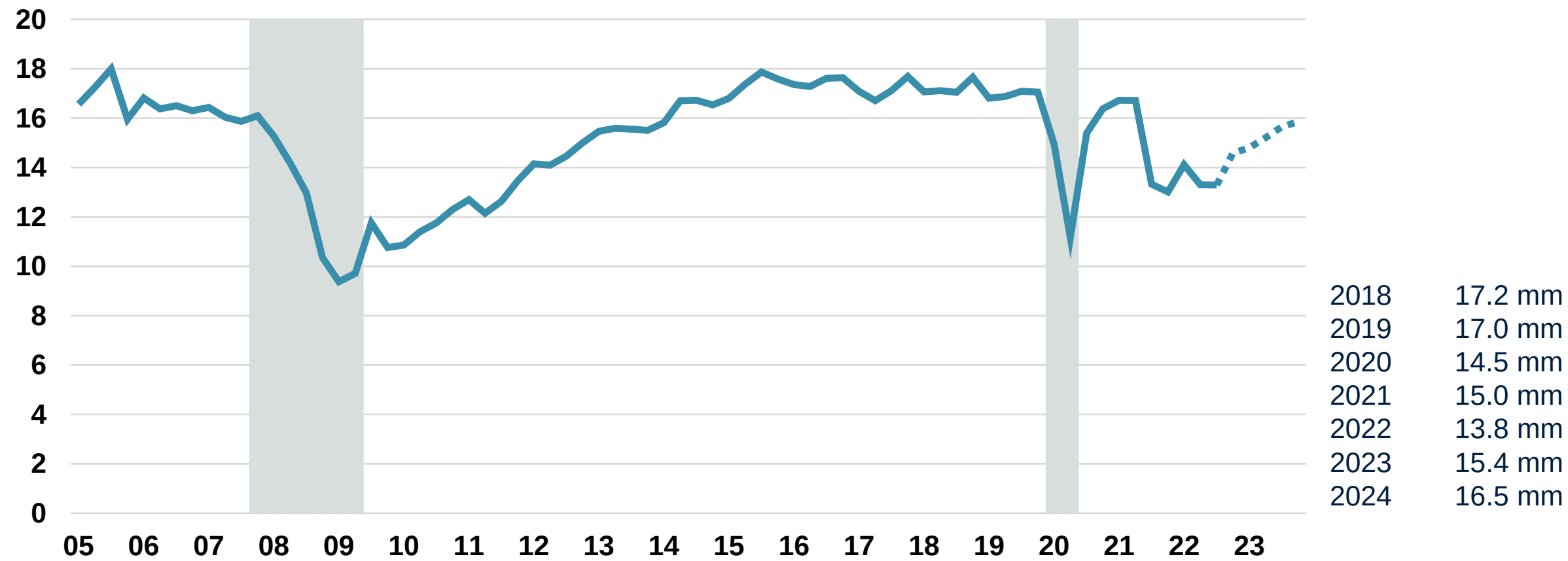


Sources: Census Bureau and ICIS analysis



Semiconductor shortages and waning economic fundamentals hinder light vehicle sales this year but improve in 2023

US Light Vehicle Sales – Millions of Units (SAAR)

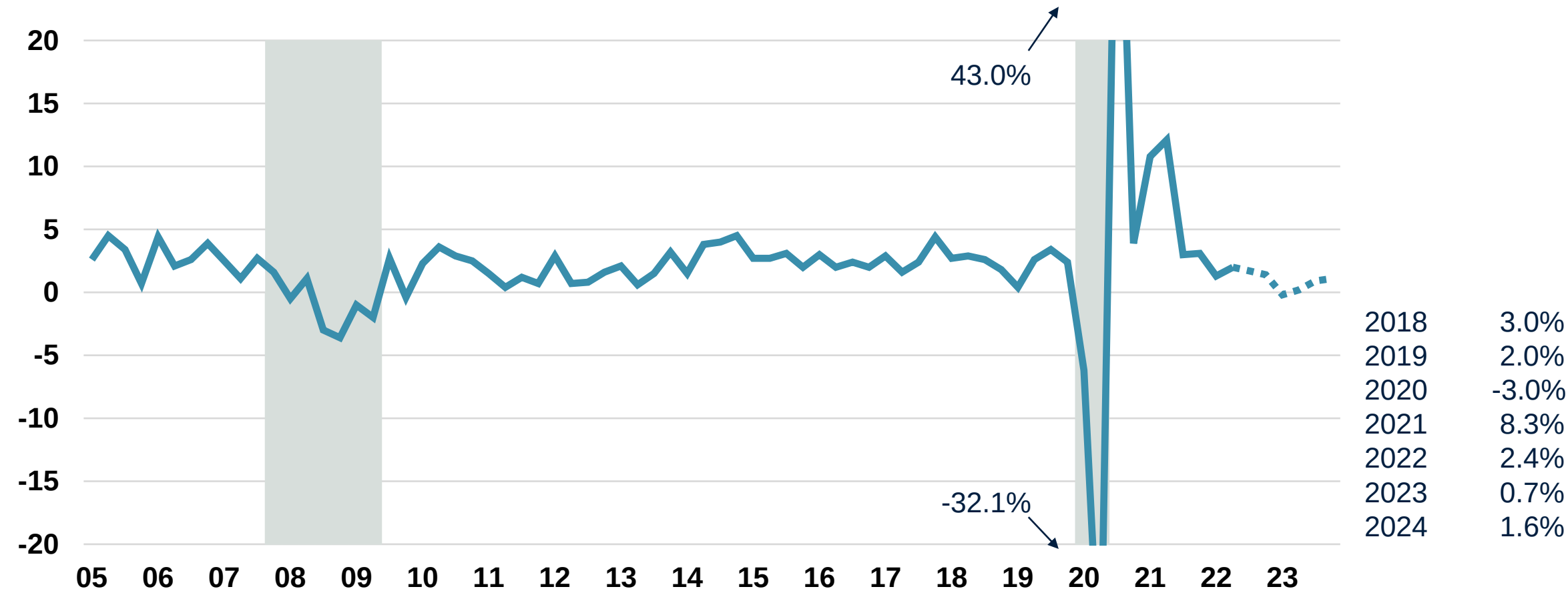


Sources: Bureau of Economic Analysis and ICIS analysis



Inflation is eroding incomes and savings and will weigh on consumer spending

% Change – Q/Q SAAR (%)

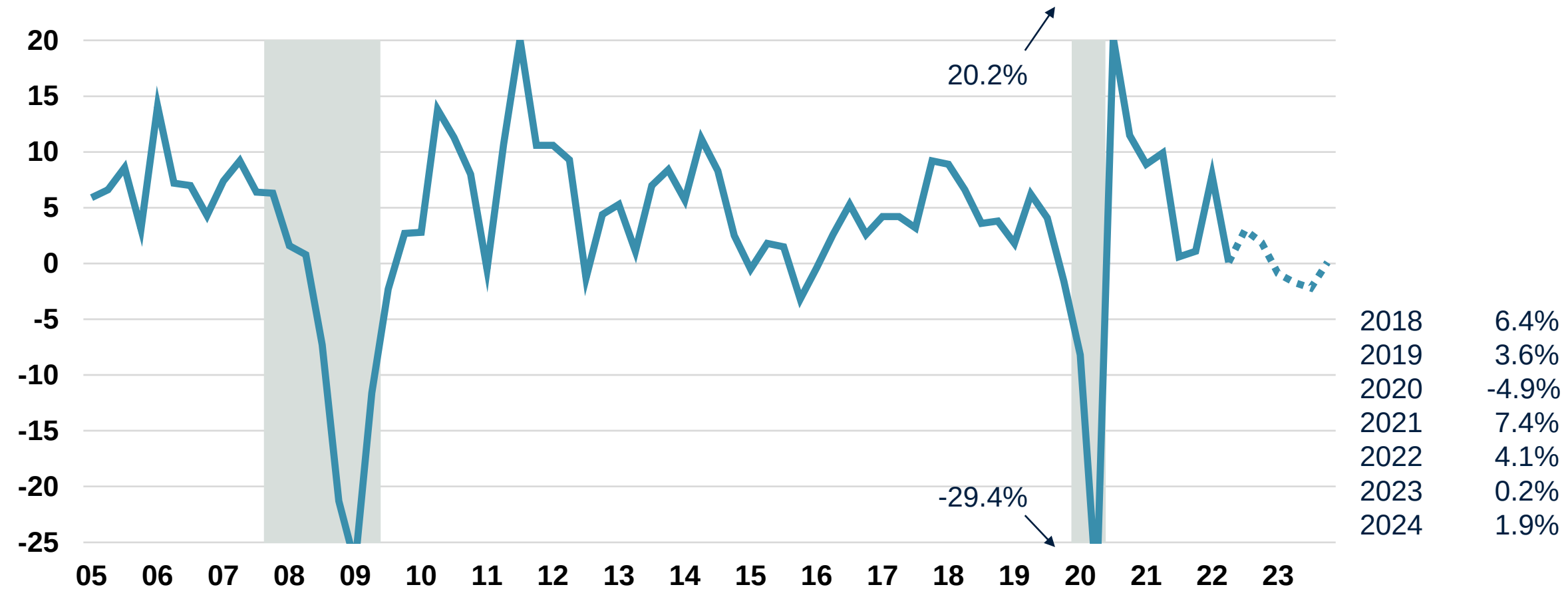


Sources: Bureau of Economic Analysis and ICIS analysis



Chronic labor shortage leading companies to boost productivity through higher business fixed investment, but this will fall back

% Change – Q/Q Real Fixed Business Investment SAAR (%)



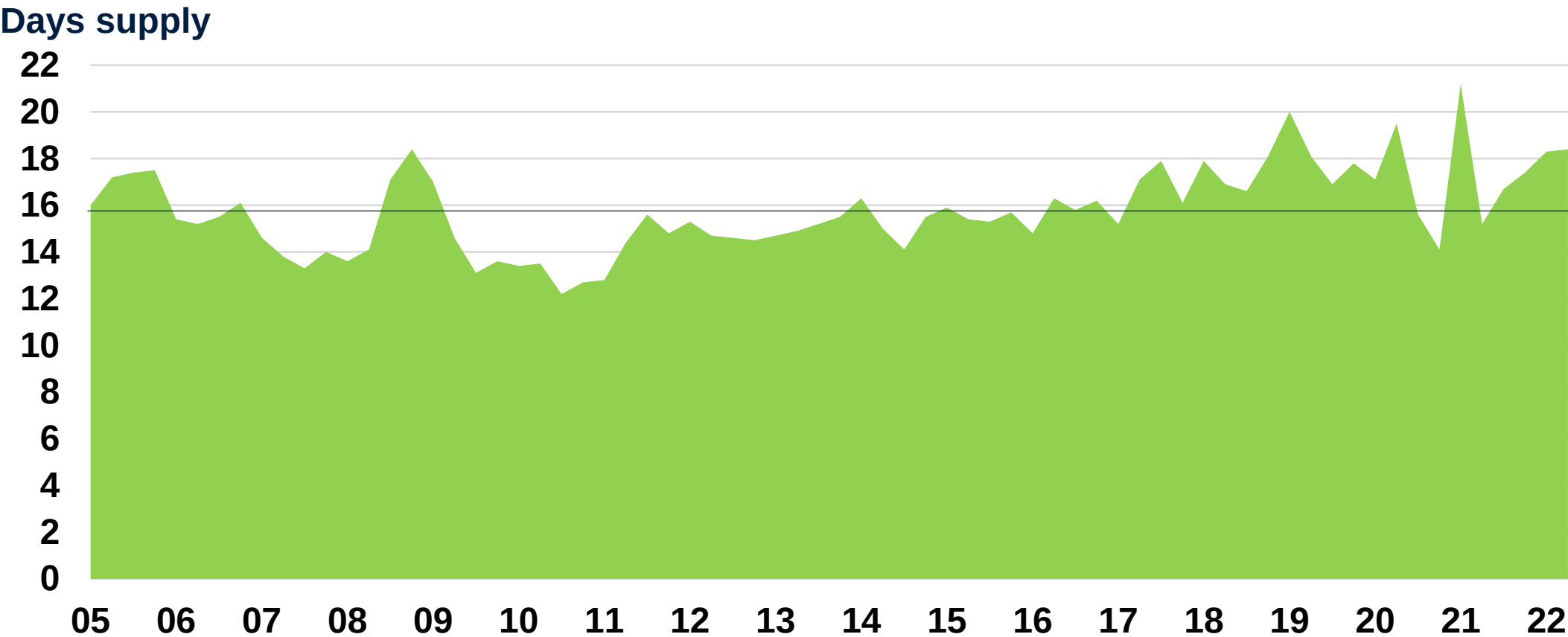
Sources: Bureau of Economic Analysis and ICIS analysis



Comparison of Federal Reserve Board and actual volume data on US chemical industry output (4Q 2009 – 4Q 2019)

	FRB	Volumes
Total Basic Chemicals & Synthetic Materials	-7%	19%
Basic Chemicals (NAICS 3251)	-9%	19%
Inorganic Chemicals	-20%	18%
Chlorine & Other Alkalies	-22%	16%
Industrial Gases	-3%	18%
Pigments	-20%	-20%
Other Inorganic Chemicals	-14%	-7%
Bulk Petrochemicals & Other Organic Chemicals	-4%	20%
Bulk Petrochemicals	n/a	28%
Other Organic Chemicals	n/a	18%
Synthetic Materials (NAICS 3252)	-2%	21%
Plastic Resins	-1%	23%
Synthetic Rubber	5%	2%
Manufactured Fibers	-8%	16%

US basic chemicals & synthetic materials producer inventories

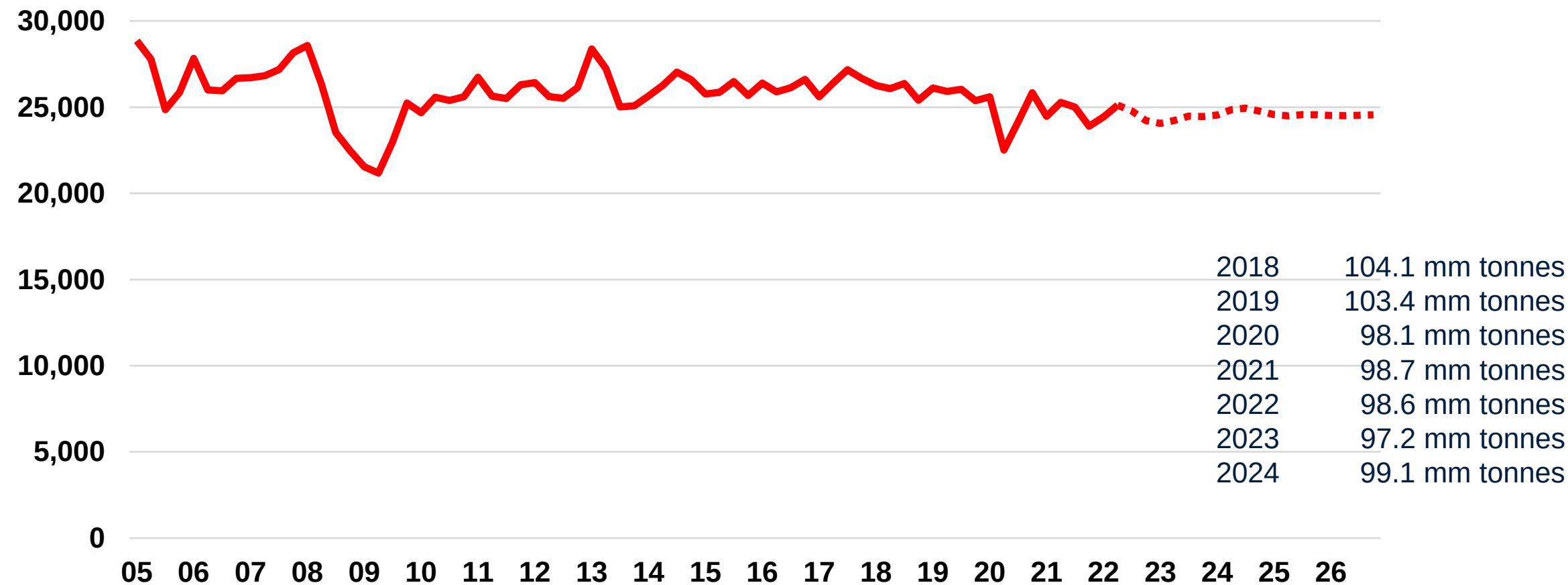


Sources: ACC, AFPM, AMFA, Census Bureau, CI, USGS and author's analysis

US inorganic chemicals production



Quarterly production – thousands of metric tons

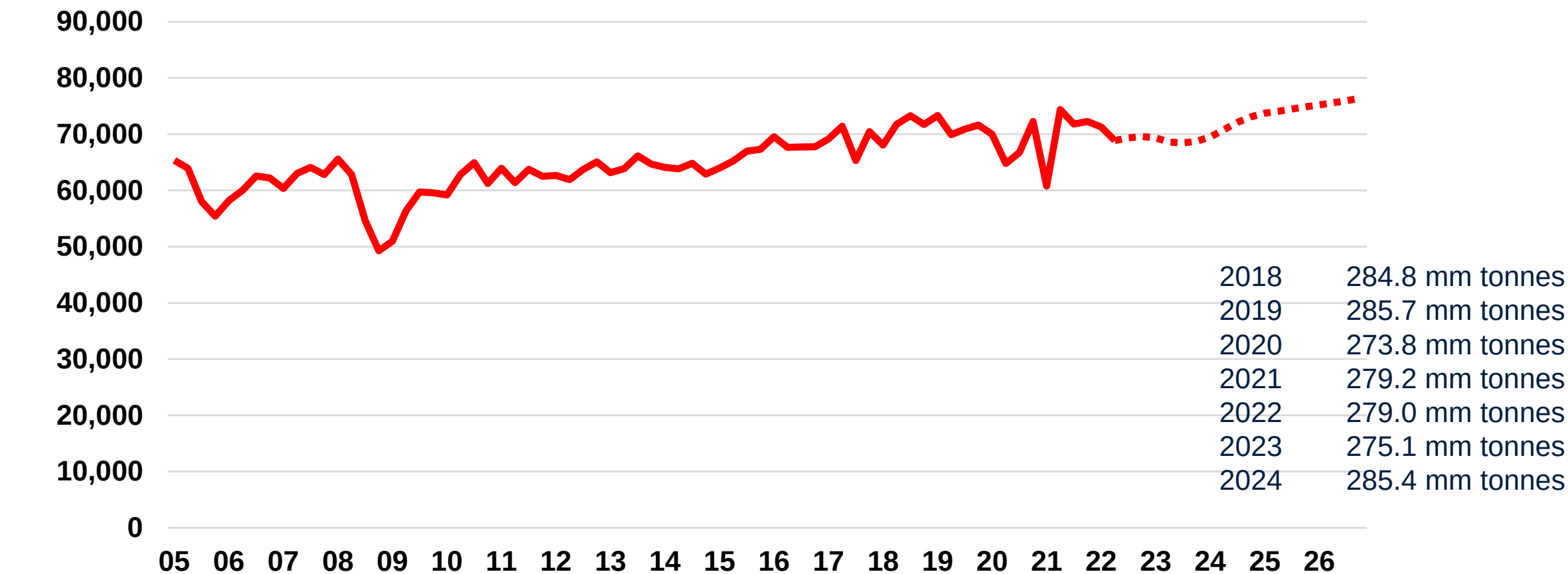


Sources: CI, USGS, ICIS and author's analysis

US bulk petrochemicals & other organic chemicals production



Quarterly production – thousands of metric tons

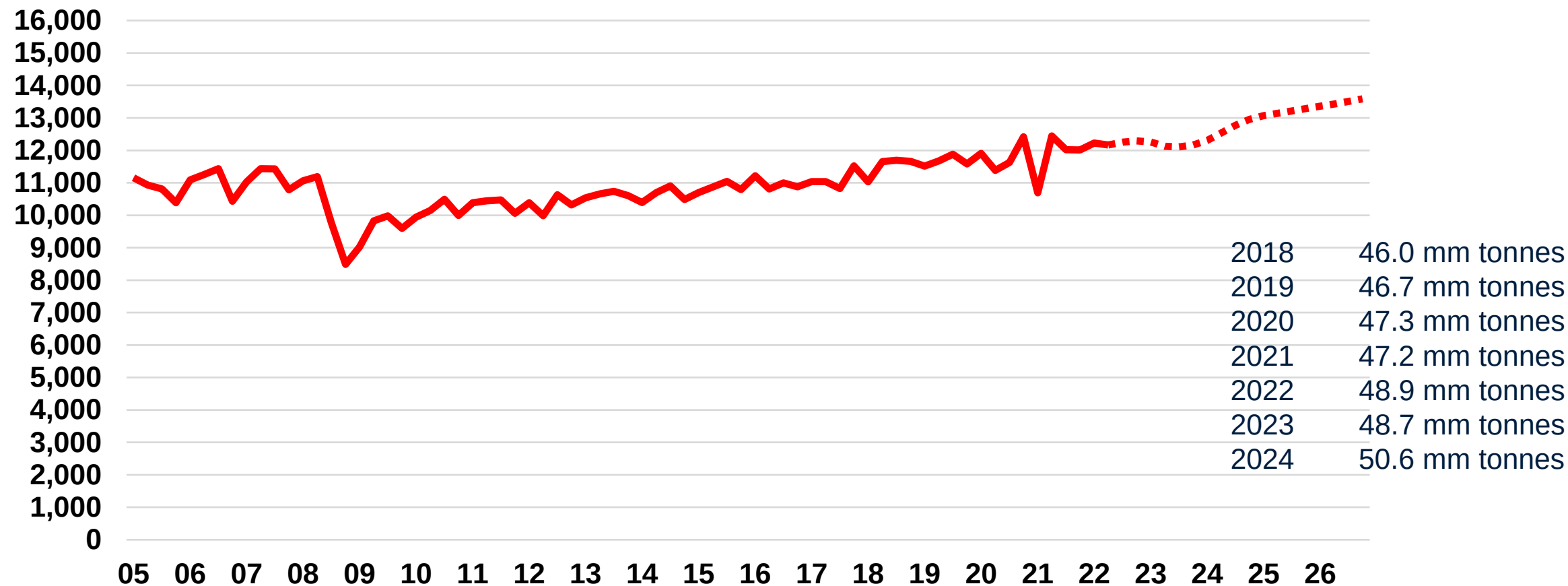


Sources: AFPM, ICIS and author's analysis

US plastic resins production



Quarterly production – thousands of metric tons

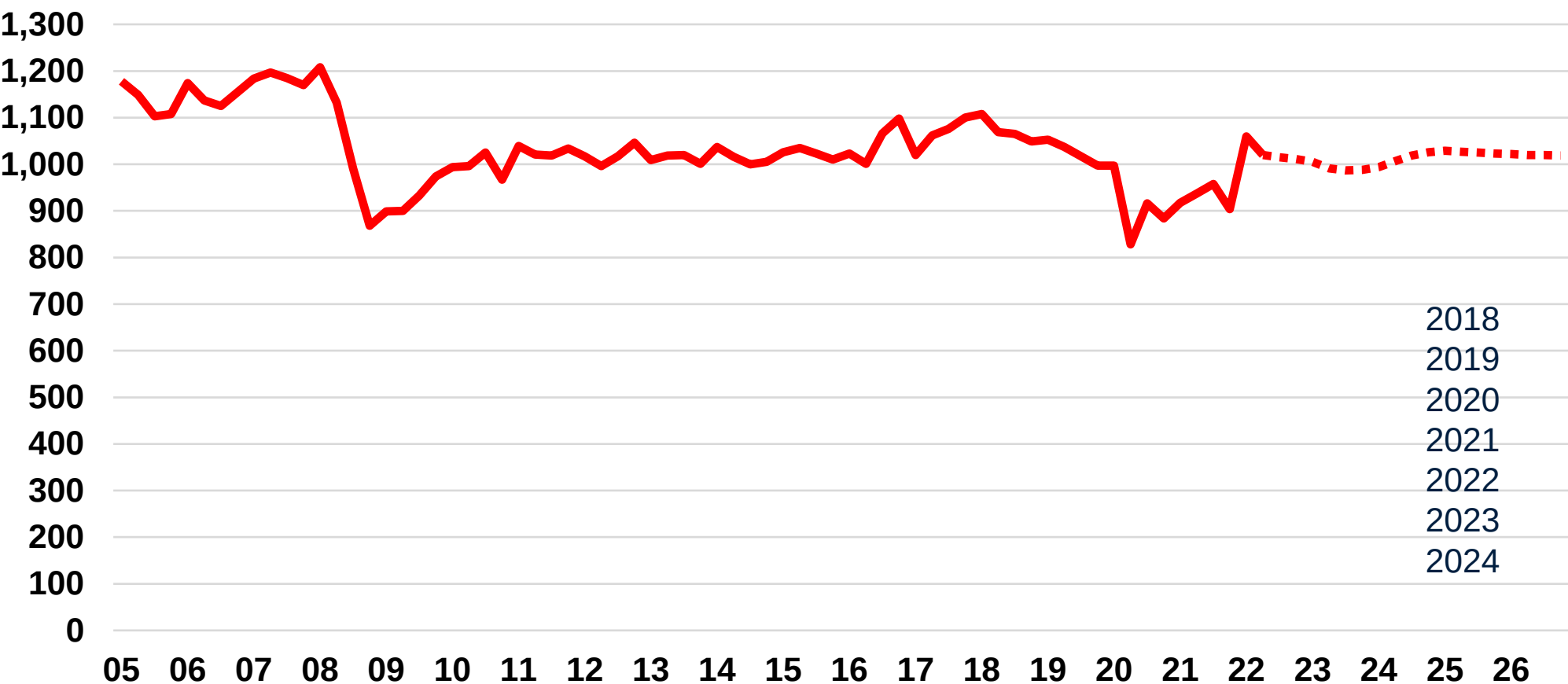


Sources: ACC, ICIS and author's analysis

US synthetic rubber production



Quarterly production – thousands of metric tons



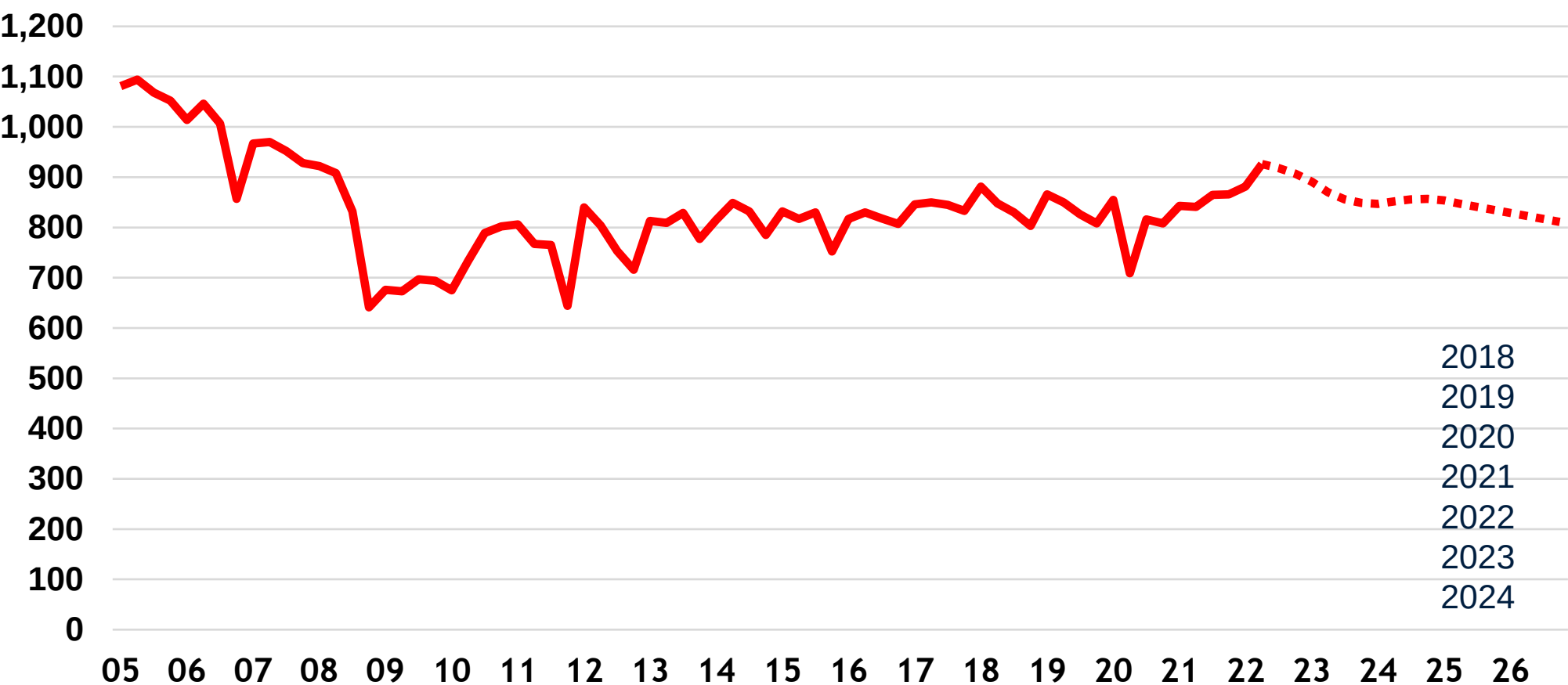
2018	4.29 mm tonnes
2019	4.10 mm tonnes
2020	3.63 mm tonnes
2021	3.72 mm tonnes
2022	4.11 mm tonnes
2023	3.97 mm tonnes
2024	4.05 mm tonnes

Sources: IISRP, IRSG, ICIS and author's analysis

US manufactured fibre production



Quarterly production – thousands of metric tons



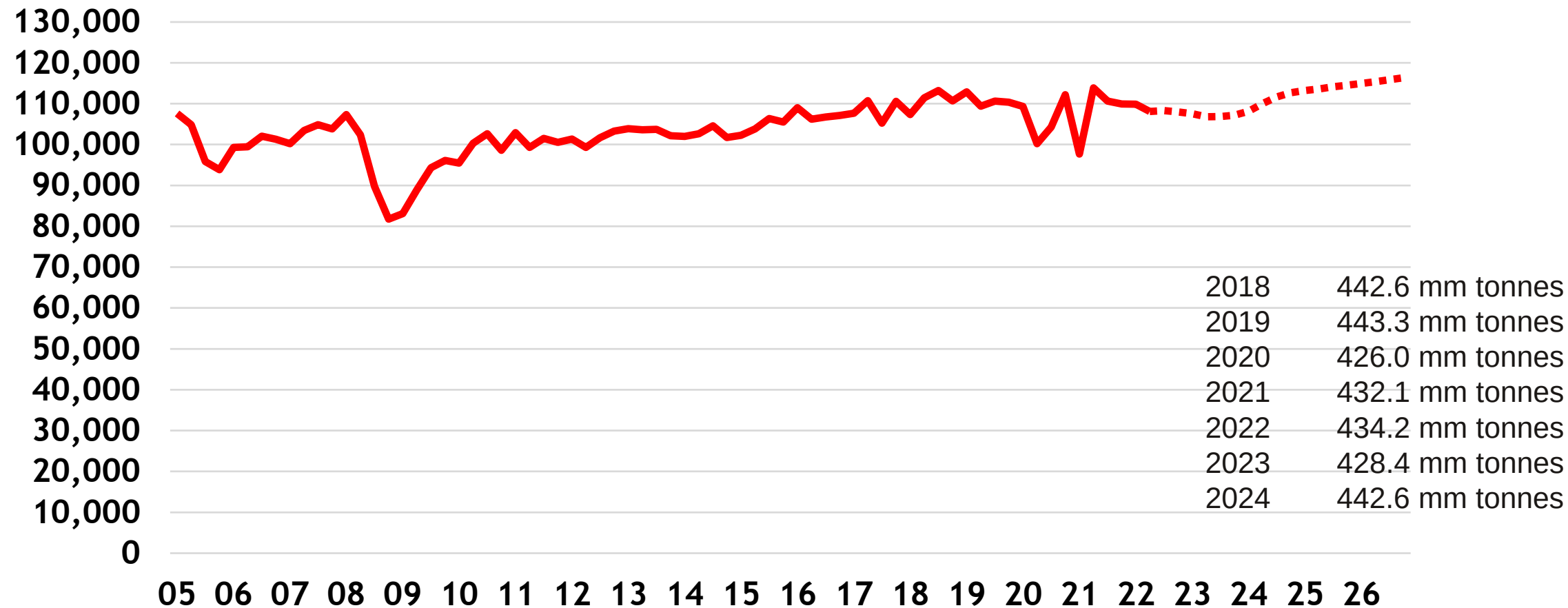
Sources: AMFA, ICIS and author's analysis

2018	3.36 mm tonnes
2019	3.35 mm tonnes
2020	3.19 mm tonnes
2021	3.42 mm tonnes
2022	3.63 mm tonnes
2023	3.47 mm tonnes
2024	3.41 mm tonnes

US basic chemical & synthetic materials

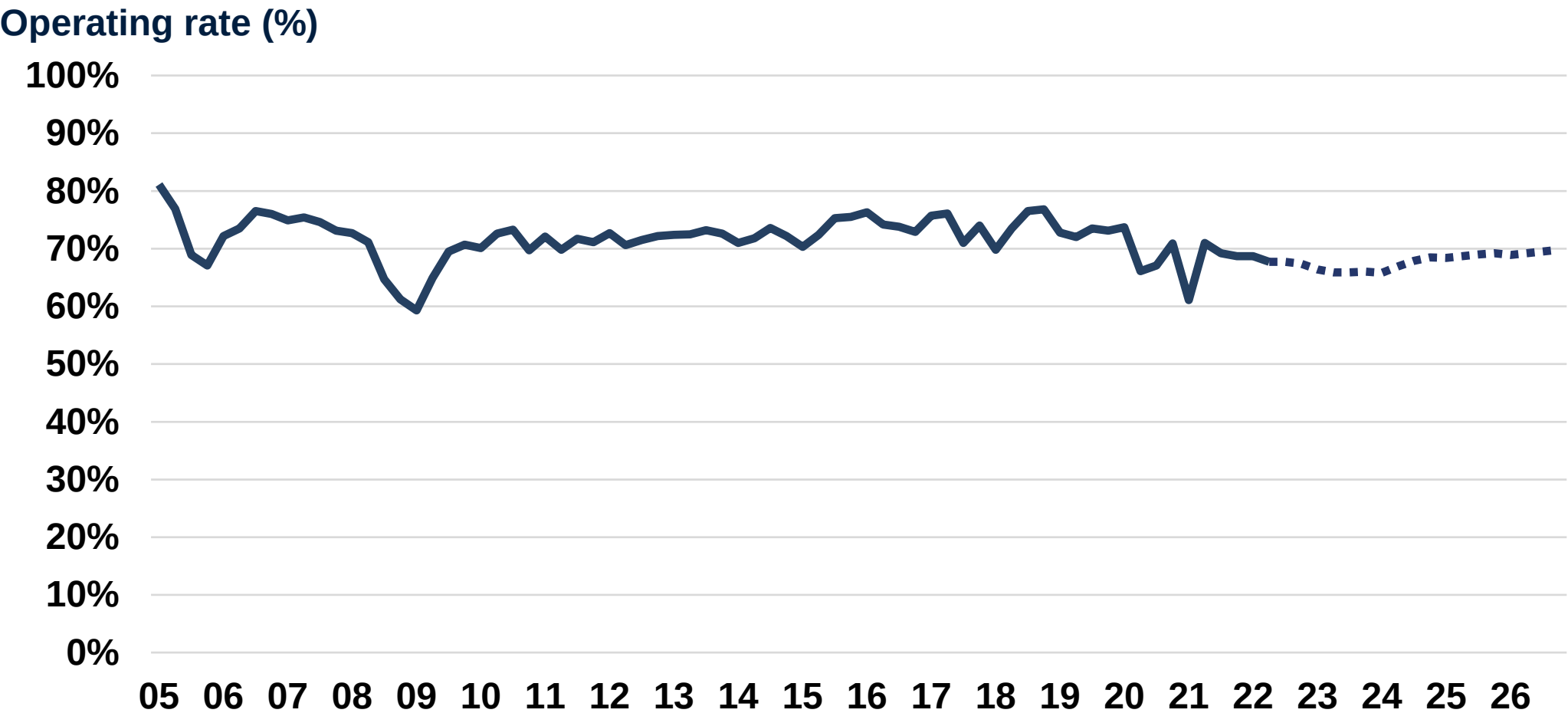


Quarterly production – thousands of metric tons



Sources: ACC, AFPM, AMFA, CI, IISRP, IRSG, USGS, ICIS and author's analysis

US basic chemical & synthetic materials capacity utilization outlook

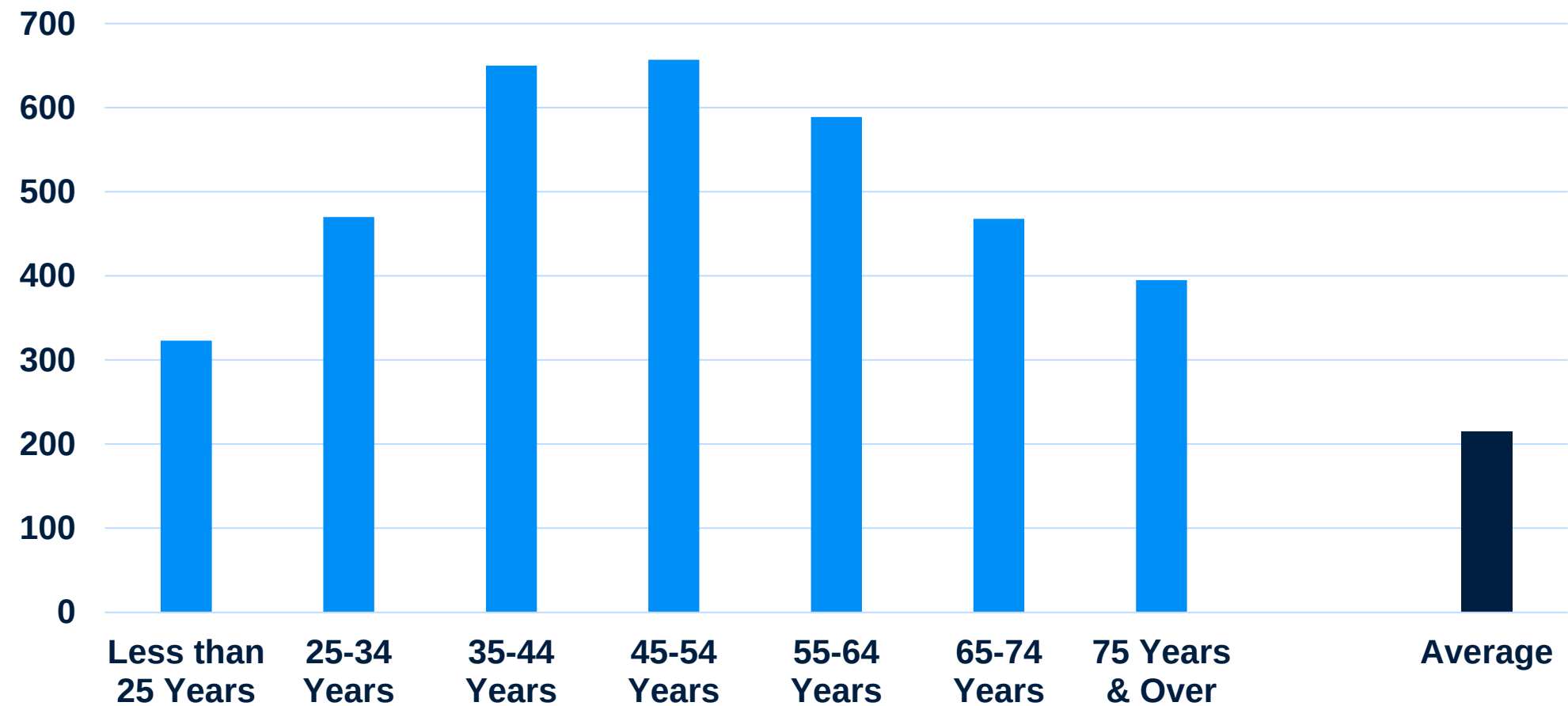


Sources: ACC, AFPM, AMFA, CI, USGS, ICIS and author's analysis

Resin demand dominated by 35 to 54-year groups

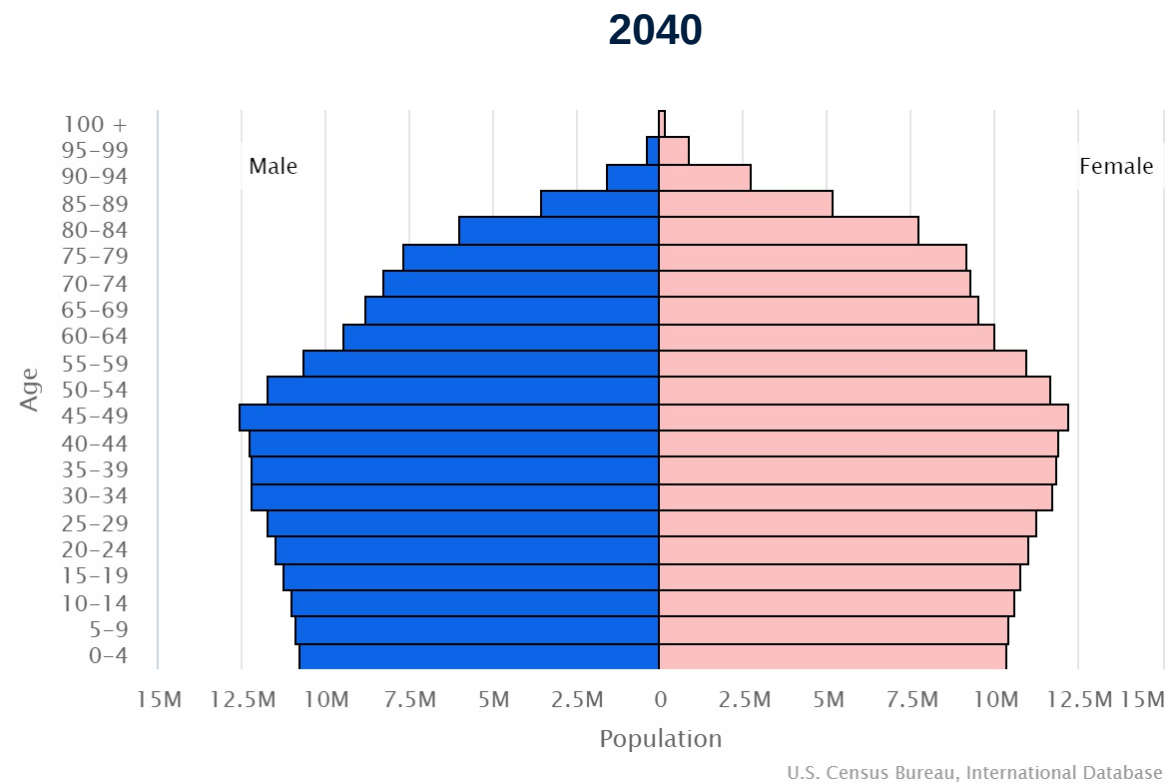
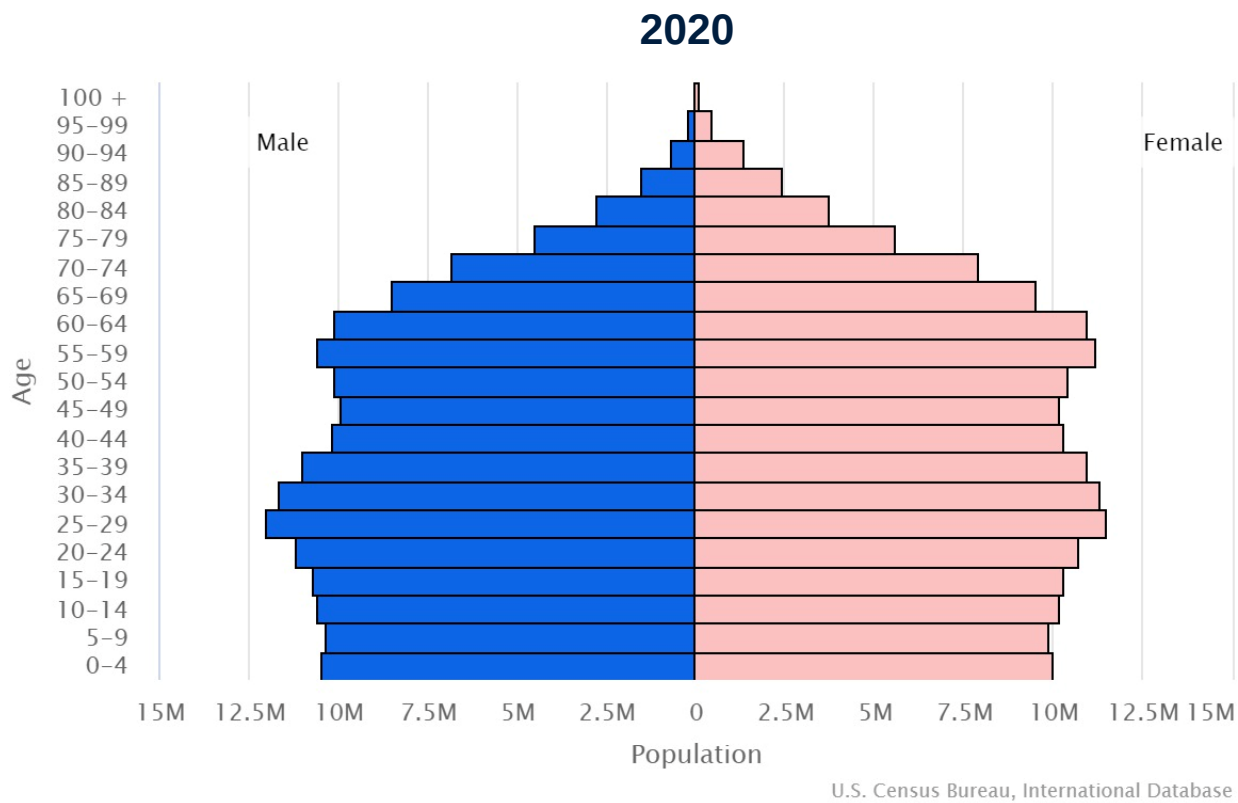


Annual plastics use in pounds per household



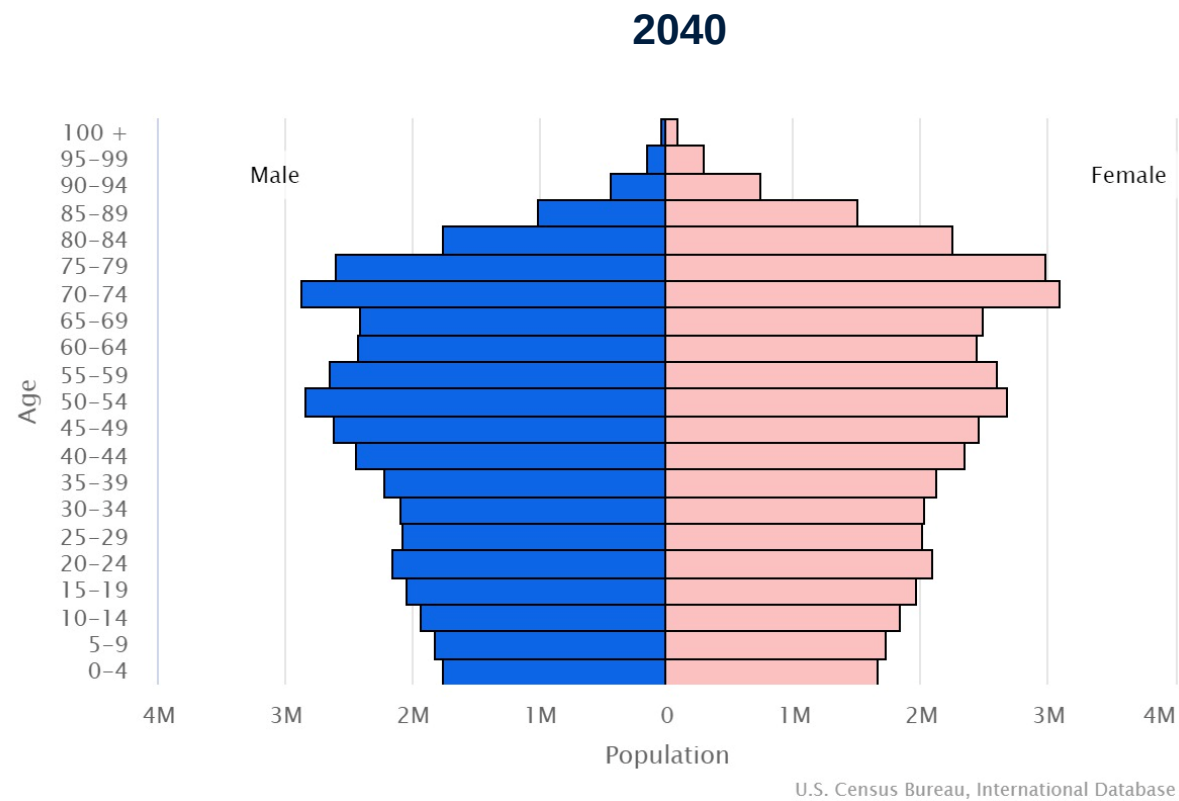
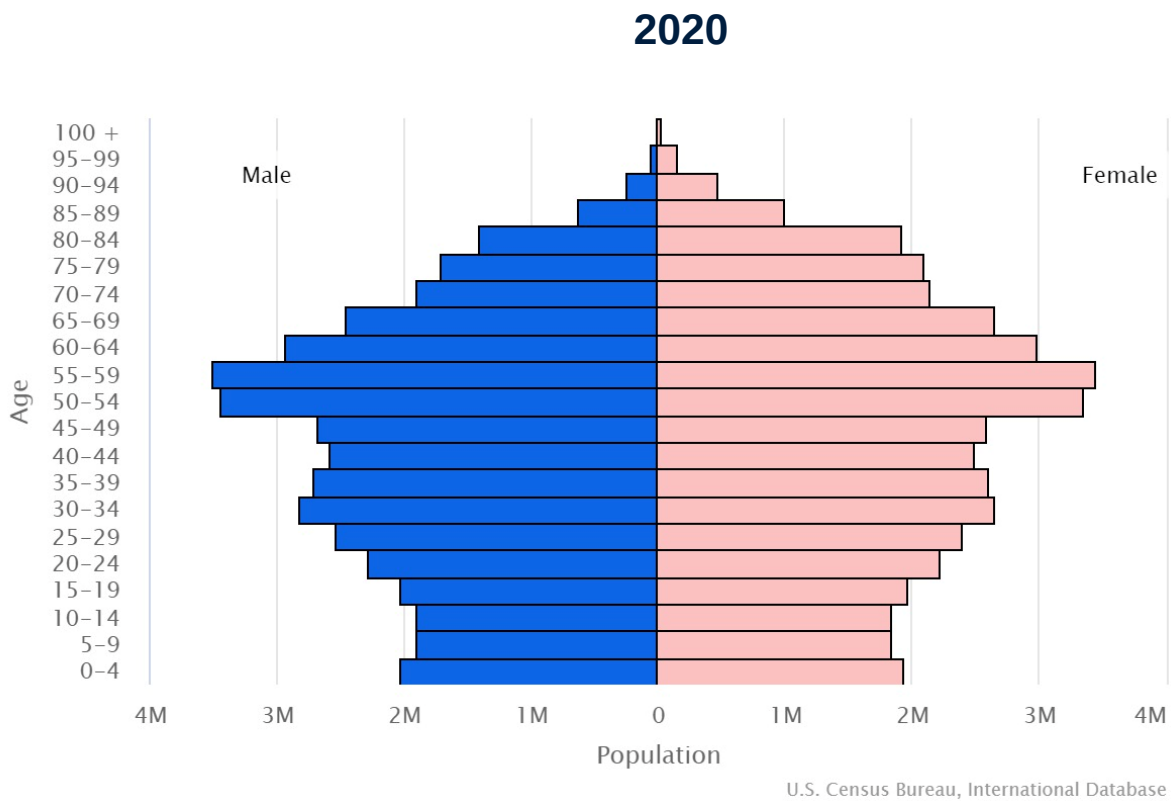
Source: ACC PIPS program, ICIS Supply & Demand database, and ICIS analysis

United States

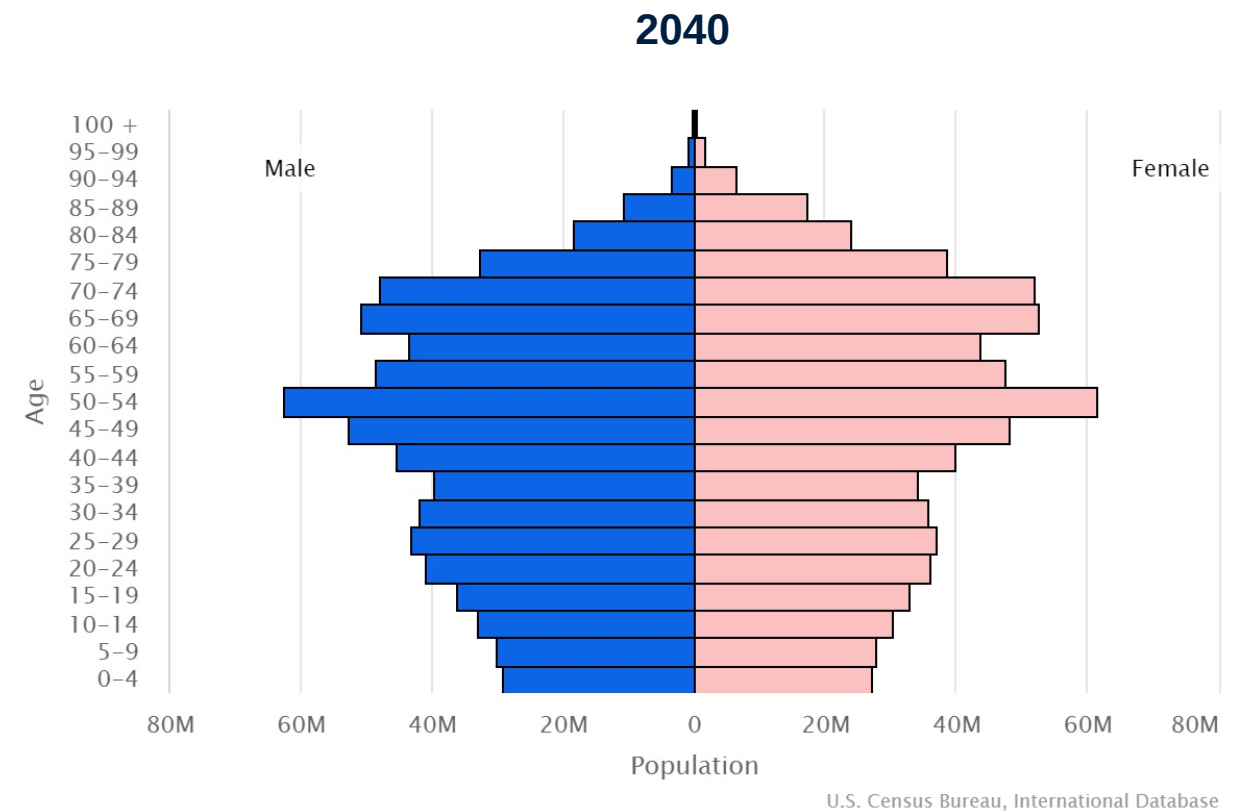
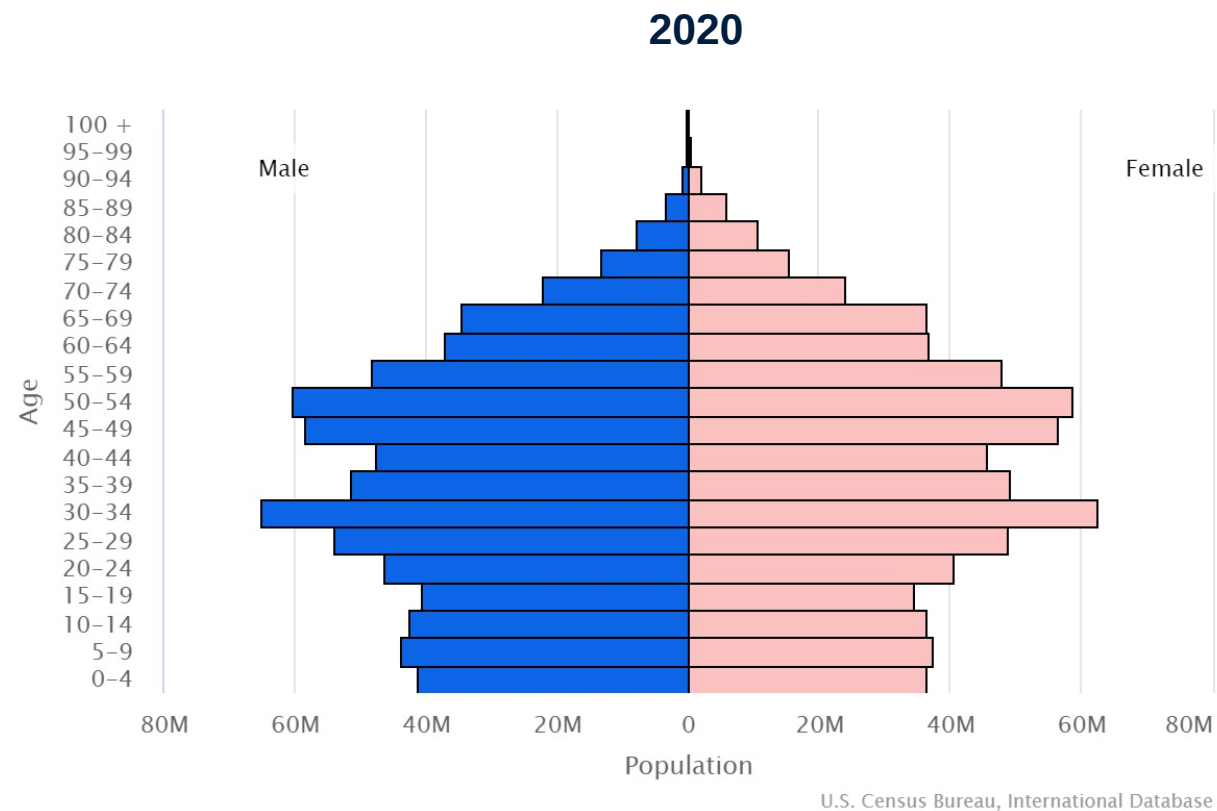


Sources: Census Bureau and ICIS analysis

Germany



China





Key takeaways on trends in households by age

- The number of households will expand from 129.9 million in 2021 to 144.4 million in 2030 and 153.7 million in 2040
- Key resin consuming age cohorts are the 35-44 year and 45-54-year age groups, with 55-64-year group a close third
- Key factors include:
 - Growth of millennials (born 1981-96) into prime homebuying and purchasing ages positive for resin demand
 - Baby boomers (born 1946-64) age into low resin consuming groups
 - Gen X (1965-80) too few to matter but begin moving into latter groups after 2030
 - Gen Z (1997-2012) begin to enter prime resin consuming age group in mid-2030s with most effect after 2040
- In summary, unfortunately despite growth in total number of households, changes in distribution of household heads by age group disfavors resin demand slightly (less than 0.1 % per year in the aggregate) but USA fares better than other markets.

Thank you

Open Q&A

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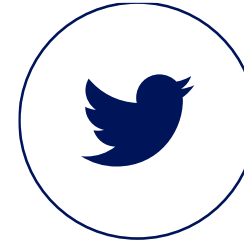
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