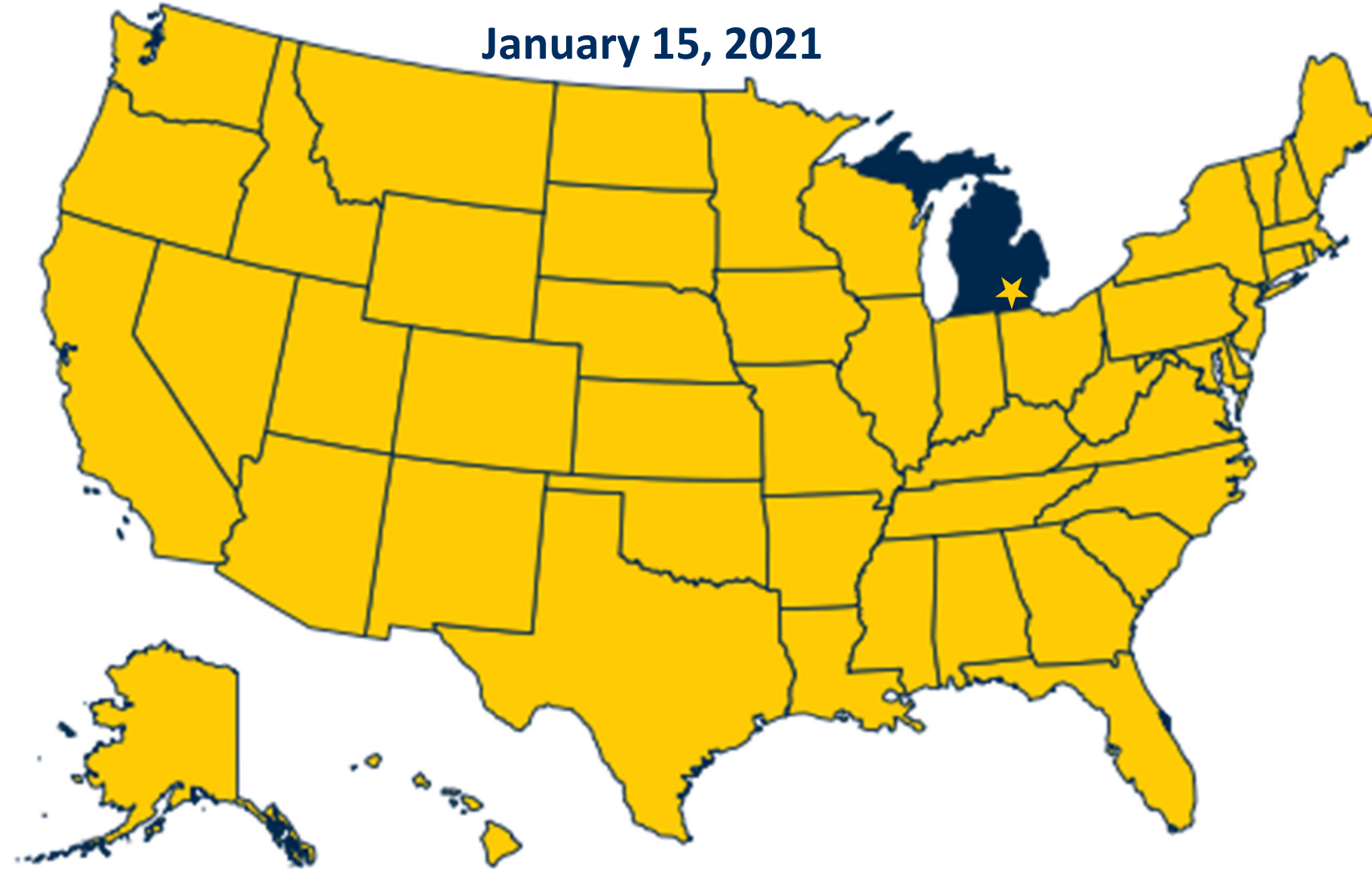


The U.S. and Michigan Outlook for 2021–2023

Consensus Revenue Estimating Conference

Lansing, Michigan

January 15, 2021



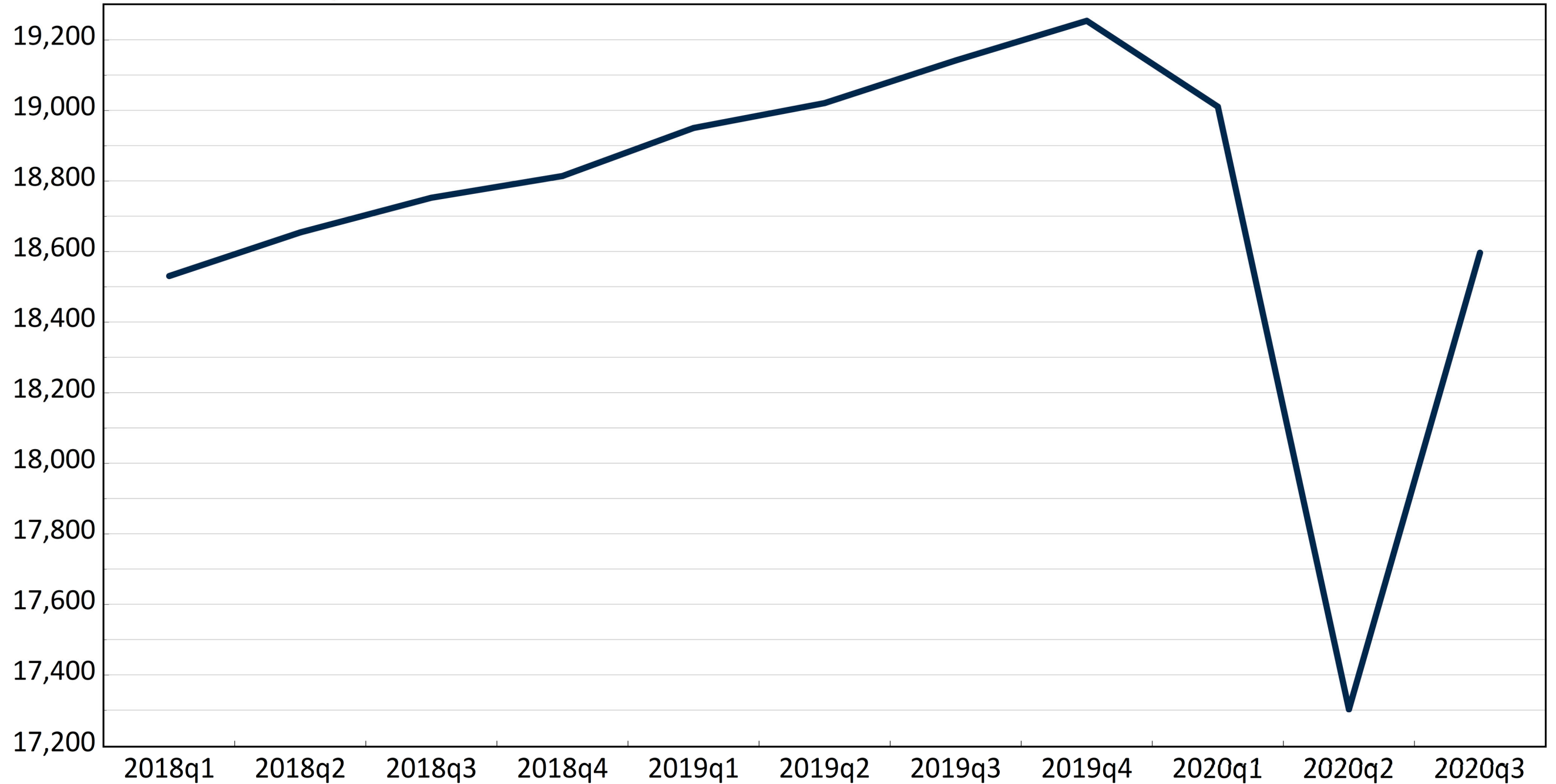
Research Seminar in Quantitative Economics



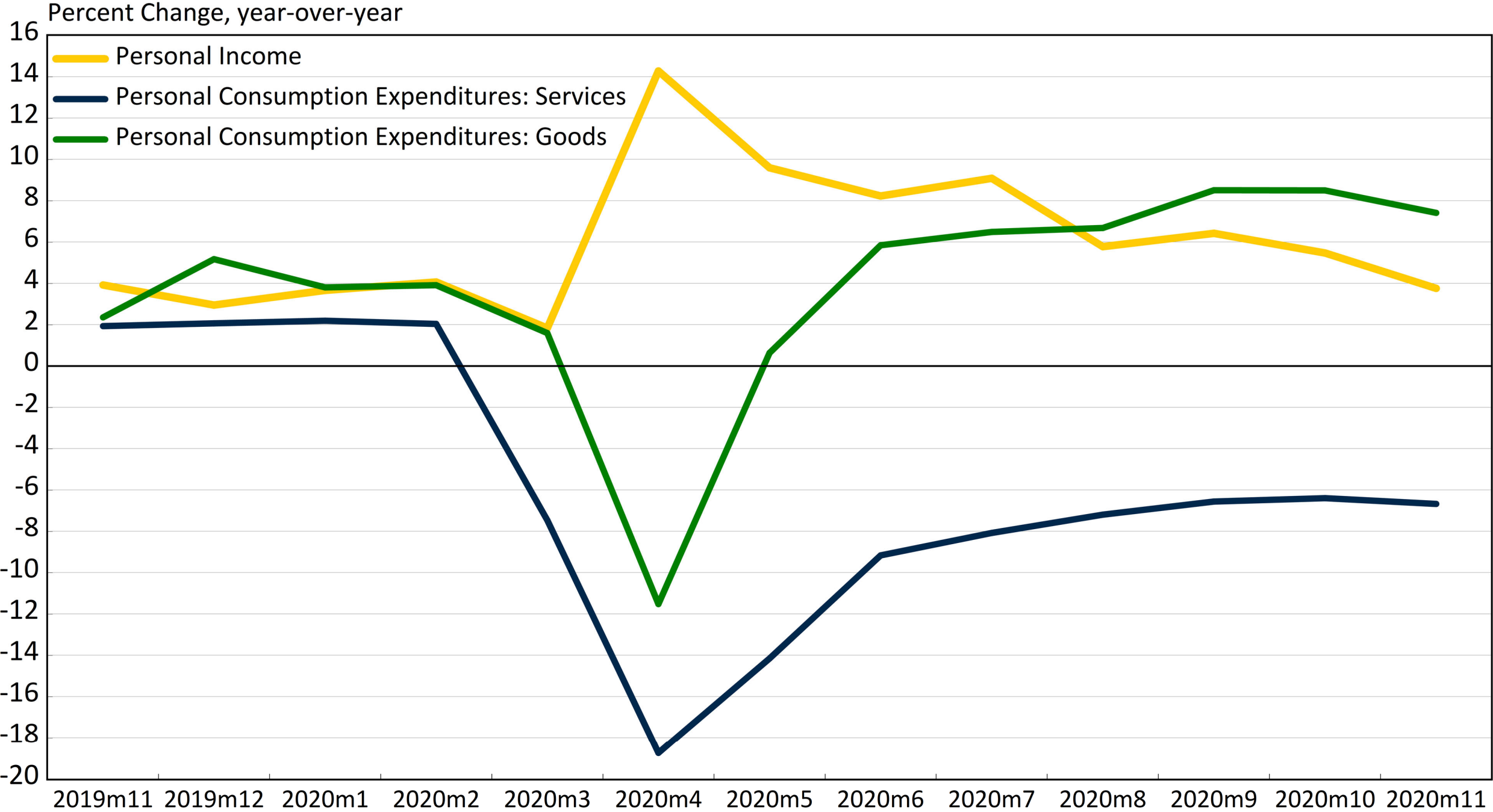
Current State of the U.S. Economy

Quarterly U.S. Real GDP

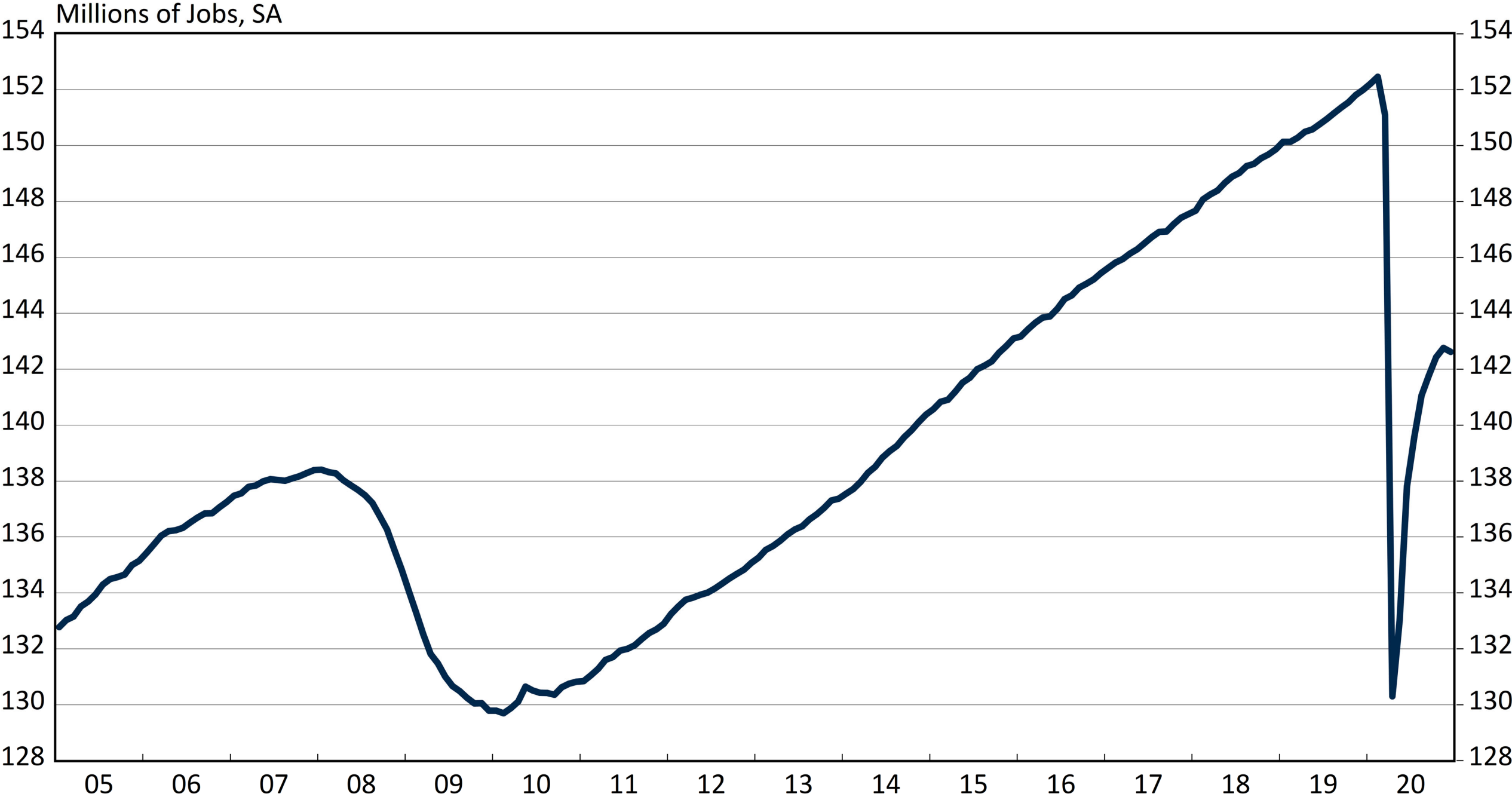
Billions of 2012 dollars, SAAR



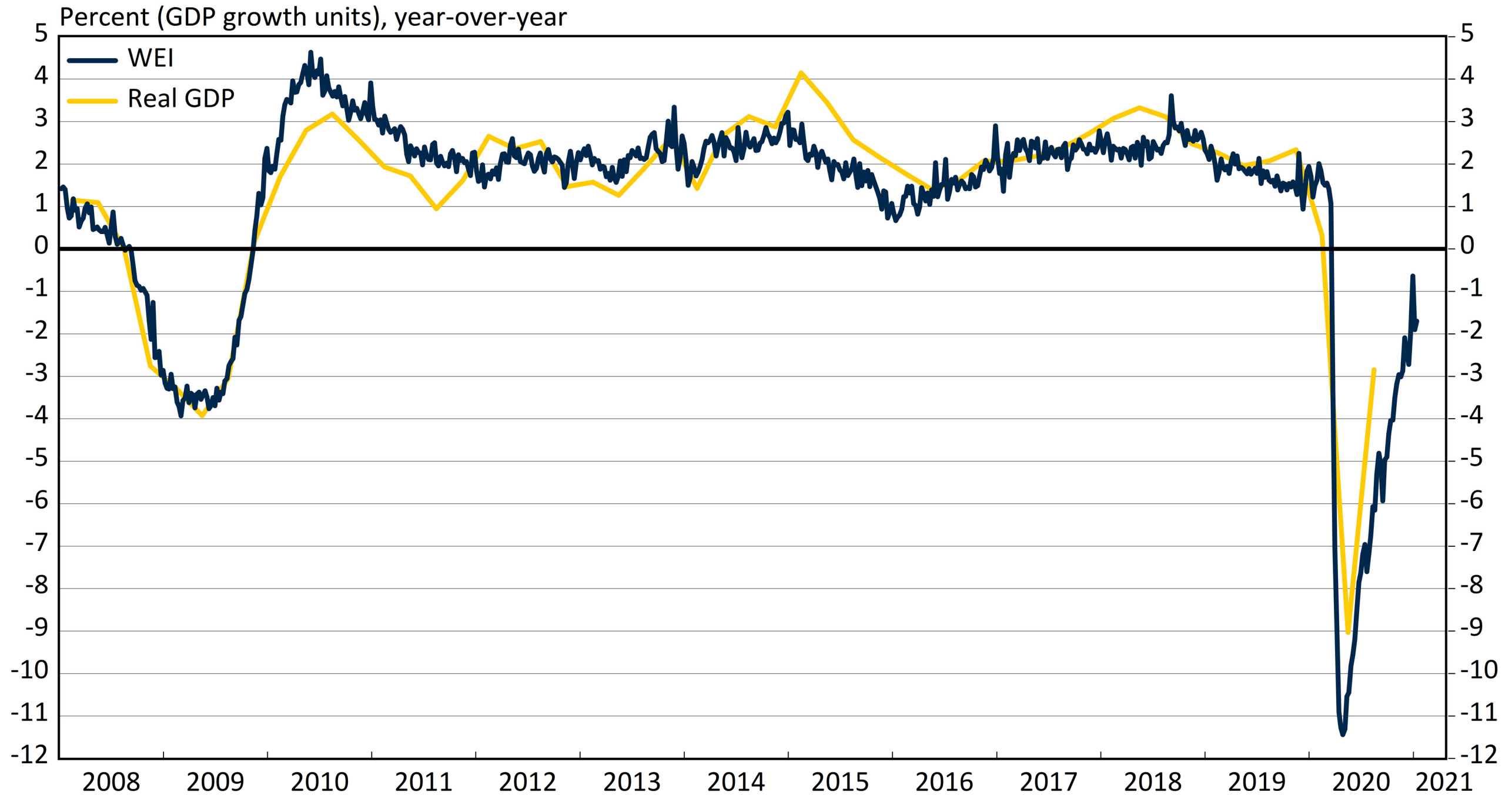
Monthly Personal Consumption Expenditures



Monthly Payroll Jobs

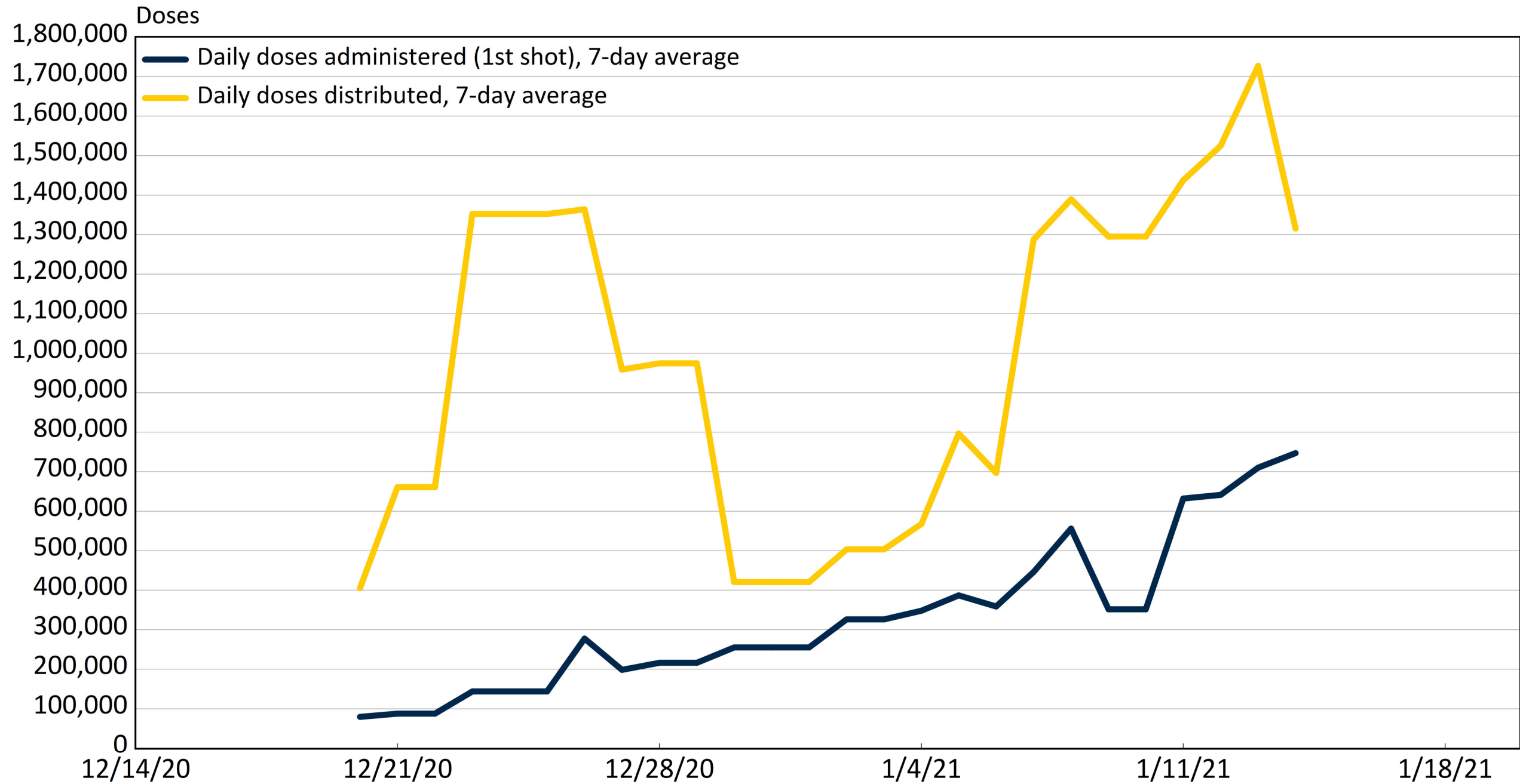


Weekly Economic Index (Lewis-Mertens-Stock)



Policy Assumptions

National COVID-19 Vaccine Shots and Shipments



Source: CDC

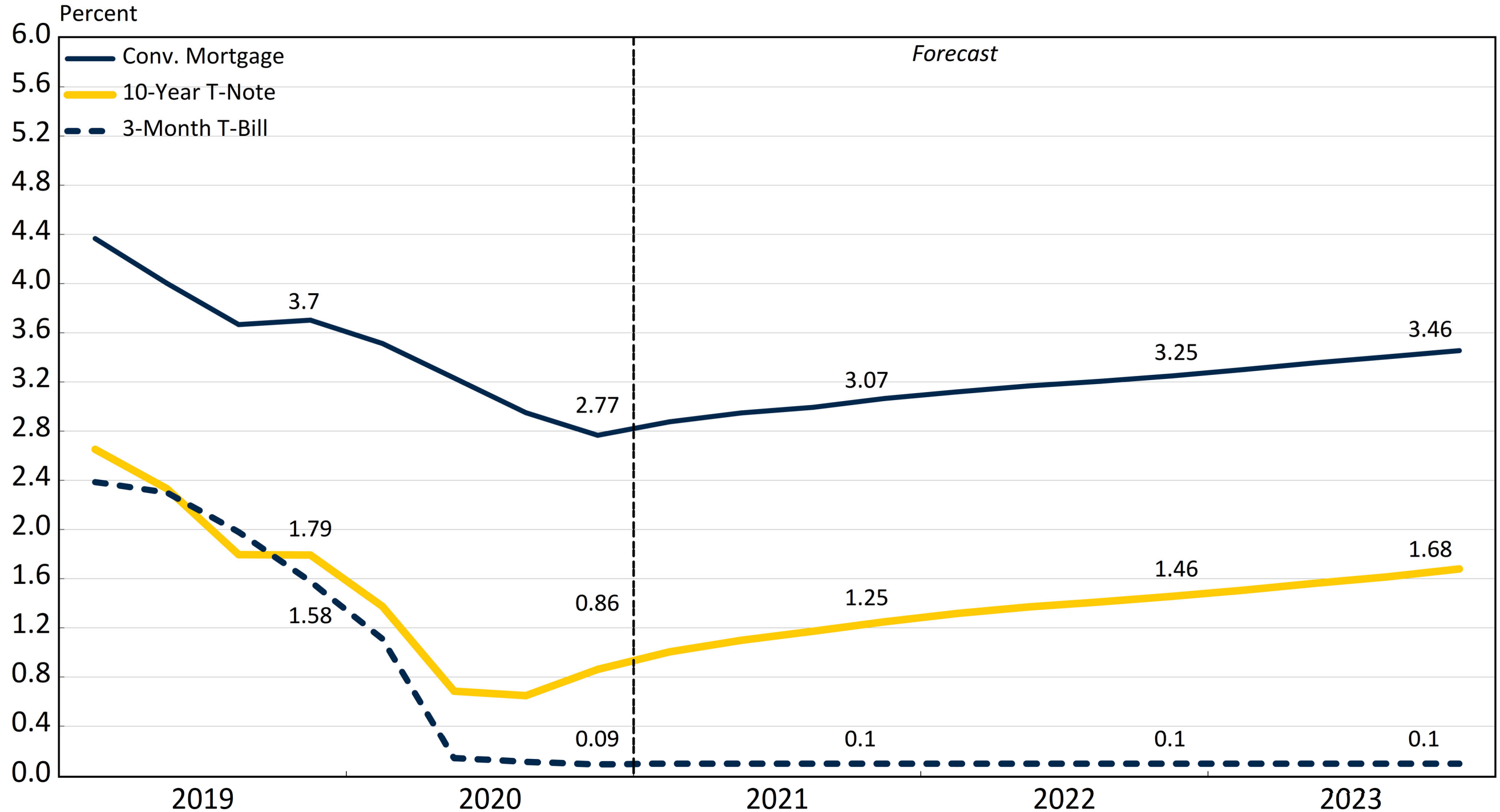
The Pandemic

- People over 65 account for ~80% of total deaths and ~50% of hospitalizations
- Aggressive vaccination targeting 55 million seniors and those at-risk should dramatically lower the disease burden
- As of Jan 14, 11.1 million received the first dose, most under 65 so far
- Current vaccination rate ~700k/day, many going to seniors
- By early March, most vulnerable population could be vaccinated, assuming high uptake
- Many restrictions might be dialed down soon after

Monetary Policy

- New policy framework announced in August 2020
 - “to achieve inflation that averages 2 percent over time”
 - In practice the Fed will likely wait to raise rates until inflation forecasts consistently exceed 2 percent
- Our forecast does not feature significant inflation
 - Higher inflation is a significant risk, however
 - Market-based 5-year breakeven inflation topped 2 percent recently
- No policy rate hikes through 2023
- Asset purchases likely to slow by mid-2021

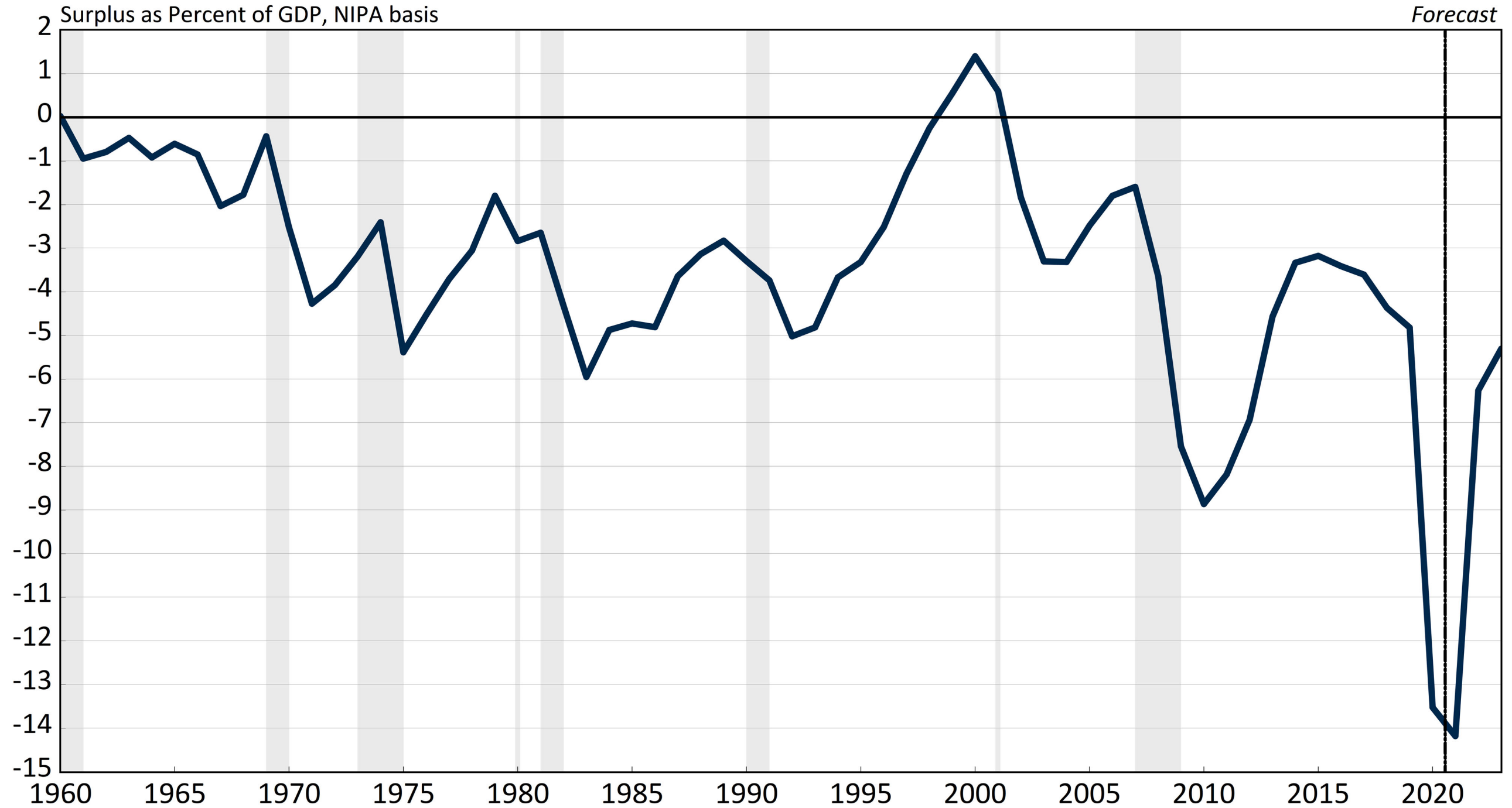
Market Interest Rates



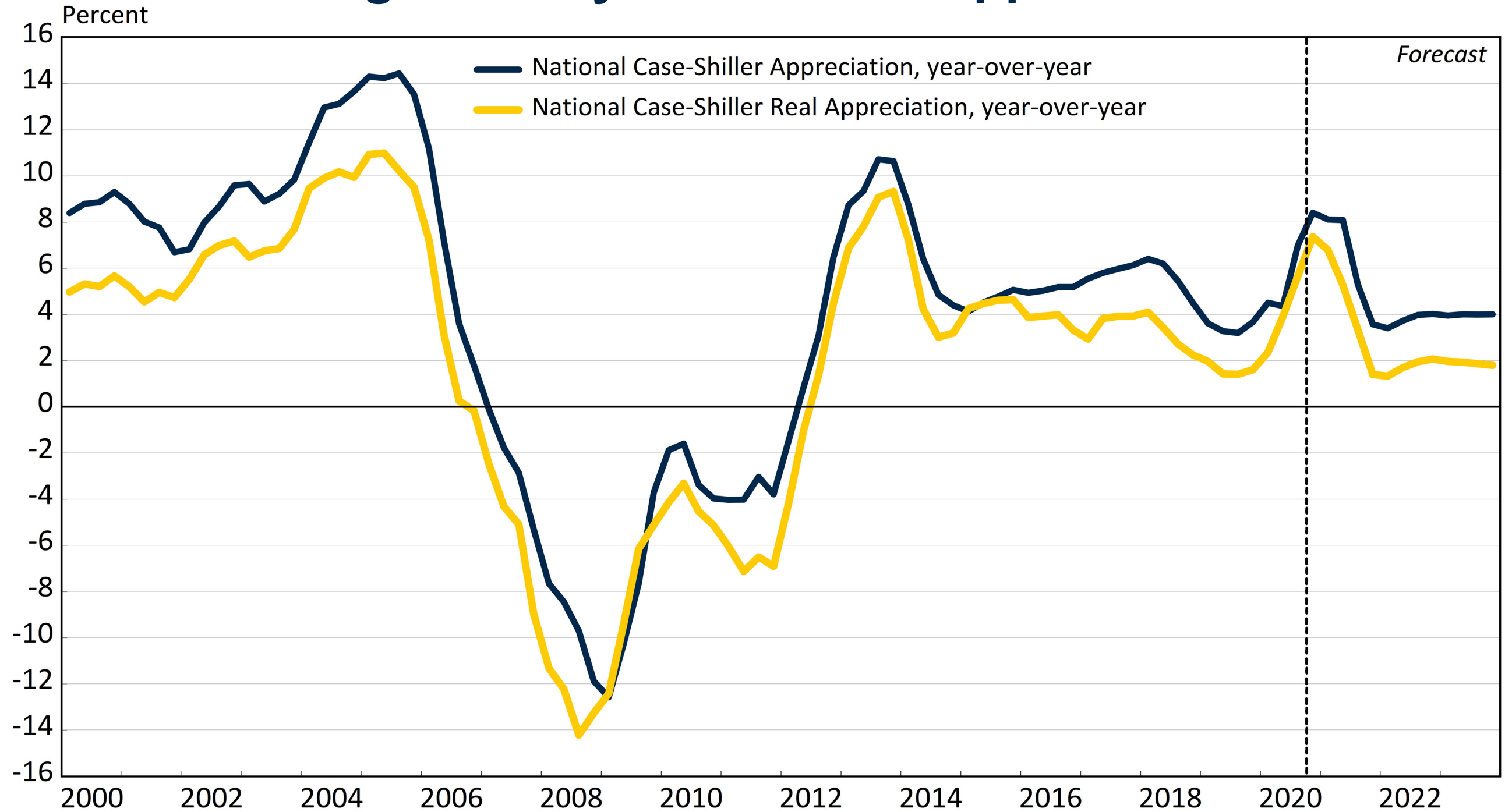
Fiscal Policy

- New \$900 billion round of relief in December 2020
 - About \$280 billion in personal income support via rebate checks and UI
 - Another \$284 billion for small businesses via renewed PPP
 - \$82 billion for schools and colleges
- Democrats took over Senate control last week. Quick adjustments:
 - Another round of rebate checks, and longer-lasting boost to UI compensation and eligibility
 - Considerable help for state and local governments
 - Higher federal spending and some increase in taxes, starting fiscal 2022

Federal Budget Balance, Fiscal Year

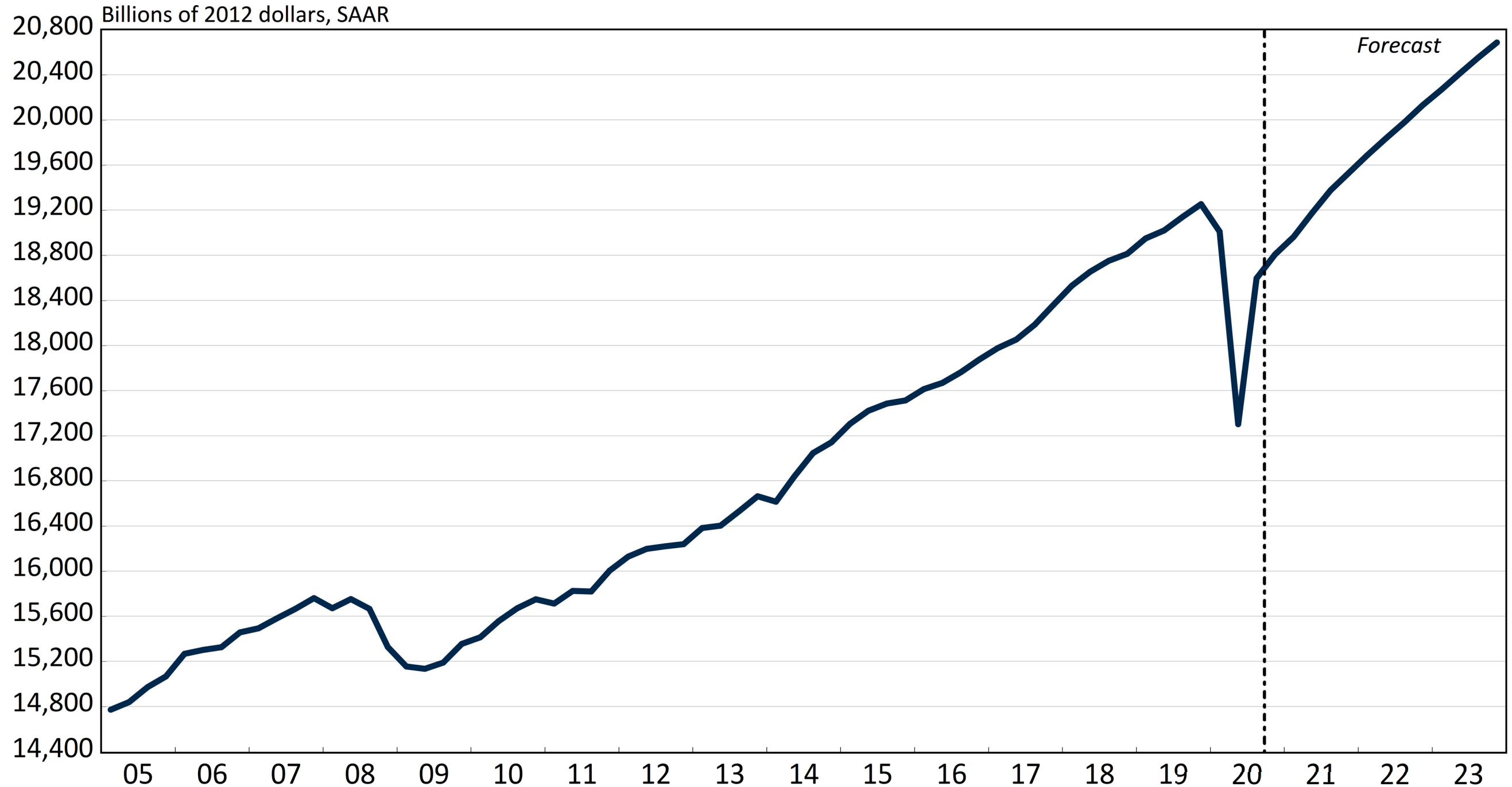


Single-Family Home Price Appreciation

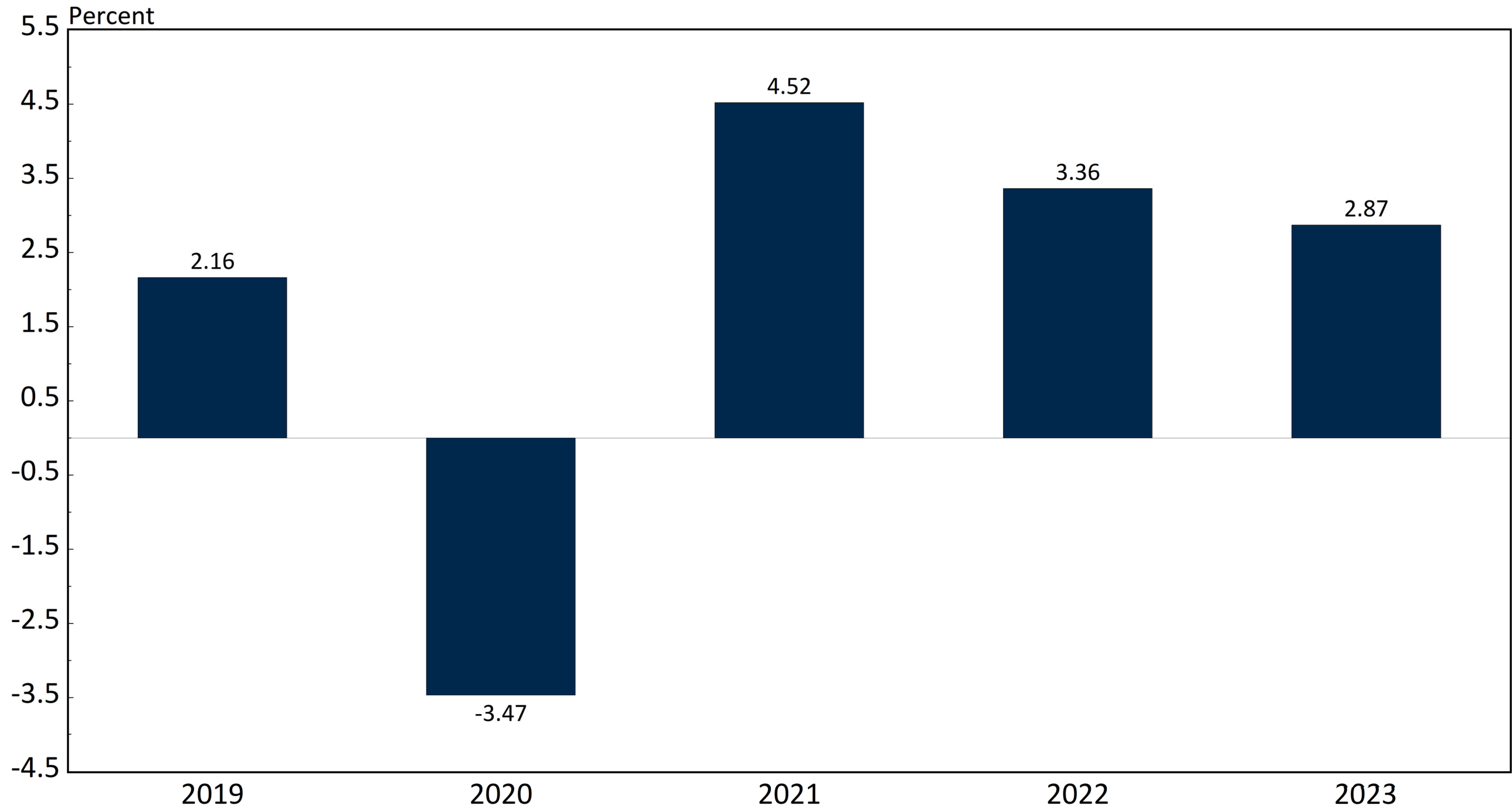


U.S. Forecast

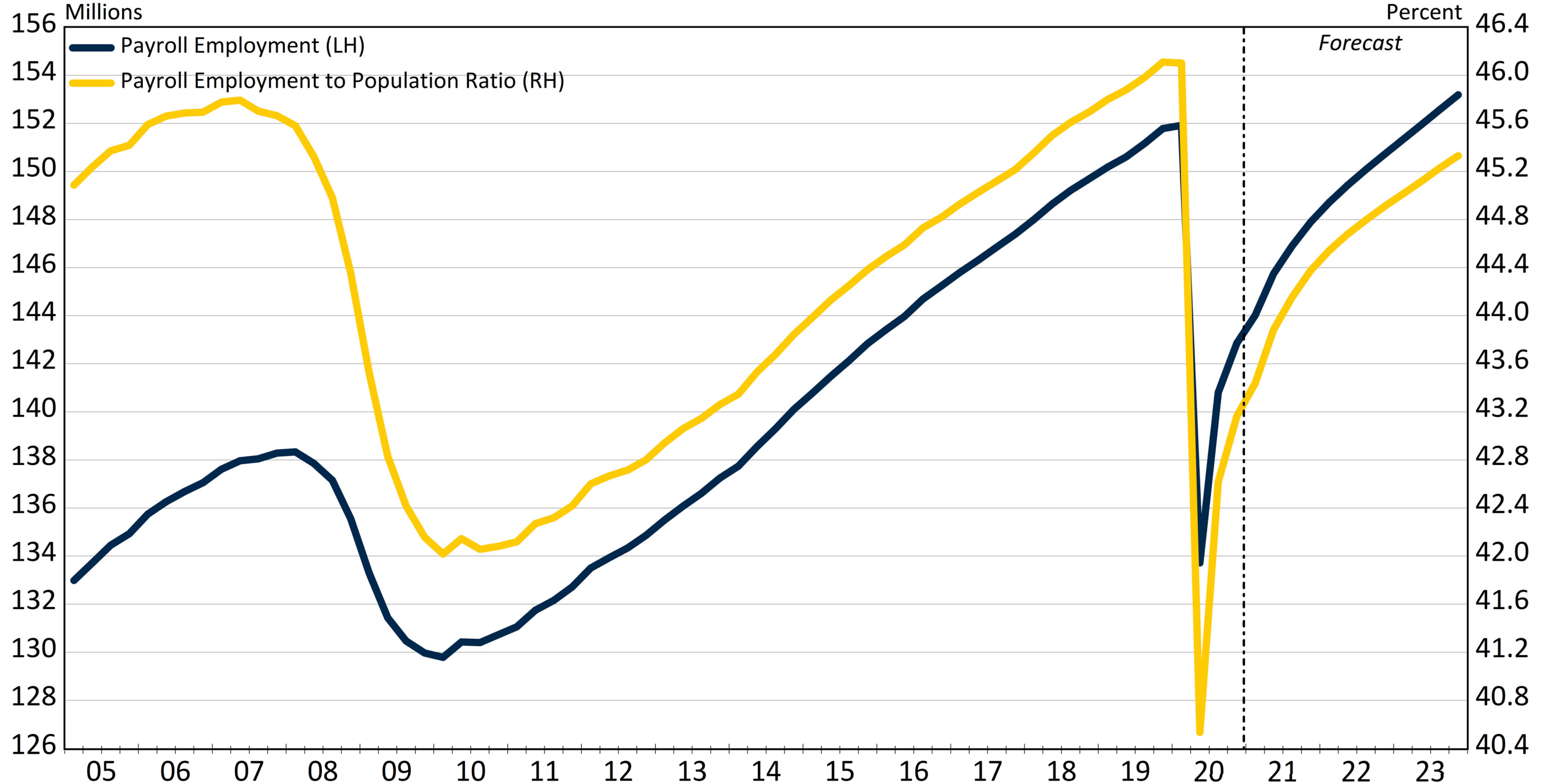
Quarterly U.S. Real GDP



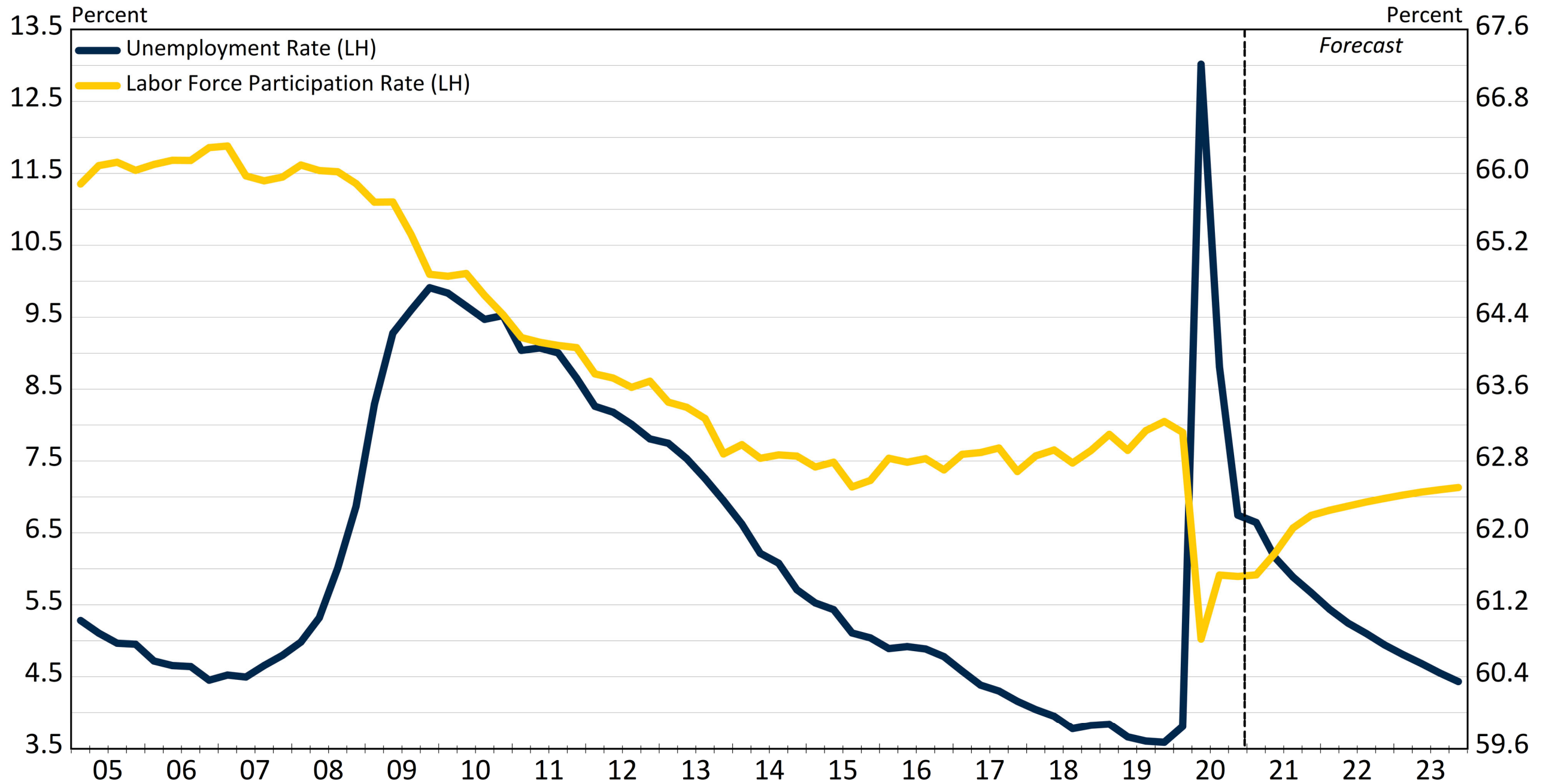
Real GDP Growth



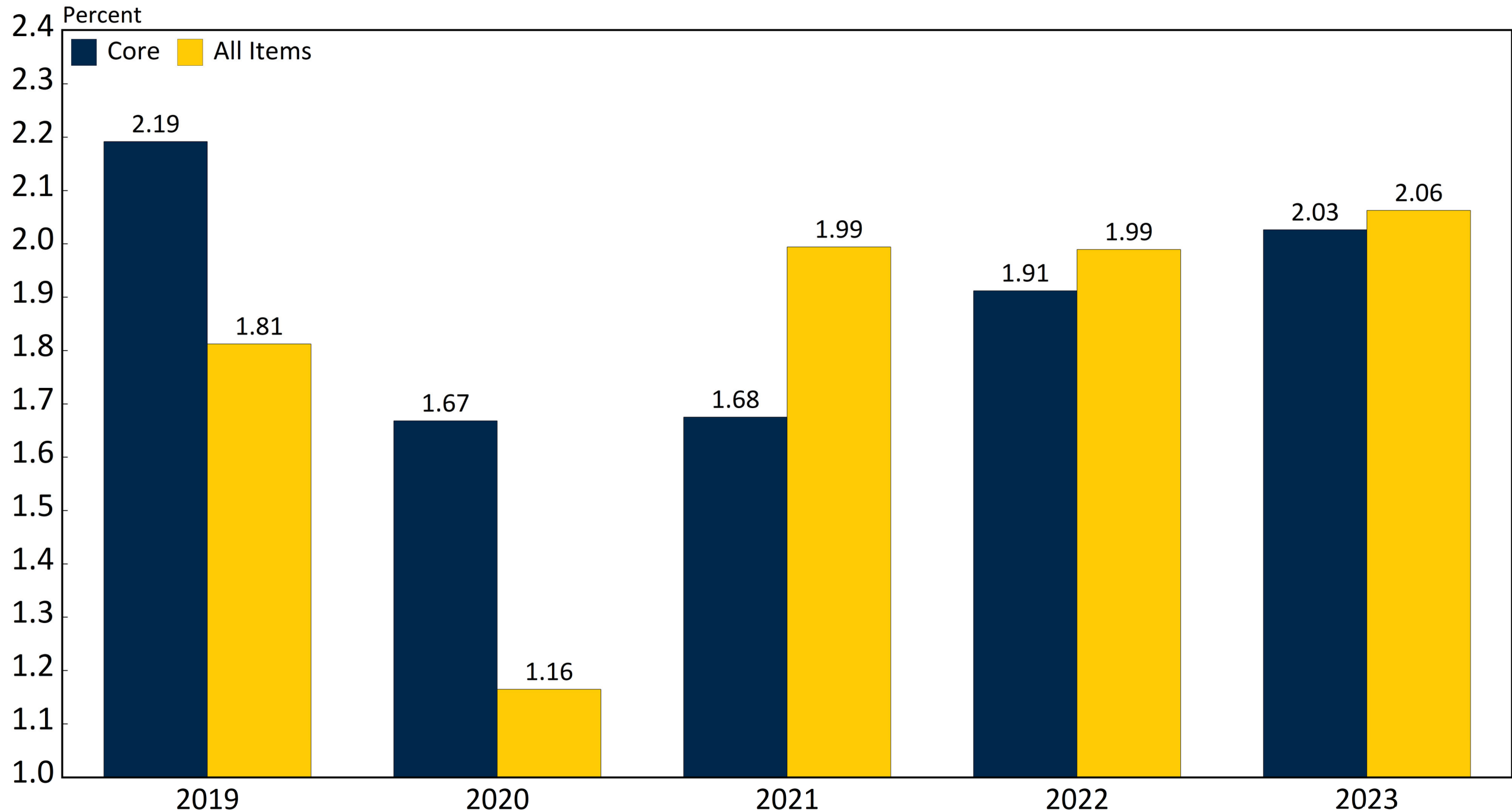
National Payroll Employment



Quarterly U.S. Unemployment Rate

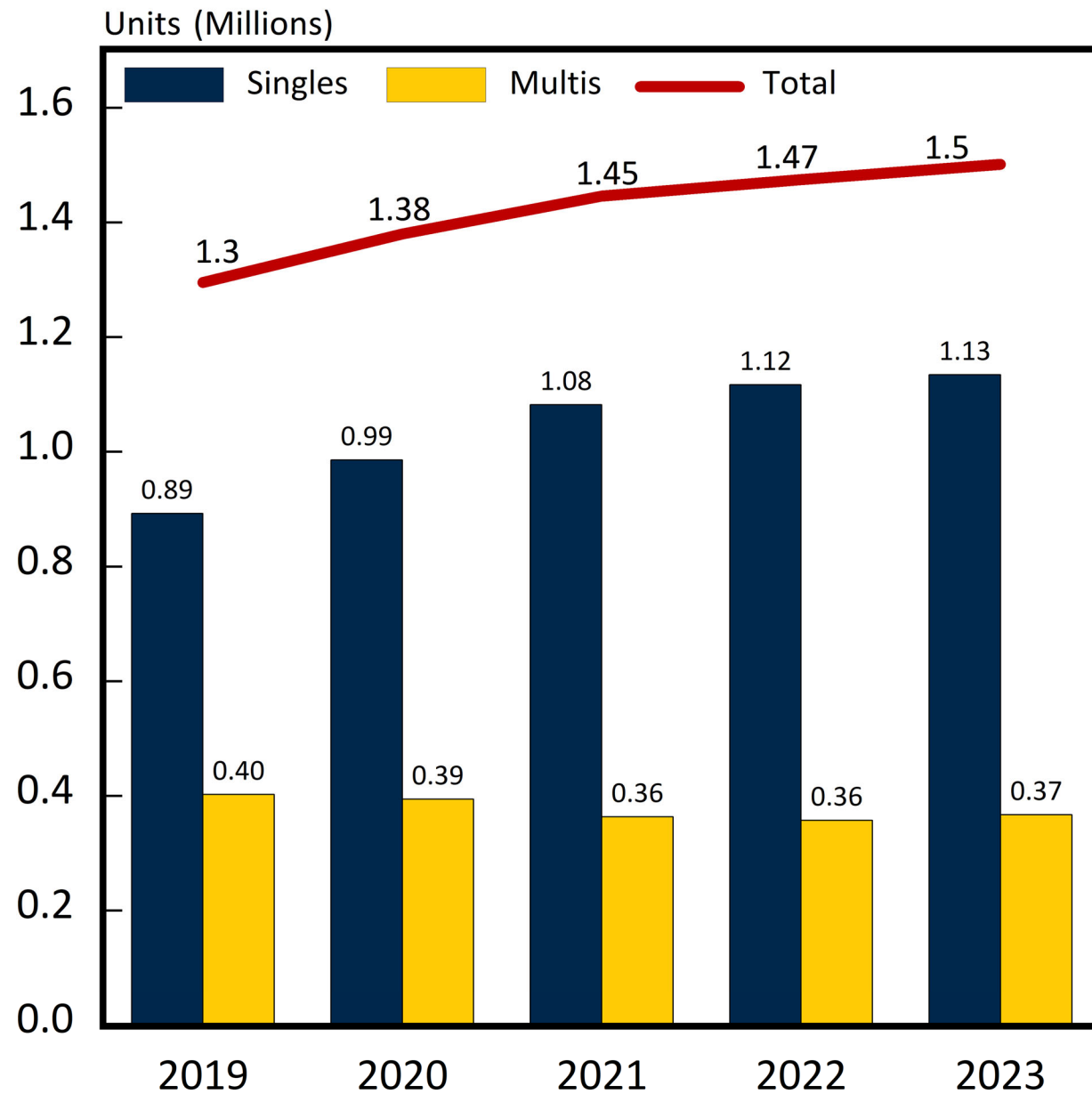


Consumer Price Inflation (CPI-U)

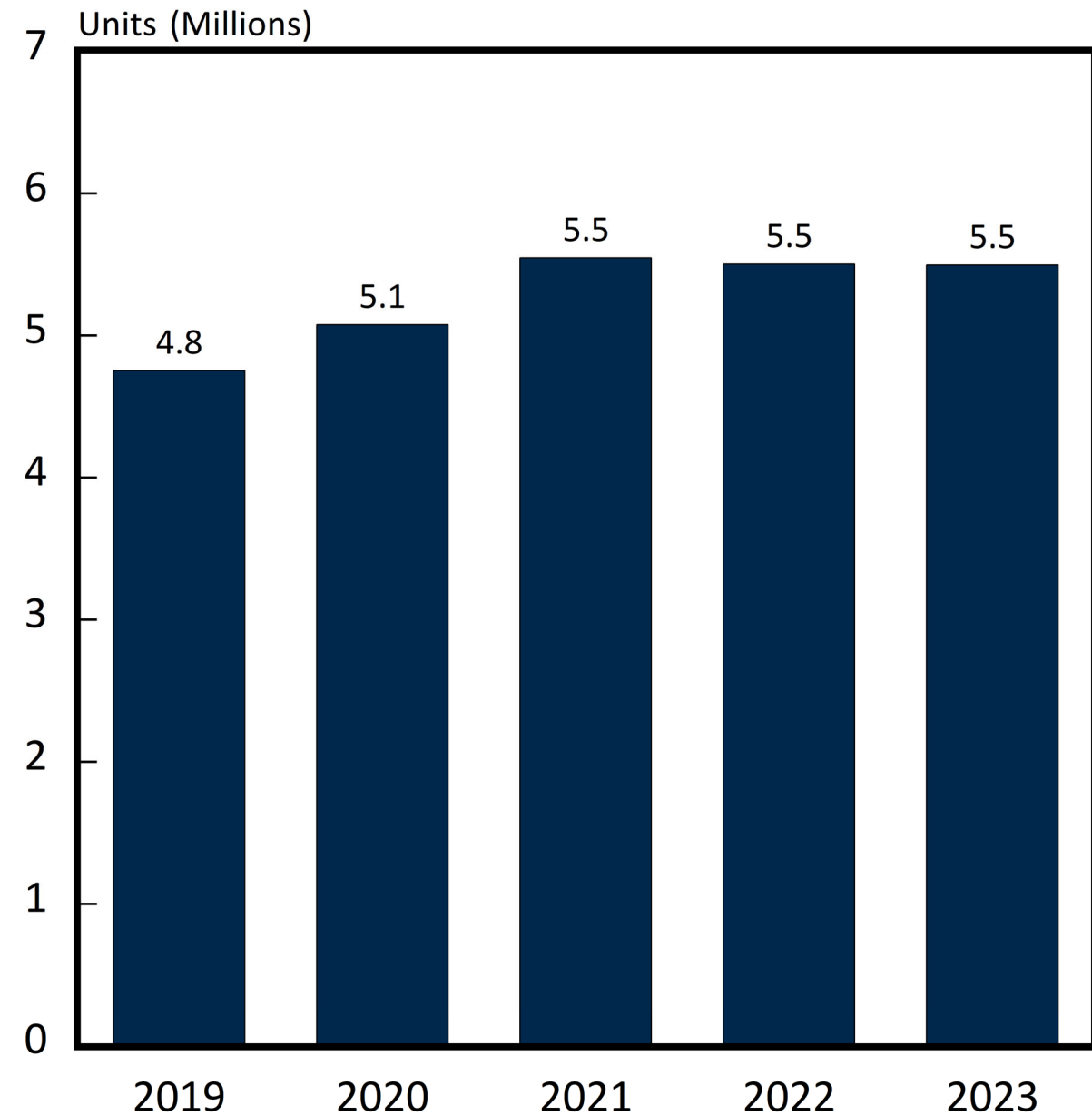


Housing Market

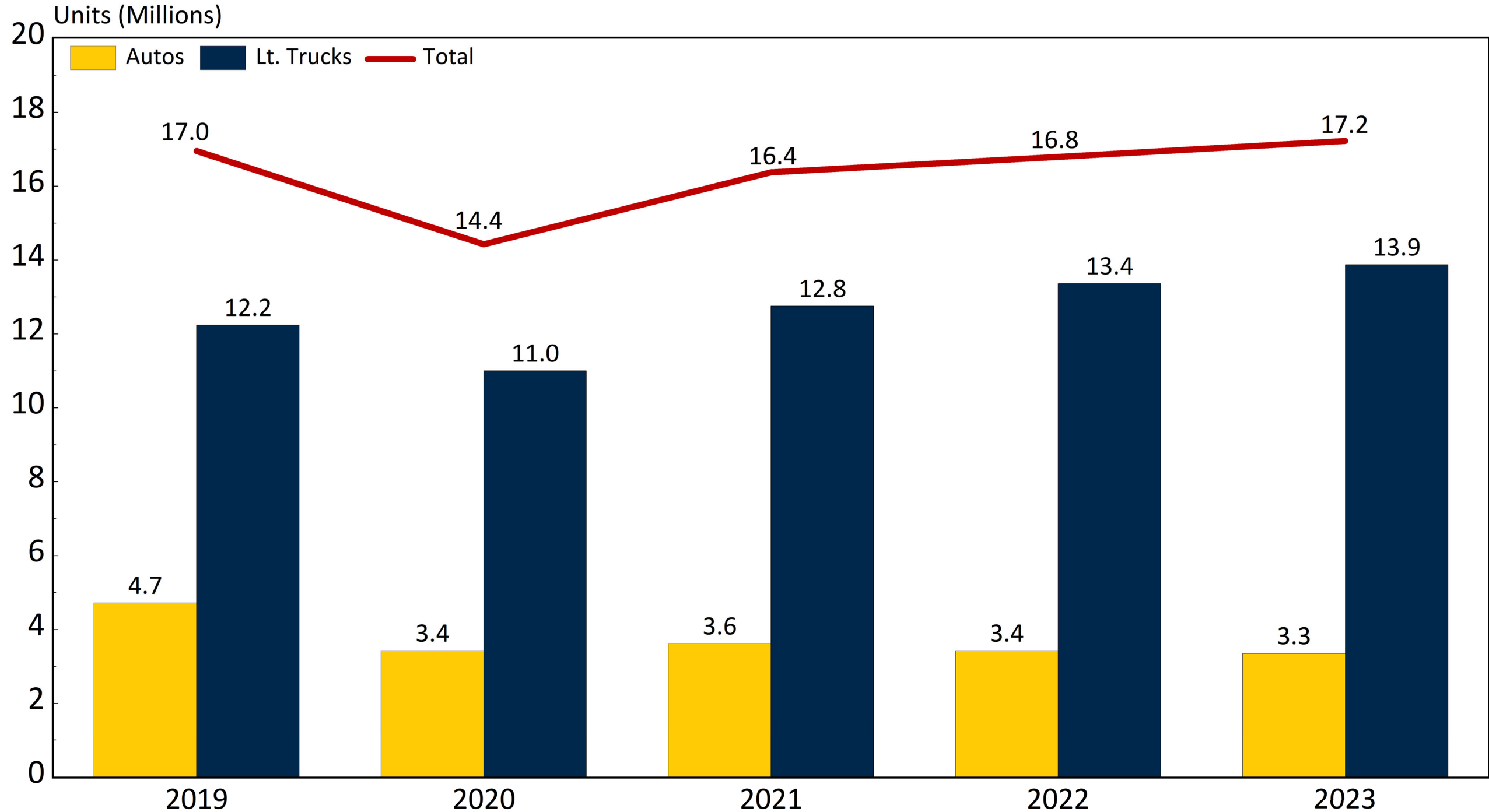
Housing Starts



Existing Home Sales



Light Vehicle Sales



Risks

➤ The Pandemic

- Vaccine uptake

➤ Fiscal

- Larger/smaller than expected stimulus

➤ Monetary

- Inflation acceleration, policy tightening sooner

➤ Housing Sector

➤ Financial Valuations

The Michigan Economic Outlook For 2021–2023



Consensus Revenue Estimating Conference

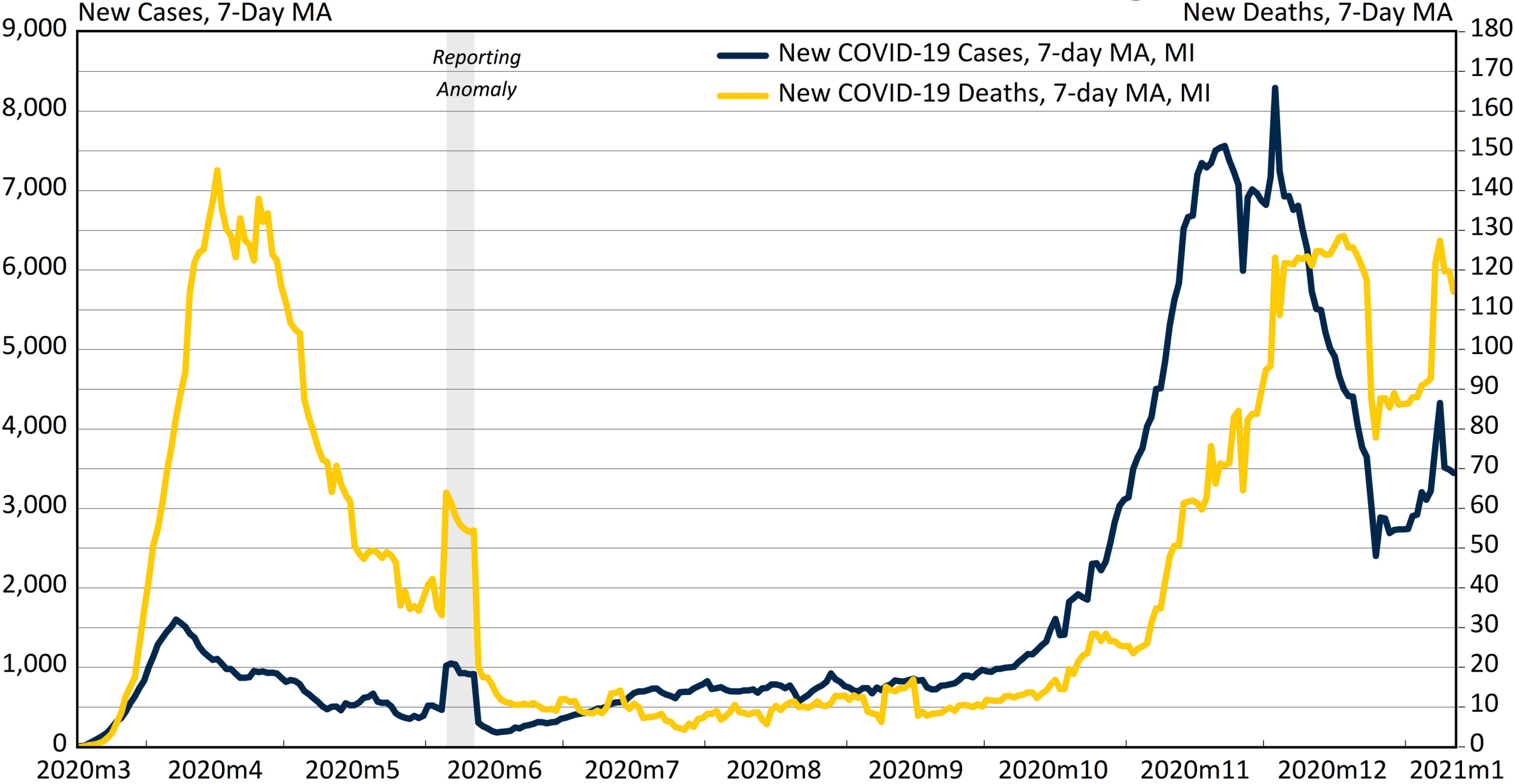
January 15, 2021

Research Seminar in Quantitative Economics



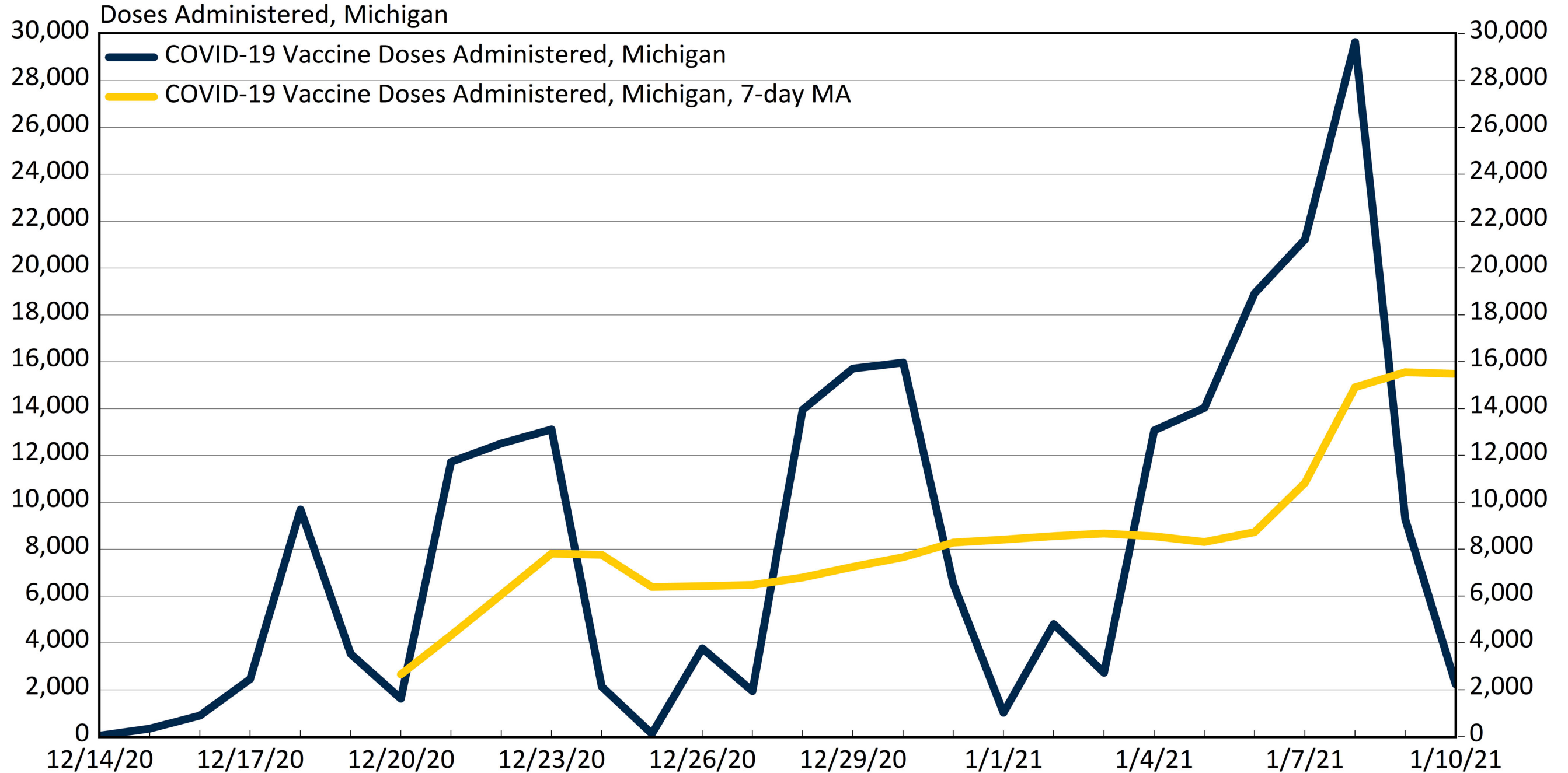
High-Frequency Indicators: Michigan

The Second Wave is Subsiding



Source: New York Times

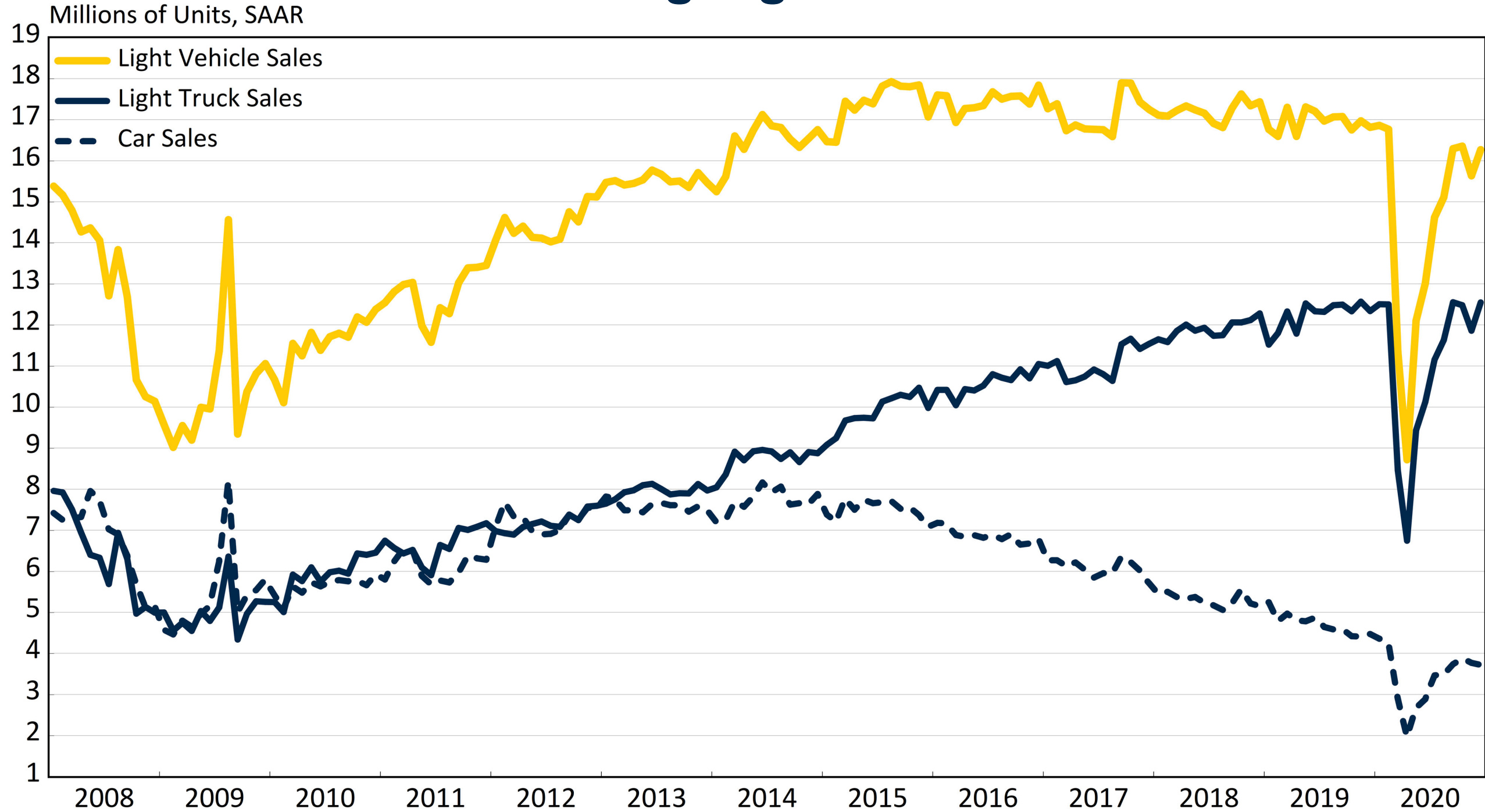
The Vaccine Rollout is Beginning



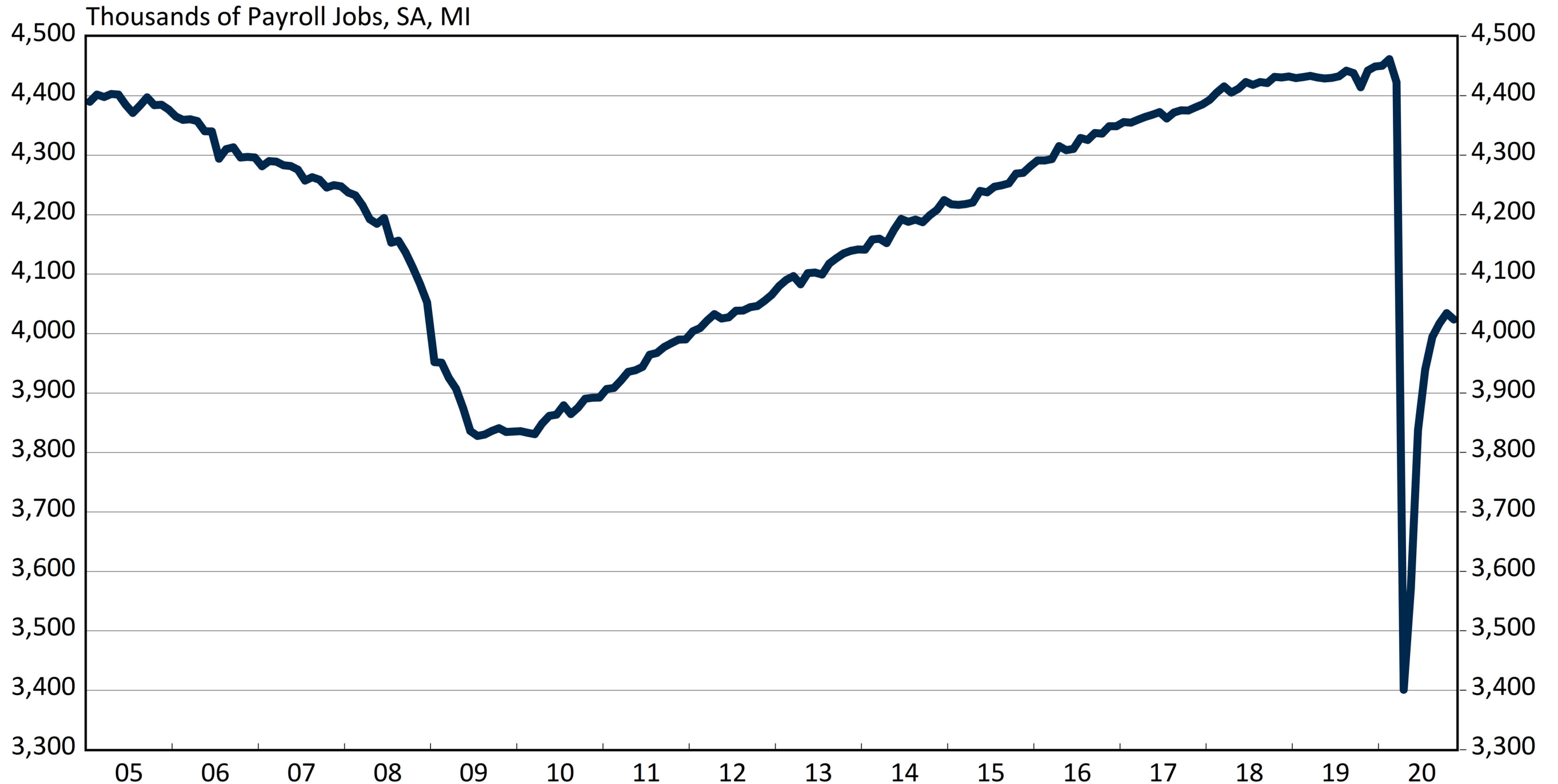
Source: MDHHS as of 01/12/2020

RSQE: January 2021

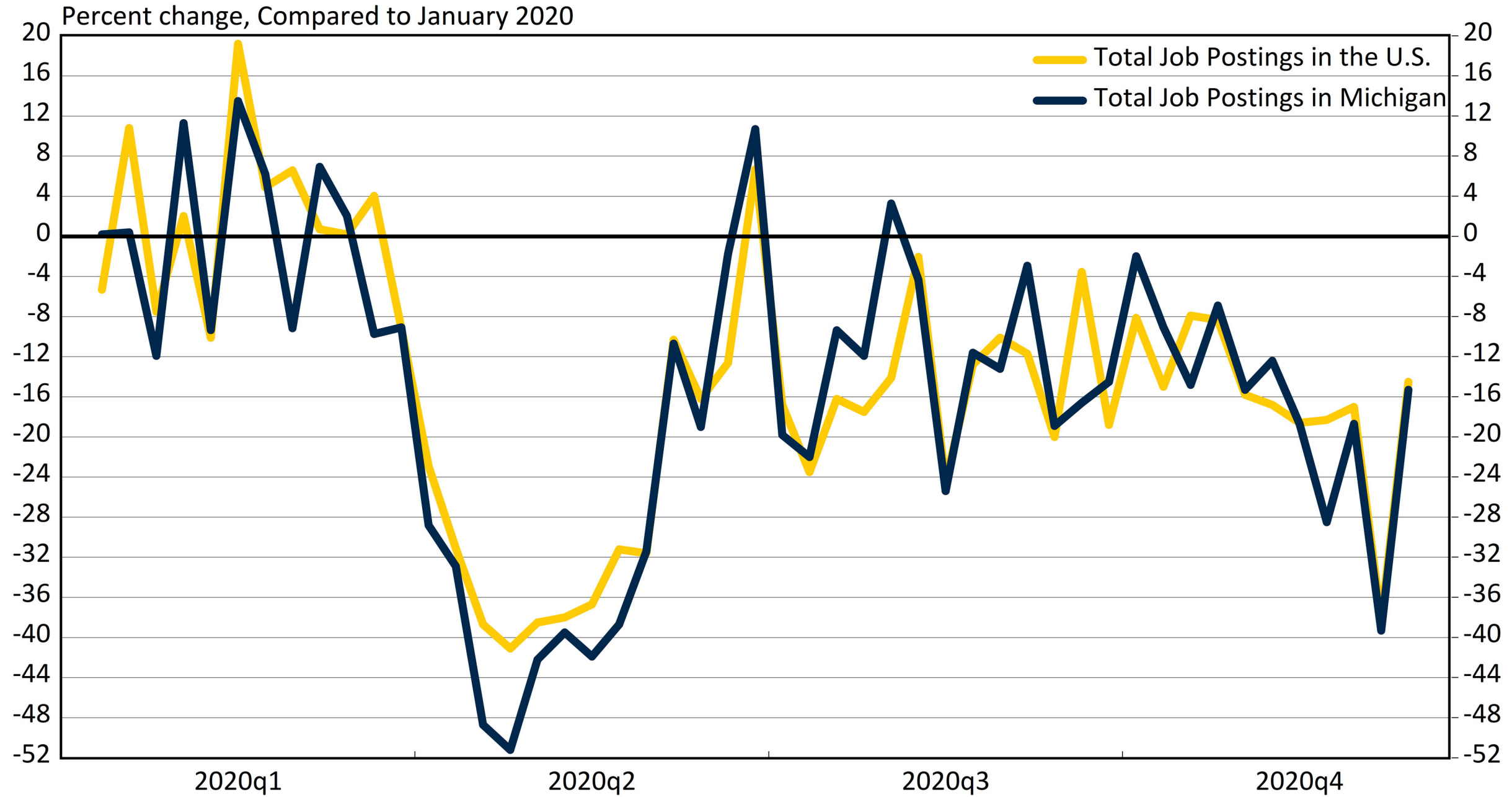
Rebounding Light Vehicle Sales



Climbing Out of a Deep Jobs Hole

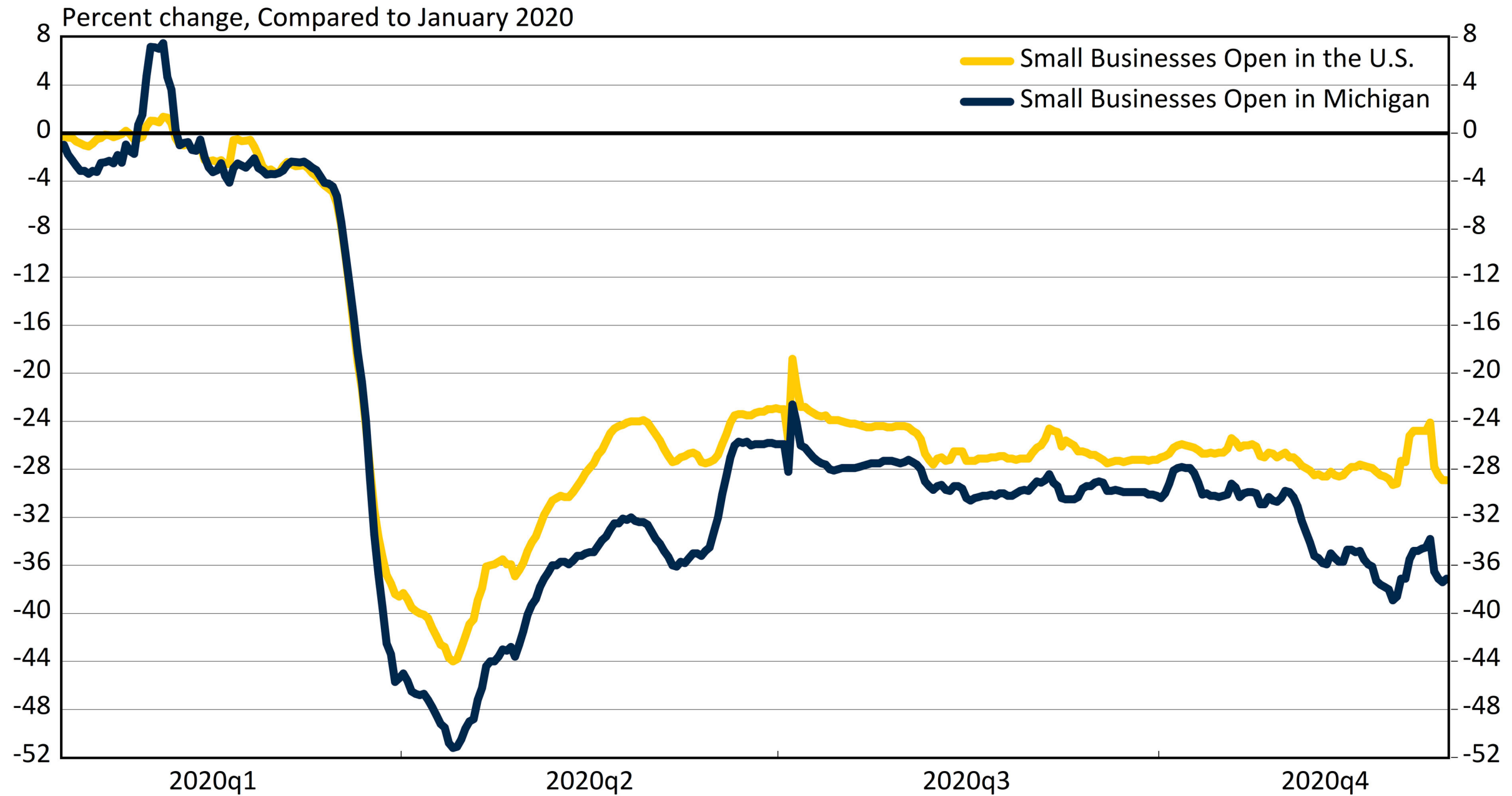


Job Postings: Losing Steam Again



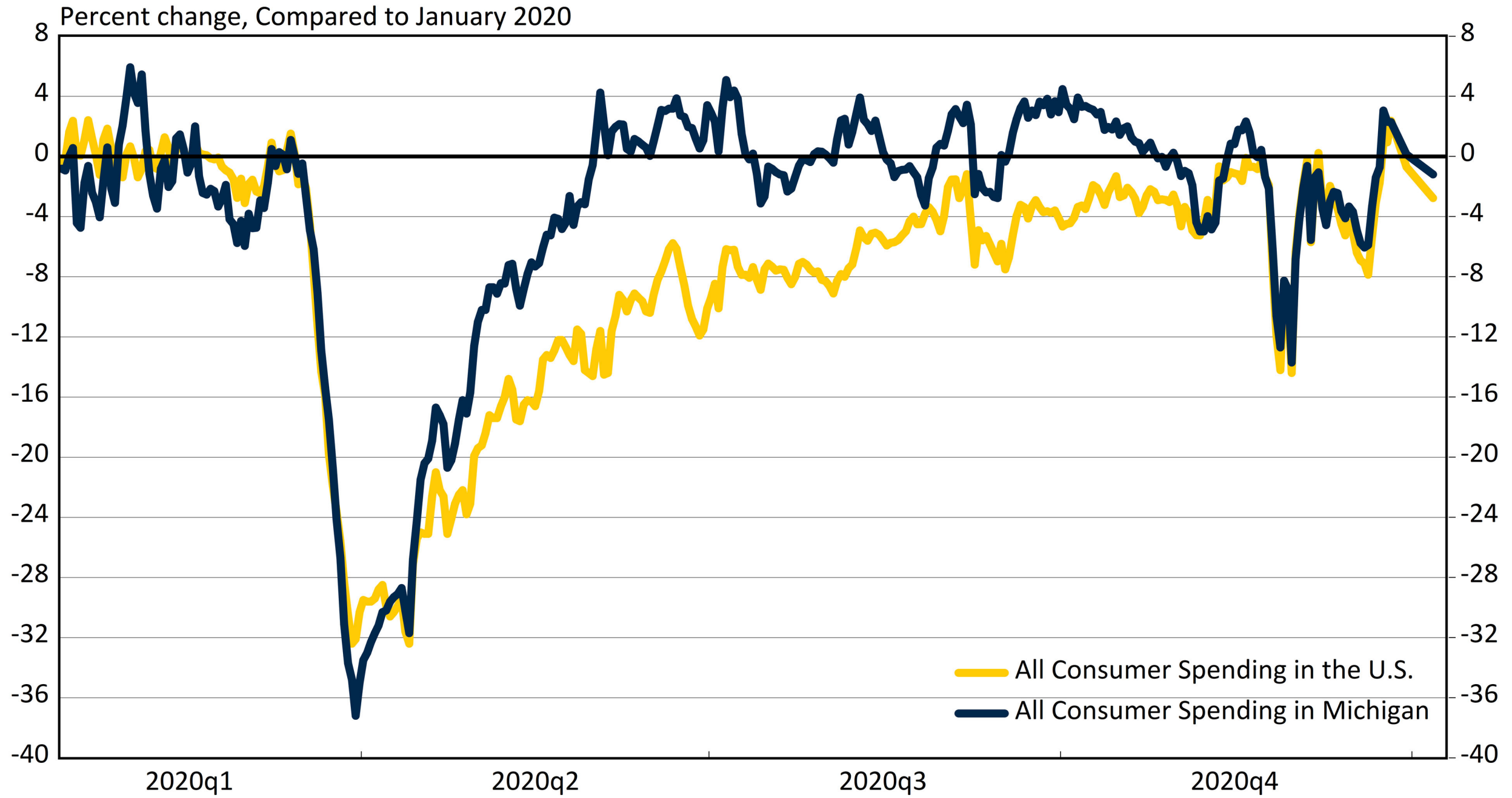
Source: Burning Glass Technologies via Opportunity Insights

Small Businesses Closures Remain High



Source: Womply via Opportunity Insights

Consumer Spending Wavering

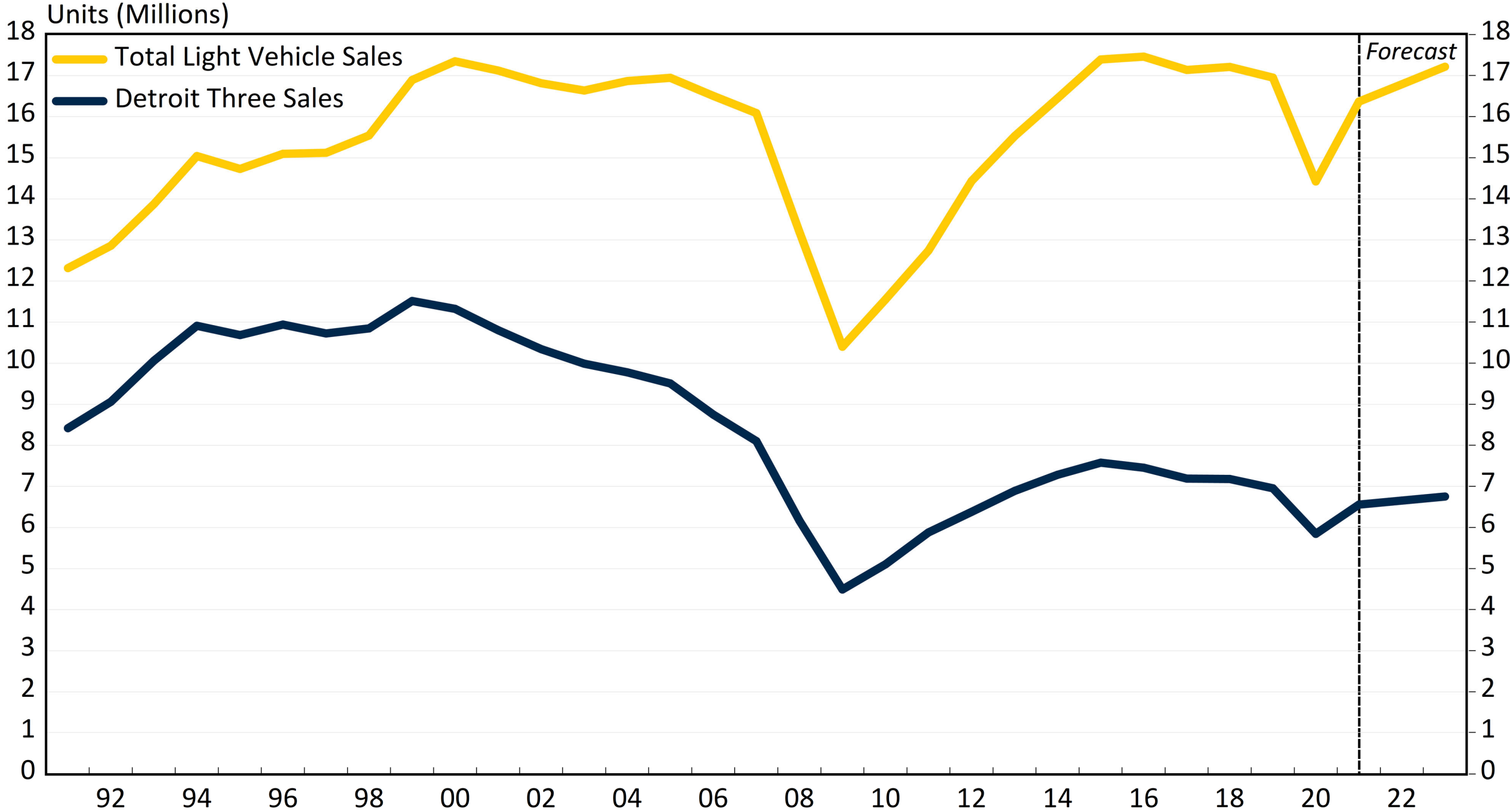


Source: Affinity Solutions via Opportunity Insights

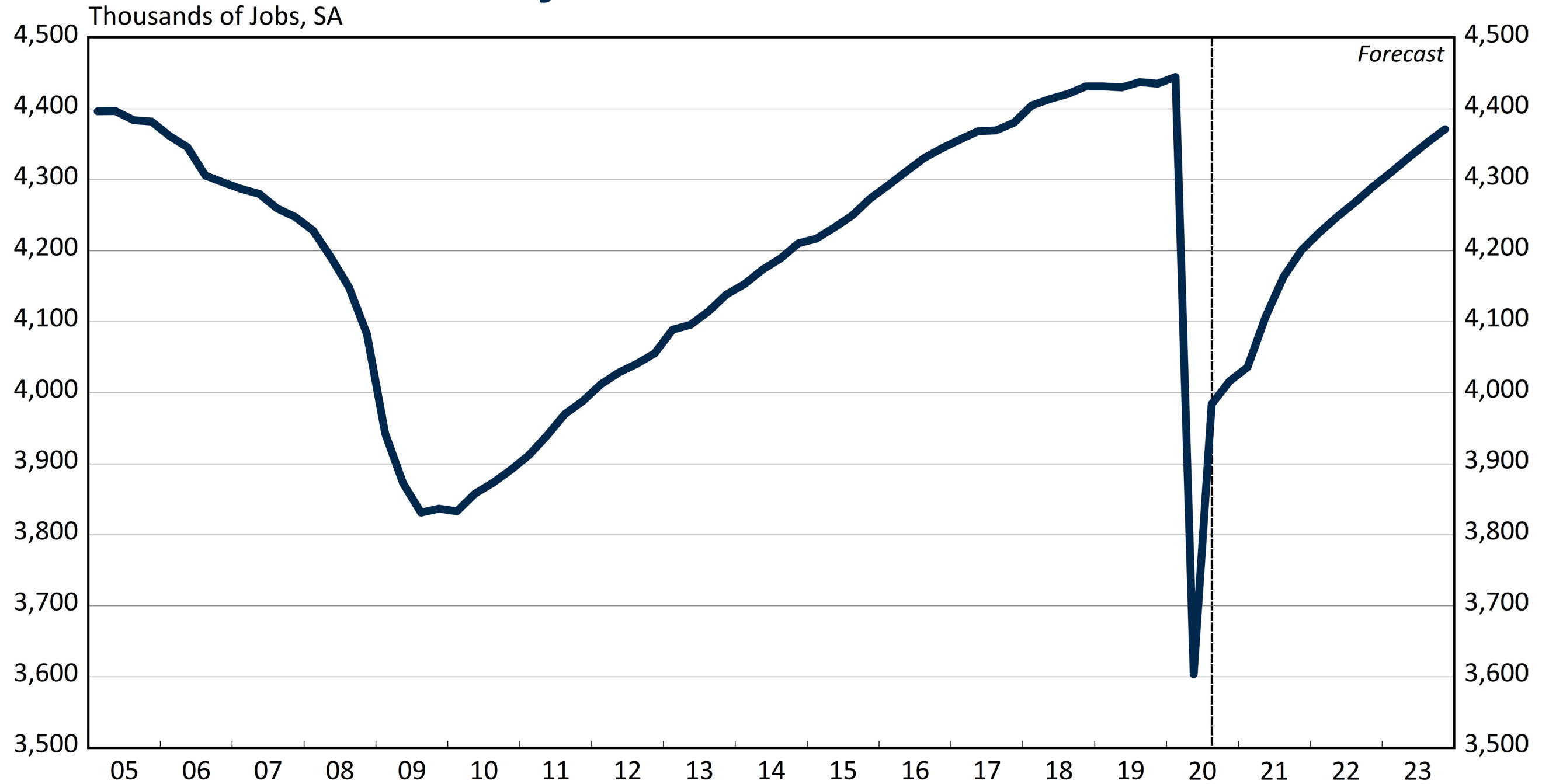
RSQE: January 2021

Michigan Economic Outlook

Annual Light Vehicle Sales: Not the Great Recession

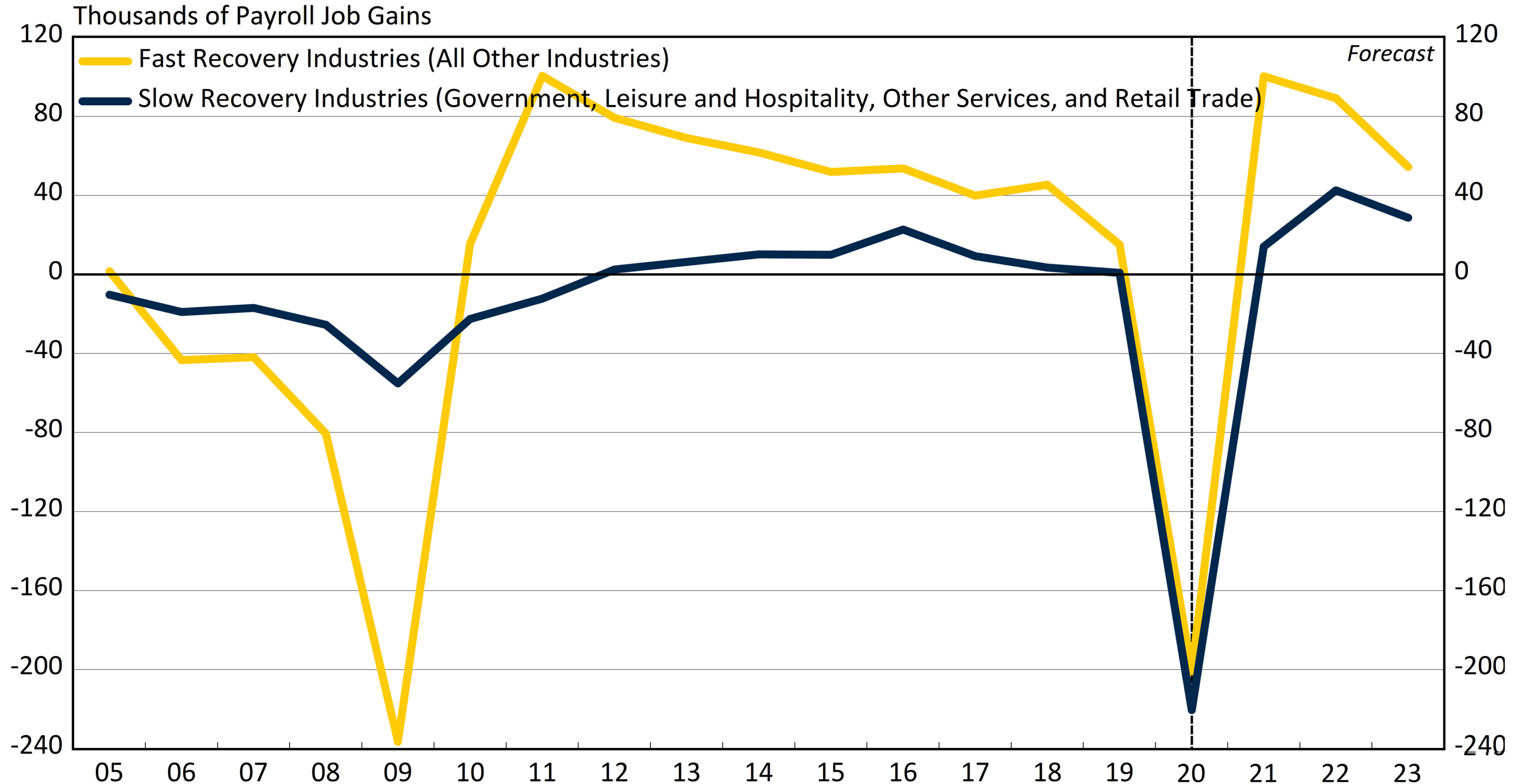


Quarterly Michigan Payroll Employment: Recovery Continues at a Slower Pace



RSQE: January 2021

Annual Job Growth in Michigan: Two-track Recovery

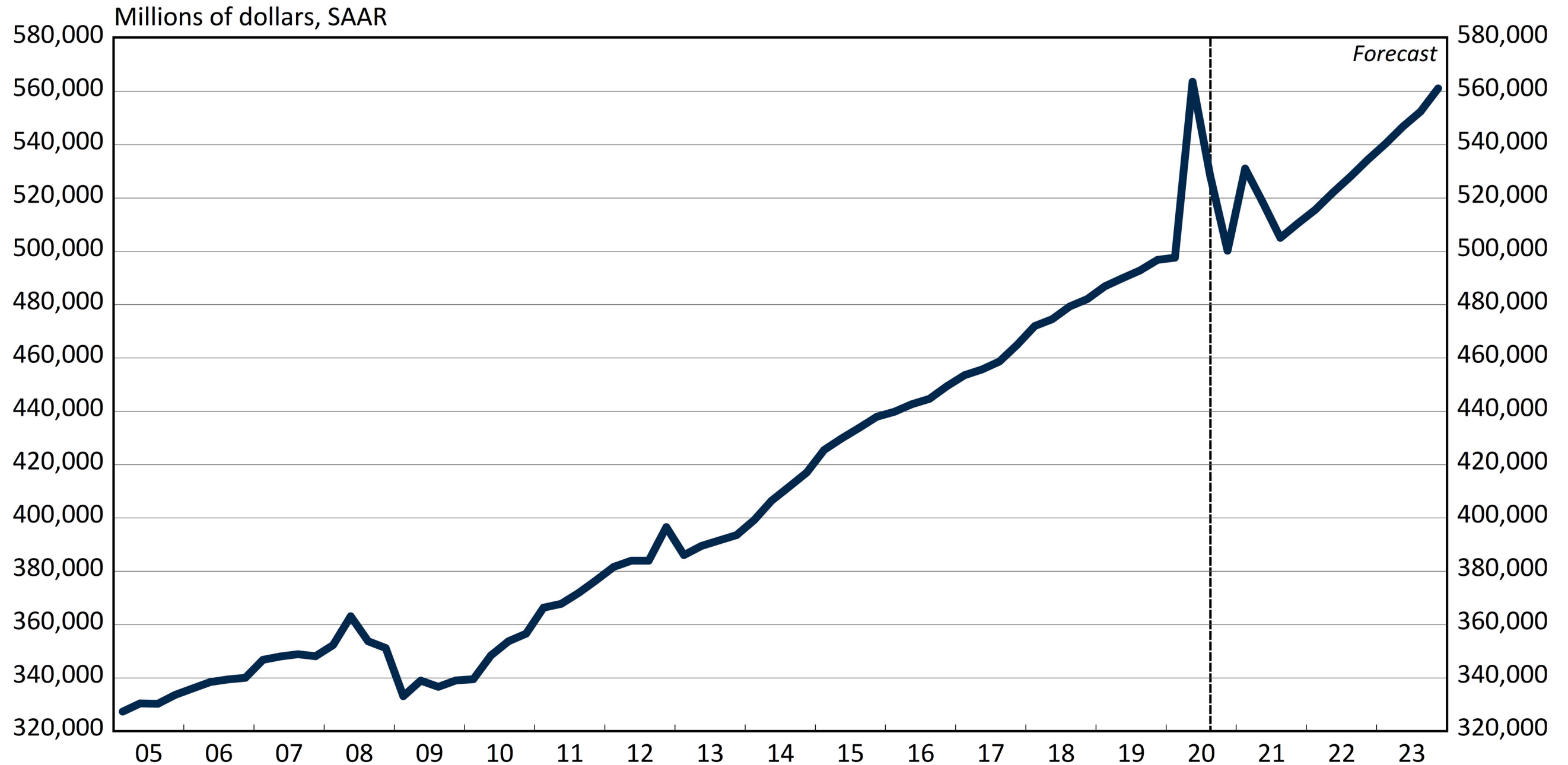


Quarterly Michigan Unemployment Rate



RSQE: January 2021

Quarterly Michigan Personal Income: Stimulus Cushions Income Losses



RSQE Forecast – State Revenues by Fiscal Year (Millions of Dollars)

	<u>Actual</u> 2020 ^P	<u>Forecast</u>		
		2021	2022	2023
GFGP revenue	10,840	9,940	10,473	11,017
(% change)	(-2.5)	(-8.3)	(5.4)	(5.2)
Earmarked state SAF revenue	13,851	13,821	14,179	14,605
(% change)	(2.1)	(-0.2)	(2.6)	(3.0)

^PPreliminary



lsa.umich.edu/econ/rsqe