

Consumption Inequality During and After the COVID-19 Pandemic

Brett Matsumoto

Co-authored with Thesia I Garner and Jake Schild

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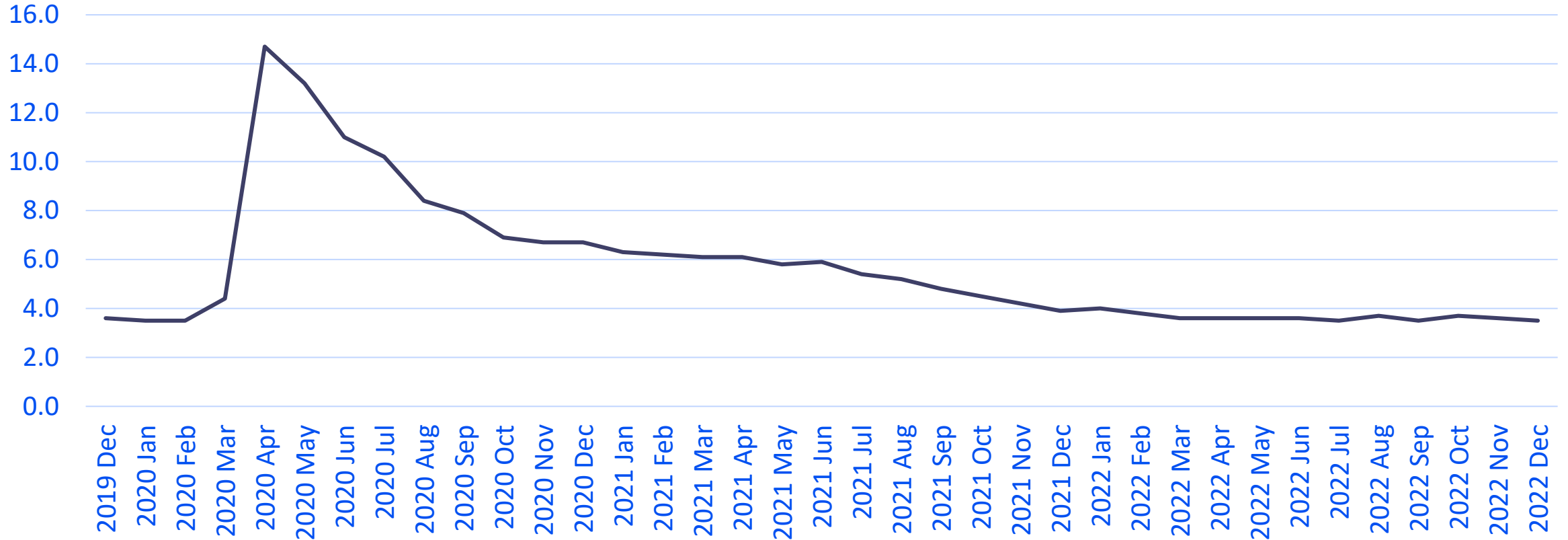
Advancements in Measuring Income, Consumption, and Poverty 2:30 – 4:30 pm



COVID and Consumption Inequality

- COVID greatly impacted the economy
 - ▶ Sudden shutdown in March 2020
 - ▶ Shift in types of expenditures, as some types of spending was more affected than others
 - ▶ Unprecedented fiscal response
- Consumption inequality fell in 2020 before recovering in 2021 and 2022.
 - ▶ The decline was driven by declining consumption in pandemic sensitive categories of consumption among those at the top of the distribution.

Unemployment Rate



TSA Passenger count, 7-day MA



Overview

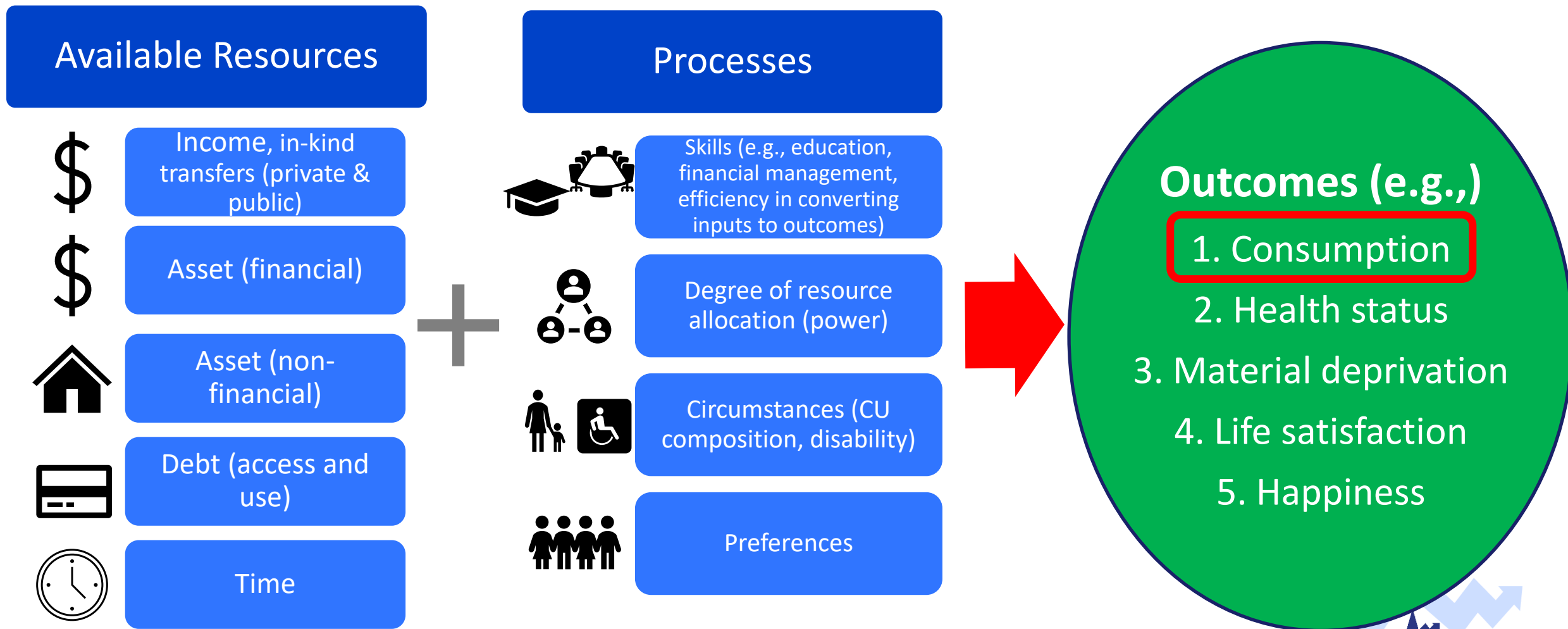
- Construction of our consumption measure
- Inequality results from 2019-2022
- Examine drivers of change in inequality
 - ▶ Gini decomposition by type of consumption
 - ▶ Theil decomposition by demographic groups
- Conclusion and future work



Consumption Measure: Methods and Data



Consumption as a Well-being Outcome: A Function of Resources and Processes



Why Produce Consumption Measures?

■ Alternative measure of well-being based on outcomes

▶ Supports work and recommendations

- CNSTAT Panel An Integrated System of U.S. Household Income, Wealth, and Consumption Data and Statistics to Inform Policy and Research (present)
- OECD expert groups on distributions of income, consumption, and wealth (micro groups)

▶ Allows us to go beyond expenditures: Period of COVID-19 and consumption of home production

■ Poverty and Inequality measurement

▶ Supports the work of the Interagency Technical Working Group (ITWG) on Evaluating Alternative Measures of Poverty (2020)

▶ Builds on work presented at APPAM 2022

▶ Follows along with the CNSTAT panel (2023) focus on consumption needs for the Principle Poverty Measure

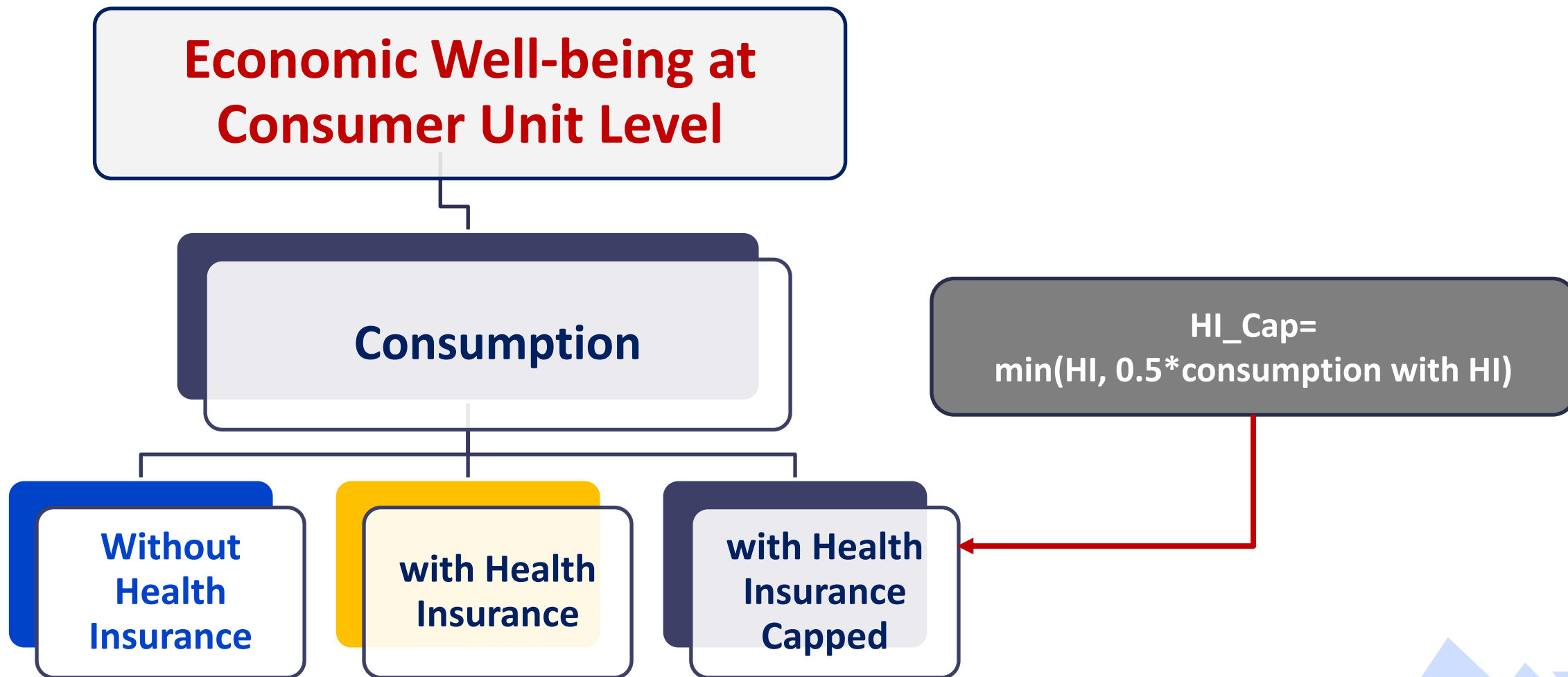
❖ *In addition, have presented earlier work on progressions of our measure and used in inequality and poverty at various venues (e.g., ASSA, SGE, OECD, CNSTAT, FESAC, JSM, SEA). See Monthly Labor Review 2022 for details about comprehensive consumption measure*

Consumption Expenditures vs Consumption: Key differences

- Durables – expenditure vs flow of services
- In-kind transfers
- Household Production
- Gifts and barter
- Problem categories (investment vs consumption):
 - ▶ Education
 - ▶ Health



Concepts of Consumption for Poverty Analysis



NOTE: None of these measures include "Education"

Data and Methods

■ Data

- ▶ Base is U.S. Consumer Expenditure Survey Interview, 2019 through 2022
- ▶ Assuming independent quarters
- ▶ Supplemented with data from CPS-ASEC, MEPS Insurance Component, CMS National Health Expenditure Database, USDA Administrative Data, National Center for Education Statistics

Methods

- Gini decomposition by type of consumption (Lerman and Yitzhaki 1985):

$$G = \sum_g G_g R_g S_g$$

- ▶ G_g : Within category Gini
- ▶ R_g : Correlation with rank of overall consumption
- ▶ S_g : Share of overall consumption

Methods

- Theil decomposition by demographic group: within vs across group inequality

$$Theil = \sum_k s_k * Theil_k + \sum_k s_k \log \left(\frac{\bar{c}_k}{\bar{c}} \right)$$

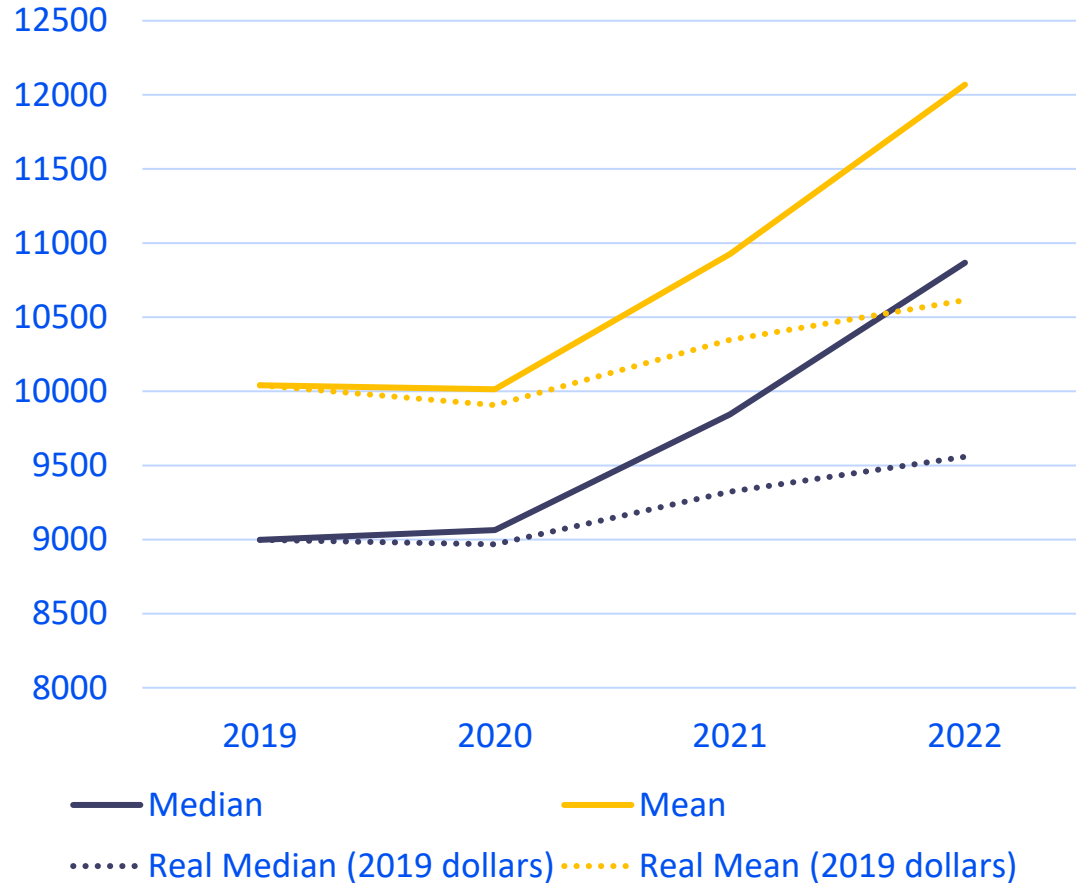
$$s_k = \frac{\bar{c}_k n_k}{\bar{c} n}$$

- s_k is the share of consumption represented by group k
- n_k number in group k
- \bar{c}_k mean consumption for group k and \bar{c} is overall mean consumption

Results



Over Time: Quarterly Equivalized Means and Medians

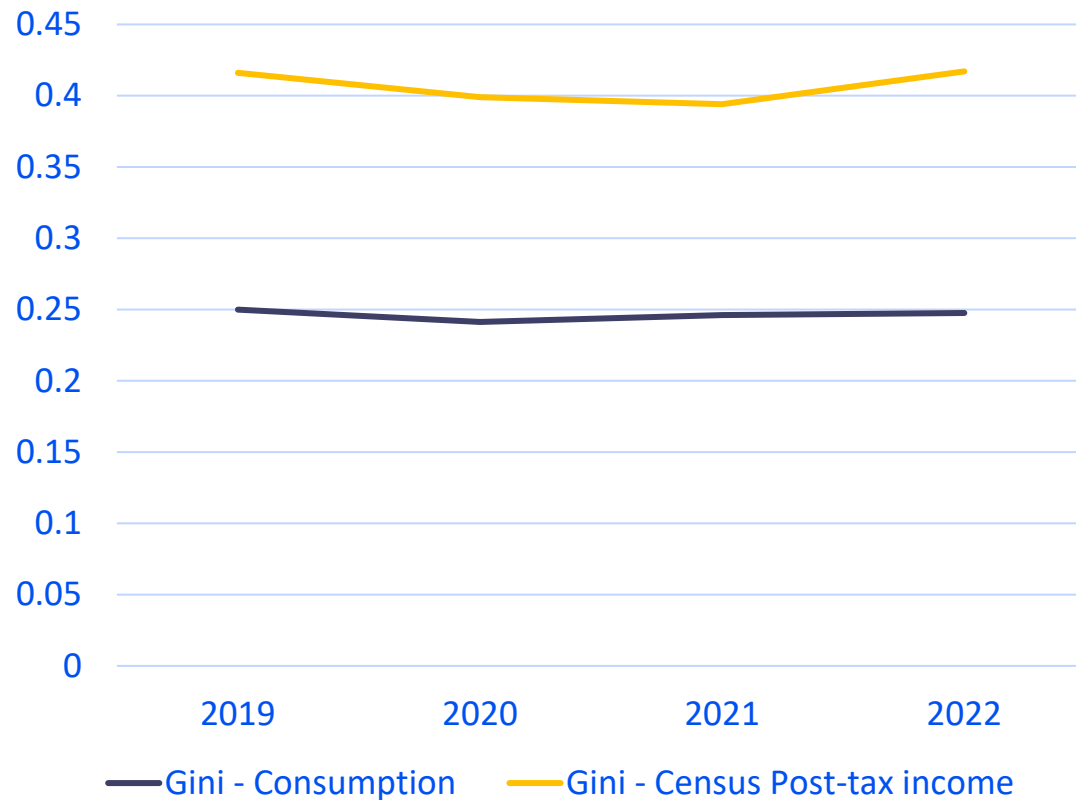


- Small declines in real mean and median consumption in 2020.
- Large impact of inflation on 2021 and 2022 nominal values.

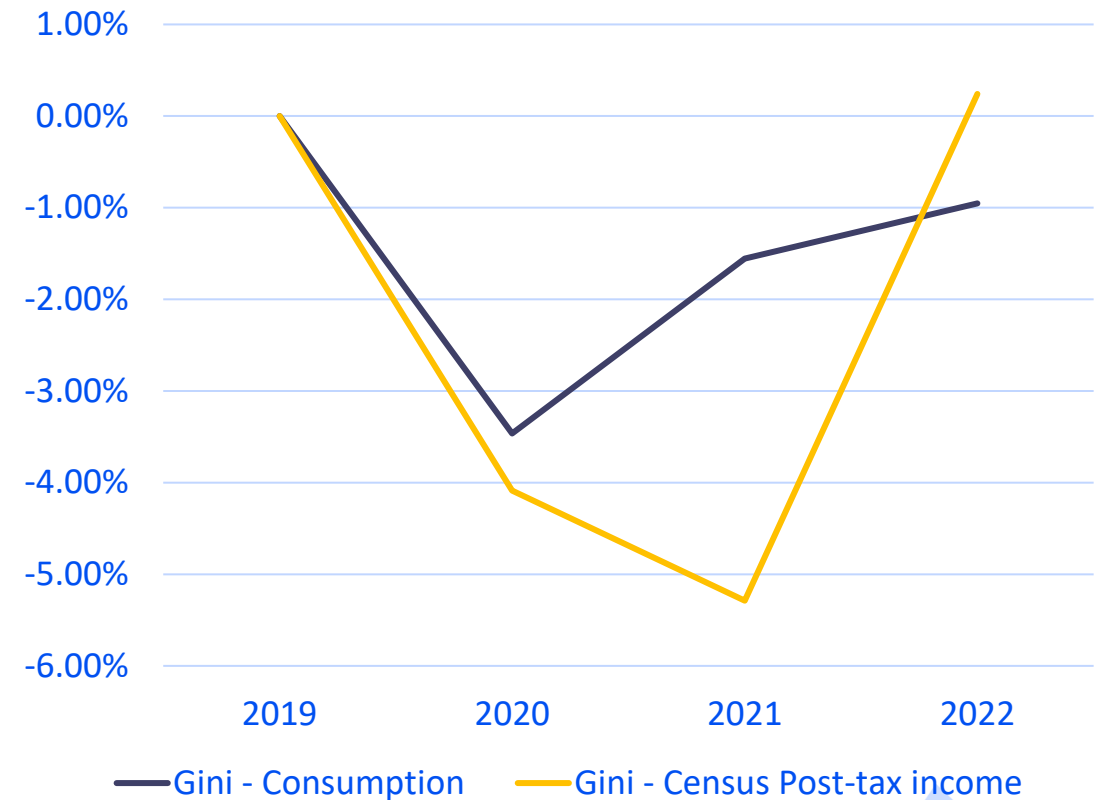


Consumption and post-tax income Gini

Consumption and Post-tax income inequality



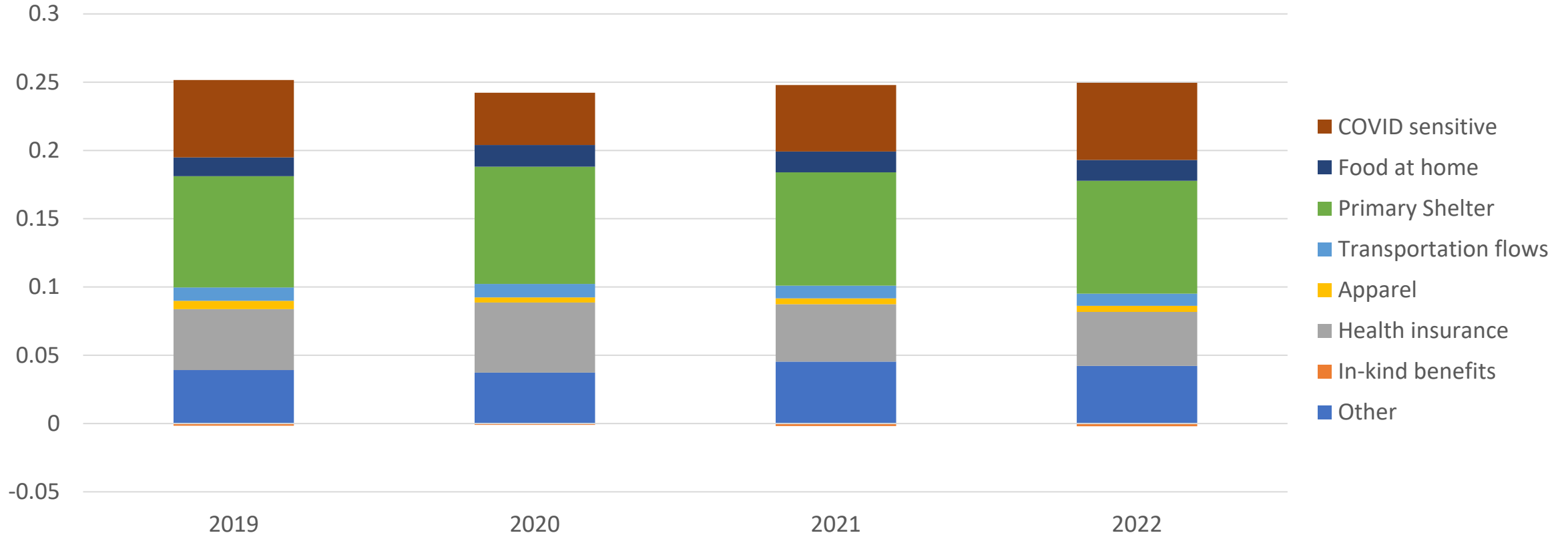
Change in Gini since 2019



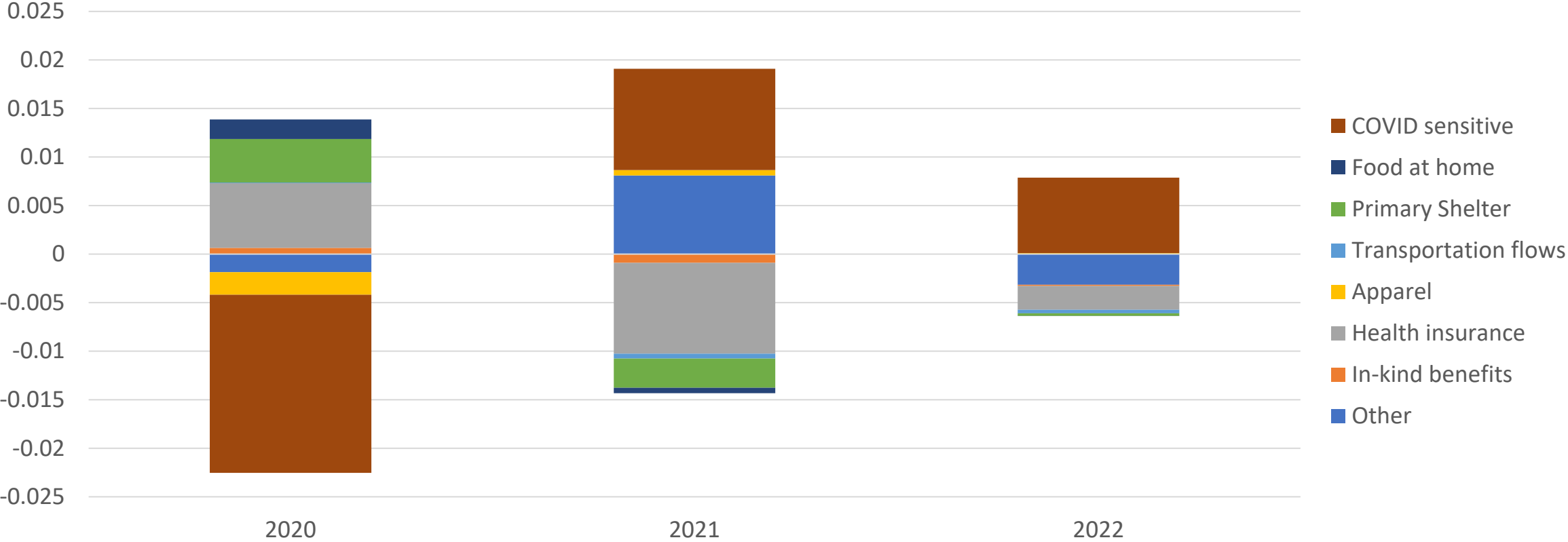
Inequality Measures

	2019	2020	2021	2022
Consumption with Health Capped				
Gini	0.250	0.241	0.246	0.248
	(0.003)	(0.003)	(0.004)	(0.004)
Theil	0.110	0.102	0.107	0.108
Mean log deviation	0.104	0.098	0.101	0.102
Consumption with Health Uncapped				
Gini	0.248	0.239	0.244	0.246
	(0.003)	(0.003)	(0.004)	(0.004)
Theil	0.108	0.101	0.106	0.106
Mean log deviation	0.102	0.097	0.100	0.101

Gini contribution over time



Contributions to the 1 year change in Gini



Drivers of the change in Gini contribution by category

- Covid sensitive categories tend to have:
 - ▶ High within category Gini and high rank correlation
- From 2019 to 2020:
 - ▶ Shares declined in covid sensitive categories offset by increases in other categories
 - ▶ Rank correlation and within Gini are relatively stable
 - ▶ Results is the shift in consumption patterns leads to lower overall inequality

Demographic decomposition

	2019	2020	2021	2022
Aggregate Inequality (Theil)	0.110	0.102	0.107	0.108
Family Type				
Within-group inequality share	83.5%	84.5%	86.0%	85.5%
Between-group inequality share	16.5%	15.5%	14.0%	14.5%
Economic activity of household head				
Within-group inequality share	95.1%	94.5%	96.0%	95.8%
Between-group inequality share	4.9%	5.5%	4.0%	4.2%



Conclusion and Next Steps



Conclusion

- Consumption inequality fell in 2020 before partially recovering in 2021 and 2022.
 - ▶ Similar pattern to post-tax income inequality
- Gini decomposition results: decline in 2020 inequality due to declines in consumption in the most covid sensitive categories.
- Theil decomposition: decline in between group inequality share by family type over this period

Future work

- Improvements and updates to the consumption measure
 - ▶ Incorporate home production
 - ▶ Add diary expenditures
 - ▶ Top tail adjustment
 - ▶ Adjusting the health insurance cap
- Add after tax income measure
- Inequality and poverty analysis
 - ▶ Further analysis of demographic results
 - ▶ Estimate impact of specific policies

Contact Information

Brett Matsumoto

Division of Price and Index Number
Research

www.bls.gov/pir

[https://www.bls.gov/cex/consumption-
home.htm](https://www.bls.gov/cex/consumption-home.htm)

matsumoto.brett@bls.gov

