

Wisconsin Counties Association
2025 ANNUAL CONFERENCE ***GAME DAY***

3:30 – 4:30 PM

Numbers Don't Lie, But They Can Mislead



Numbers Don't Lie

But They Can Mislead

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Forward Analytics
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Major themes in using data

- ▶ Articles or graphics that use data
 - ▶ How do you evaluate the data?
 - ▶ How do you evaluate the conclusions?
- ▶ Data in addressing county challenges
 - ▶ What data sheds light on possible solutions?
 - ▶ Where can that data be found?
 - ▶ Is it high quality?

Where do you get your data?

- ▶ Government records (births, deaths, unemployment claims, etc.)
 - ▶ *high quality, generally very current*
- ▶ Government surveys (unemployment, jobs, income, etc.)
 - ▶ *High quality and current*
 - ▶ *Margins of error should be considered!*
- ▶ Regular private surveys (e.g., Pew, Gallup, etc.)
 - ▶ *Generally high quality*
 - ▶ *Margins of error!*
- ▶ Groups that cull data and repackage it, or create their own (e.g. Statista or DataUSA)
 - ▶ *Source data either hidden or behind pay wall*
- ▶ Generate your own data via surveys
 - ▶ *Are the questions neutral?*
 - ▶ *Are there enough responses?*
 - ▶ *Are there groups of people that tend to be on one side of the issue not responding?*

Evaluating the data

What kind of numbers?

- ▶ Are they raw numbers, averages, percentage change, etc.?
- ▶ Why might they be reported this way? Might a different approach yield a different conclusion?

Example

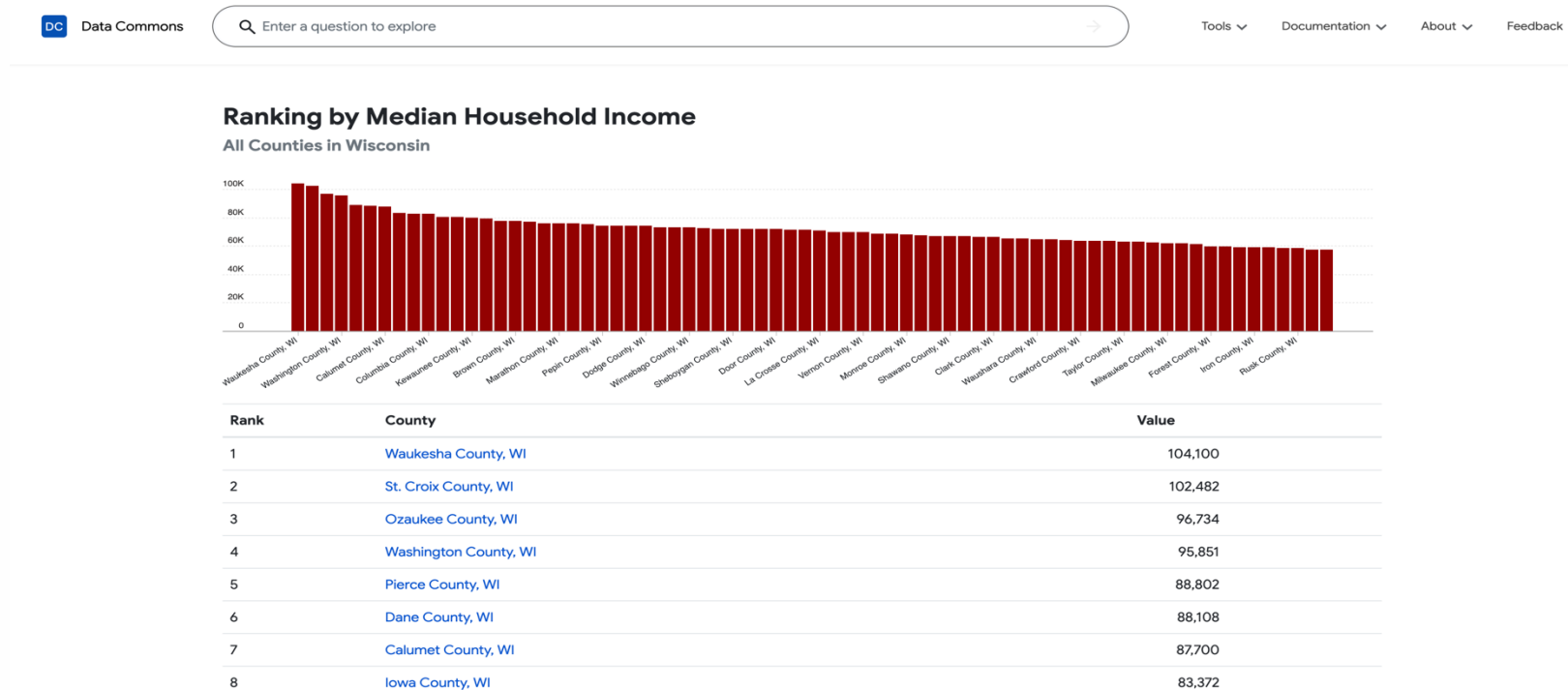
The City of *Arlington* currently provides home to nearly 2,400 persons over 65, the aging population of *Brownsville* is just over 2,000, *Casablanca* and *Denison* provide home to nearly 1,000 older persons. The cities of *Evanston* and *Freedom* are expected to experience the largest increases in population aging over the next 10 to 15 years

- Why “numbers” for some and “changes” for others?
- Are the large “increases” in number or %

Evaluating the data

What is the source?

- ▶ Are sources mentioned?
- ▶ If so, how credible are the sources?
- ▶ Can you easily track down the original source of information?



Evaluating the data

Other Considerations

- ▶ **How were the data collected? How good are the data?**
- ▶ **How relevant are the data to the topic?**

Is AI the answer?

July 28th

which wisconsin counties do not impose a county sales tax

In Wisconsin, the **state sales tax** is 5%. On top of that, many counties have adopted a **county-level sales tax** (typically 0.5%, with Milwaukee County recently raising it to 0.9%) [Wikipedia +4](#) .

As of mid-2025, the **counties that impose a county sales tax** include:

- **Brown County** (0.5%)
- **Calumet County** (0.5%)
- **Outagamie County** (0.5%)
- **Racine County** (0.5%)
- **Washington County** (0.5%)
- **Milwaukee County** (0.9% as of January 1, 2024)
- **Manitowoc County** (started 0.5% tax January 1, 2025) [Wisconsin Department of Revenue +1](#)

[finanzsenteret.as +1](#)

That means **65 of Wisconsin's 72 counties do *not* impose a county sales tax**. In those counties, consumers pay only the 5% state sales tax (plus any applicable municipal or resort taxes) [Wikipedia +15](#) .

✔ Summary Table

Category	Counties Included
Counties with county sales tax	Brown, Calumet, Outagamie, Racine, Washington, Milwaukee, Manitowoc
Counties without county sales tax	All other Wisconsin counties (65 in total)



Is AI the answer?

Which Wisconsin counties do not impose a county sales tax?

In Wisconsin, **most counties (68 out of 72)** impose a **0.5% county sales and use tax** on top of the 5% **state sales tax** [Wisconsin Department of Revenue](#) [Wisconsin Policy Forum](#) . Since the start of 2024, **Milwaukee County** has increased its rate to **0.9%** [Wisconsin Department of Revenue](#) [Wisconsin Policy Forum](#) .

As of mid-2025, the **only Wisconsin counties that do *not* have a county-level sales tax** are:

- **Waukesha County**
- **Winnebago County**

These are the two exceptions still without the 0.5% tax. There had recently been discussion about Racine County implementing one, but with that vote, only Waukesha and Winnebago remain without it [WPR](#)

[Wisconsin Policy Forum](#) .

To summarize:

- **68 counties** levy a **0.5% county sales tax**
- **1 county** (Milwaukee) levies **0.9%**
- **2 counties** (Waukesha & Winnebago) impose **no county sales tax**

Let me know if you'd like details about any specific county or the total tax rates across different jurisdictions!

       Sources

How “Intelligent” is AI?



Grok 3 ▾



explain the debt to income ratio found here:
https://www.federalreserve.gov/releases/z1/dataviz/household_debt/state/map/#year:2024

The **debt-to-income ratio** (DTI) shown on the Federal Reserve’s visualization page (https://www.federalreserve.gov/releases/z1/dataviz/household_debt/state/map/#year:2024) measures the relationship between household debt and household income for U.S. states, providing insight into financial leverage and economic health at the state level. It is calculated as:

DTI = (Total Household Debt / Total Household Income)

are you sure this data includes student loan debt

Yes, the **debt-to-income ratio (DTI)** data from the Federal Reserve’s Financial Accounts of the United States (Z.1 release), as visualized on the linked page (https://www.federalreserve.gov/releases/z1/dataviz/household_debt/state/map/#year:2024), includes **student loan debt** as part of total household debt.

Confirmation:

- The Federal Reserve’s Z.1 release defines **household debt** as all liabilities reported in the household and nonprofit organization sector, which explicitly includes:
 - **Mortgages** (home loans)
 - **Consumer credit**, which encompasses:
 - **Student loans**
 - **Credit card debt**
 - **Auto loans**
 - **Other personal loans**

How “Intelligent” is AI?

Data Sources and Ratio Construction

We compute DTI at different geographical levels using data on household debt from the Equifax/Federal Reserve Bank of New York Consumer Credit Panel (CCP), and the data on household income from the Bureau of Labor Statistics (BLS).

Household Debt

The CCP is an anonymized 5 percent random sample of Americans with credit files at the credit reporting bureau Equifax. It also contains the credit records of the household members of the individuals in this primary sample, allowing the construction of representative, household-level debt statistics. The data include the zip code of the household, allowing us to produce aggregate estimates at various levels of geography. The data begin in 1999 and are available quarterly.

The credit files contain a detailed snapshot of each person's debts, including the account balance, payment history, delinquency status, etc. Below we show that estimates produced by the CCP are consistent with other sources of information on household debt in the US. The CCP aggregates individual loans by loan-type.⁴ This project incorporates all types of debt reported in the credit file excluding student loans.⁵ We calculate household debt by summing all individual balances and 50 percent of joint balances for each member of the household.

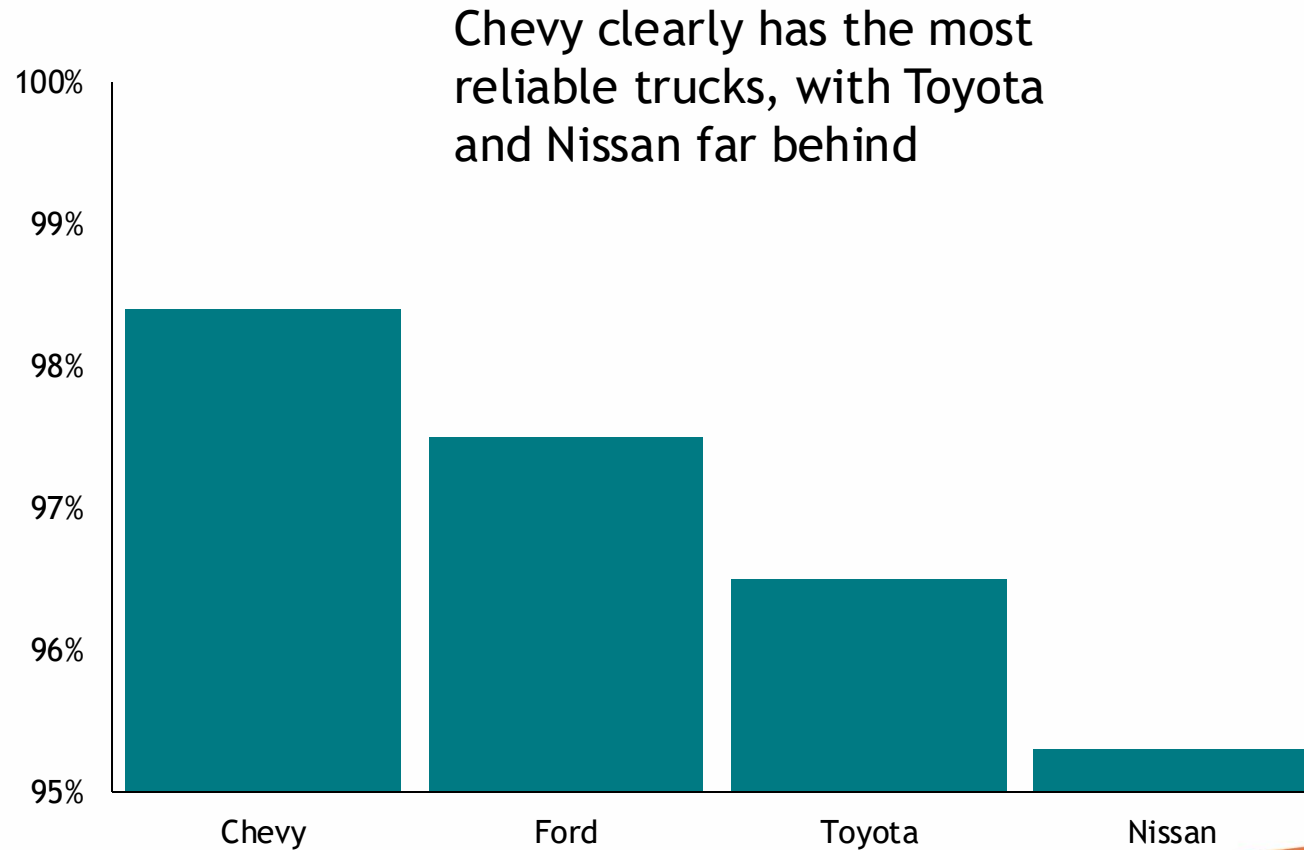
footnote 5 regarding the map linked specifically states student loan debt is excluded

You're correct, and I appreciate the clarification. Footnote 5 on the Federal Reserve's visualization page (https://www.federalreserve.gov/releases/z1/dataviz/household_debt/state/map/#year:2024) explicitly states that **student loan debt is excluded** from the household debt-to-income (DTI) ratio calculations for this specific map. My previous responses incorrectly assumed student loans were included based on the broader definition of household debt in the Federal Reserve's Financial Accounts (Z.1 release), which typically encompasses student loans. Let me correct and clarify:

What is your data *actually* telling you?

1992 Chevy Ad

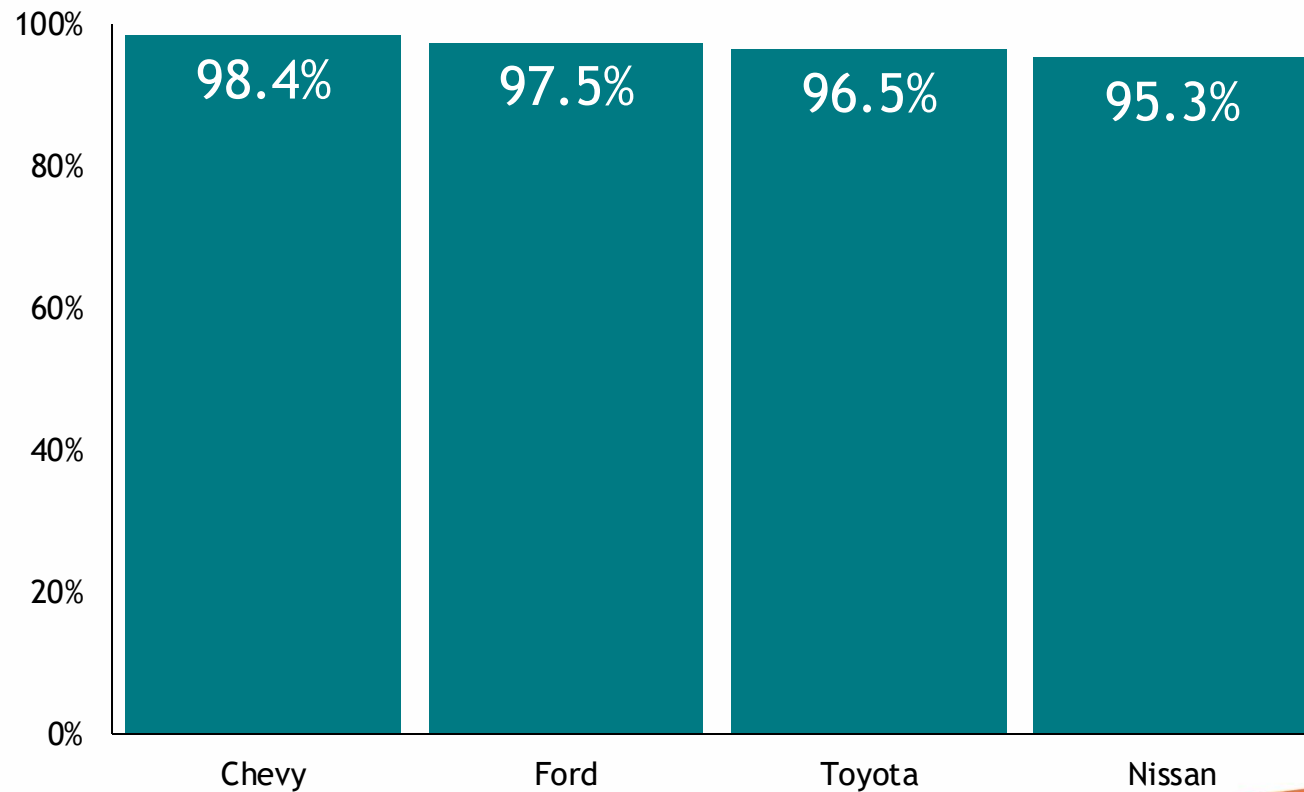
Most Reliable Trucks



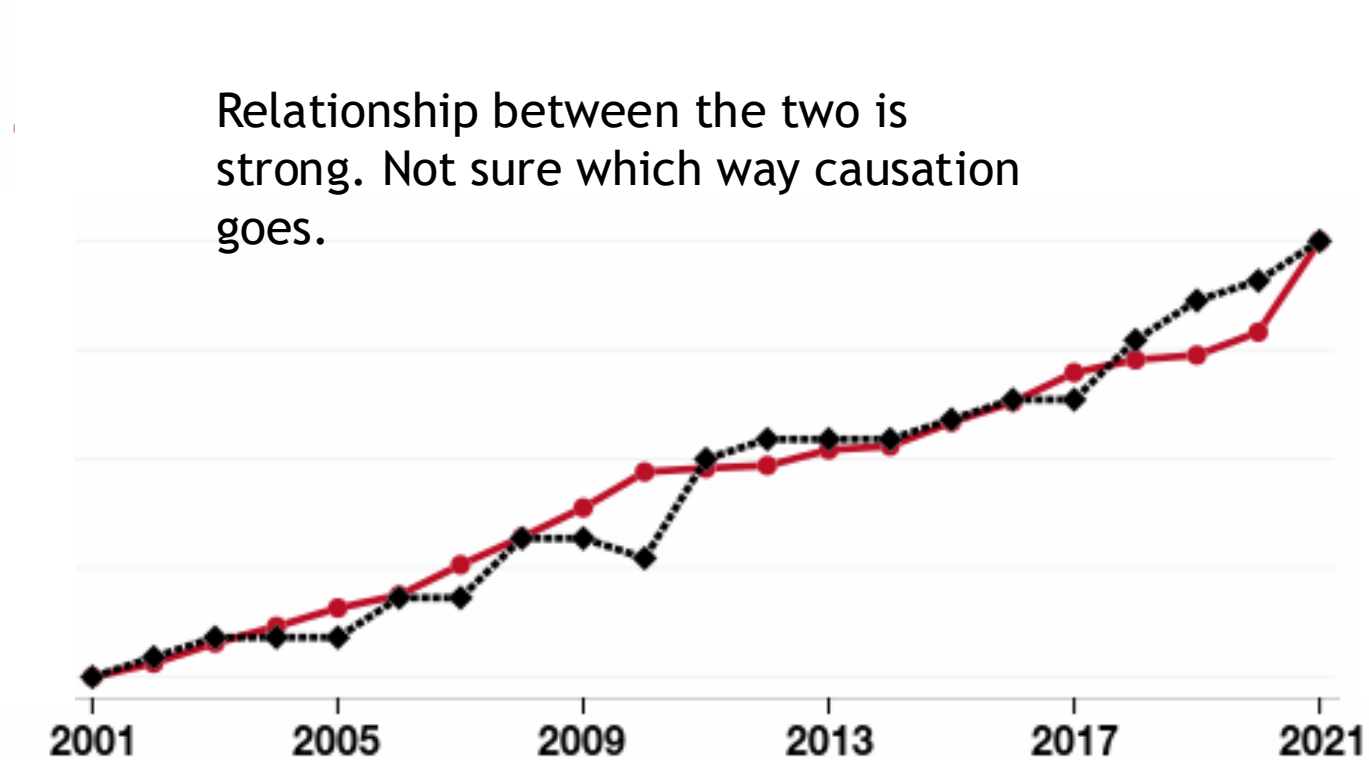
1992 Chevy Ad

Most Reliable Trucks

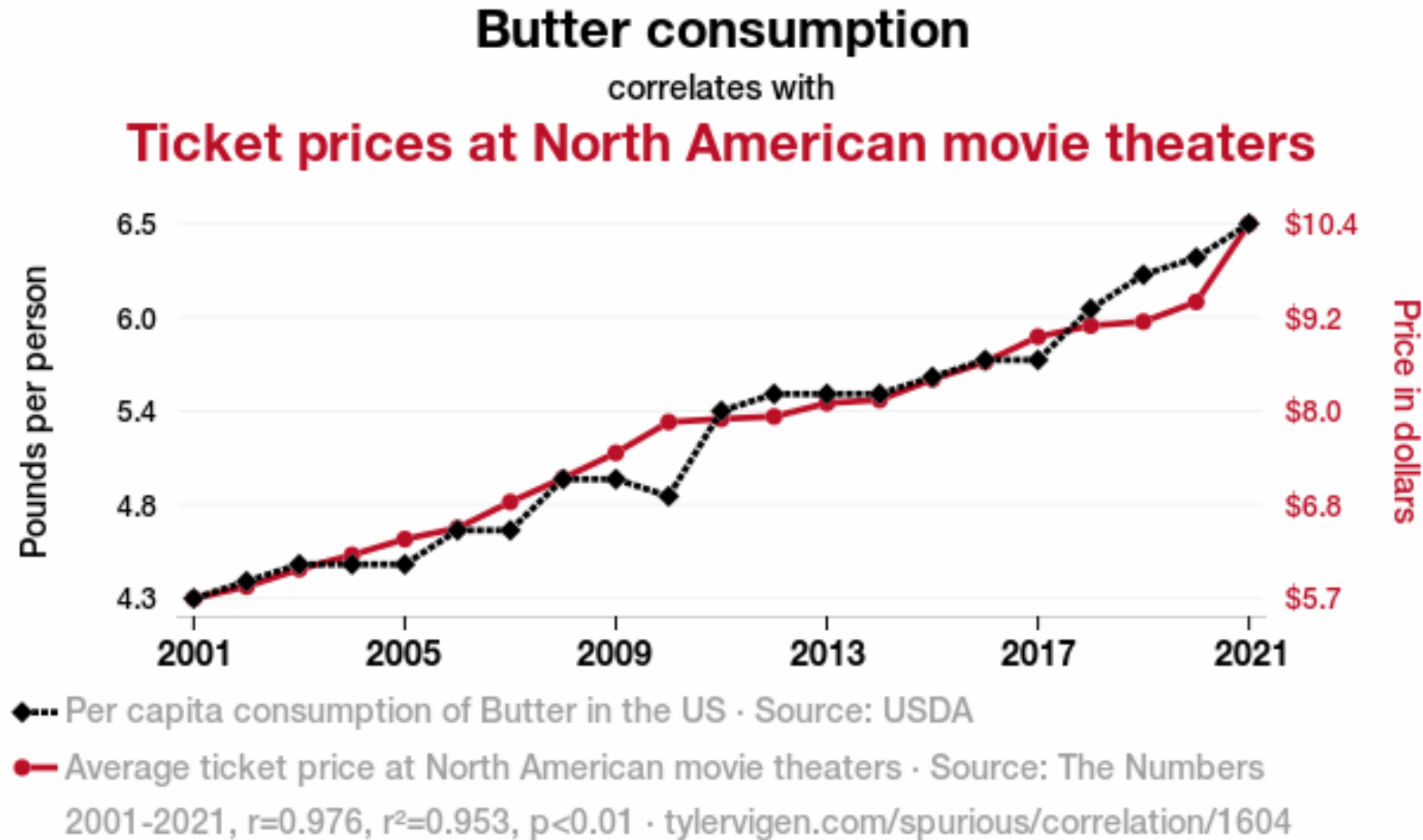
Manipulating the axis can change perception of the data. Difference in “reliability” is relatively small



Line graph can show relationship between two data series...



...Or it can be a spurious correlation that is amplified by messing with the axes.

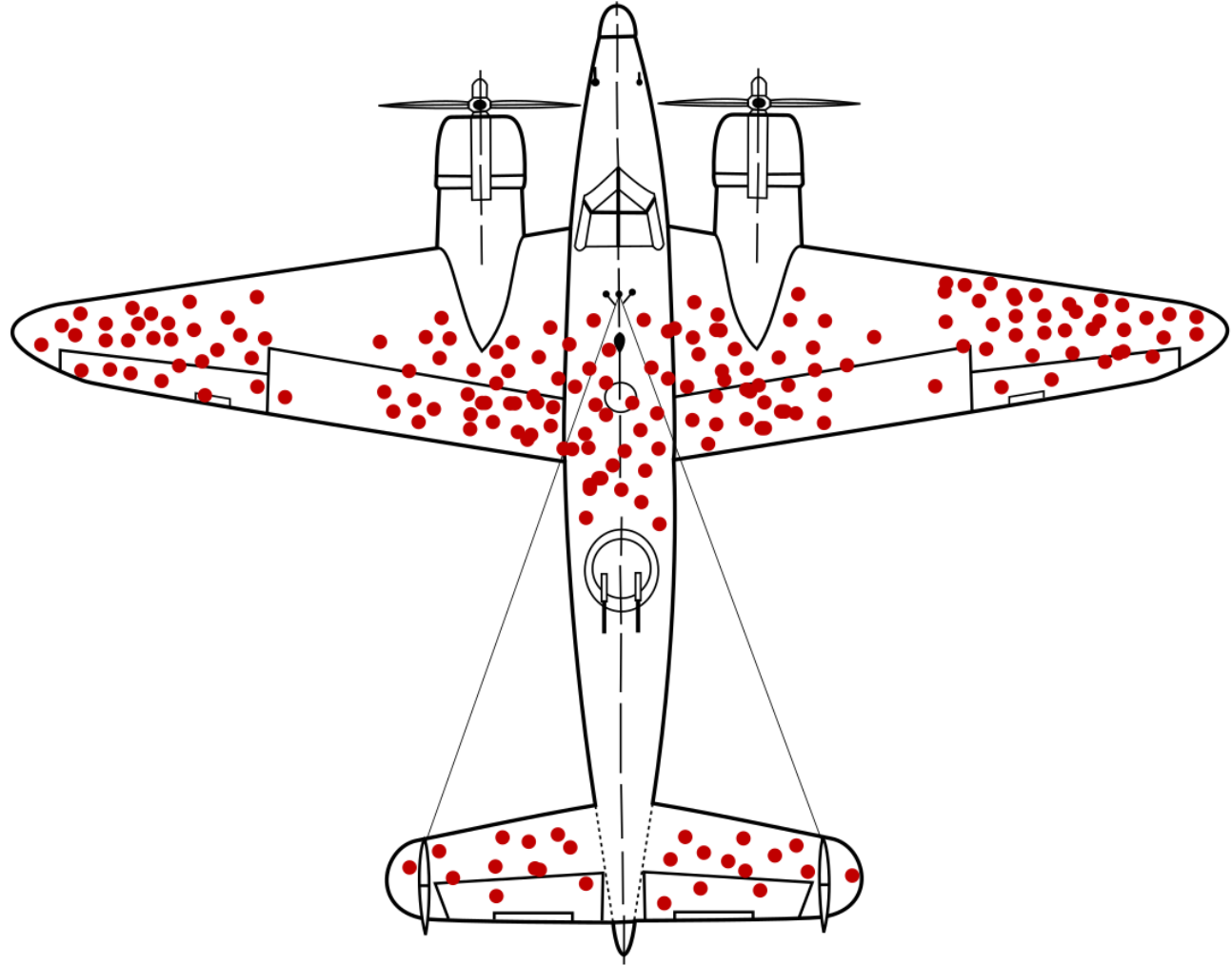


Correlation is not causation.

And correlation does not necessarily mean any relationship between the two.

WWII Bombers

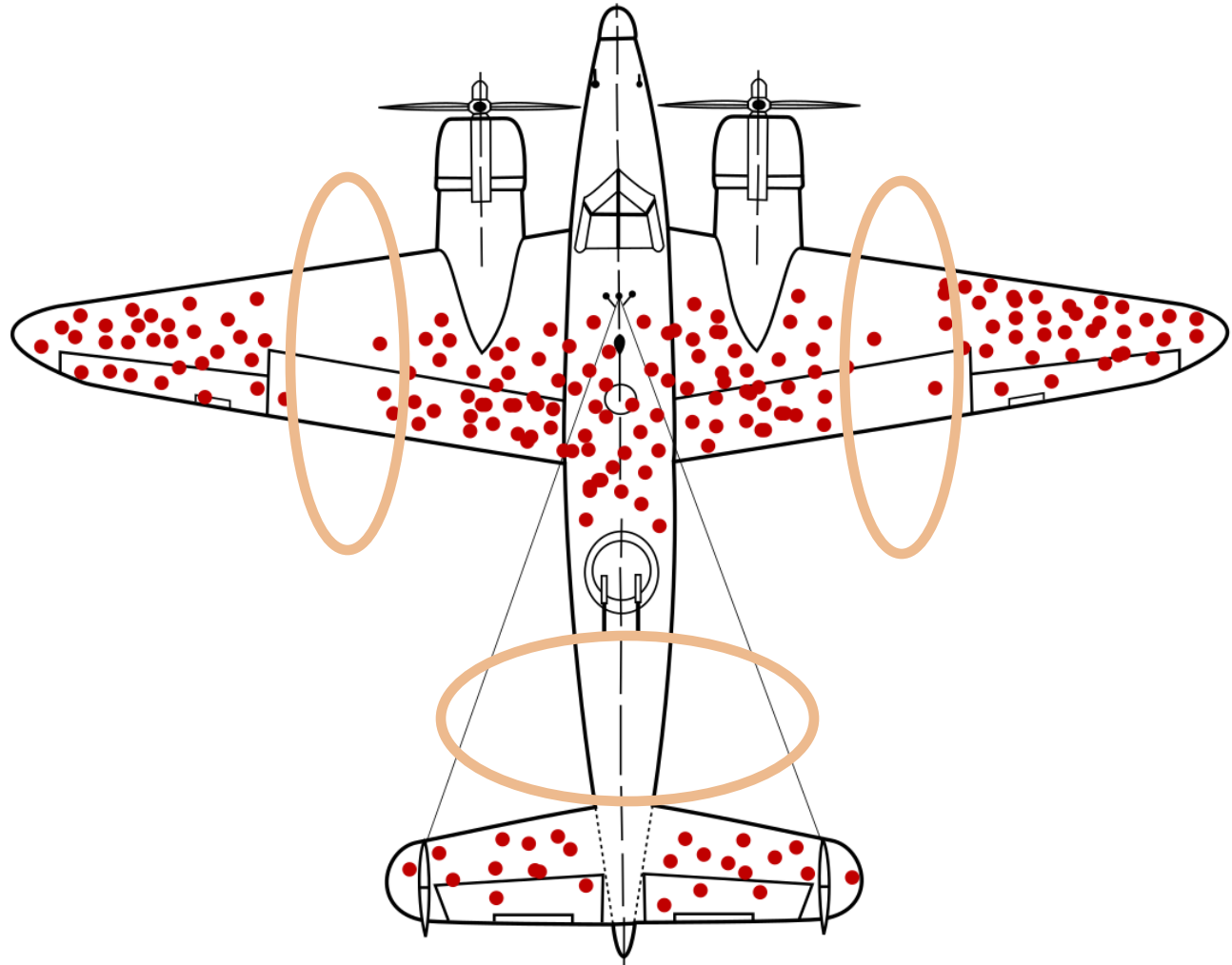
Mapped bullet holes
to see where to
reinforce

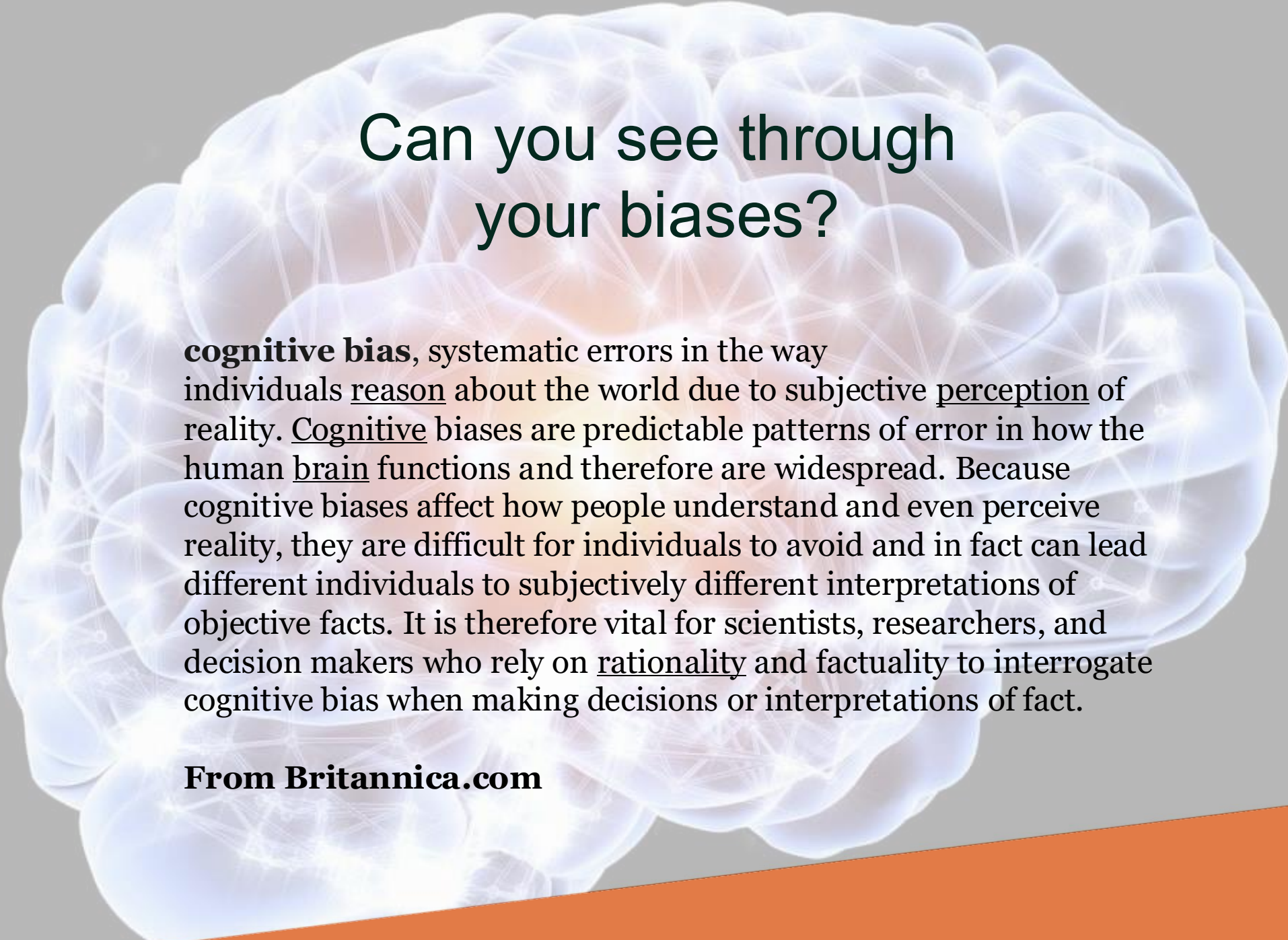


WWII Bombers

Mapped bullet holes
to see where to
reinforce

This is where bullet
holes were the most
fatal





Can you see through your biases?

cognitive bias, systematic errors in the way individuals reason about the world due to subjective perception of reality. Cognitive biases are predictable patterns of error in how the human brain functions and therefore are widespread. Because cognitive biases affect how people understand and even perceive reality, they are difficult for individuals to avoid and in fact can lead different individuals to subjectively different interpretations of objective facts. It is therefore vital for scientists, researchers, and decision makers who rely on rationality and factuality to interrogate cognitive bias when making decisions or interpretations of fact.

From Britannica.com

Most Common

- ▶ Anchoring – When's the last time you went shopping for a car?
- ▶ Availability – What's on the local news?
- ▶ Hindsight – I knew it all along!
- ▶ Confirmation – Every opinion I have is correct. What are the odds?

Does the data accurately
measure the subject?



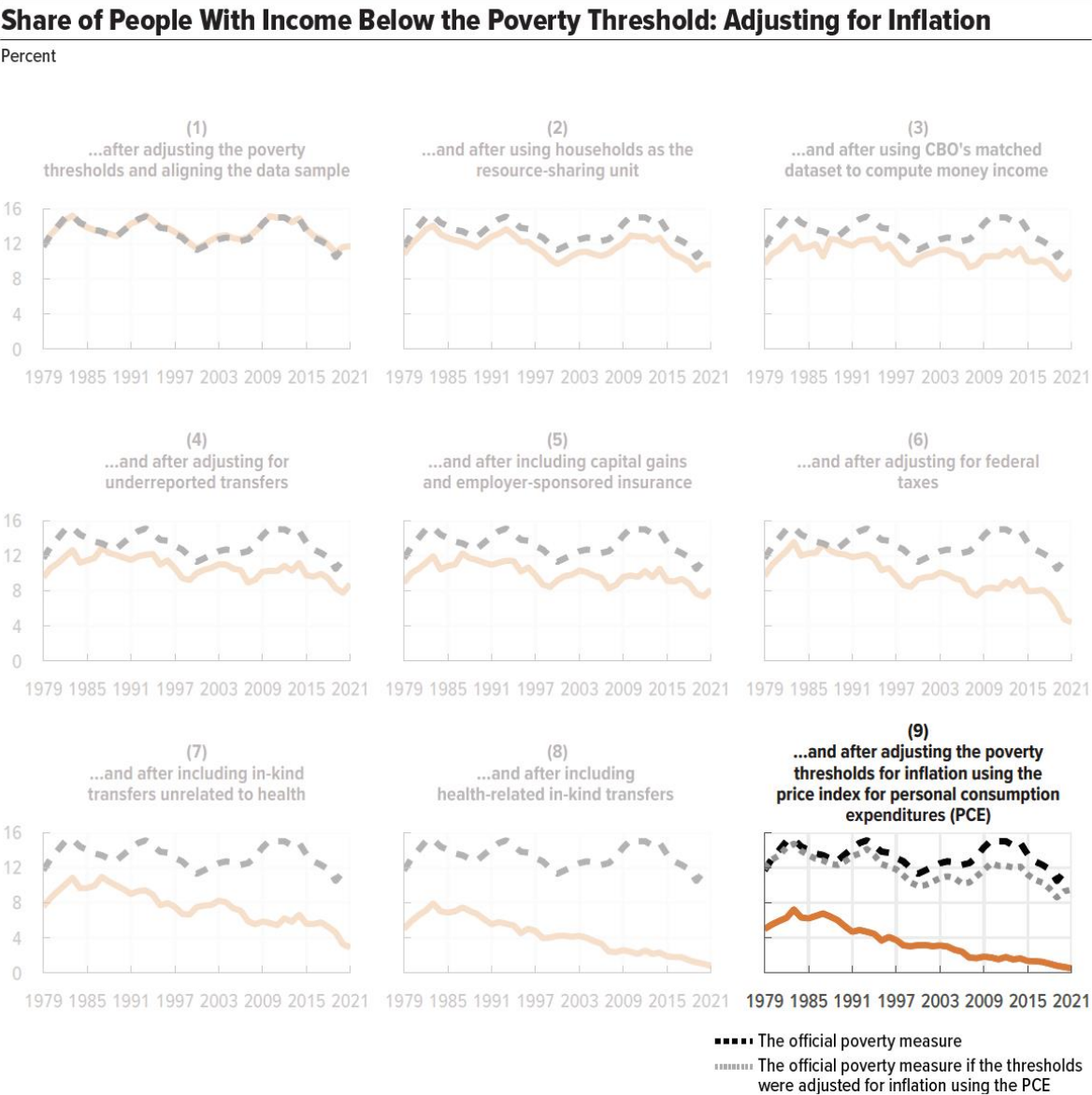
Poverty

- ▶ OPM developed in the 1960s and helped to kick off the War on Poverty
- ▶ Has the poverty rate changed? And is the OPM the best measure?
- ▶ How is “Poverty” measured?



Mollie Orshansky

Figure 11.



Data source: Congressional Budget Office, using data from the Census Bureau. See www.cbo.gov/publication/60809#data.

To reconcile the Census Bureau's method for calculating the official poverty measure and CBO's framework for analyzing the distribution of household income, CBO used a four-part multistep process. This figure shows results from the third part of that process, in which CBO adjusted its estimates to include in-kind transfers. (Results from the other parts of the process are shown in Figures 6, 8, and 9.) Throughout the reconciliation process, the effects of the steps are cumulative: The result of each successive step includes the combined results from all previous steps.

Poverty

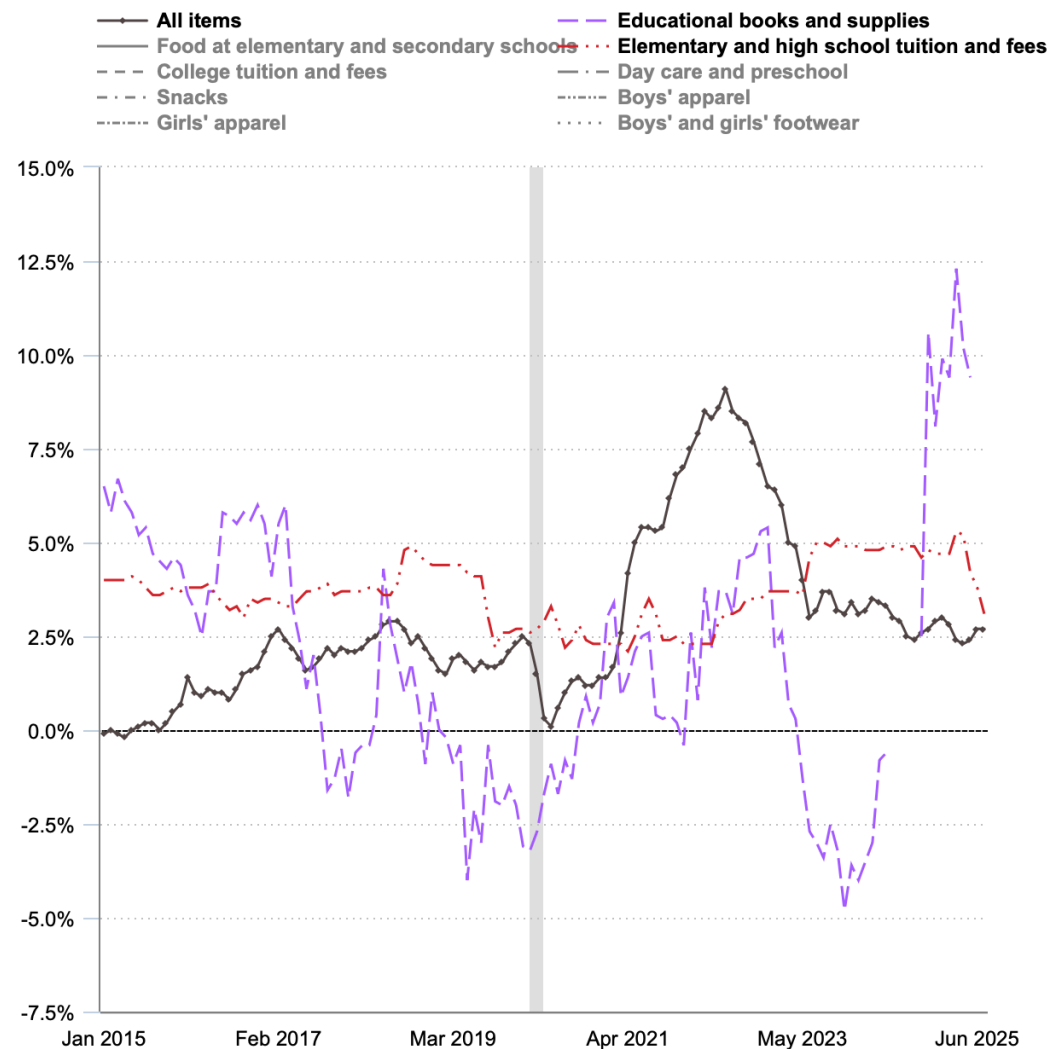
- The OPM is one measure (the “official” measure)
- Is it the best?
- Supplemental OPM
- New CBO Measure

Inflation

- ▶ Most commonly measured as CPI-U
 - ▶ Consumer Price Index - All Urban Consumers
- ▶ Other measures?
 - ▶ PPI (Producer Price Index)
 - ▶ PCE (Personal Consumption Index)
 - ▶ C-CPI-U (Chained CPI-U)



12-month percent change in Consumer Price Index for All Urban Consumers, selected expenditure categories, January 2015–July 2025



Click legend items to change data display. Hover over chart to view data.
Shaded area represents a recession as determined by the National Bureau of Economic Research.
Source: U.S. Bureau of Labor Statistics.



Each type of good
or service is
different

Overall CPI
doesn't capture
everything

This all might sound confusing.... And it is!

- We are here to help with your data needs
- Whether it's data acquisition, analysis, or just questions about accuracy, just let us know!

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