How Food Security Has Been Measured Over Time and Why It Matters

UW Food & Nutrition Security Seminar · Spring 2026

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Roadmap

1. What is food security?
2. Why measure it?
3. A brief history
4. The food security survey: how it works
5. From answers to a measure
6. What the data show
7. What the data can & cannot tell us
8. Looking ahead

What Is Food Security?

Defining Food Security

USDA Definition (LSRO 1990)

Food security means access by all people at all times to enough food for an active, healthy life.

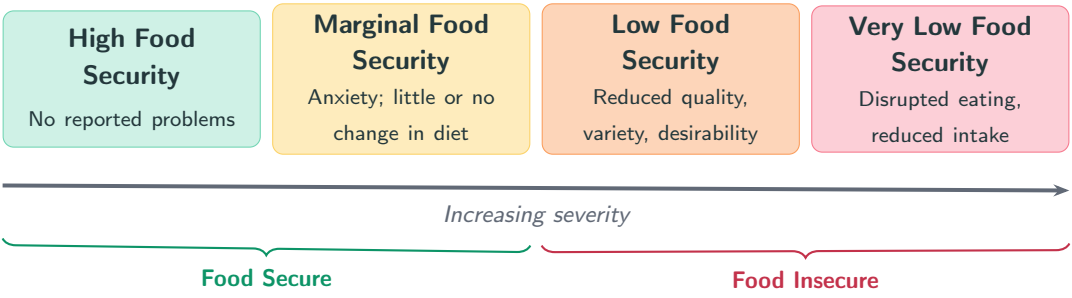
Key dimensions:

- Availability of food
- Access (economic & physical)
- Utilization (nutrition, safety)
- Stability over time

Food security is *not*:

- Simply "having food"
- Only about hunger
- A binary condition
- Static — it fluctuates

Food Security Is a Spectrum



Why Measure Food Security?

Why Measurement Matters

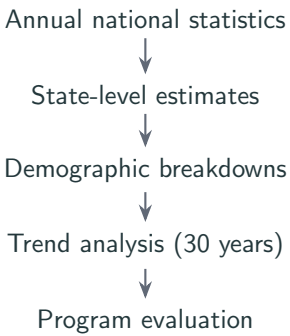
Policy needs data

- Target resources where need is greatest
- Monitor progress toward national goals
- Evaluate whether programs like SNAP work

Research needs precision

- Distinguish severity levels
- Compare across groups and time
- Understand causes and consequences

What good measurement enables:



A Brief History

The Road to Measurement

Building the foundation

1967–68 — *Hunger in America* documentary; Senate hearings

1984 — President's Task Force highlights measurement gap

1990 — LSRO defines food security conceptual framework

1992 — Radimer/Cornell qualitative research identifies experiential dimensions

1994 — National conference concludes scientific measure is feasible

1995 — CPS Food Security Supplement launched — **first national data**

Refining & scaling

1999 — 6-item short form developed; annual reports begin

2006 — CNSTAT review; "very low food security" label adopted

2013 — FAO launches Food Insecurity Experience Scale (FIES) globally

2015 — FIES adopted as UN SDG Indicator 2.1.2

2022 — CPS-FSS instrument updated and restructured

2025 — CPS-FSS **terminated** by USDA after 30 years

The Household Food Security Survey Module

The 18-Item Household Food Security Survey Module

The Core Instrument

18 questions about food hardship behaviors and experiences in the past 12 months, asked as part of the CPS Food Security Supplement

10 Adult/Household Items

1. Worried food would run out
2. Food didn't last
3. Couldn't afford balanced meals
4. Cut size of meals or skipped
5. . . . how often?
6. Ate less than felt should
7. Hungry, didn't eat
8. Lost weight
9. Didn't eat for whole day
10. . . . how often?

8 Child Items

11. Relied on few low-cost foods for children
12. Couldn't feed children balanced meals
13. Children not eating enough
14. Cut size of children's meals
15. Children hungry
16. Children skipped meals
17. . . . how often?
18. Children didn't eat for whole day

Key Design Features

Experience-based

- Asks about food hardship related behaviors and conditions — not income, not food spending
- Captures the *lived experience* of food insecurity

Condition: insufficient resources

- Each question includes the qualifier "because there wasn't enough money for food"
- Separates economic food insecurity from dieting, fasting, illness, time constraints

Ordered by severity

- Questions range from *anxiety* (worry) to *reduced intake* (not eating whole day)
- Forms a single underlying continuum

Household-level

- One adult respondent reports for the household
- Separate subscales for adults and children

From Answers to a Measure

From Responses to a Scale: The Rasch Model

Why not just count "yes" answers?

A raw count treats every item as equally severe. But *worrying about food ≠ not eating for a whole day.*

The Rasch model:

- Places households *and* items on the **same severity scale**
- Harder-to-affirm items = more severe
- Produces an **interval-level score**

Why not use individual items? Individual items are noisy. The scale combines all items for a more reliable measure.

Key insight: A household that affirms a severe item (e.g., *hungry, did not eat*) almost always affirms all less-severe items (e.g., *worried food runs out*).

From Scale Scores to Categories

Category	Raw Score (out of 18)	What It Means
High Food Security	0	No problems reported
Marginal Food Security	1–2	Some anxiety, little change in diet
Low Food Security	3–5 (no child) / 3–7	Reduced quality, variety, desirability of diet
Very Low Food Security	6–10 (no child) / 8–18	Disrupted eating, reduced food intake

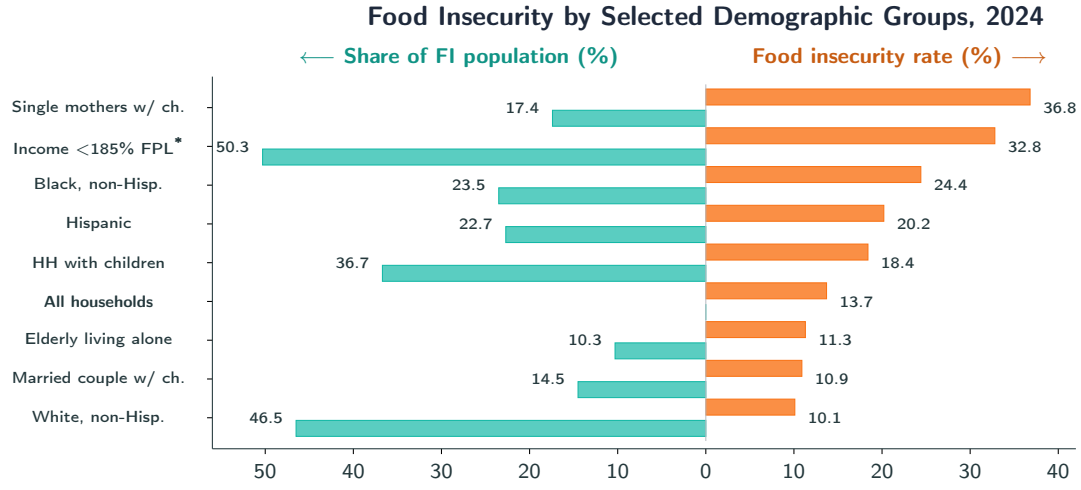
"Food insecure" = low *or* very low food security. *"Food secure"* = high *or* marginal food security.

What the Data Show

Prevalence of Food Insecurity in the U.S., 1995–2024

Source: USDA Economic Research Service, *Household Food Security in the United States* reports, 1995–2024. Shaded areas indicate official U.S. recessions (NBER dates).

Who Is Most Affected?



Source: CPS Food Security Supplement, December 2024. Groups overlap; shares do not sum to 100%. *FPL = federal poverty line.

The Data Infrastructure: CPS Food Security Supplement

What is the CPS-FSS?

- Annual supplement to the Current Population Survey (CPS)
- Conducted in varying months 1995–2000; every December since 2001
- ∼30,000 households interviewed (recent years)
- Representative at national and state levels
- Also collects food expenditures and subjective food sufficiency

What makes it powerful?

- **Time series:** 30 years of comparable, repeated cross-sectional data
- **Rich demographics:** income, race, family type, SNAP participation, . . .
- **Consistent method:** same questions measured the same way
- **Public-use microdata:** de-identified files released by Census Bureau, available to all researchers

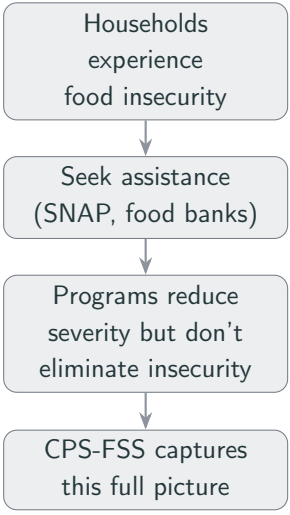
30 years × tens of thousands of households/year = the world's longest-running experiential food security dataset

Food Security and SNAP

SNAP (Supplemental Nutrition Assistance Program) is the largest federal food assistance program — ∼42 million participants in an average month of FY 2024 (USDA-FNS).

Key findings from CPS-FSS data:

- About 59% of food-insecure households participate in SNAP or other federal food programs
- Evaluations show SNAP reduces the *severity* of food insecurity
- Food insecurity rates among SNAP participants remain high — the most vulnerable households self-select in



What the Data Can & Cannot Tell Us

Strengths of the HFSSM & CPS-FSS

✓ What it does well

- Reliable, validated measure used since 1995
- Captures a **range of severity** — not just "hungry or not"
- Nationally representative, large sample
- Enables **trend analysis** across 30 years
- Consistent methodology allows apples-to-apples comparisons
- Public-use microdata available to all researchers

× What it can't do

- Does not measure **nutrition quality** — only economic access
- 12-month recall period may miss short spells
- Cannot identify *individual*-level insecurity within household
- One respondent reports for all members
- Does not capture all dimensions of food access (e.g., food deserts)
- Annual snapshot — no real-time monitoring

The Power of Longitudinal Data

Why 30 years matters

Having **30 years of consistent data** lets us answer questions no single survey can:

Trends over time

- Did food insecurity rise during the Great Recession?
- How quickly did it recover?
- What happened during COVID-19?

Policy evaluation

- Did SNAP expansions reduce food insecurity?
- Effects of school meals, WIC, other programs?

Emerging disparities

- Have racial gaps narrowed or widened?
- Are certain family types increasingly at risk?

Forecasting and planning

- Historical patterns inform projections
- Guide resource allocation for federal programs

Looking Ahead

Challenges and Opportunities

Challenges

- Threats to continued data collection
- Declining survey response rates across all federal surveys
- Rising need for **timely, sub-annual** data
- Growing interest in dimensions *beyond* economic access

Opportunities

- New rapid-response surveys (e.g., Household Pulse Survey)
- State-level innovations (e.g., WAFOOD here in Washington!)
- Linking food security data to health, education, and economic outcomes
- International comparability via the Food Insecurity Experience Scale (FIES)

Strong measurement infrastructure is essential for evidence-based food policy

Key Takeaways

1. **Food security is a spectrum**, not a simple yes-or-no condition — good measurement captures that nuance
2. **The HFSSM** (Household Food Security Survey Module) is an experience-based, scientifically validated instrument with 30 years of data
3. **Measurement consistency over time** is what makes the CPS-FSS so powerful for research and policy
4. **Data have shaped policy**: SNAP expansions, school meal programs, and emergency food assistance all draw on these statistics
5. **Continued investment** in measurement infrastructure is essential — especially now

Thank you!

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Food Security Fridays — weekly data-driven posts on food insecurity

Questions?