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Consumption Data: Personal Experience and some thoughts on the LCS project

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Roadmap

My Experience with Consumption Data

CES, PSID, SHIW, and administrative data approaches

Consumption Concepts

Definitions, strengths, weaknesses, and cross-country issues

LCS Recommendations

Feedback on the LCS choices

Consumption Data: My Experience

Data Sources I Have Used

SURVEY-BASED

Consumer Expenditure Survey (CES)

US · Comprehensive · 500+ UCCs · Interview + Diary · Short panel

Panel Study of Income Dynamics (PSID)

US · Long panel · Few items pre-1999 · 70-90% coverage post-1999

Survey of Household Income and Wealth (SHIW)

Italy · Recall-based · Limited # of questions · Panel data on {C,Y,W}

ADMINISTRATIVE-BASED

Budget-Constraint Methods

$$C = \Delta A + (rA + Y)$$

Scandinavian tax records · Population-level · Minimal measurement error (at least the original sources) · Consumption vs Spending

Others (not personally used)

Credit/debit card data, online aggregators, Nielsen scanner data

The CES: Strengths and Challenges

KEY CHALLENGE

Detachment from NIPA Aggregates

Survey totals diverge from National Accounts, worse for some categories than others

Well-measured categories:

Imputed rent, food at home, gasoline, communication, rent & utilities, vehicle purchase

Underreported categories:

Food away from home, furniture, clothing, alcohol

RESEARCH SOLUTIONS

Focus on Well-Measured Goods

Meyer & Sullivan (2023): use reliable components to measure inequality trends

Potentially: Add scanner component for some items

Could reduce respondent burden and improve accuracy

Potentially: Impute data for wealthy HH's

Use better-measured parts of distribution to impute consumption at the top

Combining Data: Imputation Approaches

Before 1999, the PSID had limited consumption data (mostly food). It is a long panel with good data on income.

PSID useful for researchers who want to study the joint dynamics of income and consumption (insurance, inequality, mobility, etc.).

Possible solution: impute total consumption from CES using common variables (food, demographics).

SKINNER (1987)

Straight Regression Prediction

$$C = \theta_0 + \theta_1 F + \theta_2 x + \eta$$

Regress consumption on food spending and demographics in CES, use estimated coefficients to PSID

BPP (2008)

Demand Inversion

$$F = \beta_0 + \beta_1 C + \beta_2 p^{f} + \beta_3 p^{nf} + \beta_4 x + \eta$$

Estimate food demand function (inclusive of prices), invert to obtain consumption. Theory-consistent approach.

AP (2014)

Hybrid Method

$$NF = \mu_0 + \mu^1 F + \mu_2 x + v$$

Impute NF (non-food spending), add to observed food to get C. Good out-of-sample performance.

Key insight: These methods are creative but come with measurement issues and low statistical power. Crossley et al. (2022) find the BPP "rescaled-regression-prediction" estimator to have better empirical properties than standard “deck imputation” strategies.

Consumption Concepts & Cross-Country Issues

Consumption Concepts: Detailed vs. Recall

Detailed Item Collection

CES approach: 500+ categories

Strengths

Comprehensive coverage, component analysis possible, used for CPI weights

Weaknesses

High burden for respondents, survey fatigue, wealthy households underreport, higher risk of detachment from NA

Recall-Based Totals

SHIW approach: few questions

Strengths

Low burden, cheap to include in non-consumption surveys, reduced fatigue

Weaknesses

Recall errors (small/irregular purchases), confusion about what to include, hard to aggregate accurately

An idea to improve/benchmark recall-based totals: Collect food spending (reliable) plus share of total spending on food ($\omega = f/c$). Then, get: $c = f/\omega$.

Cross-Country Comparability Challenges

Reference Periods Vary

Different recall windows across surveys and countries

Seasonality effects in this case are key, but idiosyncratic aspects make it challenging (i.e., holidays vary across countries)

Housing Subsidies Differ

Rent control programs, housing vouchers/subsidies, tax considerations, etc., vary widely across countries

Health Systems Heterogeneous

Imputing health spending when there is an NHS is challenging

CRITICAL ISSUE

Social Transfers in Kind (STIK)

Not including STIK creates systematic bias in comparisons between countries with different welfare state structures.

Countries with universal healthcare or education appear to have lower consumption than those where households pay out-of-pocket.

Housing Services: Beyond Reported Rent

Asking what households pay in rent may understate actual housing services received, especially in the presence of housing subsidies

THE ISSUE

Countries differ substantially in:

- Government housing subsidies
- Rent-control programs
- "Fair rent" agreements
- Housing voucher programs
- Tax treatment of housing
- Employer-provided housing

THE SHIW APPROACH

Follow-up questions to try to capture true housing services:

1. Type of rental contract (rent-controlled, informal, etc.)

2. Is rent believed to be below market?

3. If yes: "What would you pay at market rate?"

Recommendation: LCS should consider SHIW-style follow-up questions to capture housing subsidies for cross-country comparability

Feedback on LCS Choices

Some comments

Choice 3

Annualized reference period

Handling of seasonality issues seem critical

Choice 6

Adjust for price differences across space & time

Within-area adjustments for “where” goods are purchased and their quality?

Choice 7

Shelter services

Important to account for in-kind transfers

Choice 8

Durable flows

Why not asking questions about ownership + collect even rudimentary data on age of durable, purchase price, etc.?

General: The LCS framework reflects current best practices. The modular approach (main aggregate + vehicle flows + other durables) is state-of-the-art.

Improvements are possible (i.e., durable stocks info) but there are obvious trade-off considerations.

One Separate Issue: Health Spending

LCS CHOICE 15

Exclude All Health Spending

Rationales:

- Health expenditures do not increase welfare; they are "regrettable necessities"
- Health systems are too heterogeneous across countries for meaningful comparison

MY PERSPECTIVE

This View is Understandable but Not Uncontroversial

Many health expenditures clearly raise welfare:

- cataract surgery, hip replacements, etc.

They raise quality of life and the marginal utility from other consumption (travel, entertainment)

Suggestion: Consider adding a modular approach for health: exclude from main aggregate but provide it as separate component for researchers who prefer an extended definition. For countries with substantial NHS presence, estimate implied services received following.

Going Forward: Opportunities

AI & TECHNOLOGY

Potential Improvements

Reducing Respondent Burden

Automation, smart prompts, adaptive questionnaires

Improving Accuracy

Bias correction, data validation, multi-source merging

DATA INTEGRATION

Hybrid Approaches

Combine survey data with:

- Scanner data for groceries
- Administrative records (if possible)
- Financial aggregator data

The LCS Project

I applaud this initiative. A harmonized cross-country consumption database is missing, it would serve the research community greatly, and it would fill an important gap in our data infrastructure.