Project 1: Generating Annualized Sample Means by Family Type Using the Interview Survey FMLI Files

CE Microdata Users' Workshop

You're embarking on a research project to learn about education expenses in today's economy.

- What's the public spending and who's spending more?
- How does the composition of a household affect education expenditures?

Project 1

Let's look at the sample and what's available in the FMLI files related to education expenditures

In this project you will:

- Learn about summary variables
- Learn about some of the many demographic variables available in the PUMD.
- Calculate sample means, percent reporting, and standard errors
- Understand some limitations of the Interview survey

Summary Level Expenditures

- For each summary expenditure category there are two variables.
- Why PQ and CQ?
  - PQ → previous calendar quarter expenditures (compared to interview date)
  - CQ → current quarter expenditures
  - For total reference period expenditures PQ + CQ

Composition of the Household

- Several demographic variables exist that provide details on the makeup of a CU
- FAM_TYPE is defined based on the relationship of members within the CU to the reference person. Children are defined as blood-related sons and daughters, step children and adopted children

Demographic Groups

FAM_TYPE:

1 Married Couple only

2 Married Couple, own children only, oldest child under 6 years old

3 Married Couple, own children only oldest child 6 to 17 years old

4 Married Couple, own children only, oldest child over 17 years old

5 All other Married Couple CUs

6 One parent, male, own children at least one child under 18 years old

7 One parent, female, own children, at least one child under 18 years old

8 Single consumers

9 Other CUs

Project 1 Steps

1. Concatenate ("Set", "Append") 4 quarterly FMLI files to obtain collection year of data
2. Calculate quarterly education expenditures for each household:
   - EDUCA_EXP = EDUCAPQ + EDUCACQ
3. Create demographic groups to estimate by FAM_TYPE
4. Means: Calculate average annual expenditure by FAM_TYPE
   - Multiply quarterly aggregates by 4 (EDUCA_EXP *4) to get annual aggregate, divide by sample
5. Percent reporting: Create an indicator for CUs that had expenditures (EDUCA_EXP) > 0, find the mean of the indicator to determine the percent that reported
6. Standard Error: Calculate standard error by FAM_TYPE

Project 1 Results

Count	Family Type (FAM_TYPE)	Mean Family Size	Education Expenditure Mean	Education Expenditure Standard Error	Education Expenditure Percent Reporting
5,631	Married couple only	2	$1,357.30	$147.65	8.24%
1,002	Married Couple, own children only, oldest child under 6 years old	3.48	$510.93	$111.77	11.3%
2,861	Married Couple, own children only, oldest child 6 to 17 years old	4.18	$2,553.43	$252.88	32.6%
1,688	Married Couple, own children only, oldest child over 17 years old	3.80	$3,056.41	$296.88	25.3%
934	All other Married Couple CUs	4.84	$1,076.25	$284.52	16.9%
231	One parent, male, own children at least one child under 18 years old	2.71	$1,045.58	$387.74	27.3%
1,036	One parent, female, own children, at least one child under 18 years old	2.99	$1,161.36	$330.03	24.2%
7,272	Single consumers	1	$509.76	$56.79	6.74%
3,824	Other consumer units	2.83	$697.24	$80.05	12.5%

Project 1 Notes

- Interview not designed to capture smaller, frequently purchased items.
  - EX: Some education expenses are included in total expenditures for the CE tables, but are not collected in the Interview.
  - Supplement Diary data to include (we'll do this in Project 4)

Percentage Distribution of CU's by Housing Tenure

4-Interview CU's vs. All CUs (2015 Q1 – 2016 Q4)

Percentage Distribution of CU's by Age of Reference Person

4-Interview CU's vs. All CUs (2015 Q1 – 2016 Q4)