Consumer Expenditure Survey (CE) Public-Use Microdata (PUMD) File Structure

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What Are Microdata?

- "In the study of survey and census data, microdata are information at the level of individual respondents." – Wikipedia

- Consumer Expenditure Survey (CE) Public-Use Microdata (PUMD) consists of consumer unit level characteristics, income, and expenditure data as well as member level characteristics and income data.

- Data are provided through various file types.

File Naming Conventions

- Naming conventions used for each PUMD release are common to both Interview and Diary data.
  - ▶ YY = Year
  - ▶ Q = Quarter
  - ▶ FMLI for Q1 of 2015 → FMLI151 or FMLI151x

- The "X" signifies that the first quarter file of the current calendar year release is not identical to the fifth quarter file of the previous calendar year release.

The Interview Survey

Interview Quarterly Files

- An Interview "quarter" refers to the calendar quarter in which the interview occurred.
  - ▶ April, May, or June interview data are stored in the quarter 2 (YYQ2) datasets.
- Reference period of three months (recall interview).
  - ▶ April (YYQ2) interview refers to January, February, and March expenditures

Interview Quarterly Files

- **FMLI** - Characteristics, income, weights, and summary level expenditures for the Consumer Unit (CU) *as a whole*.

- **MEMI** - Characteristics and income for each *member in the CU*.

- **MTBI** - Detailed monthly expenditures.

- **ITBI** - CU monthly income.

- **ITII** - CU monthly imputed income.

- **NTAXI** - Federal and state tax information for each tax unit in the CU.

FMLI

Note: Not all the variables in the FMLI file are shown in the sample below

	NEWID	QINTRVMO	QINTRVYR	FAM_TYPE	REF_RACE	FINCBTXM	EDUCAPQ	EDUCACQ	FINLWT21	WTREP01
1	2649225	1	2014	1	1	105993.1	0	0	16314.976	NA
2	2659655	2	2014	8	1	32945.4	40	20	19811.63	38898.772
3	2707304	3	2014	7	6	78756	0	0	1996.748	NA
4	2710564	3	2014	1	1	383110	0	0	22809.279	43627.037
5	2758602	2	2014	7	5	42666	0	0	20405.795	NA
6	2699665	5	2014	1	1	79108.2	0	0	22256.228	42140.843
7	2729605	8	2014	1	1	13991	0	0	16790.071	NA
8	2816652	7	2014	3	4	225125.6	18000	0	20201.087	42959.282
9	2819892	7	2014	3	1	11173.8	120	0	14619.78	NA
10	2838742	8	2014	8	1	44600	0	0	18727.206	NA
11	2782324	10	2014	3	1	102000	0	0	15364.597	NA
12	2875873	12	2014	8	1	4400	0	0	15827.888	NA
13	2927262	11	2014	8	1	17123	0	0	23832.29	NA

MEMI

Note: Not all the variables in the MEMI file are shown in the sample below

	NEWID	MEMBNO	CU_CODE	AGE	EARNER	EDUCA	SEX	MEMBRACE	SALARYXM
1	2649225	1	1	65	2	4	2	1	NA
2	2649225	2	2	66	2	4	1	1	NA
3	2659655	1	1	46	1	7	2	1	32945.4
4	2816652	1	1	42	1	8	1	4	212937.2
5	2816652	2	2	39	2	8	2	1	NA
6	2816652	3	3	10	NA	NA	2	6	NA
7	2816652	4	3	8	NA	NA	2	6	NA
8	2816652	5	3	5	NA	NA	2	6	NA

MTBI

Note: Not all the variables in the MTBI file are shown in the sample below

	NEWID	EXPNAME	SEQNO	ALCNO	UCC	REF_MO	REF_YR	COST	COST_	PUBFLAG
1	2659655	JEDUCNET	3	0	670902	1	2014	20	D	2
2	2659655	JEDUCNET	3	0	670902	12	2013	20	D	2
3	2659655	JEDUCNET	3	0	670902	11	2013	20	D	2
4	2816652	JEDUCNET	27	0	670210	5	2014	18000	D	2
5	2816652	JEDUCNET	28	0	620310	4	2014	2800	D	2

ITBI

	NEWID	UCC	REFMO	REFYR	VALUE	VALUE_	PUBFLAG
1	2649225	900030	10	2013	1997.6	NA	2
2	2649225	900030	11	2013	1997.6	NA	2
3	2649225	900030	12	2013	1997.6	NA	2
4	2659655	5100	11	2013	18.9167	NA	2
5	2659655	5100	12	2013	18.9167	NA	2
6	2659655	5100	1	2014	18.9167	NA	2
7	2659655	900000	11	2013	2745.45	NA	2
8	2659655	900000	12	2013	2745.45	NA	2
9	2659655	900000	1	2014	2745.45	NA	2
10	2816652	900000	4	2014	17744.7704	T	2
11	2816652	900000	5	2014	17744.7704	T	2
12	2816652	900000	6	2014	17744.7704	T	2

ITII

	NEWID	UCC	REFMO	REFYR	IMPNUM	VALUE	VALUE_	PUBFLAG
1	2649225	900030	11	2013	1	2284	NA	2
2	2649225	900030	11	2013	2	2369	NA	2
3	2649225	900030	11	2013	3	2034	NA	2
4	2649225	900030	11	2013	4	2164	NA	2
5	2649225	900030	11	2013	5	1137	NA	2
6	2659655	900000	11	2013	1	2983.9167	NA	2
7	2659655	900000	11	2013	2	2785.4167	NA	2
8	2659655	900000	11	2013	3	2624.4167	NA	2
9	2659655	900000	11	2013	4	2741.9167	NA	2
10	2659655	900000	11	2013	5	2591.5833	NA	2
11	2816652	900000	4	2014	1	17744.7704	T	2
12	2816652	900000	4	2014	2	17744.7704	T	2
13	2816652	900000	4	2014	3	17744.7704	T	2
14	2816652	900000	4	2014	4	17744.7704	T	2
15	2816652	900000	4	2014	5	17744.7704	T	2

NTAXI

Note: Not all the variables in the MTBI file are shown in the sample below

	NEWID	TAX_UNIT	DEPCNT	FILESTAT	TAXYR_CY	TAXYR_PY	WAGE_HD	WAGE_SP	OTHTXINC	SOSSECB
1	2649225	1	0	2	2013	2012	0	0	0	23971
2	2659655	1	0	1	2013	2012	32945	0	0	0
3	2816652	1	3	2	2013	2012	212937	0	12188	0

Interview Annual Files

- **EXPN** - Annual expenditures (about 50 separate files)
  - ▶ Each file covers a class of expenditures such as vehicles and is derived from its corresponding section of the questionnaire.

- **FPAR** - Data about the survey.

- **MCHI** - Data about the contact history between the field representative and the respondent.

EDA (EXPN)

	NEWID	QYEAR	SEQNO	ALCNO	REC_ORIG	JEDUCNET	EDUC_AY	EDSCHL_A	EDMONTHA
1	2659655	20141	3	0	1	20	360	NA	13
2	2816652	20143	27	0	1	18000	300	2	5
3	2816652	20143	28	0	1	2800	100	NA	4

FPAR

Note: Not all the variables in the FPAR file are shown in the sample below

NEWID	QYEAR	OUTCOME	HOW_INTV	HSG_UNIT	INFOBOOK	LANGUAGE	RECORDS
2816652	20143	201	6	1	5	1	1
2649225	20141	201	6	1	5	1	4
2659655	20141	201	1	6	4	1	4

MCHI

Note: Not all the variables in the MCHI file are shown in the sample below

	NEWID	QYEAR	CNTCKEY	VISIT_YR	VISIT_MO	VISTWKDY	CTSTATUS	CTTYPE	INTERI
1	2649225	20141	506	2014	1	1	1	2	5
2	2649225	20141	507	2014	1	2	1	1	5
3	2659655	20141	501	2014	2	1	1	3	5
4	2659655	20141	506	2014	2	7	1	3	5
5	2659655	20141	507	2014	2	7	1	1	5
6	2816652	20143	205	2014	7	6	1	3	2
7	2816652	20143	208	2014	7	1	1	1	2

The Diary

Diary Files

- A Diary "quarter" refers to the calendar quarter in which the Diary booklet was placed in the home of the CU by the Census Field Representative.

- All Diary files are organized as quarterly files.

- A CU reports expenditures for two separate weeks.

- Each week's diary is a separate record for each CU.

- Most Diary files are analogous to Interview files.

Diary Quarterly Files

- FMLD - a file with characteristics, income, weights, and summary level expenditures for the CU.

- MEMD - a file with characteristics and income for each member in the CU.

- EXPD - Detailed weekly expenditures.

- DTBD - Detailed annual income.

- DTID - CU imputed income.

Two Ways to Organize the Data

FMLI

	NEWID	QINTRVMO	QINTRVYR	FAM_TYPE	REF_RACE	FINCBTXM	EDUCAPQ	EDUCACQ	FINLWT21	WTREP01
8	2816652	7	2014	3	4	225125.6	18000	0	20201.087	42959.282

Total Education Expenditures:
$18,000

FMLI

	NEWID	QINTRVMO	QINTRVYR	FAM_TYPE	REF_RACE	FINCBTXM	EDUCAPQ	EDUCACQ	FINLWT21	WTREP01
8	2816652	7	2014	3	4	225125.6	18000	0	20201.087	42959.282

EDA (EXPN)

	NEWID	QYEAR	SEQNO	ALCNO	JEDUCNET	EDUC_AY	EDSCHL_A	EDMONTHA
2	2816652	20143	27	0	18000	300	2	5
3	2816652	20143	28	0	2800	100	NA	4

Additional $2,800 ???

FMLI

NEWID	QINTRVMO	QINTRVYR	FAM_TYPE	REF_RACE	FINCBTXM	EDUCAPQ	EDUCACQ	FINLWT21	WTREP01
8 2816652	7	2014	3	4	225125.6	18000	0	20201.087	42959.282

EDA (EXPN)

NEWID	QYEAR	SEQNO	ALCNO	JEDUCNET	EDUC_AY	EDSCHL_A	EDMONTHA
2 2816652	20143	27	0	18000	300	2	5
3 2816652	20143	28	0	2800	100	NA	4

EDUC_AY:

Code 100 – Fees for recreational lessons

Code 300 – Tuition

From the Questionnaire

Section 16 - Educational Expenses

Section 16 collects educational expenses, including recreational lesson fees, tuition, room and board, purchases of school books and equipment, and other educational expenses. IMPORTANT: The Census Bureau does not release to the Bureau of Labor Statistics any confidential information such as names and addresses. This information is only used during the course of the interview.

Now I am going to ask about education expenses. Please include any direct payments made for any members of your household or for anyone outside your household and any payments you made online or had automatically deducted.

Do NOT include payments made on student loans.

1. Enter 1 to continue

For definitions **Information Booklet** »

Since the first of the reference month, have you or any members of your household paid for -
* Read each item on list
* Baby sitting and in home day care are collected in Section 19A.
* Do not include payments on student loans. They are collected in Section 22
1. Any recreational lessons or other instructions?
2. Preschool or child day care centers?
3. Tuition?
4. Housing while attending school?
5. Food or board while attending school?
6. Private school bus service?
7. Test preparation or tutoring services?
8. Purchase of any school books, supplies, or equipment which has not already been reported?
9. Other school related expenses not already reported?
99. None/No more entries

From the Dictionary

EDA   –   Detailed Expenditures Files (EXPN)

Educational Expenses

16 -   Expenses paid by the CU

VARIABLE NAME	DESCRIPTION	FLAG	FORMAT	NOTE
EDUC_AY	Item code	EDUC_AY_	CHAR(3)	

CODED

100 Recreational lessons or other instructions for members of this CU or other persons
200 Nursery school or child day care centers for members of this CU or other persons
300 Tuition
310 Housing while attending school
320 Food or board while attending school
330 Combined room and board (310, 320)
335 Combined tuition room and board (300, 310, 320) 340 Private school bus (previously captured in the XPB file under PRIVBUSX
345 Test Preparation or tutoring services
350 Purchase of any school books, supplies, or equipment which has not already been reported
360 Other school related expenses not already reported. (Now includes rental of any school books or equipment not already reported, previous code 340).
370 Combined expenses for books and tuition (300, 340- 350)
380 Other combined educational expenses (not previously reported) (100-320, 340-360)

CAPI Section 16

From the Interview Stub File

```
1  2     Education                                                 EDUCATN   G  1  EXPEND
1  3       College tuition                                         670110    I  1  EXPEND
1  3       Elementary and high school tuition                      670210    I  1  EXPEND
1  3       Vocational and technical school tuition                 670410    I  1  EXPEND
1  3       Test preparation, tutoring services                     670903    I  1  EXPEND
1  3       Other schools tuition                                   670901    I  1  EXPEND
1  3       Other school expenses including rentals                 670902    I  1  EXPEND
1  3       School books, supplies, equipment for college           660110    I  1  EXPEND
1  3       School books, supplies, equipment for elementary, high  660210    I  1  EXPEND
2            school
1  3       School books, supplies, equipment for vocational and    660410    I  1  EXPEND
2            technical schools
1  3       School books, supplies, equipment for day care, nursery 660901    I  1  EXPEND
1  3       School books, supplies, equipment for other schools     660902    I  1  EXPEND


1  2     Entertainment                                             ENTRTAIN  G  1  EXPEND
1  3       Fees and admissions                                     FEESADM   G  1  EXPEND
1  4         Recreation expenses, out-of-town trips                610900    I  1  EXPEND
1  4         Social, recreation, health club membership            620111    I  1  EXPEND
1  4         Fees for participant sports                           620121    I  1  EXPEND
1  4         Participant sports, out-of-town trips                 620122    I  1  EXPEND
1  4         Movie, theater, amusement parks, and other (thru      620211    I  1  EXPEND
2              Q20131)
1  4         Play, theater, opera, concert (new UCC Q20132)        620213    I  1  EXPEND
1  4         Movies, parks, museums (new UCC Q20132)               620214    I  1  EXPEND
1  4         Movie, other admissions, out-of-town trips            620212    I  1  EXPEND
1  4         Admission to sporting events                          620221    I  1  EXPEND
1  4         Admission to sports events, out-of-town trips         620222    I  1  EXPEND
1  4         Fees for recreational lessons                         620310    I  1  EXPEND
1  4         Other entertainment services, out-of-town trips       620903    I  1  EXPEND
```

FMLI

	NEWID	QINTRVMO	QINTRVYR	FAM_TYPE	REF_RACE	FINCBTXM	EDUCAPQ	EDUCACQ	FINLWT21	WTREP01
8	2816652	7	2014	3	4	225125.6	18000	0	20201.087	42959.282

EDA (EXPN)

	NEWID	QYEAR	SEQNO	ALCNO	JEDUCNET	EDUC_AY	EDSCHL_A	EDMONTHA
2	2816652	20143	27	0	18000	300	2	5
3	2816652	20143	28	0	2800	100	NA	4

MTBI

	NEWID	SEQNO	ALCNO	EXPNAME	COST	UCC	COST_	REF_MO	REF_YR	PUBFLAG
4	2816652	27	0	JEDUCNET	18000	670210	D	5	2014	2
5	2816652	28	0	JEDUCNET	2800	620310	D	4	2014	2

Organizing Expenditure Categories

- Interview EXPN files are organized according to the survey questionnaires.
  - ▶ Use the corresponding survey dictionary for all variables
- MTBI and Diary EXPD files are organized according to hierarchical groupings for publication
  - ▶ Use the corresponding stub file for UCC definitions
- FMLI and FMLD file summary variables aggregated using UCC groupings

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