

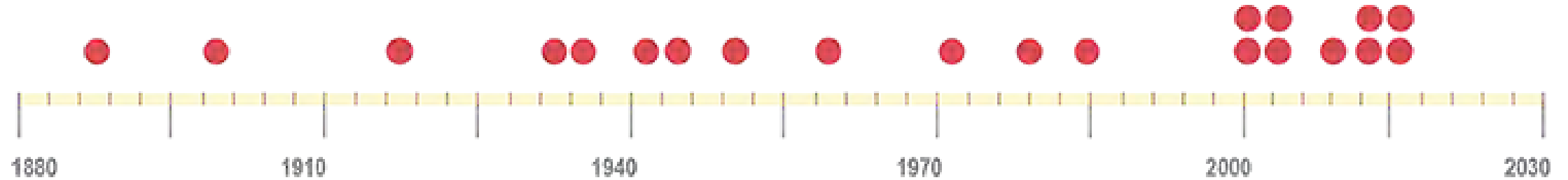
# 130 Years of the Consumer Expenditure Surveys (CE) 1888 - 2018

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# CE History



- BLS established in Department of Interior in 1884
- First expenditure survey at BLS initiated in 1888 ( $n=3,000$ )
- Family living condition studies rank among the oldest data-collecting functions of BLS
- To date, there have been 10 “iterations” of the CE

# The Evolution of the CE, 1888 through 1936

1. **1888–1891** – First nationwide expenditure survey. The purpose was to study workers' spending patterns as elements of production costs.
2. **1901** – Provided weights for an index of food prices by workers through WWI.
3. **1917-1919** – Provided weights for computing a cost-of-living index, now known as the Consumer Price Index (CPI).
4. **1934-1936** – Urban wage earners and clerical workers, primary purpose to revise CPI weights, but also extended analysis of socioeconomic conditions during Depression.



# The Evolution of the CE, some details from the first 30 years: CE 1, the Beginning

- Income: \$586.43.
- Food per family: \$238.66, including \$3.00 for vinegar, pickles, and condiments. (45% of total spending)
- Total expenditures per family: \$527.94
- Spending on food or fuel lower than consumption for farms and mining areas
- Spending on intoxicating liquors in the U.S: “the lowest is for the Scotch families, being \$8 per annum.”



# The Evolution of the CE 1: 1888

- Going back in time, everybody who works on the CE is new, as even the most senior staff at the Bureau only started in 1884.
- Grover Cleveland is president.
- The Civil War had been over less than 25 years.
- There was no spending reported at restaurants, or even for cakes. Cupcake tins were a recent invention.
- There seems to be a small sample size problem, with published conclusions being drawn from just a few households.



# The Evolution of the CE 2: 1901

- The CE turned 13 years old.
- Teddy Roosevelt is president.
- The CE is surveying hard working families, and is still based on annual recall. Family members are earning wages, including their children.
- The report notes some families kept “correct book accounts.”



# The Evolution of the CE 2: 1901

- “The *data* here presented *were* gathered by experienced *special agents...*” (Date are plural even then. And instead of ‘data collectors’ we had ‘special agents.’ That’s a great job title.)
- Average expenditures per family: \$699.24, including \$312.92 on food, which is still 45% of the total.
- Income of \$749.50.
- Income contributed by wives:  
8.54%, by children 22.19%,  
(In the US: Income from children 35.29% in the Welsh nativity.)



# The Evolution of the CE 2: 1901

- Concerns about recall, sample bias, and variance. If the sample was small, the averages “should of course be accepted with due caution...”
- The value of producing public use microdata was dismissed: “It is believed that all the more important features are brought out in the tables presented in this report.”
- There was also a special detailed table for families who “were reported as being generally somewhat more intelligent and better educated than the average family.”





# The Evolution of the CE 3: 1917 – 1919

- The CE was turning 30 years old. Woodrow Wilson is president, and WW I is ending.
- Income now includes earnings plus income from lodgers, from garden, poultry, gifts, rents, and investments.
- There are separate tables for “All Family” averages, plus averages for only those who’d made a purchase for that item that year.  
For example, the national all family average on shoe shines was 9 cents, but was \$3.61 for those who’d bought shoe shines.



# The Evolution of the CE 3: 1917 – 1919

- Average yearly expenses per family: \$1,434.37, including \$548.51 for food (now 38% of total spending.) Income was \$1,513.29.
- Expenditures were published for talking machines; excursions and vacations; street car fares; umbrellas and parasols; hats: felt, straw, and caps; spats and leggings; collars; arctics; and belts (3 cents) and suspenders (8 cents).
- Included \$15 on cakes and cookies!



# The Evolution of the CE, 1935 through 1961

5. **1935-1936** – Urban and rural sample used for the “Study of Consumer Purchases.”
6. **1941-1944** – Urban, farm, and non-farm sample provided estimates of expenditures and savings by income for the nation. Covered all of 1941 and the first 3 months of 1942, highlighting differences before and after the Pearl Harbor attack. Repeated in 1944 for urban households to see how spending changed.
7. **1950** – Urban sample only, an abbreviated version of the 1935–1936 study.
8. **1960-1961** – Urban and rural sample, provided the basis for revising the CPI weights, while supplying material for broader economic, social, and market analyses.



# The Evolution of the CE, 1941 through 1961

9. **1972-1973** – Data used to revise CPI weights, but major changes in collection:
  - Unlike earlier surveys, the **U.S. Census Bureau**, under contract to BLS, conducted all sample selection and field work.
  - Another change was the introduction of a **Diary Survey** in addition to the existing **Interview Survey** to collect the survey information.
  - A third major change was the switch from an **annual recall to a quarterly recall** (in the Interview Survey) and **daily recordkeeping** of expenditures (in the new Diary Survey).
10. **1980-present** – Initiation of the current continuing survey in 1980. Since then, the data have been available annually.



# Selected CE Highlights, 1984-2003

- 1984, The first year of **integrated data** from the Diary Survey and Interview Survey.
- 1993, CE **microdata** are made available on CD-ROM for sale to the public.
- 1995, CE **data tables** are made available to the public on the BLS website.
- 1996, The **Initial Edit Subsystem** (IES) added to production processing.
- 1999, CE **sample increased** by 50 percent, allowing more frequent CPI weight updates.
- 1999, The CE Division receives funding to establish a separate **research branch**.
- 2000, The first year for which **standard error tables** are made available.
- 2001, Improvements to the survey income estimates by introducing **income brackets**.
- 2002, Downsized from **mainframe to Unix** and the client server environment.
- 2003, Data collection in the Interview Survey shifts from PAPI to **CAPI**.



# Selected CE Highlights, 2004-today

- 2004, Income estimates improved by implementing model-based **income imputation**.
- 2005, A more user-friendly **redesigned diary** collection instrument is introduced.
- 2006, The first of the annual CE **public-use microdata workshops** is held at BLS.
- 2007, Migrated from **Sybase to Oracle**.
- 2009, **Gemini Project** to redesign the CE surveys initiated.
- 2012, The first of the annual CE **survey methods symposiums** is held at BLS.
- 2013, CE introduces new estimates of **tax liabilities** using the TAXSIM calculator.
- 2013, CE **midyear data tables** are made available to the public on the BLS website.
- 2015, Initial **bounding interview** dropped from the Interview Survey.
- 2017, First release of experimental **state-level weights** for use with CE data (NJ).



# Want to learn more about the history of the CE?

- See [historical summaries and articles](#) about the CE
- The historic timeline is from the [CE chapter](#) from the BLS Handbook of Methods
- Original source documents referenced are:
  - ▶ 1888, the 6<sup>th</sup> Annual Report of the Commissioner of Labor, 1890.
  - ▶ 1901, the 18<sup>th</sup> Annual Report of the Commissioner of Labor, 1903.
  - ▶ 1918-1919, Cost of Living in the United States, Bulletin of the US Bureau of Labor Statistics, #357, May 1924.
- Or write to us at [CEXInfo@BLS.gov](mailto:CEXInfo@BLS.gov)

