Selective and macro-editing of a large business based administrative data set

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QCEW Basics

- **Quarterly Census** of employers: 9.5 million establishments

- **Unemployment insurance (UI)** quarterly contribution forms are the primary data source

- **BLS/State cooperative program**, based on administrative data from the state and federal UI systems
QCEW Basics (cont’d)

- **Admin data plus**: $$$ millions spent improving the raw data
  - Editing, correcting
  - Verifying trends and changes directly with respondents

- **Publication**: industry by county, MSA, state, nation, 5.5 months after quarter
  - Monthly employment
  - Quarterly establishment counts and wages
Uses of QCEW

General Economic Uses
- Gross Domestic Product (BEA)
- Personal Income (BEA)
- State Revenue Projections
- Economic Forecasting

Analytical Uses
- Quarterly Census of Employment and Wages (QCEW)

Sampling
- Benchmarking
  (Employment Base)
- Current Employment Statistics
- Occupational Employment Statistics
- Occupational Safety and Health Statistics
- Jobs Openings & Labor Turnover Survey

Programmatic Uses
- UI Tax Rate & Actuarial Analysis
- UI-Covered Employment
- Local Area Unemployment
- Social Security Administration
- Federal Funds Allocation $321 Billion (HUD, USDA, HCFA/CHIP)

Interagency Data Uses
- Improve CPS After 2010 Census
- LEND
- Industry Code Sharing

Local Economic Development Indicators
- Cluster Analysis
- Shift Share
- Industry Diversity Indexes
- Location Quotients

Minimum Wage Studies

Quarterly Press Releases, Annual Employment and Wages

Job Creation/Destruction
- Size Class Dynamics
- Business Survival Rates

Geocoded Establishments

Local Government Services Planning

Local Economic Impact Response Planning

Local Transportation Planning

Minimum Wage Studies

Federal Funds Allocation $321 Billion (HUD, USDA, HCFA/CHIP)

Social Security Administration

Current Employment Statistics

Occupational Employment Statistics

Occupational Safety and Health Statistics

Job Openings & Labor Turnover Survey

Quarterly Press Releases, Annual Employment and Wages

Benchmarking
  (Employment Base)
QCEW Basics (cont’d)

- Published by area and industry—no demographic or occupational data
- Sample frame for all BLS business surveys
- Employment benchmark for BLS payroll survey
- QCEW wages is largest component of BEA Personal Income, also used in GDP
- Input to BLS *Business Employment Dynamics (BED)* measures of expansion/contraction, birth/death
QCEW Data Stream

- Quarterly UI reports from every covered employer
- Worksite reports each quarter via Multiple Worksite Report, mandatory in 28 states, voluntary in rest
- Classification and location maintained by Annual Refiling Survey, which contacts most employers on a 3-year cycle
QCEW Edit Process

- Each state edits data before transmittal to BLS: first in UI, then in QCEW.
- Two QCEW editing systems are available to the states.
- Both QCEW state systems are programmed based on BLS specifications.
- BLS edits after states are finished.
QCEW Data Annotation

- Annotation shows that the record was examined by a human.
- Comment codes identify specific conditions, can be mechanically consumed.
- Up to three comment codes allowed.
- Narrative comment field supports free form text entry and storage.
QCEW Selective Edit (FESTER)

- FESTER assigns an edit score that is used to give a priority sort to establishment records.

- Scoring is based on:
  - Employment size
  - Size of change in employment or wages
  - Number of edits
  - Priority class of edits
QCEW Macro-edits

- Driven by publication demand for representative over-the-year (OTY) change by county
- Adjustment for OTY reporting differences
  - County, ownership, industry classification changes
  - Employer begins to report at worksite level
  - Improved distribution at worksite level
QCEW Value Added by Editing

- 2008 first quarter comparison before/after editing by states

  - 16% of records were changed
  - 14.2% correction in employment level
  - 0.6% change in wage level
QCEW Edit Shortcomings

- Systematic error spread across many small establishments
- Focus on quarterly change
QCEW Edit Improvements

- Wage record integration
- New state editing system
  - Improved FESTER
  - New wage record tools
  - Improved predecessor/successor edits
  - Improved employment edits
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