The LEHD Infrastructure Files

and the Creation of the Quarterly Workforce Indicators

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Introduction

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  - Innovative use of wage records to constitute a frame to integrate data
  - The first statistical system to use “jobs” as a frame

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- Describe the disclosure-proofing mechanism
- Describe researcher access to infrastructure files and confidential QWI files

Input Files

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- in particular, for Minnesota, the ESTABLISHMENT is reported

Employer reports: ES202

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- One report per establishment per quarter is filed

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- Where available, more detailed data on individuals is also extracted from surveys and censuses:
  - CPS
  - SIPP
  - ACS
  - 1990 Census
  - 2000 Census

Infrastructure Files

EHF: Employment History Files

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- Employer and establishment-level employment history
  - QCEW-based employment-activity history for every SEIN (employer) and SEINUNIT (establishment)
- Comparison of employment and activity of SEINs between UI and QCEW files is done for QA purposes, and in preparation of weighting.

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  3. unduplicated (by firm name)

Flow so far

Main page

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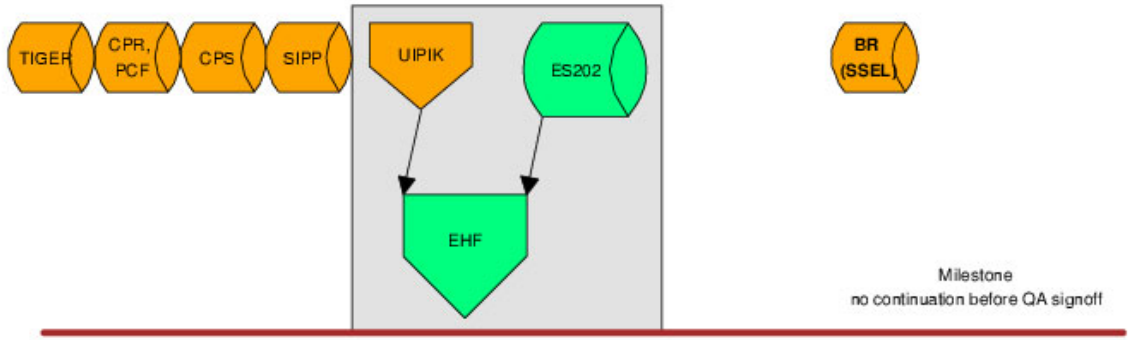

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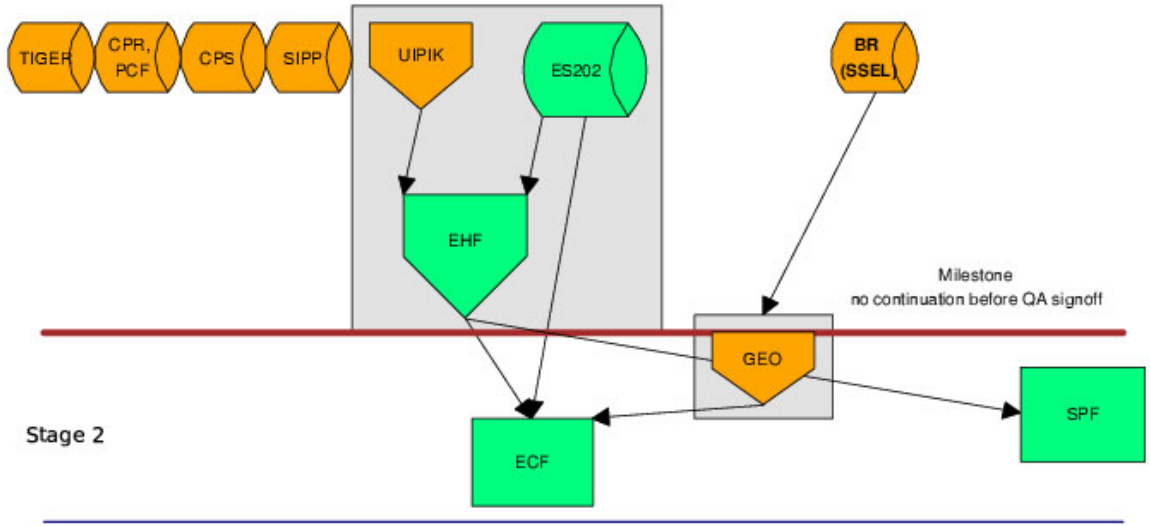

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Forming Aggregated Estimates: QWI

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- → non-economic change in identifier creates spurious flow

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- QWI: if 80% of an SEIN's workers (the predecessor) are observed to move to a single successor, and that successor absorbs 80% of its employees from a single predecessor, then all flows between those two account numbers are filtered out, and treated as if they had never existed.

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x_{ijrt} time-varying vector, worker and establishment

β effect on probability of being employed at a particular establishment

Currently:

- x_{ijrt} is linear spline in distance between residence and establishment

Probability Model

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$$\log p\left(\beta|\alpha, x, y\right) \quad \propto \quad \sum_{t=1}^{T} \sum_{j \in \mathcal{J}_t} \sum_{i \in \mathcal{I}_{jt}} \sum_{r \in \mathcal{R}_{jt}^{i}} d_{ijrt} \left(\alpha_{jrt} + x'_{ijrt}\beta - \log\left(\sum_{s \in \mathcal{R}_{jt}^{i}} e^{\alpha_{jst} + x'_{ijst}\beta}\right)\right)$$

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- $\rightarrow$ 10 establishment identifiers associated with a job spell

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Disclosure-proofing the QWI

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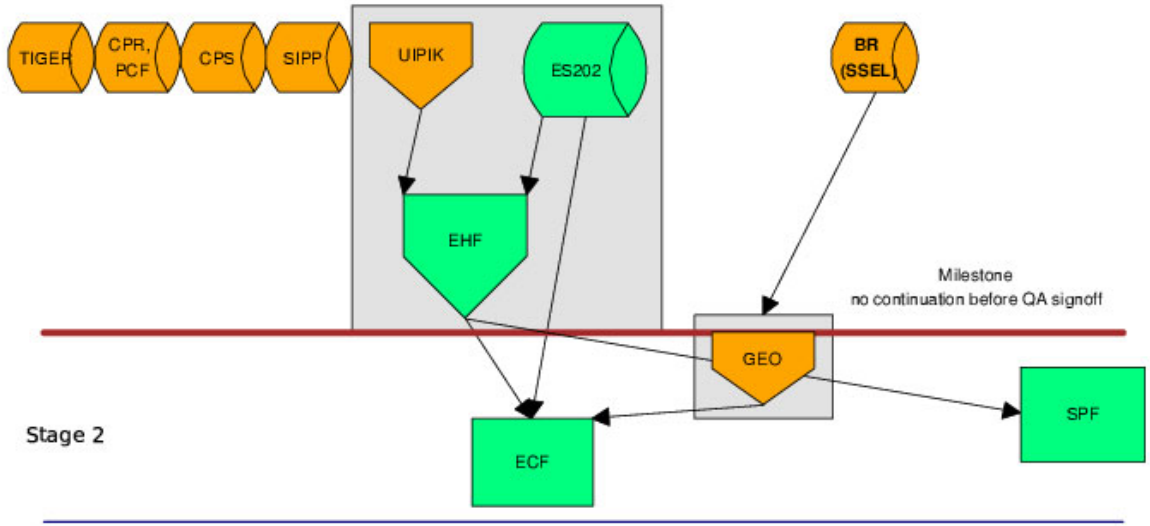
  → http://www.ces.census.gov

Conclusion

Flow so far



Main page

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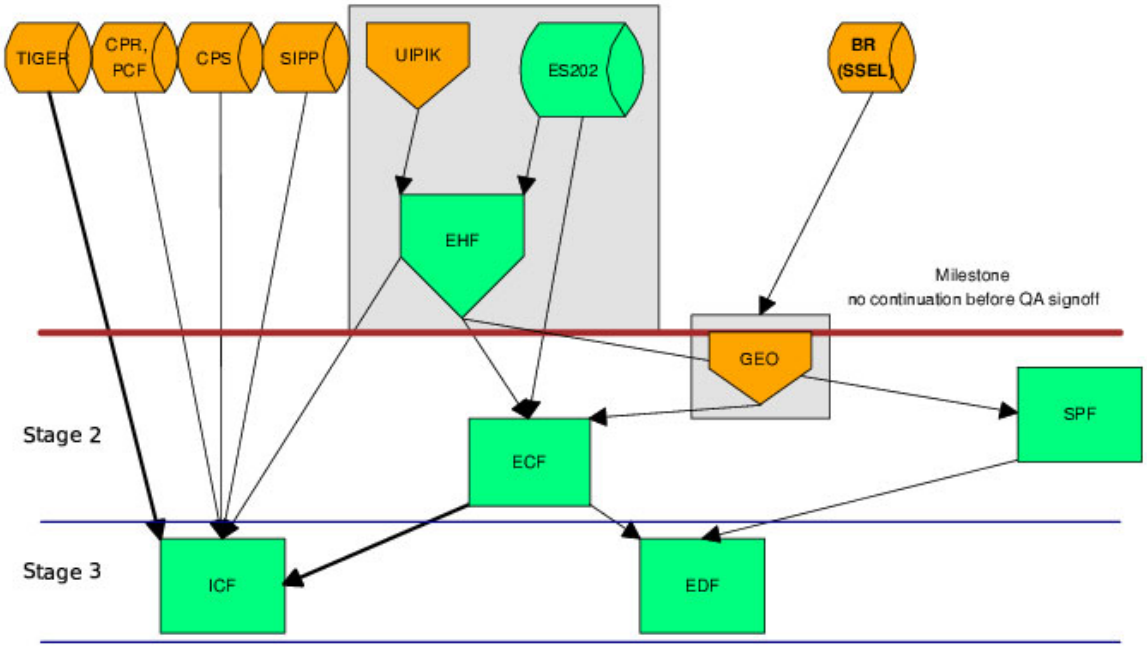

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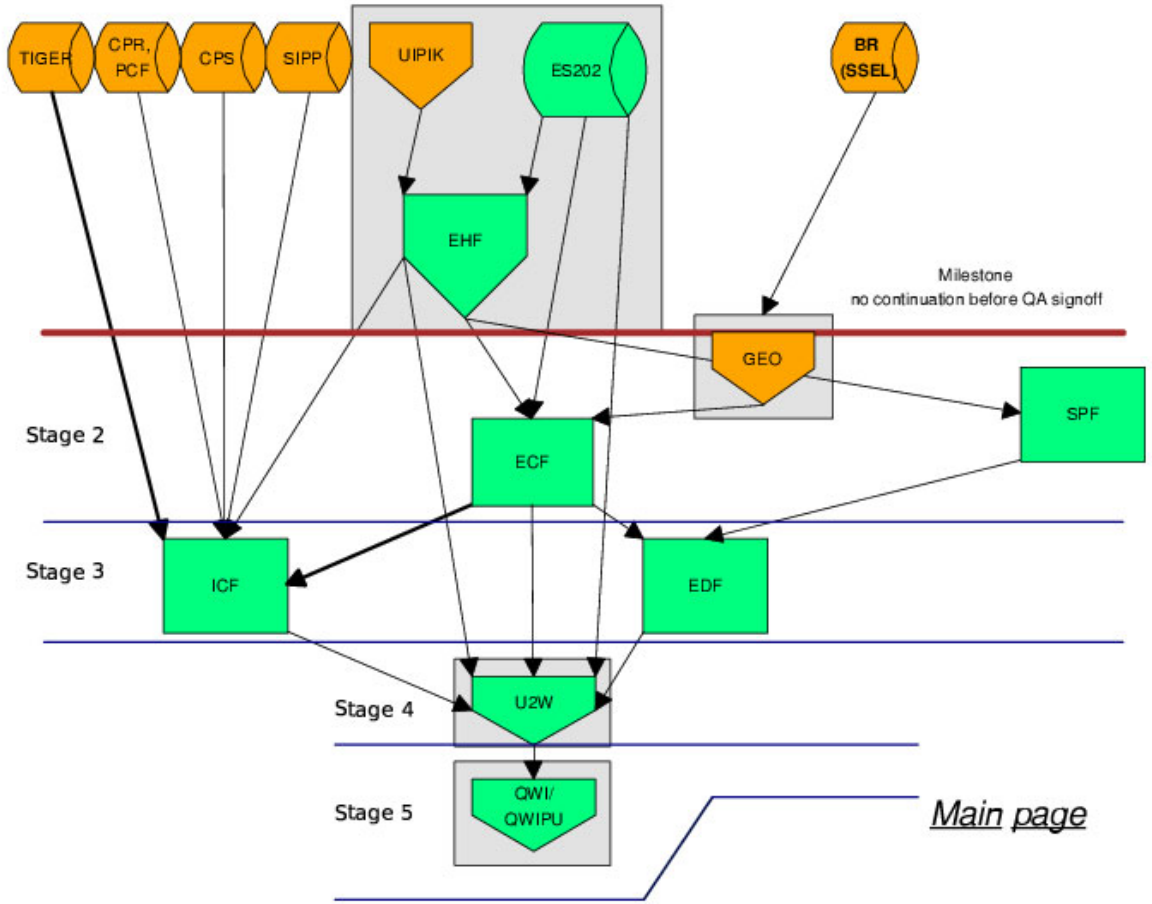

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