Quarterly Workforce Indicators Update and Review

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Introduction

- Quarterly Workforce Indicators
- Data demonstration
- Version 3.0 Approach
- Future Research Direction

The Quarterly Workforce Indicators

- Version 2.0
  - Employment and earnings statistics
  - Level of detail
- Version 3.0 (beta)
  - Employment and earnings statistics
  - Enhanced level of detail
  - Web interface

Data Demonstration

Objective in Developing Version 3.0

- Finest level of geographic and demographic detail possible
  - Location of place-of-work
  - Industry classification of place-of-work
- Core challenges:
  - 30%-40% of state-level employment is concentrated in multi-unit businesses. State-level data (except for MN) do not provide place-of-work for employees of these businesses.
  - Disclosure proofing

Approach

- Identify two relationships that help explain the likelihood of the physical location of work, given the identity of the multi-unit employer
  - Physical distance between place-of-residence and place-of-work
  - Distribution of employment within a business entity
- Example

Data

- ES-202 data provide us with 3 important firm (SEIN) characteristics
  - Economic structure of business
  - Geography
  - Distribution of employment within SEINs
- UI wage data provide
  - Employer identifier (SEIN)
  - Employment history of worker
  - Person identifier
- CPR (IRS/Census/CMS)
  - Person identifier
  - Place of residence

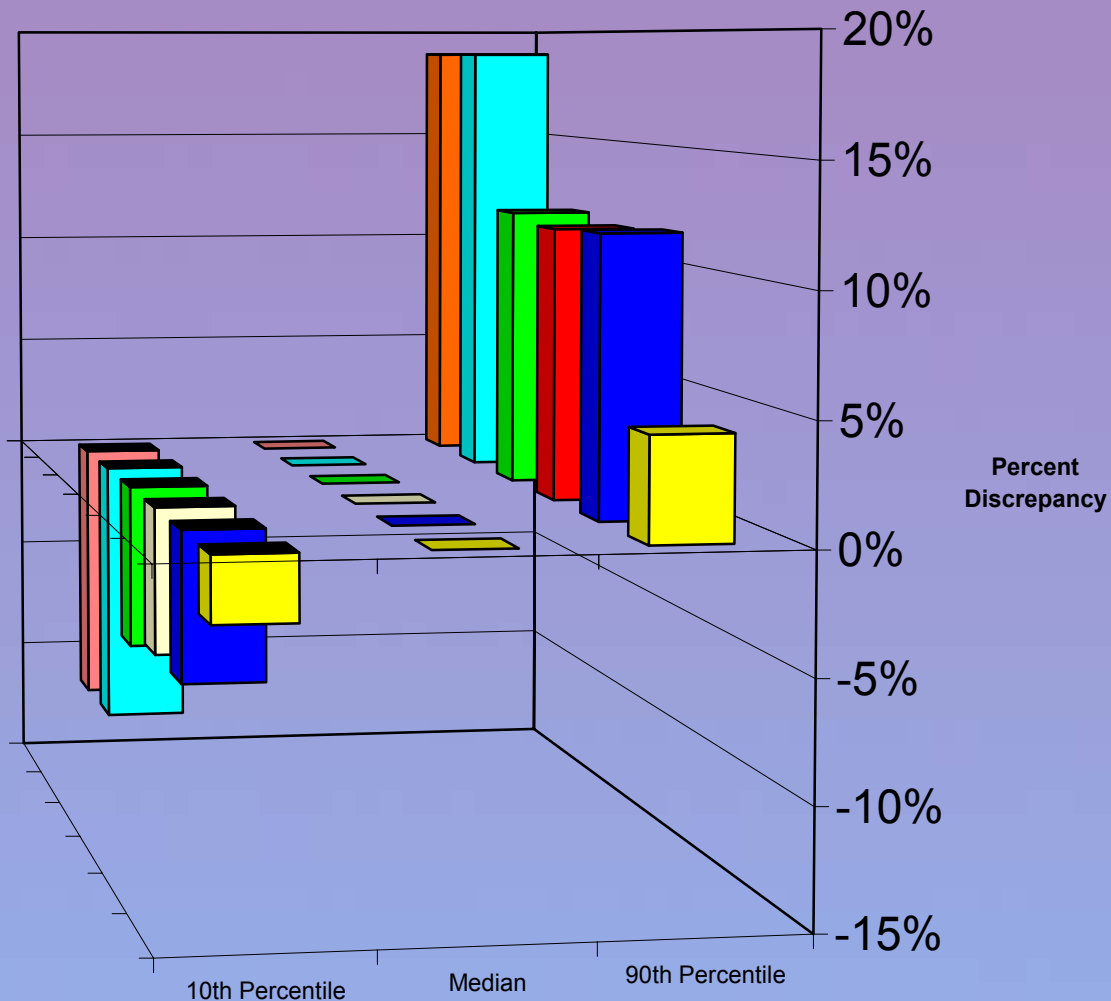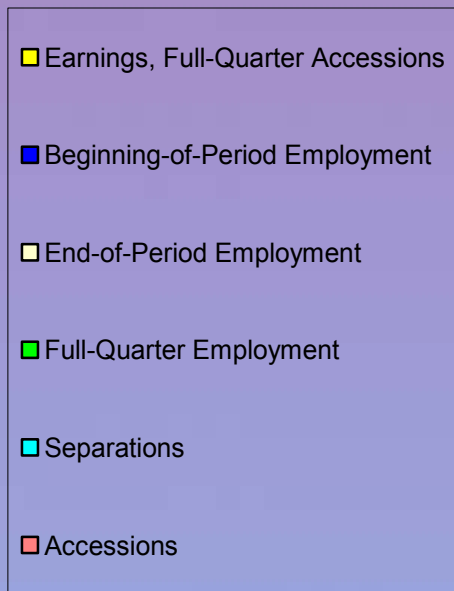# Model Specification, Estimation, and Application

- Estimate probability of employment at a particular reporting unit using MN UI data. Key factors include:
  - Distance between individual residence and establishment location
  - Number of employees
- Key points
  - Identify feasible units
  - Suppress false labor market transitions
  - Estimate at the *time of separation* of a worker from employing firm
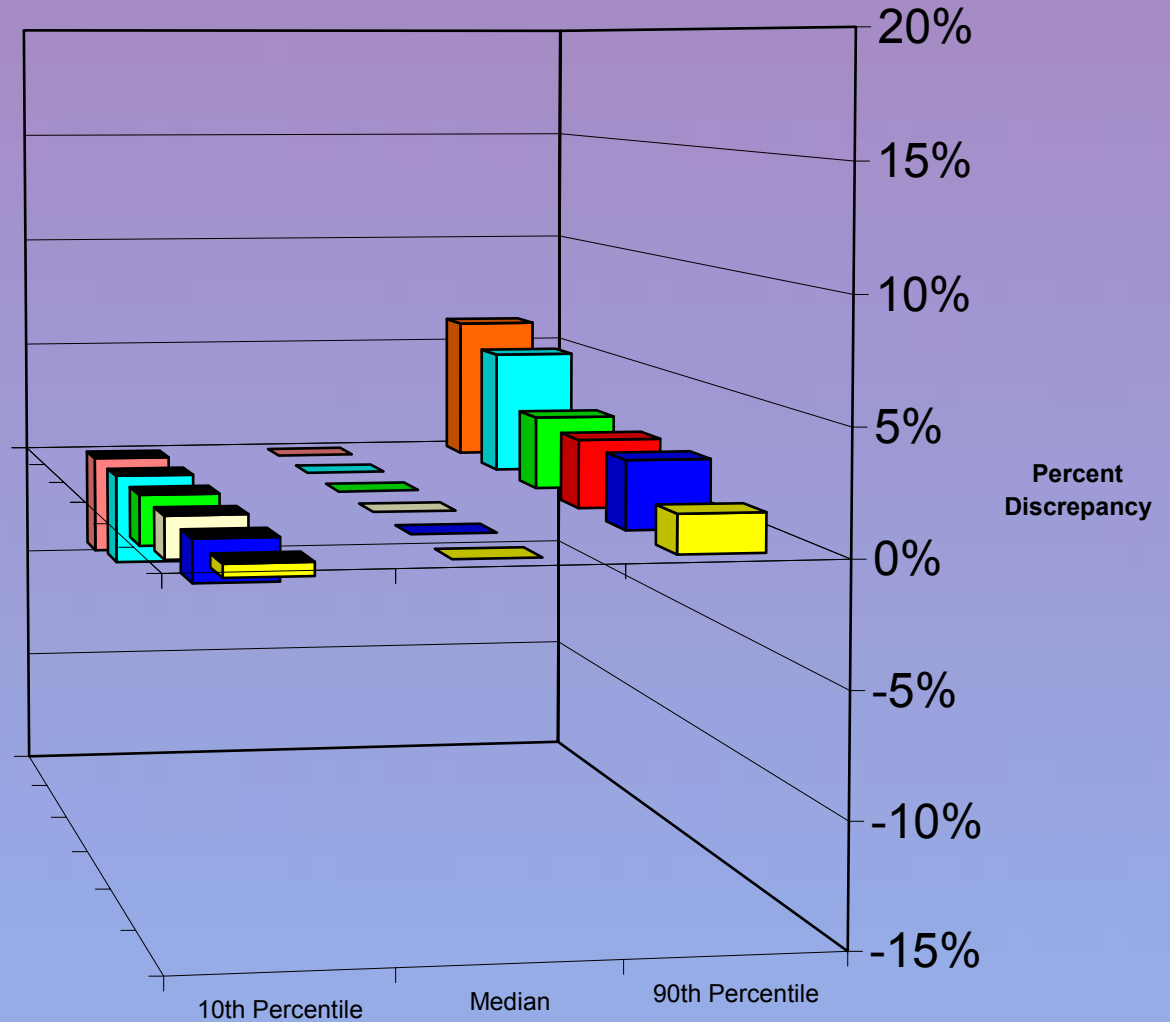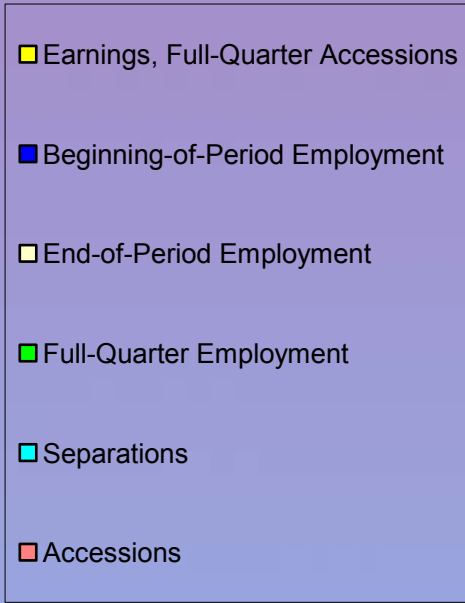- Apply parameter estimates to partner states' data
- Generate QWIs

Quality Assurance:
Results of Benchmarking

MN Known Unit vs. MN Imputed Unit Unweighted

Legend:
- Earnings, Full-Quarter Accessions
- Beginning-of-Period Employment
- End-of-Period Employment
- Full-Quarter Employment
- Separations
- Accessions

Percent Discrepancy

20%
15%
10%
5%
0%
-5%
-10%
-15%

10th Percentile
Median
90th Percentile

U S C E N S U S B U R E A U

MN Known Unit vs. MN Imputed Unit Weighted
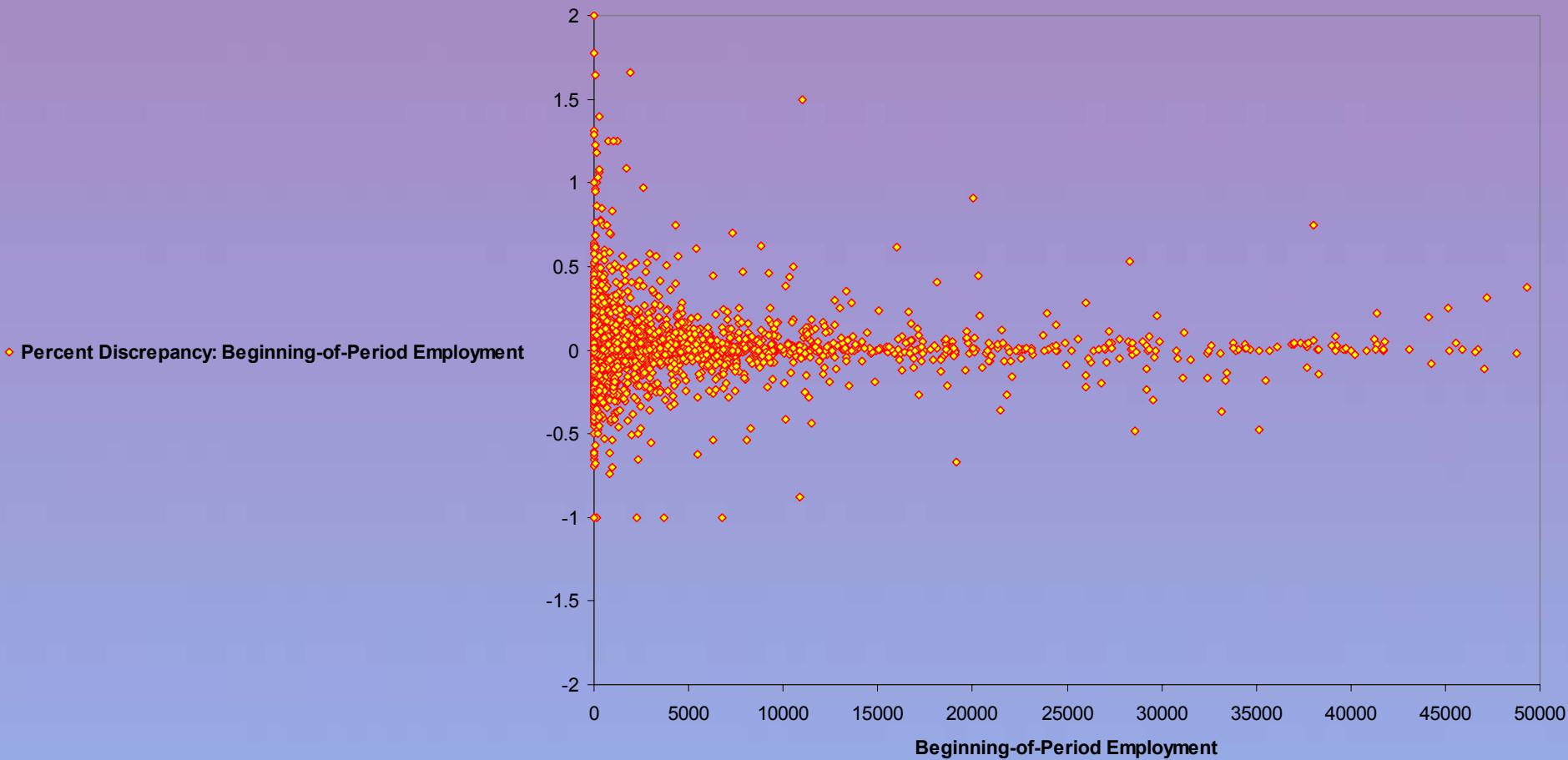
Legend:
- Earnings, Full-Quarter Accessions
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- Separations
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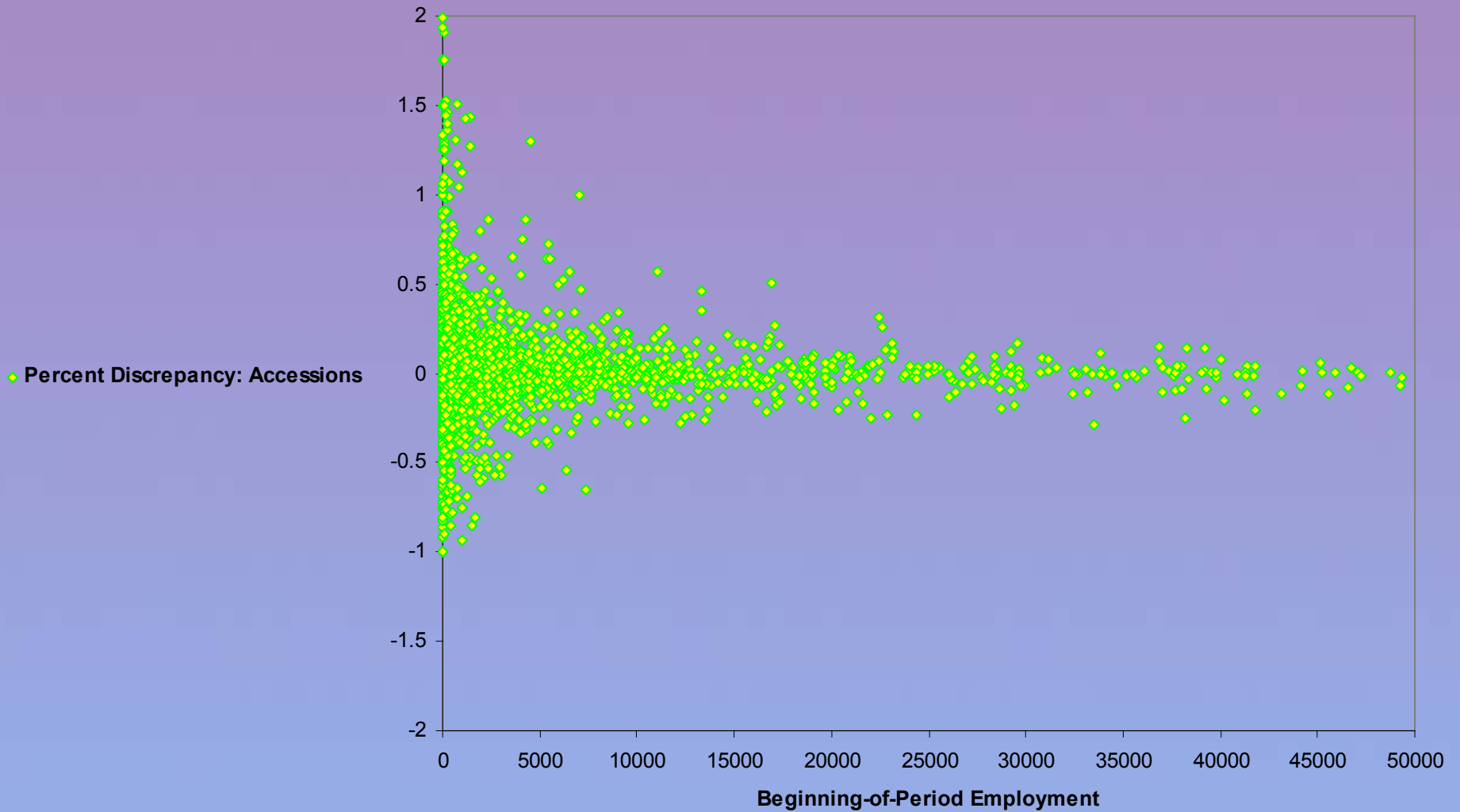Percent Discrepancy

10th Percentile   Median   90th Percentile

US CENSUS BUREAU

MN Known Unit vs. MN Imputed Unit
Across Workforce Investment Areas

**MN Known Unit vs. MN Imputed Unit
Across Workforce Investment Areas**

Percent Discrepancy: Accessions

Beginning-of-Period Employment

MN Known Unit vs. MN Imputed Unit
Across Workforce Investment Areas

Percent Discrepancy: Average Earnings of Full-Quarter New Hires

Beginning-of-Period Employment
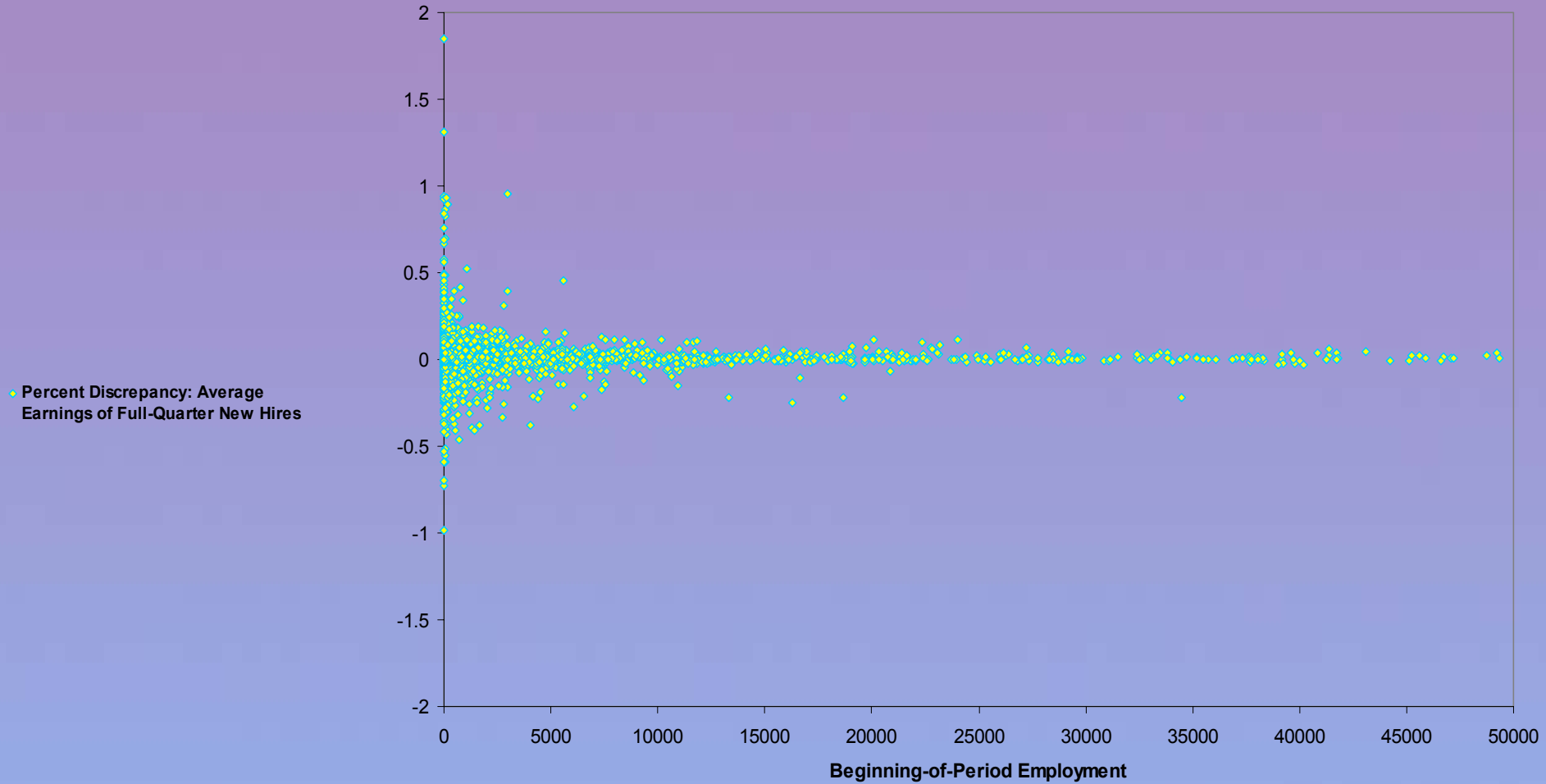
Research Direction

- Under-Coverage of UI Wage Records
  - Due to universe discrepancies
  - Due to problematic quarters (data quality)
    - Defective archives
    - Incomplete most recent quarter reports
- Continued improvement of imputation methodology
- Additional Demographic Characteristics