Diverging Trends in National and Local Concentration

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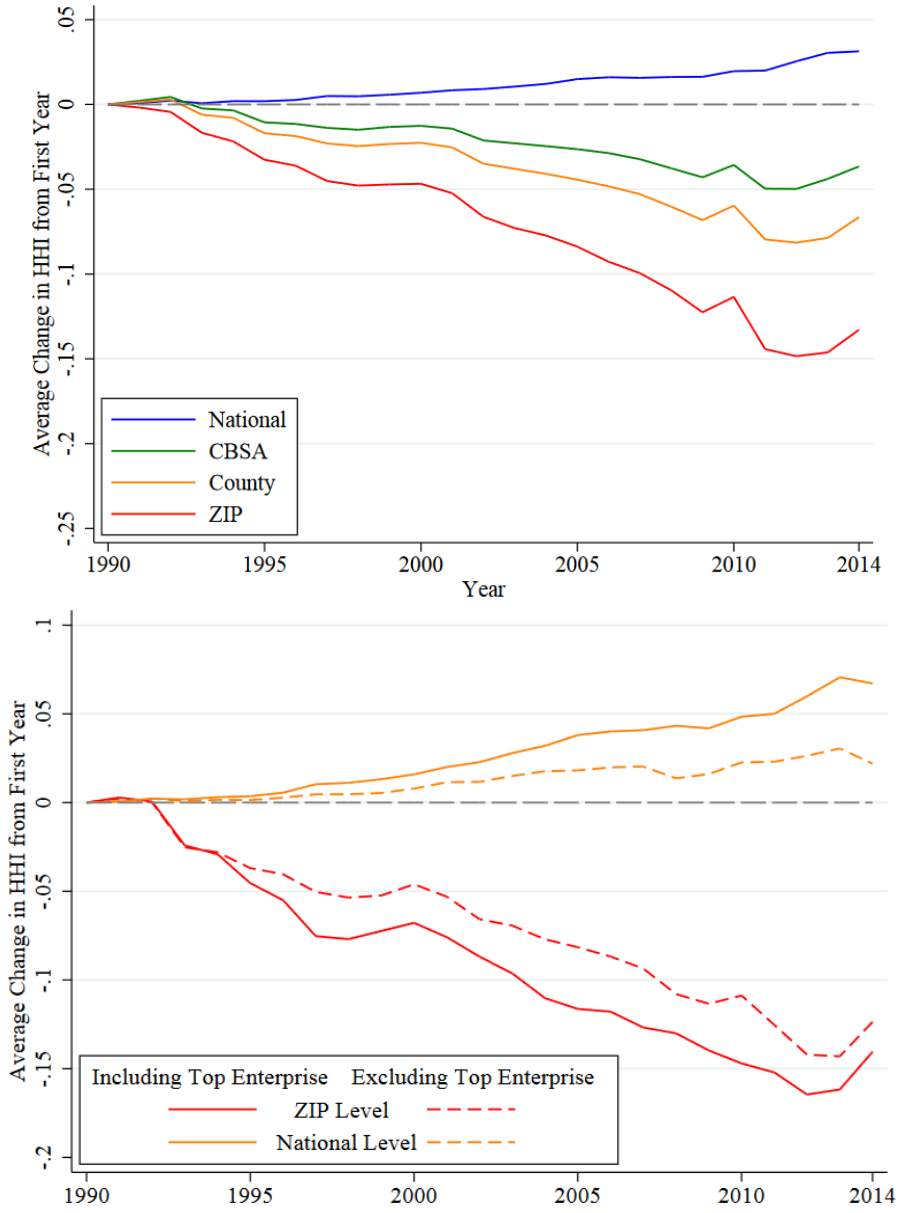
Without implication, these comments draw heavily on joint work with Keith Barnatchez and Leland Crane. The analysis and conclusions set forth here are those of the author and do not indicate concurrence by members of the Federal Reserve staff or the Board of Governors.

The key insight

- Most discussion of concentration focuses on national trends
  - In fact, much of it relies on industry-level Economic Census data
- In many industries, the relevant product market is local, not national
- With sufficiently disaggregated data, we can:
  - Construct measures of local concentration—within *narrow* industries
  - Study role of *national* "top firm" growth in local concentration
    - This probably can't be done with Census data

Figure 1: Diverging economy-wide national and local concentration trends



Discussion points

1. NETS data questions
2. Quantitative results relative to other literature

1. NETS data

- Barnatchez et al. (2017) show that NETS geography-by-industry establishment tabulations are reasonably correlated with CBP (Census) and QCEW (BLS) in the cross section

- But, some limitations
  - Establishment-level sales measurement
  - Establishment-level employment measurement in multi-unit firms
  - Dynamics and imputation

Sales data in NETS

- Sales imputation flags indicate prevalent imputation
  - 95% of estabs of multi-unit firms have imputed sales

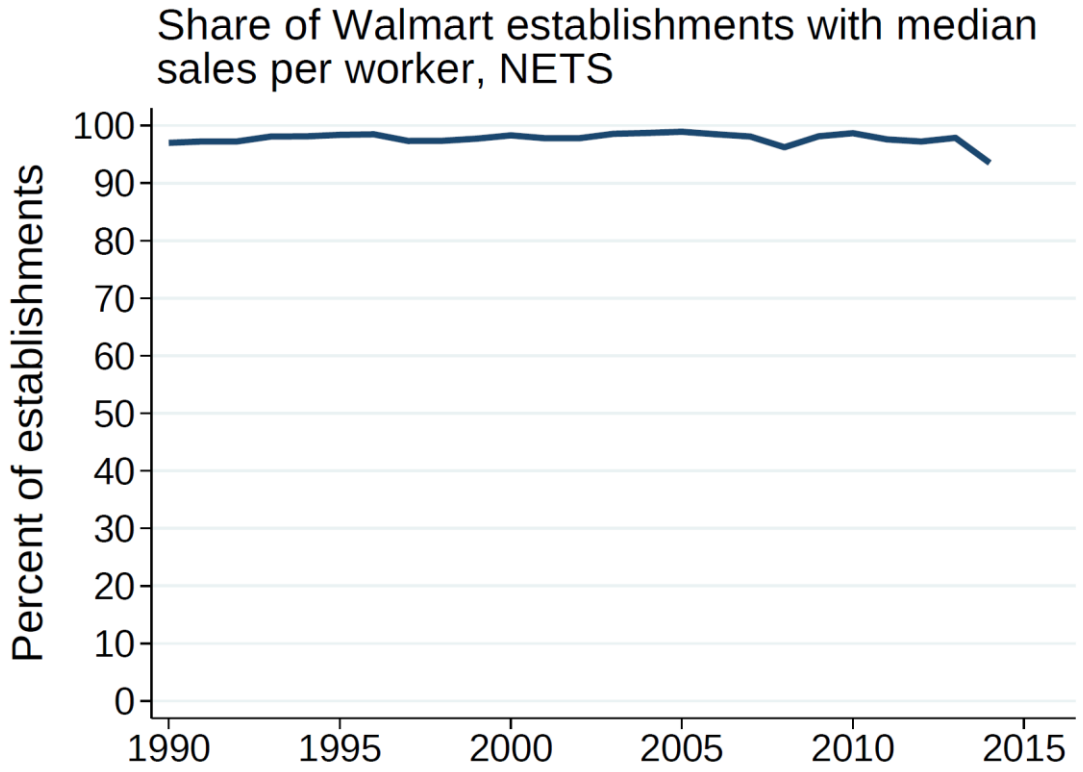
Source: Crane and Decker (2019)

Firm size (employees)	Year 2000	2014
1 to 4	80	80
5 to 9	78	85
10 to 19	77	82
20 to 49	79	84
50 to 99	85	88
100 to 249	89	91
250 to 499	93	94
500 to 999	94	94
1,000 to 2,499	93	93
2,500 to 4,999	95	92
5,000 to 9,999	95	94
10,000+	96	94

Source: NETS
Notes: Percent of firms with imputed establishment sales data.

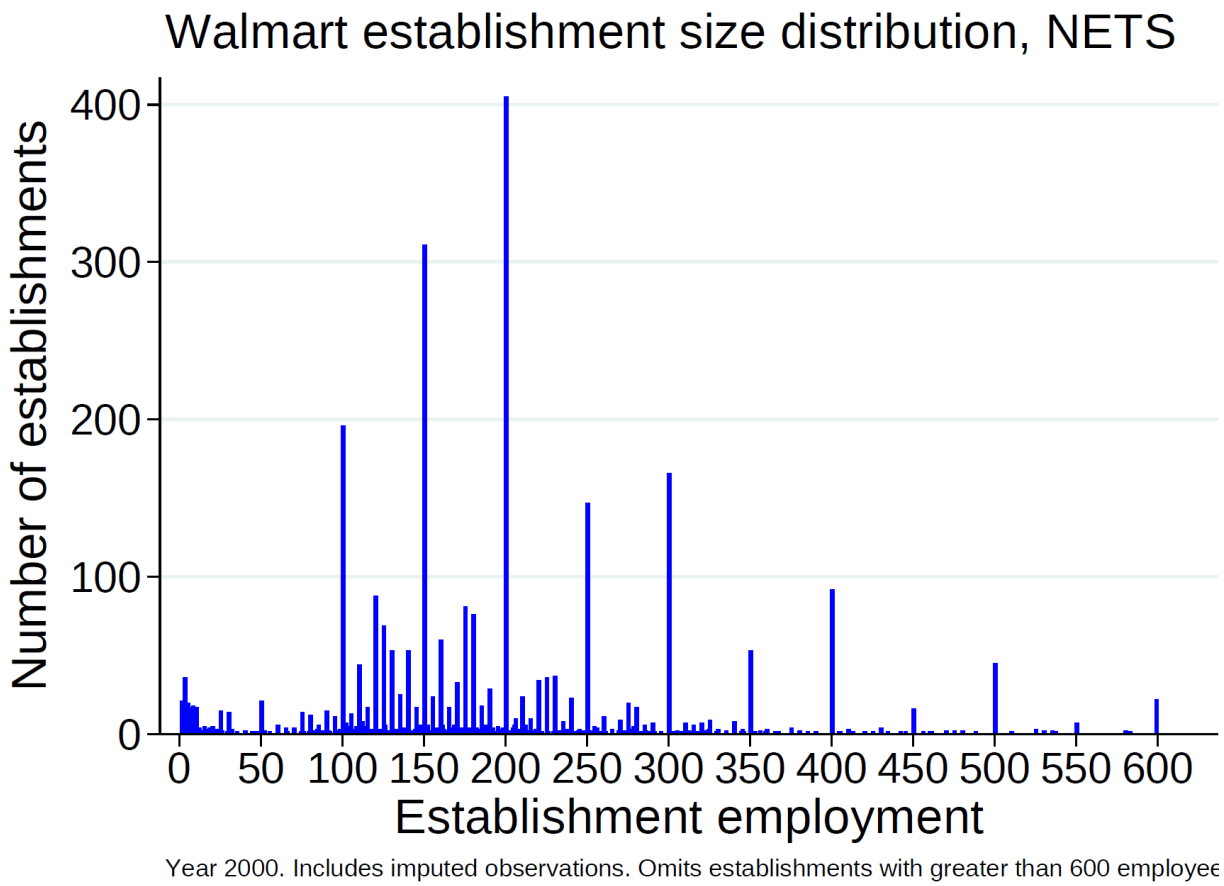
Table 1: Establishment sales imputation rates

- Sales data appear to just reflect employment
  - NETS has low sales/worker dispersion relative to LBD, and gap rises over time (Crane & Decker 2019)
  - Example: Walmart
  - ➔ The paper is telling us about employment, not sales, concentration



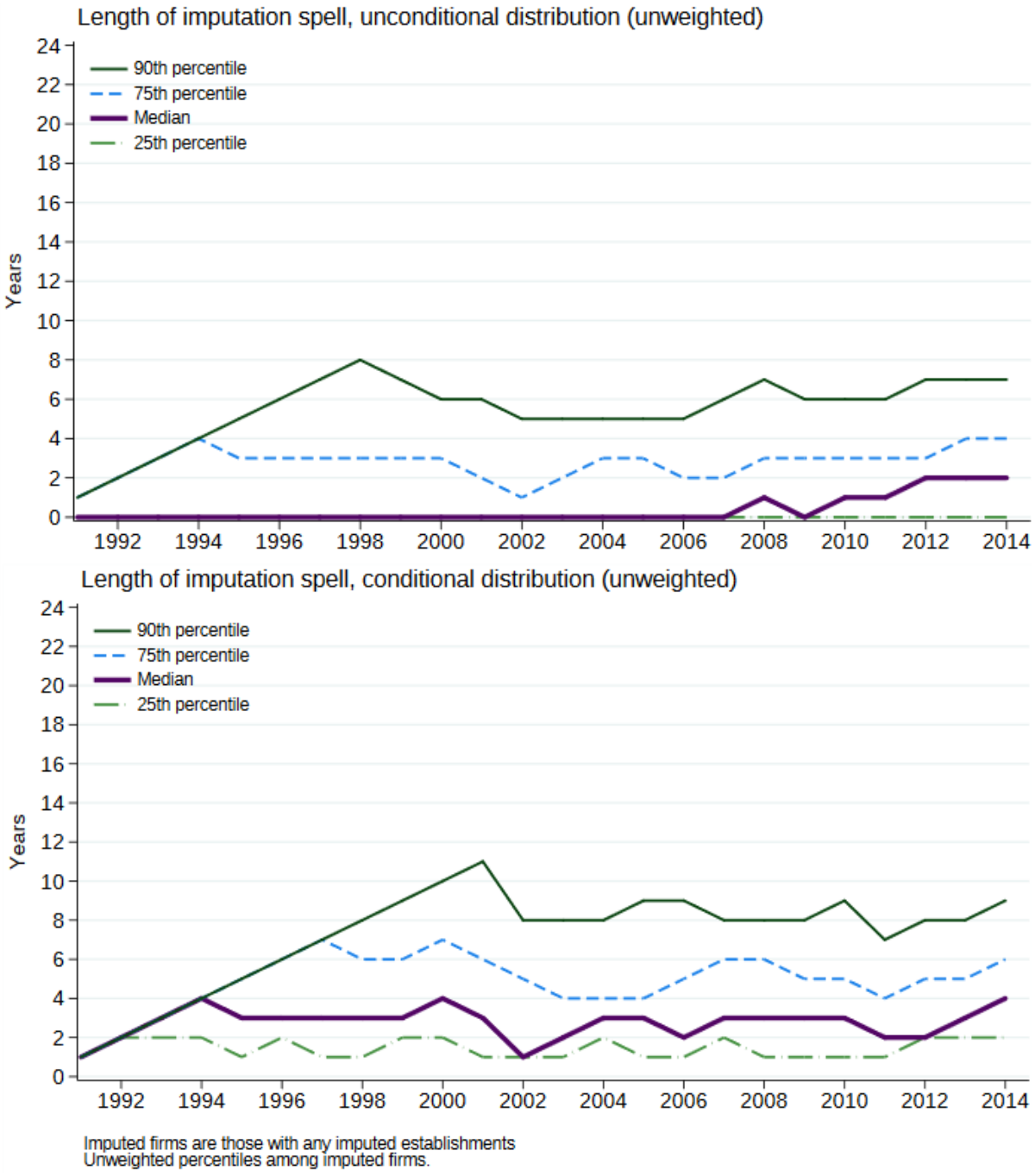
Employment data in NETS

- Barnatchez et al. (2017) look at correlations of cell-level aggregates
- Local concentration studies are about within-cell distributions
- Averaging/aggregating may smooth out errors
- …But within-cell higher moments might not be so robust
  - A Walmart rounding error could be equal to several local mom ‘n’ pop shops



Dynamics/imputation

- Many NETS establishments see imputation for many consecutive years
  - 10% of firms are imputed for 6+ consecutive years (more if weighted)
  - Among imputed firms, median has 3-4 consecutive years
- This probably implies that many NETS establishments are not contacted, which means exit measurement may be delayed… potentially for many years
- This could create **false persistence of local activity distribution after top firm entry**



Source: Crane and Decker (2019)

Some data suggestions

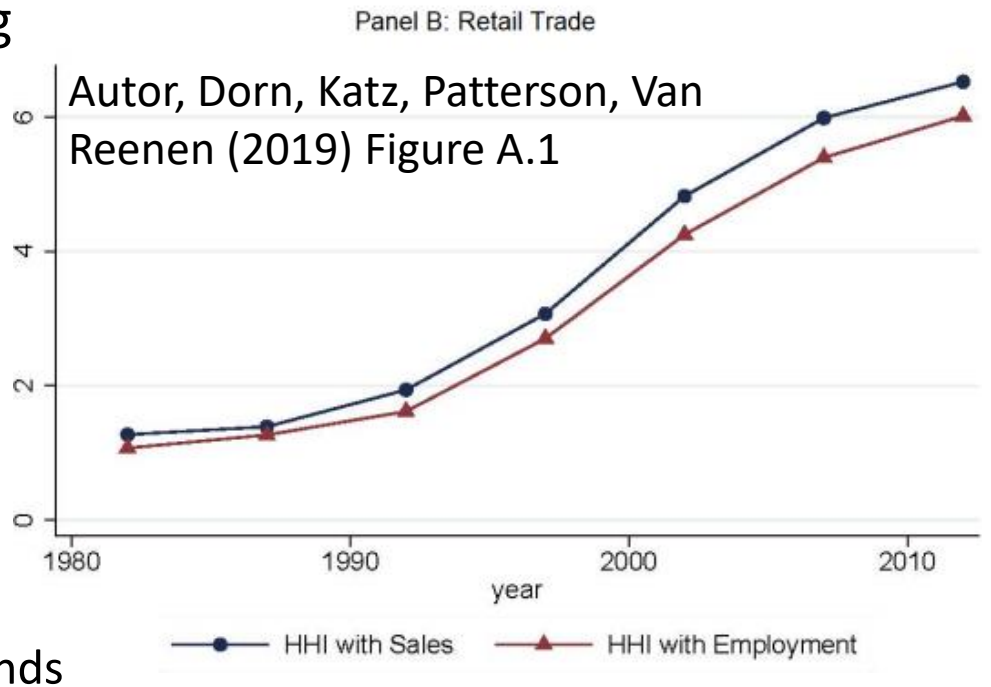
- Focus on employment, not sales
- Other data?
  - Census (probably can't study top firms)
  - External data on top firm location and size?
- Explicitly study role of imputation and entry/exit timing
  - Are there Bruce Willis establishments affecting the results? (We don't know they're dead)
  - What happens to top firm exercises if imputed (or obviously rounded) observations are dropped? Or, can you do top firm exercises separately for cells with high imputation prevalence versus low imputation prevalence?
- Evaluate sensitivity to employment mismeasurement among large establishments (of the top firms and local non-top firm leaders)

2. Literature comparisons

- Autor et al. (2019): Find national retail concentration rising 200%, 1992-2012, vs. Rossi-Hansberg 5-10%
  - Why the difference?
    - Methodology/poor reading comprehension by discussant?
    - If not… could be spurious entry problem

- Smith and Ocampo (2019): Timing of weights matters
  - Larger markets are less concentrated, so changes in market weights are salient
    - End-of-period weights (as in Rossi-Hansberg et al.) → declining retail concentration
    - Current-period weights → rising retail concentration
  - May be useful to discuss *distribution* of local concentration trends

- Rinz (2018):
  - Local employment concentration declined roughly 7%, 1990-2015 (vs. Rossi-Hansberg 17%)
  - …but local retail concentration rose



Summing up

- A brilliant insight and a well-executed (and well-written) paper
- Probably measuring employment concentration, not sales concentration
  - More likely to inform the labor market concentration literature than the product market concentration/markup literature
- Key contribution relative to studies with official data: top firm dynamics and effects
- Do within-cell top firm measurement and within-cell entry/exit measurement affect local concentration measurement?
- More (quantitative) comparisons to other literature would be helpful

Thanks

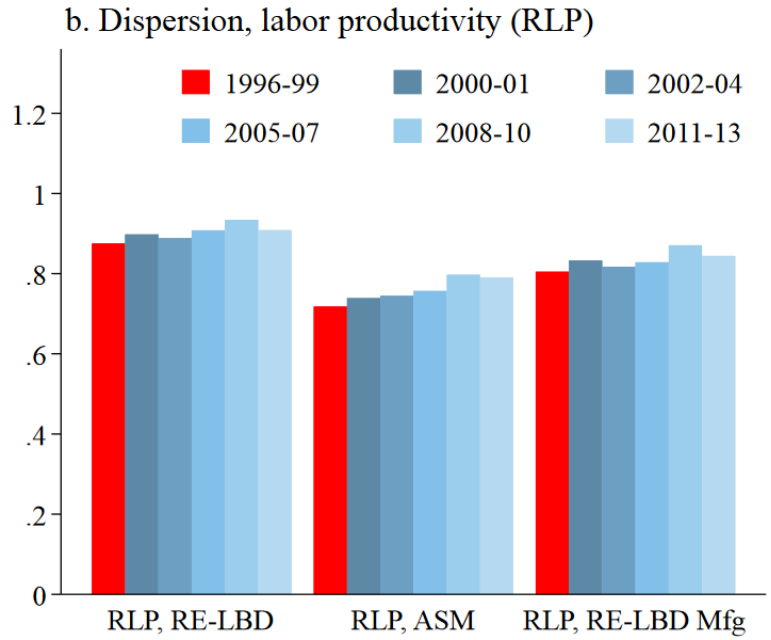
Extra slides

Four new facts

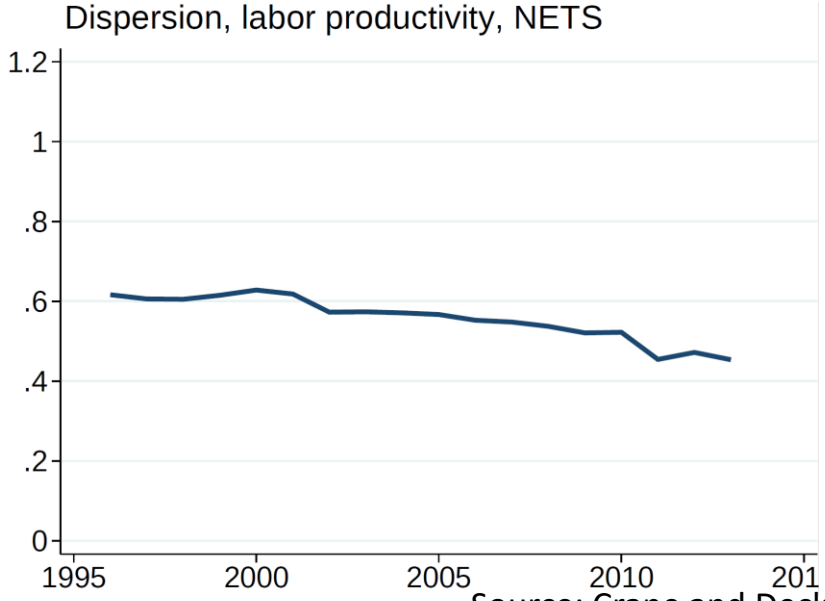
1. Local sales (and employment) concentration has trended down since 1990
   - The narrower the geographic division, the steeper the trend
2. Local concentration has fallen in industries accounting for ¾ of activity
3. “Top firm” greenfield expansion is a significant contributor to declining local concentration
4. Top firm greenfield expansion leads to lower concentration for at least 7 years

Sales data in NETS

- High imputation rates among large/multi-unit firms may affect concentration measures, which are heavily dependent on large firms
- What can we surmise about the imputation?
  - Empirically: Low within-industry dispersion of sales per worker in NETS vs. administrative data
  - Census data: high-productivity firm is 2.5x as productive as mean (1996)
  - NETS: 1.8x.



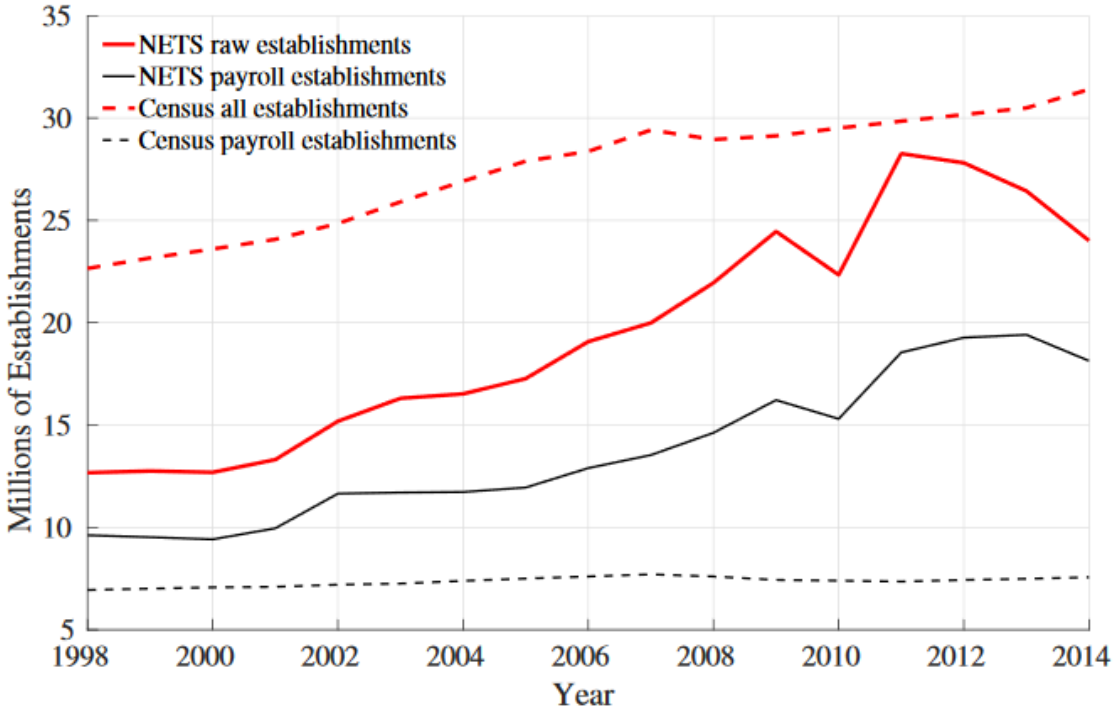
Source: Decker et al. (2019) Figure 3



Source: Crane and Decker (2019)

Do these problems affect the change over time in local vs. national concentration?

- Barnatchez et al.: apparent surge of spurious entry during 2000s likely reflecting expanded D&B scope
  - At the margin, mechanically reduces concentration
  - But we still see rising national concentration in NETS
  - Does interaction of local within-firm measurement error with national NETS coverage trends affect local vs. national concentration divergence and top firm dynamics?



Source: NETS database, County Business Patterns, Census Nonemployer Statistics.
Note: NETS sample restricted to CBP industry scope.