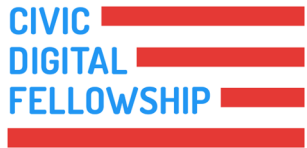


# IMPORT AND EXPORT PRICE INDEXES WITH ALTERNATIVE DATA SOURCES

International Price Program  
Sponsor: Dominic Smith (OPLC)



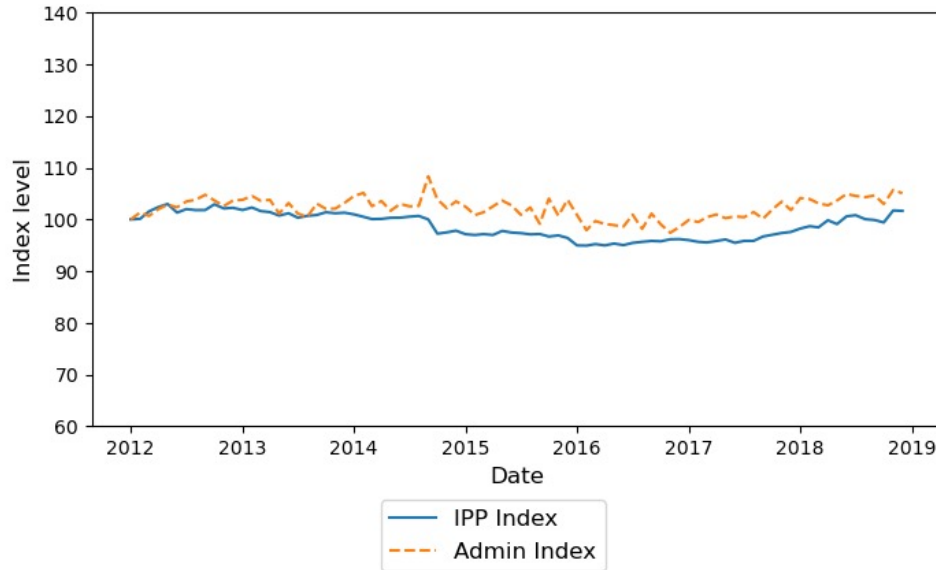
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University of Chicago  
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# IPP Alternative Data Project

**Goal:** Replace the current IPP indexes with alternative indexes where appropriate

- **IPP indexes:** Current import and export prices indexes calculated using surveyed price data
- **Admin indexes:** Alternative import and export indexes calculated using Customs administrative trade data

# IPP Alternative Data Project



- Admin indexes calculated for exports for all BEA end-use product areas
- Visually compare indexes to evaluate admin indexes for each category

# Why would these two indexes differ?

## 1. Sample differences

- Survey sample vs universe of transactions

## 2. Index formula differences

- Laspeyres vs superlative

## 3. Pricing differences

- Prices vs unit values

} Admin indexes better

# Task overview

Link export transactions in the IPP microdata and administrative trade data to assess how close unit values are to prices

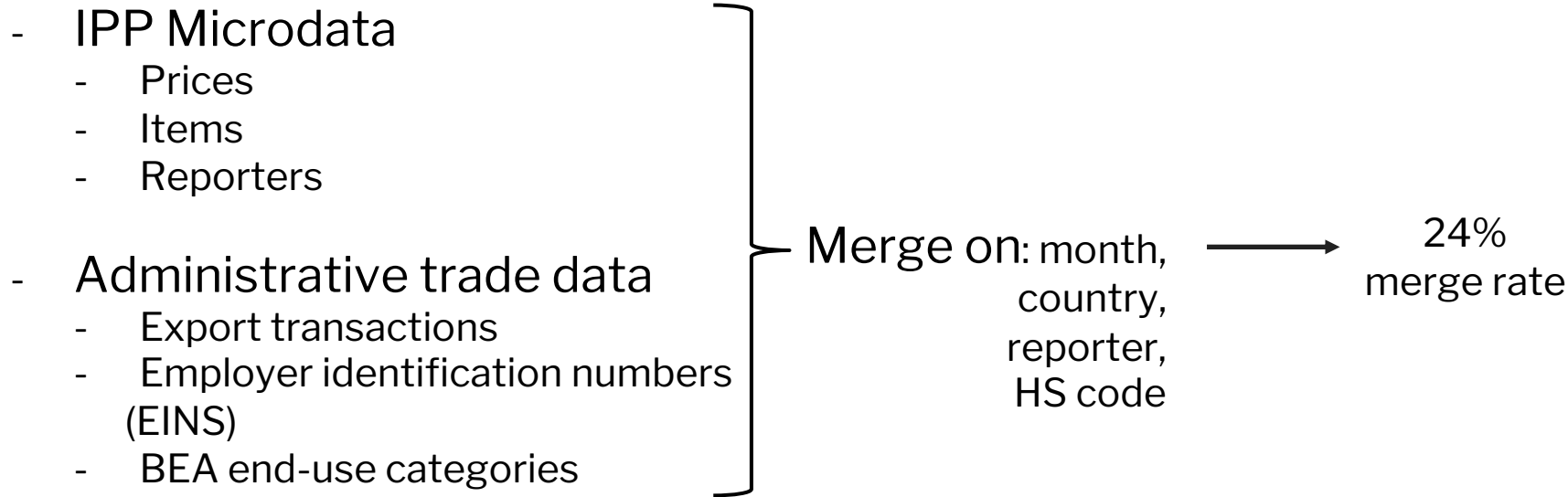
- If prices are close → formula and sampling differences
- If prices aren't close → unit value bias

**Results:** may need to change the index rating for 18/111 product areas

# Task details

- Theoretically, we should be able to find a match for all transactions in the IPP microdata
- In practice, matching not always going to be possible
- Still okay if the subset we can match is random

# Data sources



# How should we assess price similarity?

Percent difference in price:

- Pros: Direct comparison
- Cons: Discrepancies from inconsistent units

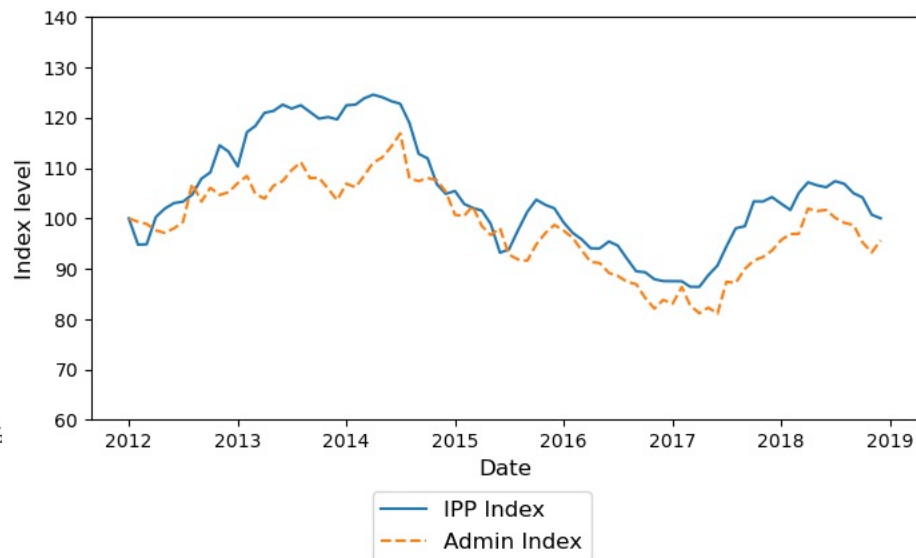
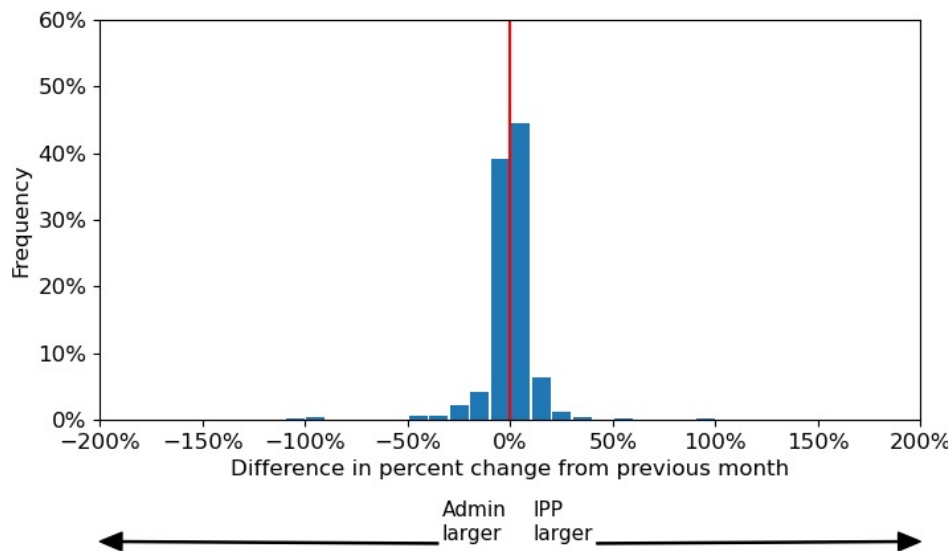
Difference in percent change in price:

- Pros: Takes care of discrepancies from inconsistent units
- Cons: Smaller sample size



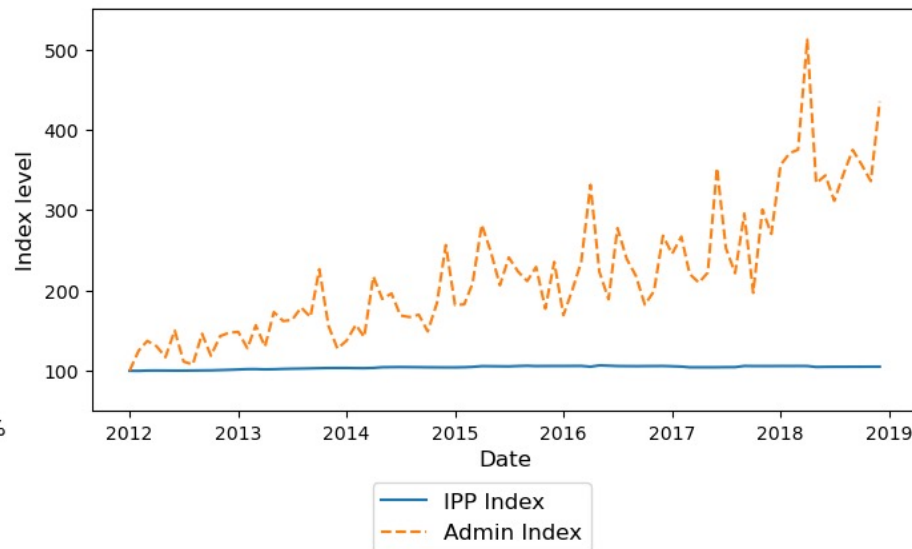
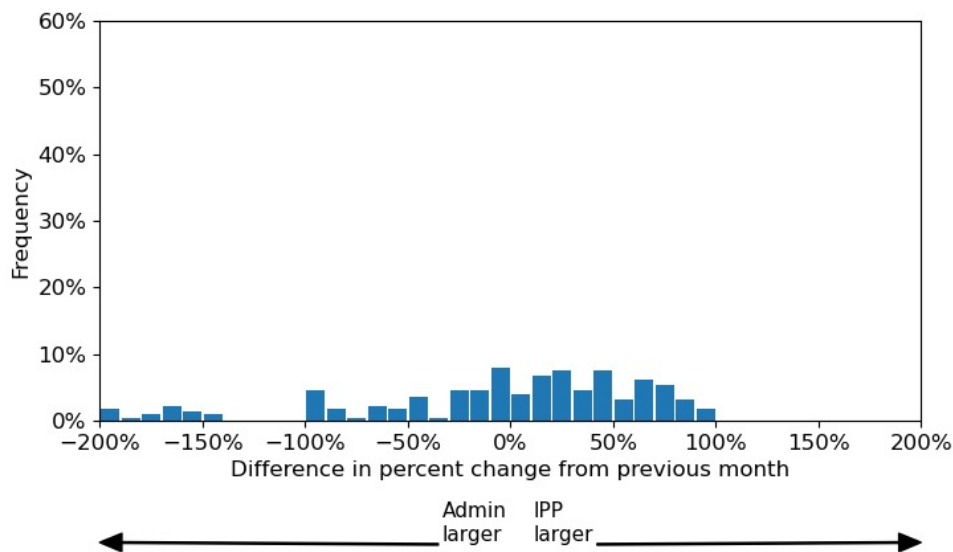
# Difference in percent change in price

For some product areas, both prices and the two indexes align closely



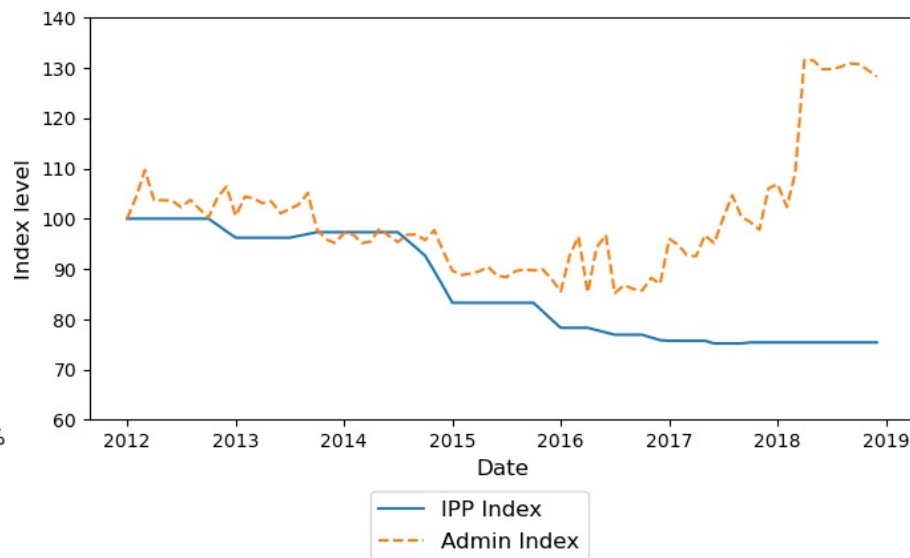
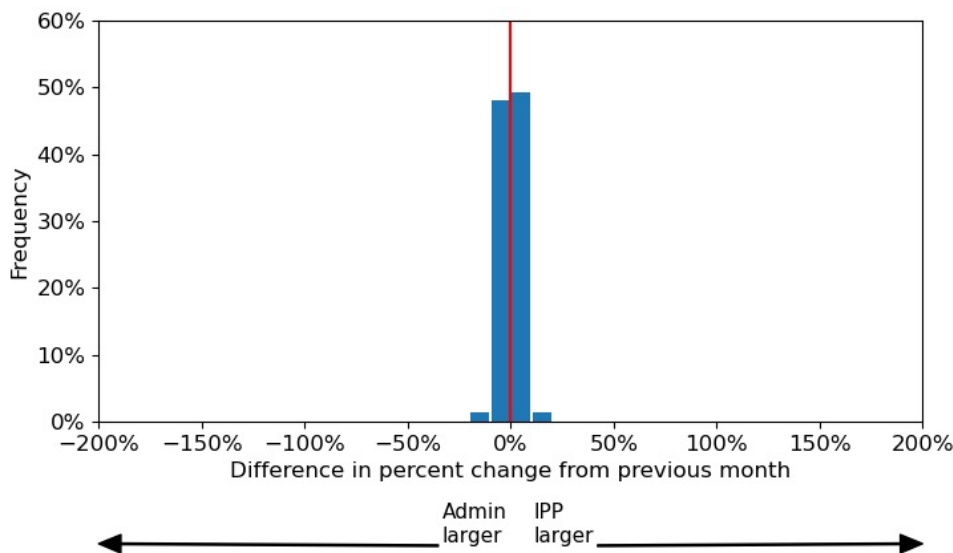
# Difference in percent change in price

For some product areas, both prices and the indexes differ widely



# Difference in percent change in price

For some product areas, the prices are similar but the indexes are quite different



# Takeaways

- 15/54 product areas rated by the IPP team as strong candidates might be weaker candidates for the admin index
  - Caveat: admin indexes still uses better sample and formula
- 3/57 product areas rated by the IPP team as weak candidates might be stronger candidates for the admin index