



KANSAS CITY, MO • AUGUST 1 – 5, 2015

Using Producer Price Index (PPI) Data for Contract Price Adjustments and more procurement uses...

Tuesday, August 4, 2015, 9:15AM – 10:15AM

Lana Conforti

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Economist for the Producer Price Index (PPI) Program
U.S. Bureau of Labor Statistics (**BOOTH #407**)

www.bls.gov/ppi



■ Overview of Data for Procurement Pros

Producer Price Index (PPI) and other inflation data

Definition, Coverage, & Types

■ Guidelines for Contract Price Adjustments

Choosing appropriate index data

Calculations

Specifying contract terms

Solutions for avoiding risk

■ Workshop / Question & Answer

I'll help sift through the data based on your questions

Bring on your ideas and dilemmas!



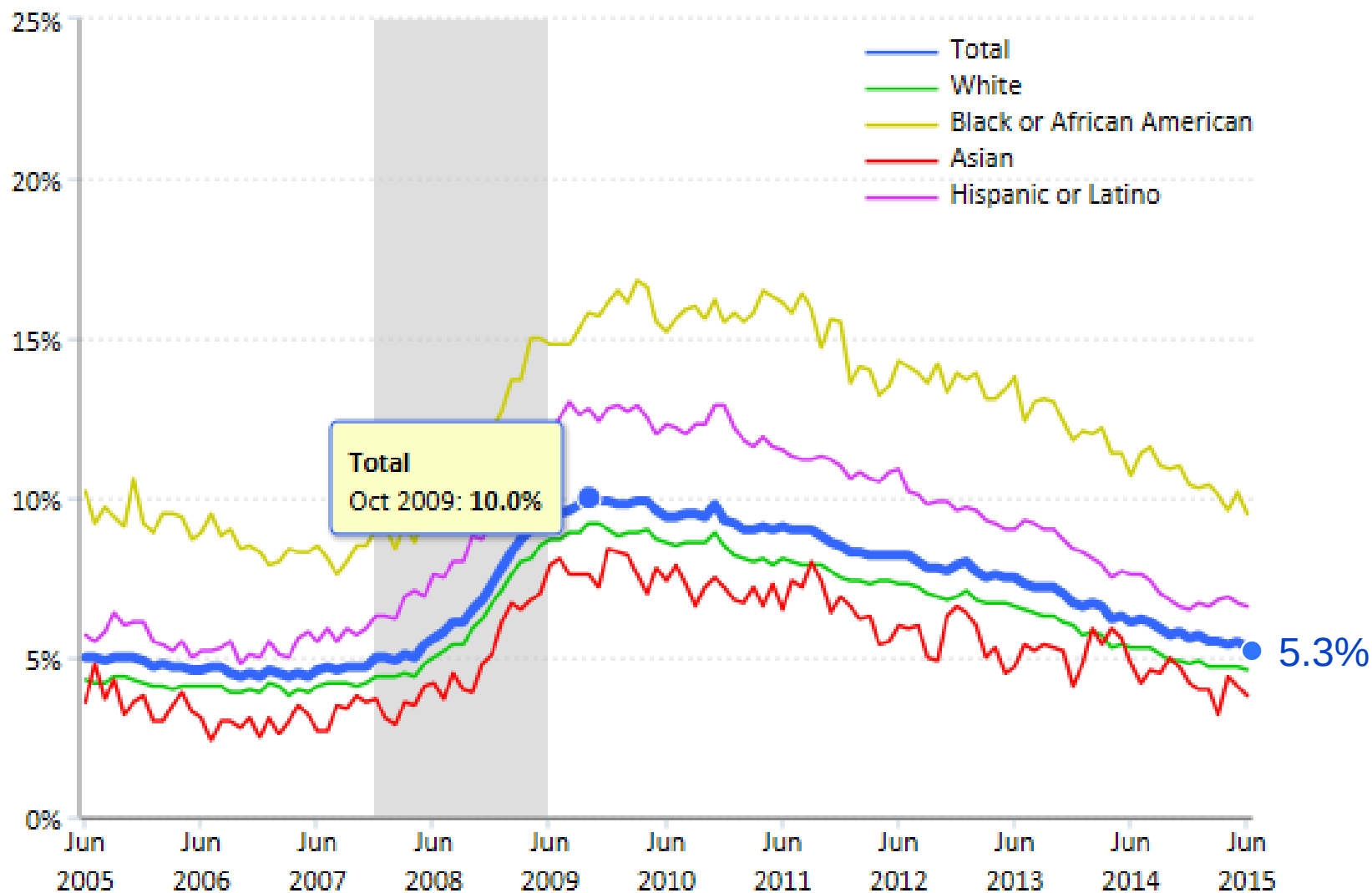
Disclaimer

The role of the BLS is to provide requested data and to explain their underlying methodology and limitations. The BLS does not encourage or discourage the use of price adjustment measures in purchase agreements, sales agreements, and contracts. The BLS does not directly assist in writing contracts, nor does it provide advice regarding disputes arising from contract interpretation. Because index methodology and publication conventions could be crucial in developing escalation clauses, this presentation is intended to alert users to potential problems arising in these areas.



Example of data available from the BLS:

Unemployment rates, seasonally adjusted, June 2005 to June 2015



Examples of BLS data in the news:



Inflation Is Low, but **US** Consumers Still Feel a Pinch

Wall Street Journal - Jul 12, 2015

Federal Reserve officials often note their concern about low U.S. inflation, which has been well below the central bank's target for three years. That lament might ...



Inflation? Real American wages went DOWN in June

CNBC - Jul 17, 2015

As the Federal Reserve looks for a clear-cut sign to rise rates, Friday's inflation report brought a little something to both sides of the debate: Signs of upward ...

Fed: behind the curve, or too trigger happy? Neither

In-Depth - Reuters - Jul 16, 2015



Inflation's Steady Tick Poses Headaches in Congress -...

Wall Street Journal - Jul 19, 2015

The U.S. government has an inflation challenge. Many familiar programs, from Social Security to income-tax thresholds, are indexed to inflation and rise ...

Inflation's Steady Tick Poses Headaches in Congress

Bayoubuzz - Jul 19, 2015

US producer price index rises slightly in June

Christian Science Monitor - Jul 15, 2015



The Labor Department said Wednesday that its producer price index increased 0.4 percent in June. Inflation remains tame as producer prices have fallen 0.7 percent over the past 12 months due to lower oil and gasoline costs.

[Producer prices beat expectations](#) Business Insider

[Producer Price Index Preview](#) Benzinga

Related

[Avian influenza »](#)



WSB Atlanta



Dispatch Ti...



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Christian S...



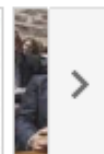
MarketWatch



Business In...



Transport T...



Ni

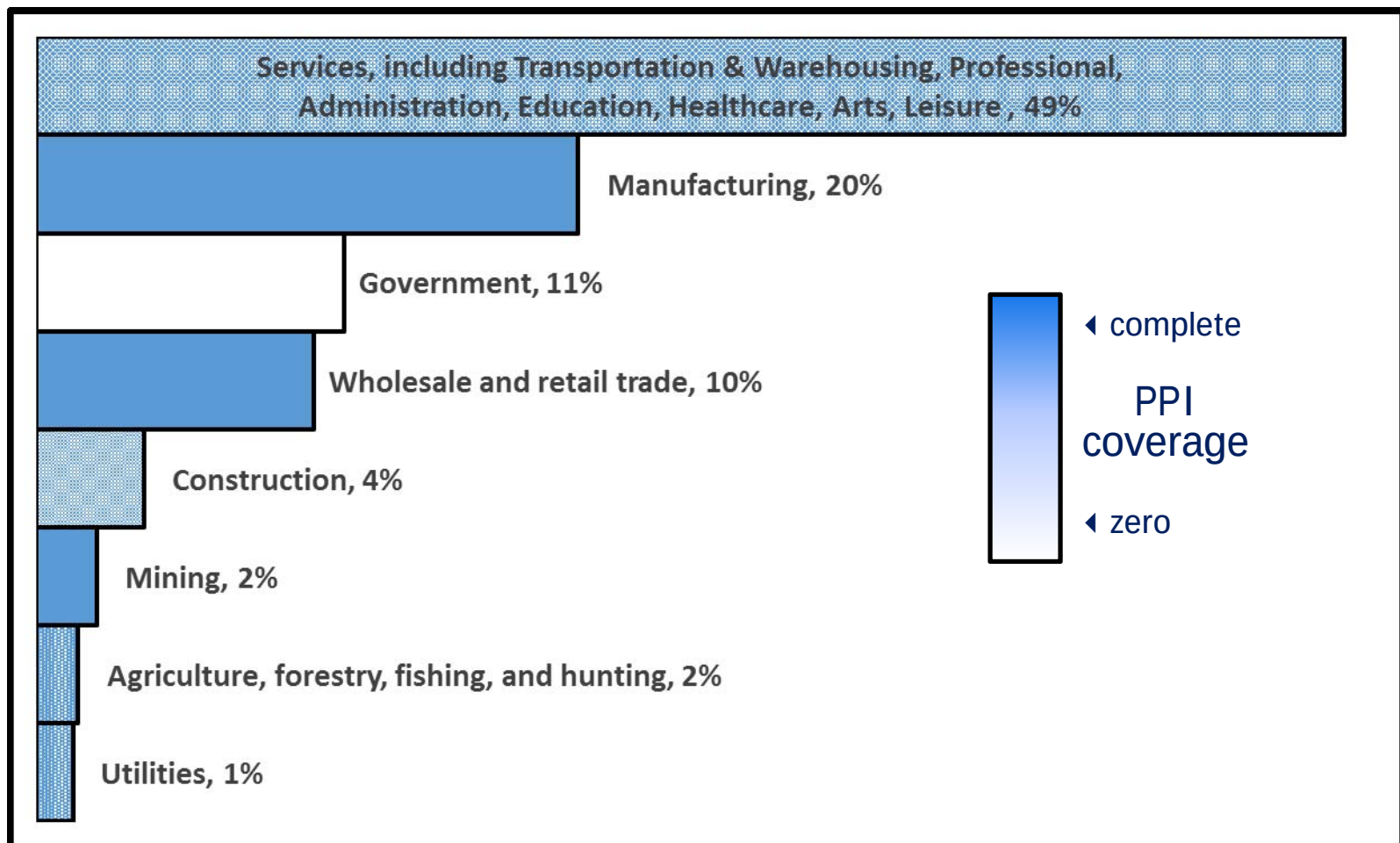
Producer Price Index

PPI data collected=
price received by seller

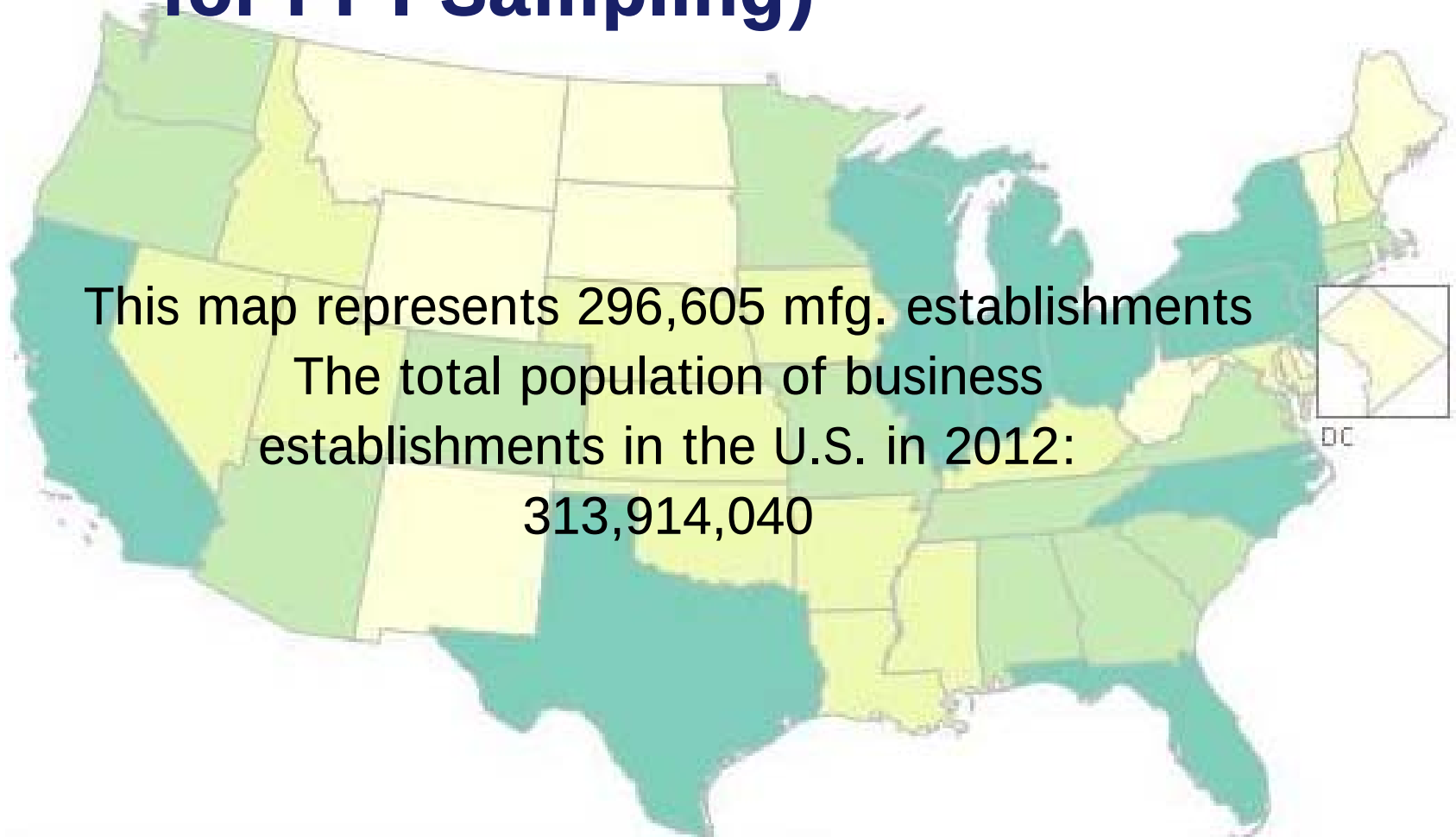
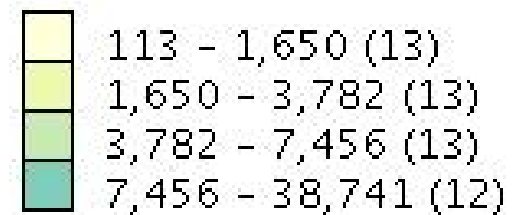


Prices received by U.S. producers for their output

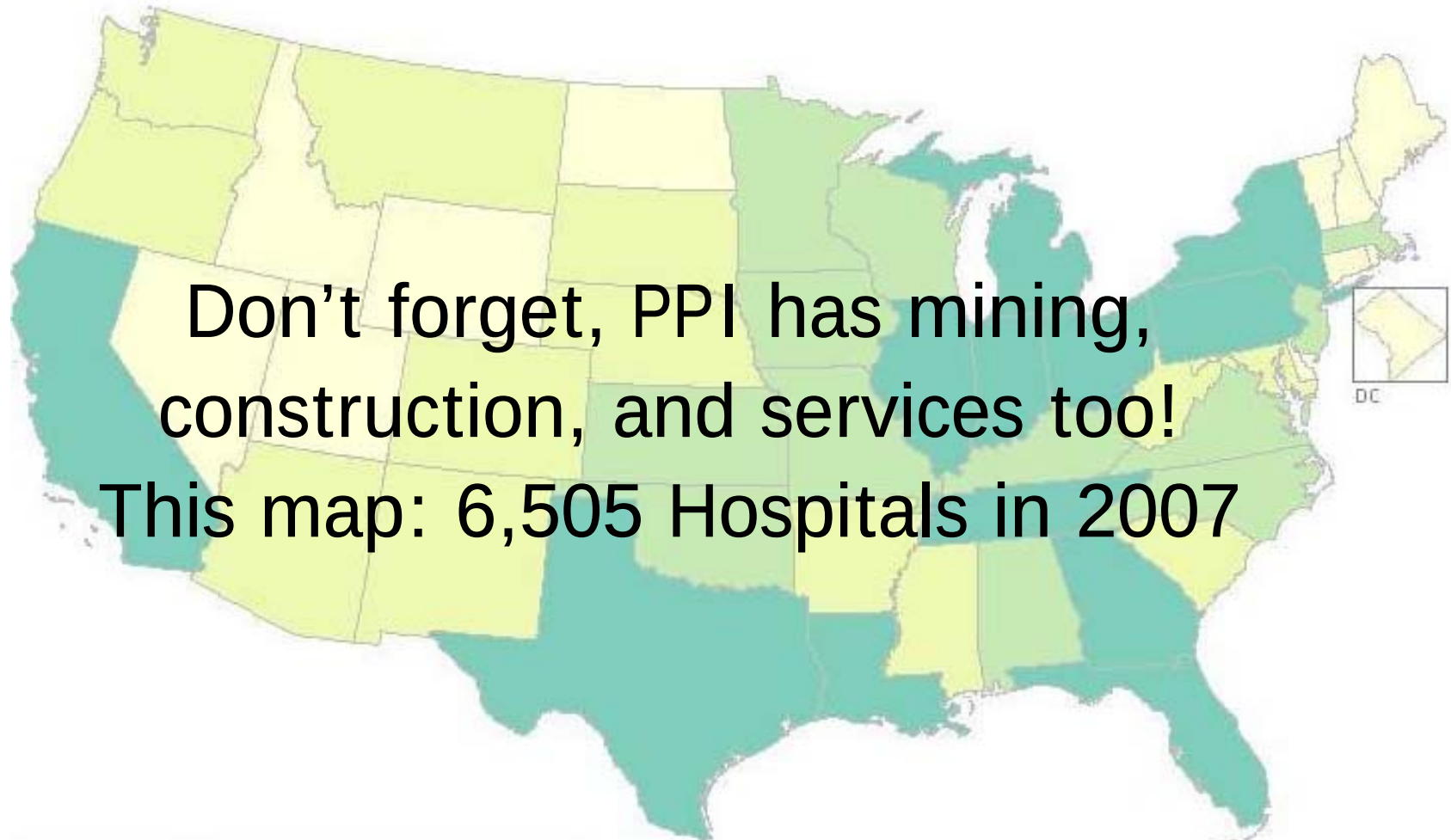
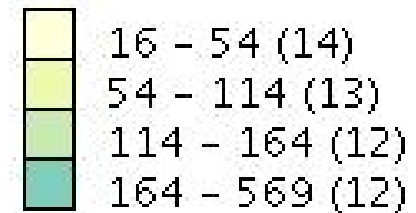
PPI Data Available / Coverage out of US GDP by Industry %



2012 U.S. Manufacturing Establishments (eligible for PPI Sampling)



2007 U.S. Hospitals (eligible for PPI Sampling)



Don't forget, PPI has mining,
construction, and services too!
This map: 6,505 Hospitals in 2007

PPI samples about 95,000 transaction prices monthly

FOR EXAMPLE:



Type of buyer : Domestic retailer

Product:

Sweater, Infant girls', cardigan,
10% wool, 20% polyester, 70% cotton,
Cable knit, crewneck, button closure,
Solid color, lace trim,
no pockets, tumble dry

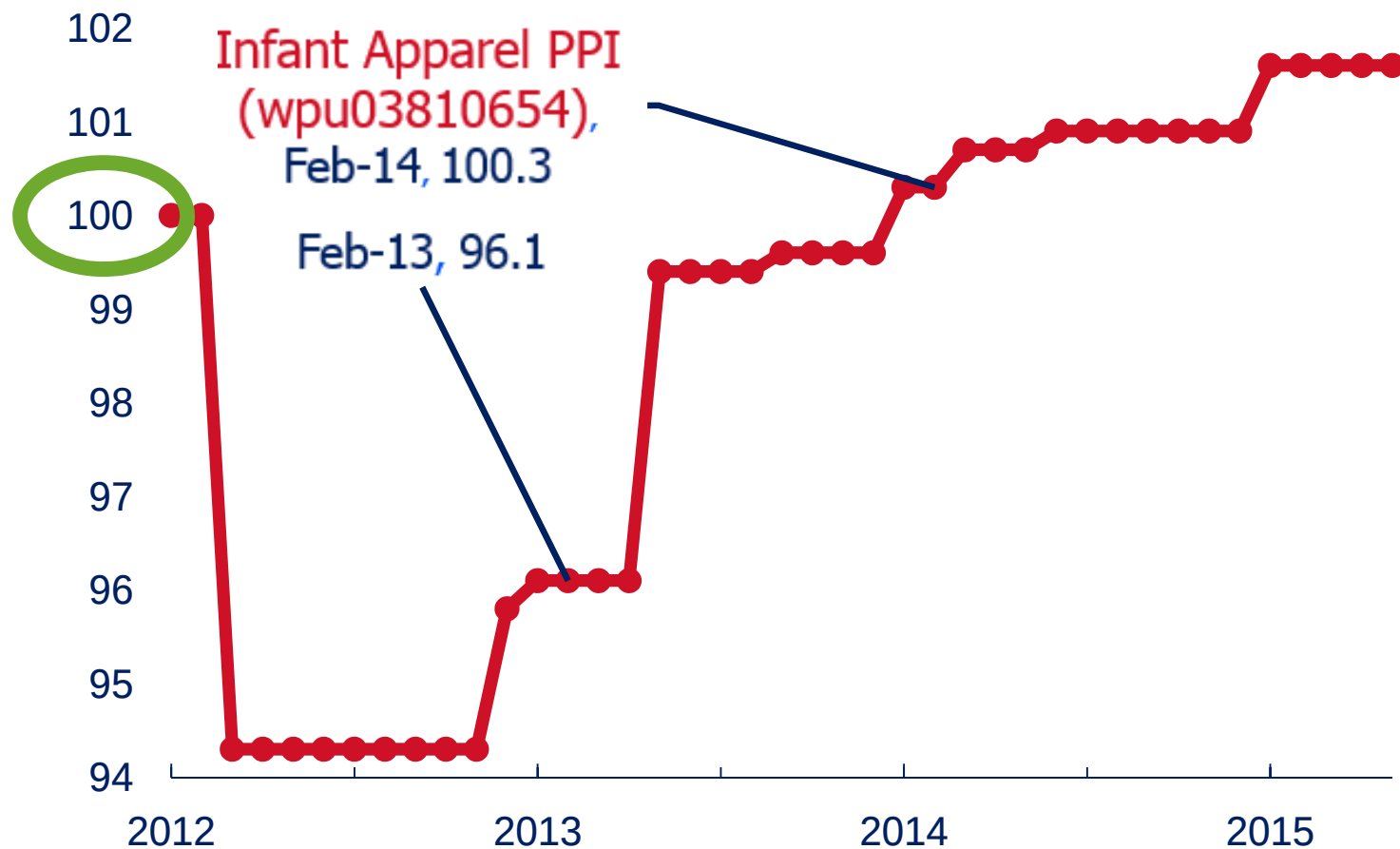
Pricing date:

Transaction terms:

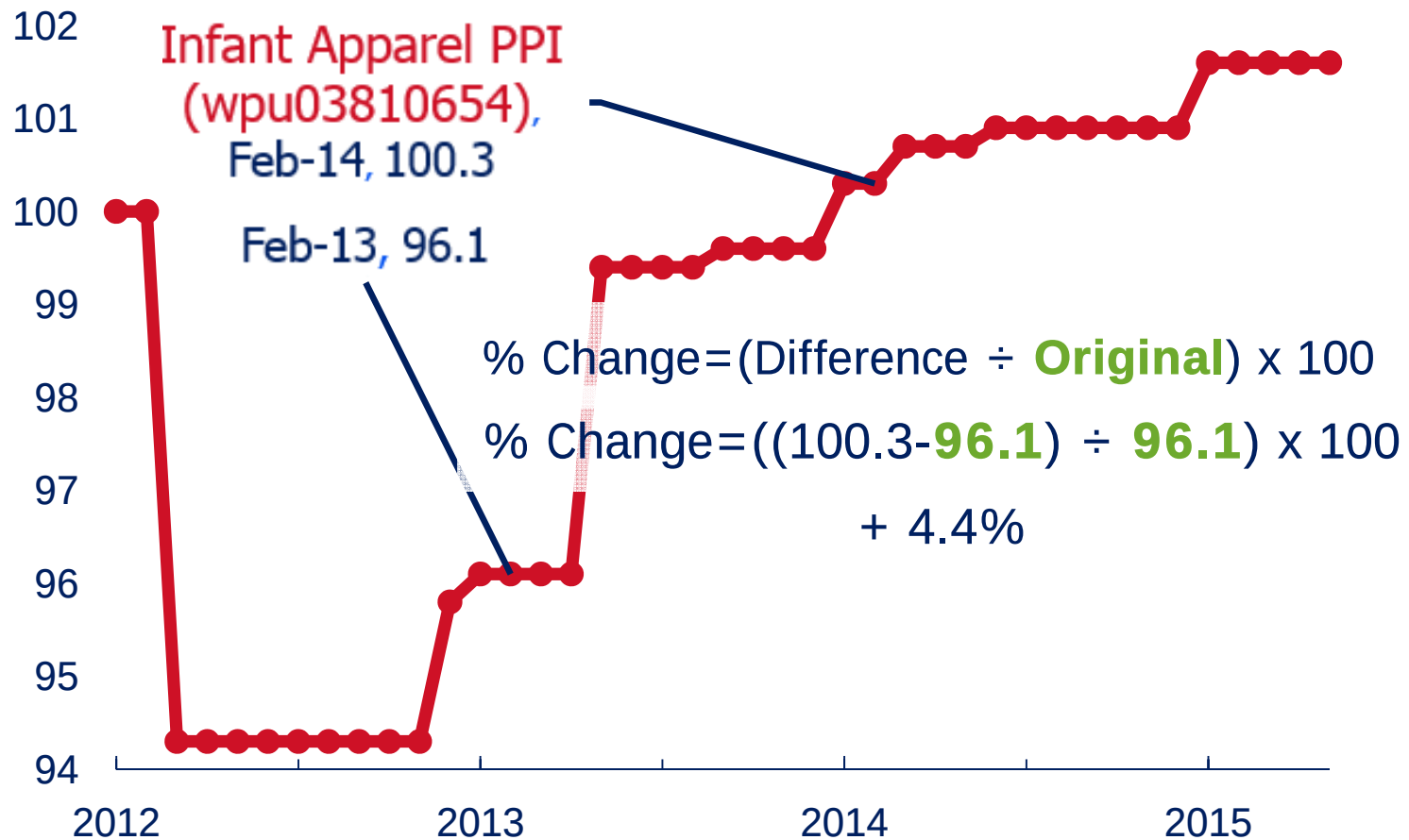


Weighted transaction prices form average price levels

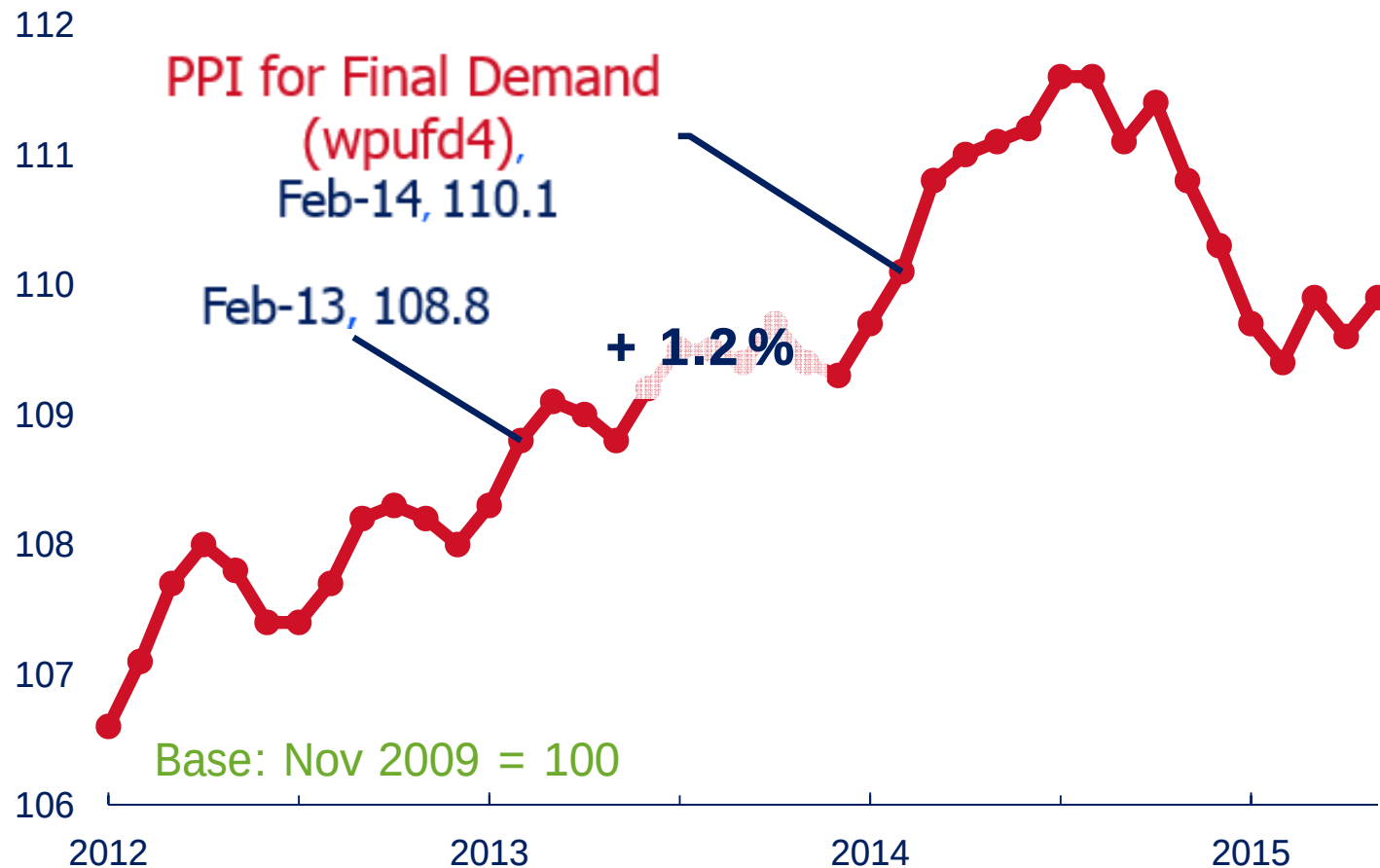
Price levels are indexed to a base of 100
e.g. 201112=100 means price level set to equal 100 in Dec. 2011



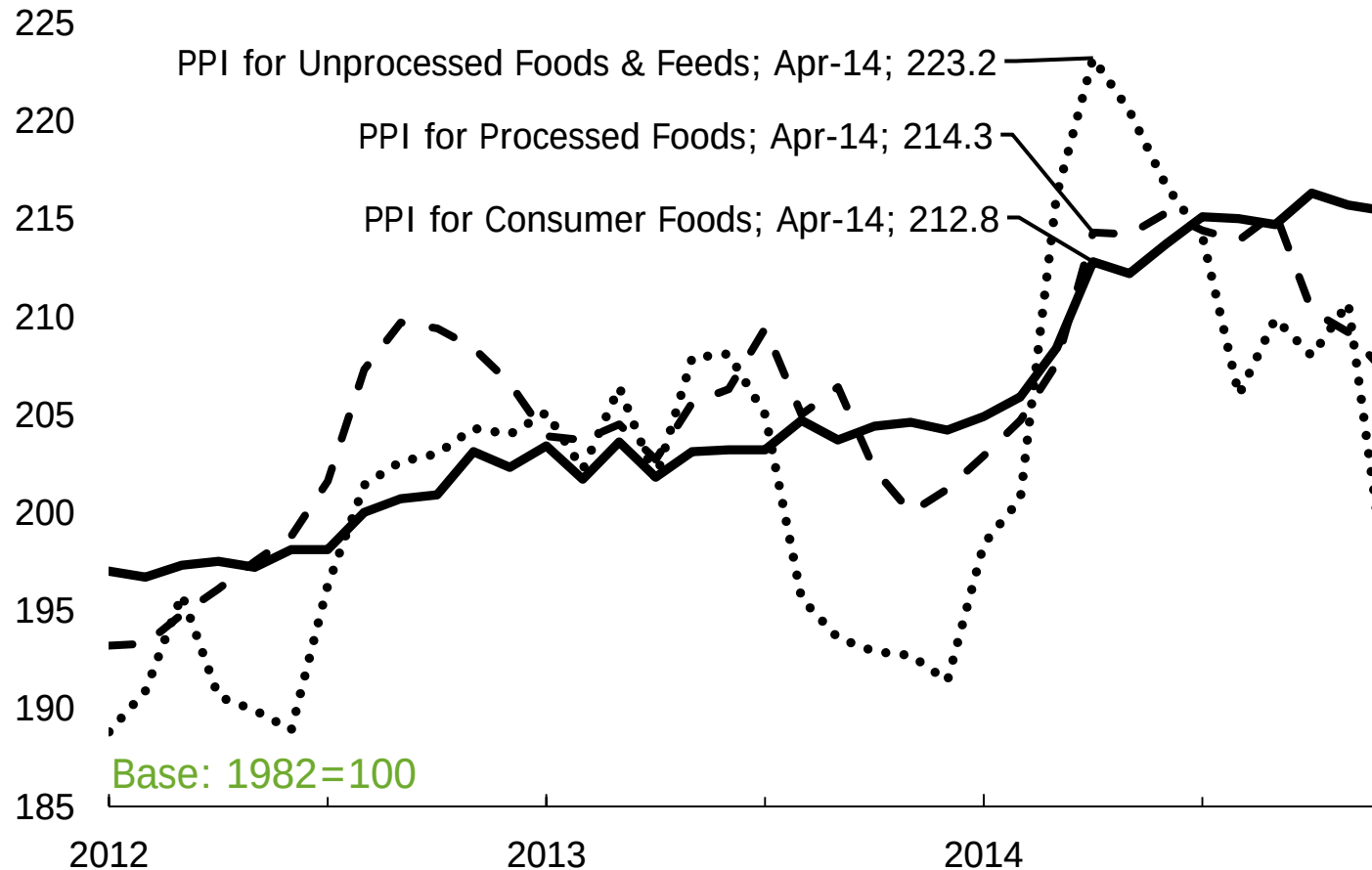
Interpret by relative price index levels



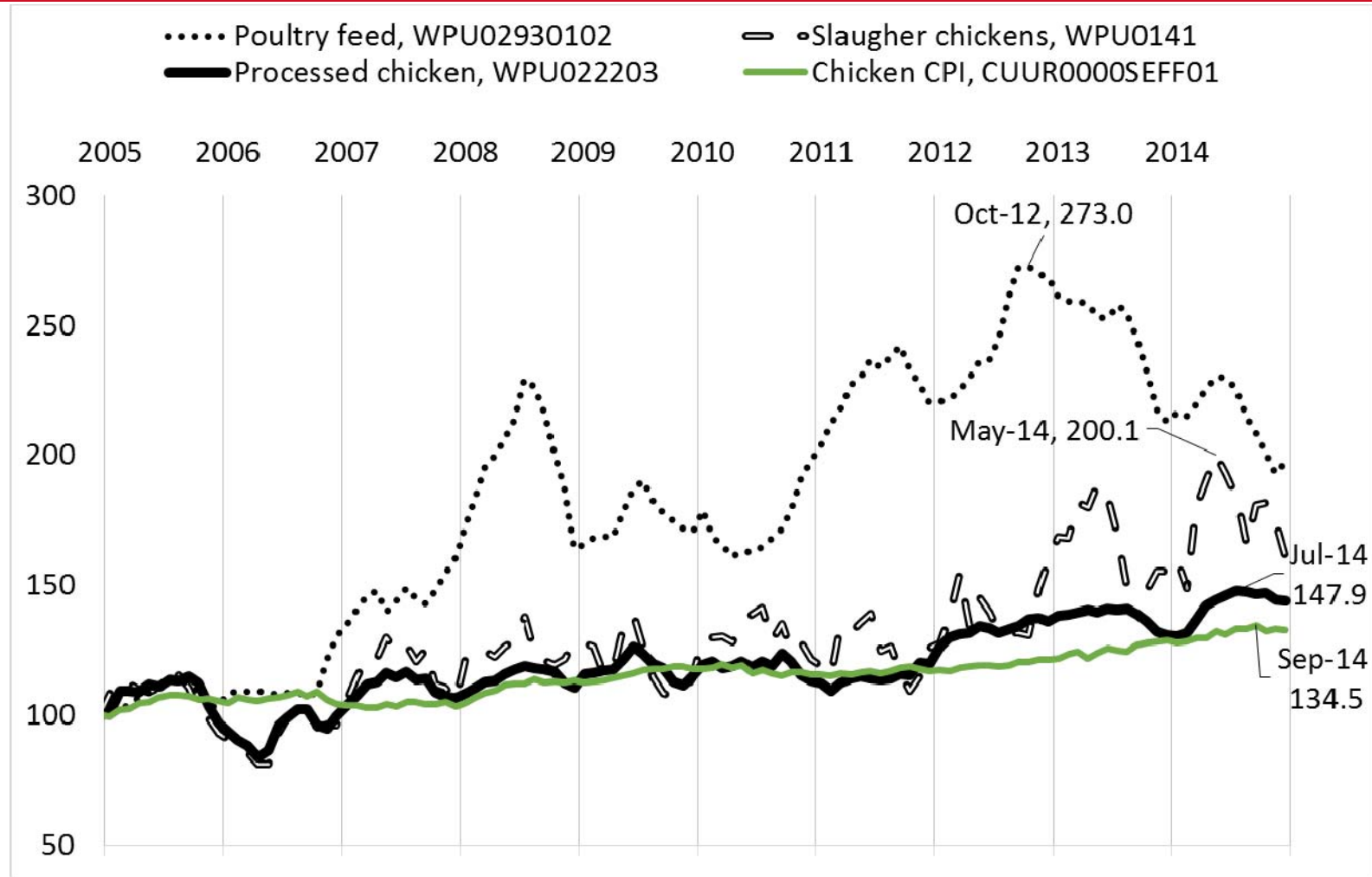
PPIs weighted to form aggregate (combo) indexes



Example of Economic Analysis using PPI FD-ID data

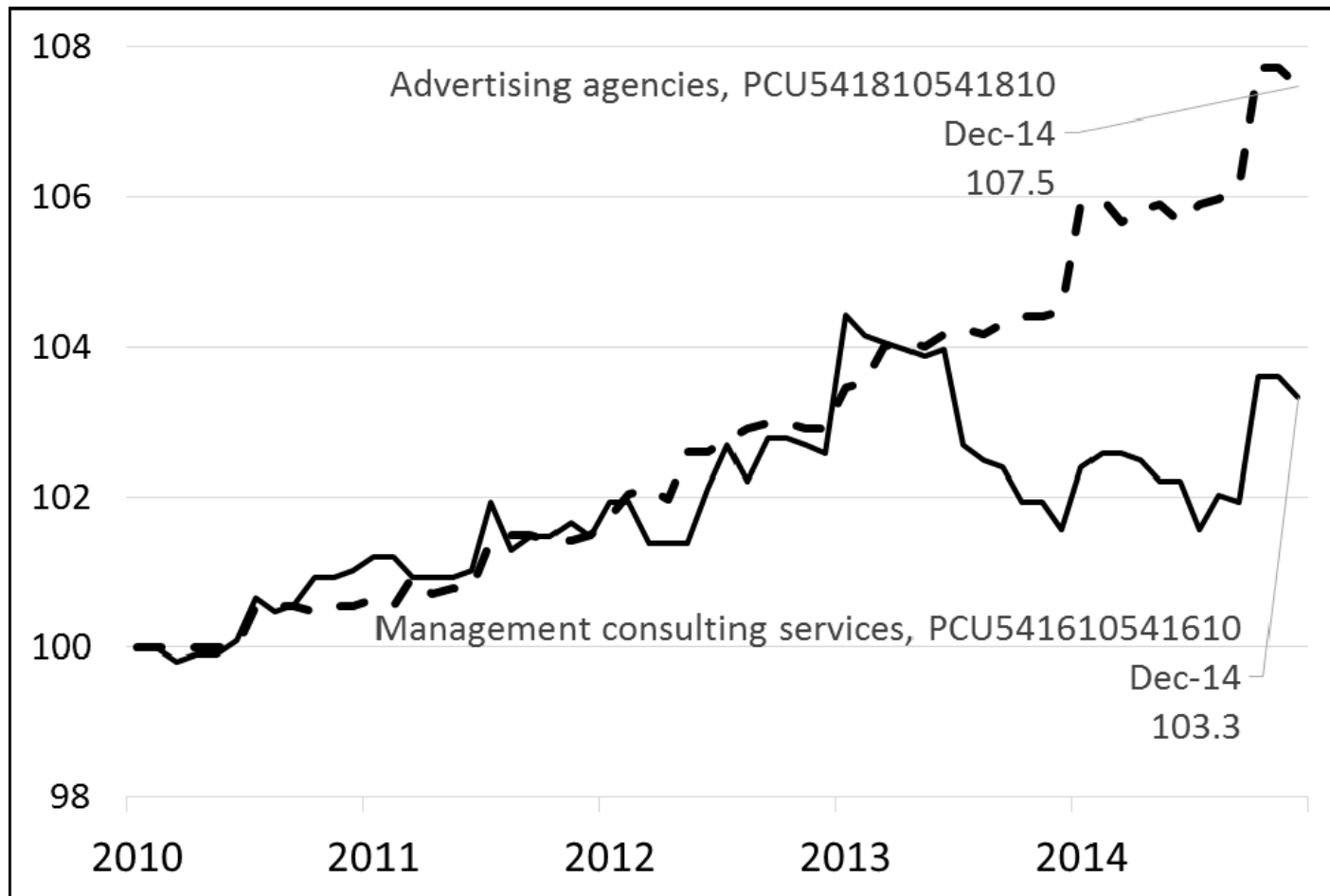


Example of Supply Chain Analysis using PPI Data



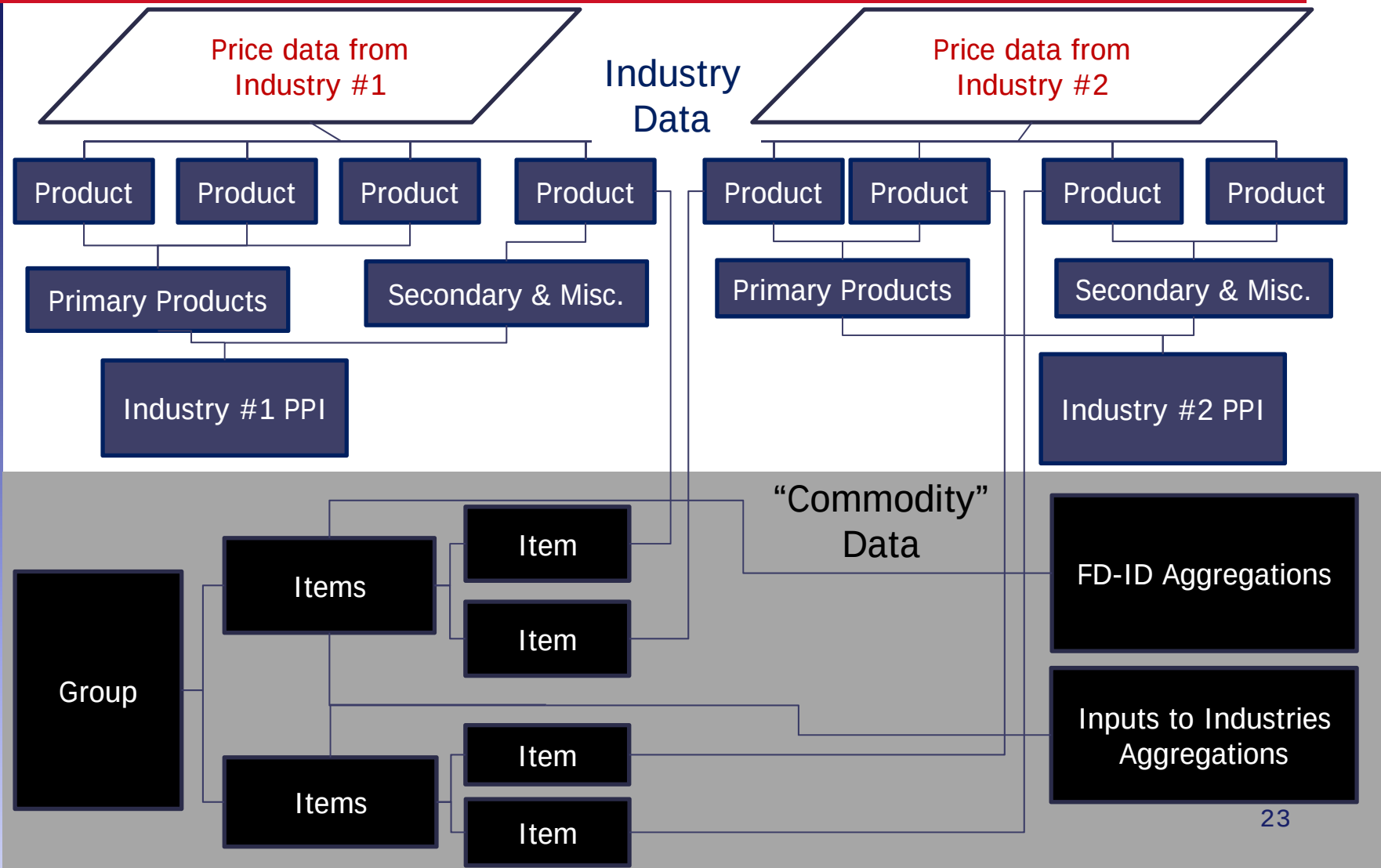
*Indexes rebased to December 2004 = 100

Example of Industry Analysis using PPI Data



*Indexes rebased to January 2010 = 100

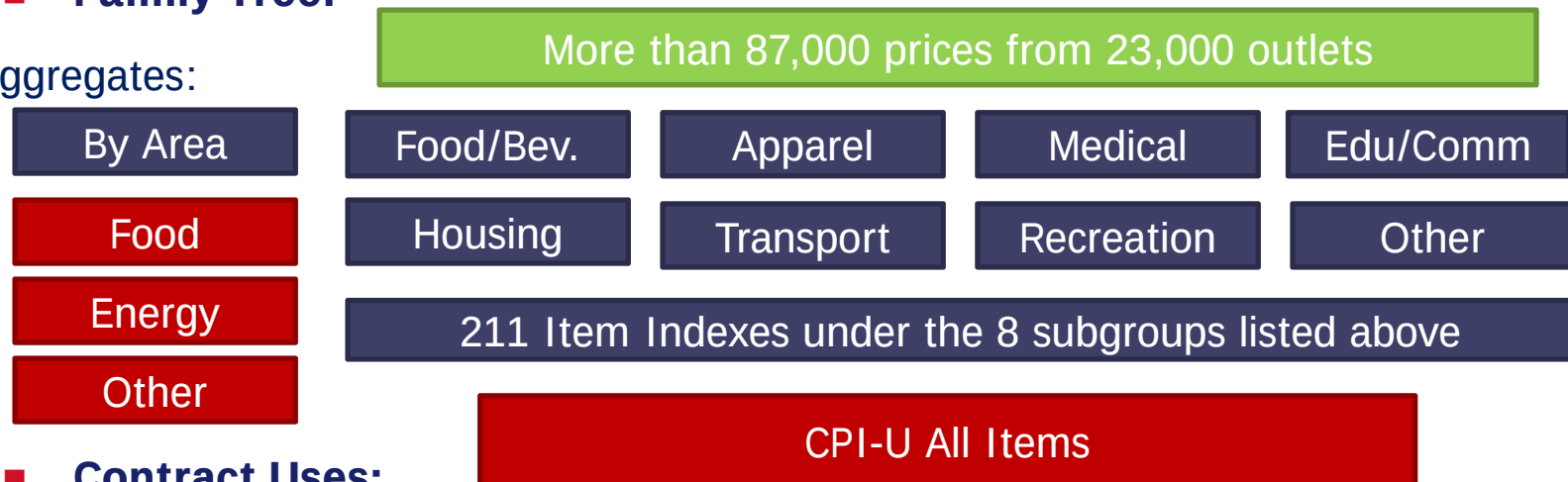
The PPI Family Tree



Consumer Price Index (CPI-U) for Contract Price Adjustment

- **Measures:** Average prices consumers/households pay for goods and services
- **Sample:** Collected by field economists visiting shopping outlets in 87 urban areas
- **Family Tree:**

Aggregates:



- **Contract Uses:**
 - ▶ Adjusting wage, rent, and other payments to account for changes in the cost of living
 - ▶ General measure of inflation (CPI-U, All Items)
 - ▶ Limited use for areas of non-coverage in the PPI (e.g. public transportation)
- **Limits:** Only goods and services bought by your average household. Relatively broad groupings of products and services.

Visit www.bls.gov/cpi; call 202-691-7000 or email cpi_info@bls.gov

Import/Export Price Index for Contract Price Adjustment

- **Measures:** Prices paid by U.S. purchasers to non-U.S. entities
- **Sample:** Reported by a sample of business establishments (similar to PPI)
- **Family Tree:**

Organizations:



- **Contract Uses:**
 - ▶ Imports in areas of less or non-coverage in the PPI (e.g. computers)
 - ▶ Analysis of competitiveness of imports to PPI for same products
- **Limits:** Little services data. Product groupings in some areas are broad. Data are revised.

Visit www.bls.gov/mxp; call 202-691-7101 or email mxpinfo@bls.gov

Employment Cost Index for Contract Price Adjustment

- **Measures:** Prices paid by U.S. purchasers to non-U.S. entities
- **Sample:** Reported by a sample of business establishments (similar to PPI)
- **Family Tree:**

Quarterly survey of over 10,000 establishments, over
46,000 occupational observations

Organizations:

All Civilian

Benefits

Wages and Salaries

Private Industry

9 Standard Occupation Classification (SOC)
Code Groups (e.g. Managers, sales, production)

State and Local Government

Bargaining
Status

Region

15 Industry sectors/sub-sectors

- **Contract Uses:**
 - ▶ Accounting for labor input costs
 - ▶ Labor intensive areas of PPI/CPI non-coverage
- **Limits:** Groupings are broad. Data is quarterly.

Visit www.bls.gov/ect and call 202-691-6199 or email ncsinfo@bls.gov



CONTRACT PRICE ADJUSTMENT SPECIFICATIONS AND CALCULATIONS

**BLS GUIDES AVAILABLE AT
WWW.BLS.GOV/BLS/ESCALATION.HTM**



Specifying Contract Terms

The base selling price for a unit of 10,000 type A widgets is set at \$768,450.00 as of December 2009, to remain in effect for 1 year. December 2009 is hereafter called the reference base period. The base selling price shall be adjusted on February 20 of each subsequent year, based upon the percent changes (whether up or down) in the index described below, between the reference base period and December of the most recent year. All calculations for the index shall be based upon the latest version of data published as of February 20 each year.

New price = Old price x (current index/base index)
= \$768,450.00 x (190.2/189.5)
= \$768,450.00 x 1.004
= \$771,523.80 (this is also a 0.4% increase, although we didn't explicitly calculate it)

Choose Indexes for Input Costs of the Contract

- **Choose an index** or indexes representing the costs for providing a particular product or service, *rather than* an index for the product itself.

e.g. If an apparel manufacturer were contracting for purchases with a producer of finished fabrics, it would be advisable to tie the escalation clause to a PPI for synthetic fibers rather than finished fabric.

- **Research Inputs:**

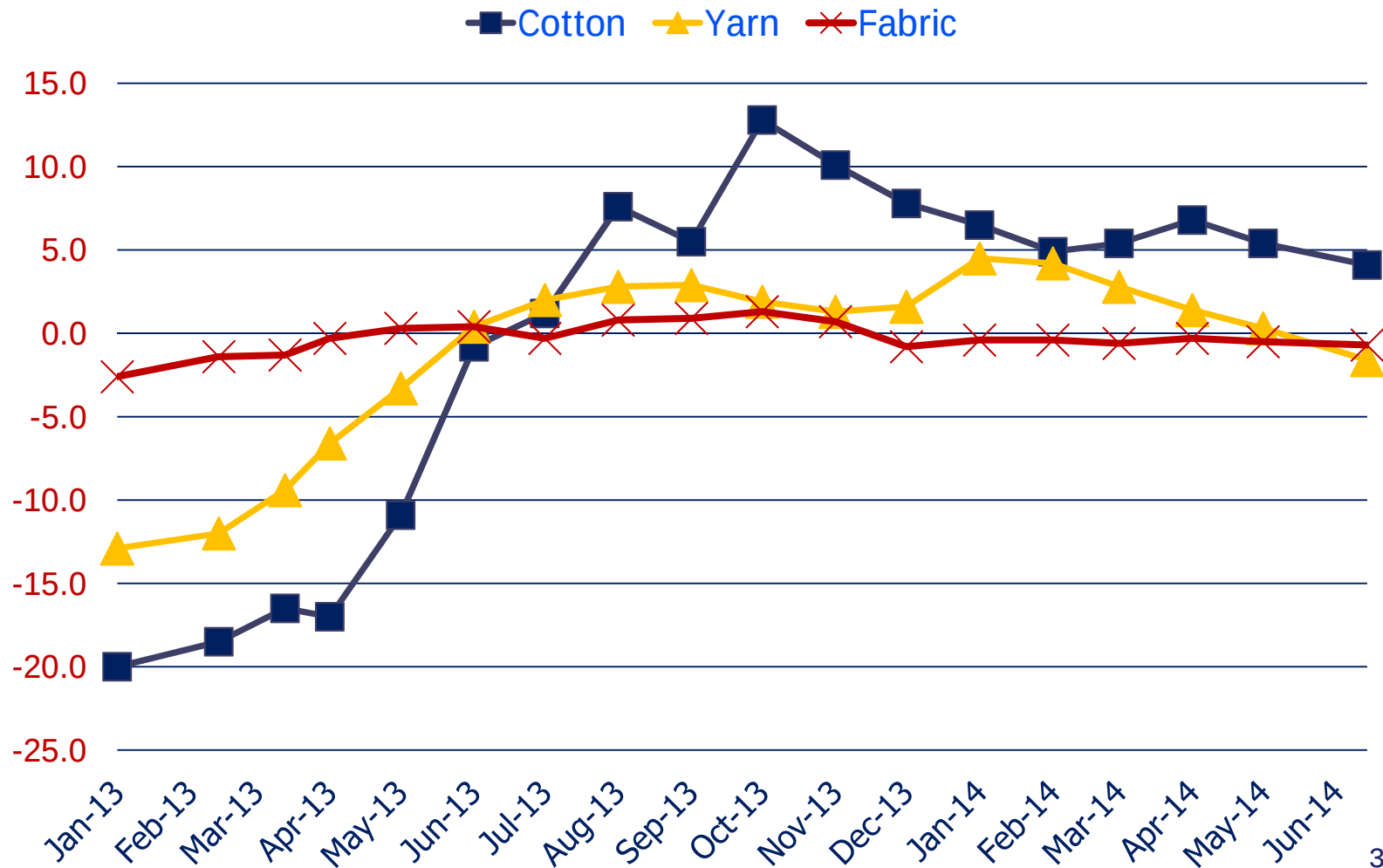
- ▶ Ask the supplier
- ▶ Look up industry input data from Census.gov
- ▶ Browse trade publications
- ▶ Web search



Evaluate Index Options

- Escalate by a single PPI or several data series, including those from other data programs, to reflect changes in costs of a variety of inputs.
- The Final Demand-Intermediate Demand (FD-ID) indexes re-group items by class of buyer and degree of fabrication, providing an alternative to compiling ones' own index.
e.g. Capital equipment, Materials for food manufacturing, Intermediate energy
- Browse available product-line and aggregate index data to find ones that suit you
e.g. Industry v. Commodity PPIs? PPI or CPI?
- Evaluate historical index data for volatility and reliability to reduce risk

Risk Assessment Example with 12-Mo. % Changes



PPIs in Contract Escalation

- A specific index should be cited by referring to “the **Producer Price Index for**” followed by the exact title and code.

Industry Data Example

Industry: Scheduled passenger air transportation

Product: Domestic

***Series ID:** PCU4811114811111

Commodity Data Example

Group: Fuels

Item: Gasoline

***Series ID:** WPU0571

*An explanation of Series ID codes is available in the Technical Note of the PPI Detailed Report or through the online database

- For the most up-to-date data, including revisions, access the data at www.bls.gov/ppi/getdata.htm

Composite Calculation: Using Multiple Indexes for Price Adjustment

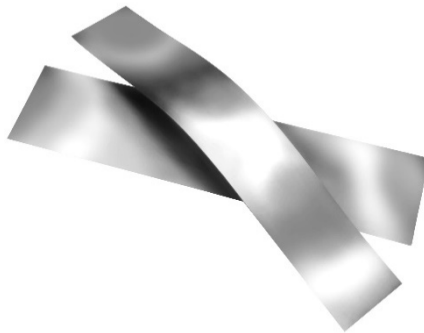
	Labor	Materials	Fuels	Composite
Base price = \$768,450	40%	40%	20%	100%
Current period series value	110.0	190.2	259.2	-
÷ by base period series value	107.0	189.5	205.1	-
equals:	1.028	1.004	1.264	-
x by 100 to yield re-based current series value	102.8	100.4	126.4	Subtract 100 & these are % changes!
x by assigned weight	41.12	40.16	25.28	↓
equals:	-	-	-	106.6
x by original base price	-	-	-	81,916,770
÷ by 100 to yield adjusted price				\$819,618

PPI ESCALATION PITFALLS TO AVOID

- Using seasonally adjusted indexes - generally NOT appropriate in escalation clauses
 - ▶ Buyers and sellers are facing actual prices
 - ▶ Most escalations are done on an annual basis
 - ▶ Seasonally adjusted data is subject to multiple revisions
- Using trade margin (retail or wholesale) indexes in place of product indexes (see www.bls.gov/ppi/ppifocus.htm)
 - ▶ e.g. A PPI for electronics stores is not a substitute for a computers PPI

PPI ESCALATION PITFALLS TO AVOID

- Using the PPI for All Commodities or Industrial Commodities
 - ▶ These have inherent issues of double-counting
 - ▶ FD-ID indexes replaced these for overall inflation measures



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SOLUTIONS TO AVOID CONTRACTING RISKS USING PPIs

Pitfalls	Solutions
Not accounting for revisions and errors	• Wait for revised data before escalating • Recalculate upon the release of revision • Only readjust if the percentage change is a certain amount different • Do nothing (If you always escalate from the base, you'll make up for it next adjustment)
Not accounting for missing or discontinued data	• Allow for the use of the next higher aggregate index (if it makes sense) • Allow a proxy index • Replace the index with its re-code • Compare the deleted code with new indexes available
Not keeping in touch with PPI	• Sign up for PPI Notices (www.bls.gov/ppi/update.htm) • Try retrieving your index a couple times a year; if it becomes unavailable, check recent PPI Detailed Reports for resampling (www.bls.gov/ppi/ppi_dr.htm)

Get Data Step 1: Select Program at data.bls.gov

The screenshot shows a web browser window with the address bar displaying data.bls.gov. The website header includes the United States Department of Labor and Bureau of Labor Statistics logos, along with navigation links like 'A to Z Index', 'FAQs', 'About BLS', 'Contact Us', and 'Subscribe to E-mail Updates'. A search bar labeled 'Search BLS.gov' is also present. The main navigation menu features 'Home', 'Subjects', 'Data Tools', 'Publications', 'Economic Releases', 'Students', and 'Beta'. The 'Subjects' menu is expanded, showing three columns of data categories: 'INFLATION & PRICES', 'UNEMPLOYMENT', and 'PRODUCTIVITY'. The 'Producer Price Indexes' link under 'INFLATION & PRICES' is highlighted with a yellow box. Other visible links include 'Consumer Price Index', 'Import/Export Price Indexes', 'Employment Cost Index', 'Contract Escalation', 'Price Index Research', 'Inflation & Prices Overview', 'PAY & BENEFITS', 'Employment Costs', 'National Unemployment Rate', 'State & Local Unemployment Rates', 'Mass Layoffs', 'Unemployment Research', 'Unemployment Overview', 'EMPLOYMENT', 'National Employment', 'State & Local Employment', 'State & County Employment', 'Labor Productivity & Costs', 'Multifactor Productivity', 'Productivity Research', 'Productivity Overview', 'INTERNATIONAL', 'International Labor Comparisons', 'International Technical Cooperation', 'Import/Export Price Indexes', and 'International Overview'. A 'PRINT' button and social media icons are visible on the right side of the page.

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Home Subjects Data Tools Publications Economic Releases Students Beta

INFLATION & PRICES »
Consumer Price Index
Producer Price Indexes
Import/Export Price Indexes
Employment Cost Index
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Price Index Research
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National Unemployment Rate
State & Local Unemployment Rates
Mass Layoffs
Unemployment Research
Unemployment Overview

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State & County Employment

PRODUCTIVITY »
Labor Productivity & Costs
Multifactor Productivity
Productivity Research
Productivity Overview

INTERNATIONAL »
International Labor Comparisons
International Technical Cooperation
Import/Export Price Indexes
International Overview

PRINT: [icon]
f t in

Get Data Step 2: Select Database from Program Menu



The screenshot shows the Bureau of Labor Statistics (BLS) website. The browser address bar displays <http://www.bls.gov/ppi/>. The page title is "Producer Price Index (PPI)". The header includes the "UNITED STATES DEPARTMENT OF LABOR" and "BUREAU OF LABOR STATISTICS" logos, along with navigation links like "A to Z Index", "FAQs", "About BLS", "Contact Us", "Subscribe to E-mail Updates", "Follow Us", "What's New", and "Release Calendar". A search bar labeled "Search BLS.gov" is also present.

The main navigation menu includes: Home, Subjects, Data Tools, Publications, Economic Releases, Students, and Beta.

Producer Price Indexes

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BROWSE PPI

- PPI HOME
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The **Producer Price Index (PPI)** program measures the average change over time in the selling prices received by domestic producers for their output. The prices included in the PPI are from the first commercial transaction for many products and some services.

PPI Transitions from Stage-of-Processing to Final Demand-Intermediate Demand Aggregation System

Effective with the January 2014 Producer Price Index (PPI) data release in February 2014, BLS transitioned from the Stage of Processing (SOP) to the Final Demand-Intermediate Demand (FD-ID) aggregation system. The FD-ID system more than doubles PPI coverage of the United States economy by supplementing existing goods coverage with services, government purchases, exports, and construction. [More information...](#)

LATEST NUMBERS

FINAL DEMAND

SA
+0.4%(p) in J 2015

NSA
+0.5%(p) in J 2015

NSA
-0.7%(p) since 2014

Get Data Step 3: Follow Data Tool Instructions

■ All programs:



- ▶ Follow all steps on one screen (Requires JAVA® software and pop-ups)



- ▶ Each one-screen step on individual screens without the need for pop-ups (TIP: Hold Ctrl on your keyboard for multiple selections)

Producer Price Index Commodity Data

1 Select a Group

2 Select one

00 All commodities	00000000 All
01 Farm products	01- Farm prod
02 Processed foods and feeds	011 Fruits & n
03 Textile products and apparel	0111 Fresh fru
04 Hides, skins, leather, and related products	011101 Citrus
05 Fuels and related products and power	01110101 Gra
06 Chemicals and allied products	01110104 Ler
07 Rubber and plastic products	01110105 Val
08 Lumber and wood products	01110106 Na
09 Pulp, paper, and allied products	01110108 Tar
10 Metals and metal products	01110109 Tar

3 Select Seasonal Adjustment

☒ Seasonally Adjusted
☒ Not Seasonally Adjusted

4 Your Selection: (0 series selected) N

Producer Price Index Commodity Data -- Group (Screen 2 of 4)

Your query has been narrowed to **4334** series.

Choose Group:

00 All commodities
01 Farm products
02 Processed foods and feeds
03 Textile products and apparel
04 Hides, skins, leather, and related products
05 Fuels and related products and power

Data and Export Options

Default View:

Series Id: WPUFD4
Not Seasonally Adjusted
Group: Final demand
Item: Final demand
Base Date: 200911

Download:  [xlsx](#)

Year	Jan	Feb	Mar	Apr
2009				
2010	101.0	100.9	101.2	101.5
2011	103.4	104.2	105.2	105.9
2012	106.6	107.1	107.7	108.0
2013	108.3	108.8	109.1	109.0
2014	109.7	110.1	110.8	111.0
2015	109.7	109.5	109.9(P)	109.6(P)

12-Month Percent Change

Series Id: WPUFD4
Not Seasonally Adjusted
Group: Final demand
Item: Final demand
Base Date: 200911

New View:

Download:  [xlsx](#)

Series Id	Year	Period	Value
WPUFD4	2010	M12	2.8
WPUFD4	2011	M12	3.2
WPUFD4	2012	M12	1.9
WPUFD4	2013	M12	1.2
WPUFD4	2014	M12	0.9

Modify by clicking: [More Formatting Options](#) ➔

Change Options:

Select view of the data
☐ Table Format
☒ Column Format
☐ Multi-series table

Select the time frame for your data
☐ All years
☒ Specify year range:
 From: To:

☐ All Time Periods
☒ Select one time period:

July
 August
 September
 October
 November
 December

☐ Original Data Value
☐ 1-Month Percent Change
☐ 3-Month Percent Change
☒ 12-Month Percent Change

Output Type: (select one)	Graphs	Annual Averages
☒ HTML table OR ☐ Text comma delimited	☐ include graphs	☐ include annual averages

More tips at www.bls.gov/help

Workshop



www.bls.gov

Contact Information

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202-691-7705 and ppi-info@bls.gov

Economist for the Producer Price Index (PPI)

U.S. Bureau of Labor Statistics

(BOOTH #407)

www.bls.gov/ppi



www.bls.gov

Supplemental Slides



www.bls.gov

BLS Data Procurement Uses

- Contract Price Adjustment: protects contracting parties from changes in input costs
- Administrative: interpreting contracts & maintaining cooperative relationships
- Sourcing: market research, competitive negotiations, preparing contract terms, analyzing economic conditions, mitigating risk, drafting contracts
- Supply Management: LIFO inventory
- Strategic Planning: forecasting, analyzing economic trends

PPI data best covers the supply chain, but other BLS data adds depth

- **Price Inflation Data for Contract Price Adjustment Differences:** www.bls.gov/cex/oplc_program_comparisons.htm
 - ▶ Producer Price Index – Prices received by domestic producers for goods and services
 - ▶ Consumer Price Index– Prices paid by consumers/households for goods and services
 - ▶ Import Price Index– Prices paid by purchasers to non-U.S. entities
- **Wage Data for Contracts:** www.bls.gov/ncs/ect/escalator.htm
 - Employment Cost Index– Costs to employers of for employee compensation
- **Wage Data for Analysis:** www.bls.gov/bls/wages.htm
- **“At a Glance” Summaries for Market Analysis**
 - ▶ By Industry (www.bls.gov/iaq)
 - ▶ By Areas of the U.S. (www.bls.gov/eag)
 - ▶ The U.S. Economy (www.bls.gov/eag/eag.us.htm)