

David S. Gibson

# Restating Earnings in Common-Year Terms

# Background



- ◆ Multiple PUMS to increase sample
- ◆ Need to adjust for inflation
- ◆ Census CPI-U in 5-year files
  - ◆ ADJHSG
  - ◆ ADJINC
- ◆ Does one size fit all?

# Presentation Focus

- ◆ Earnings
  - ◆ SEMP – self-employment
  - ◆ WAGP - wages
  - ◆ PERNP total earnings
- ◆ PUMS adjustment
  - ◆ Intra-year
  - ◆ Inflation ← Our focus

ADJINC	7	Adjustment factor for income and earnings dollar amount (in places)			
	1073094	.2011	factor	(1.018237	* 1.05387409)
	1042852	.2012	factor	(1.010207	* 1.03231545)
	1025215	.2013	factor	(1.007549	* 1.01753361)
	1009585	.2014	factor	(1.008425	* 1.00115009)
	1001264	.2015	factor	(1.001264	* 1.00000000)

Intra-year

CPI-U-RS

# Possible Restatement Factors



The screenshot shows the Bureau of Labor Statistics website. The header includes the BLS logo and the text "BUREAU OF LABOR STATISTICS". Below the header is a navigation menu with "Home", "Subjects", "Data Tools", "Publications", and "Economic Releases". The main content area is titled "Consumer Price Index". On the left, there is a "BROWSE CPI" section with links for "CPI HOME", "CPI OVERVIEW", "CPI NEWS RELEASES", "CPI DATABASES", "CPI TABLES", "CPI PUBLICATIONS", "CPI FAQS", and "CONTACT CPI". Below this is a "SEARCH CPI" section with a search box and a "Go" button. On the right, there is a description of the CPI program and an "Announcements" section with three items: an important notice about the end of the CPI Detailed Report, a link to new interactive charts, and a notice about seasonal adjustments.

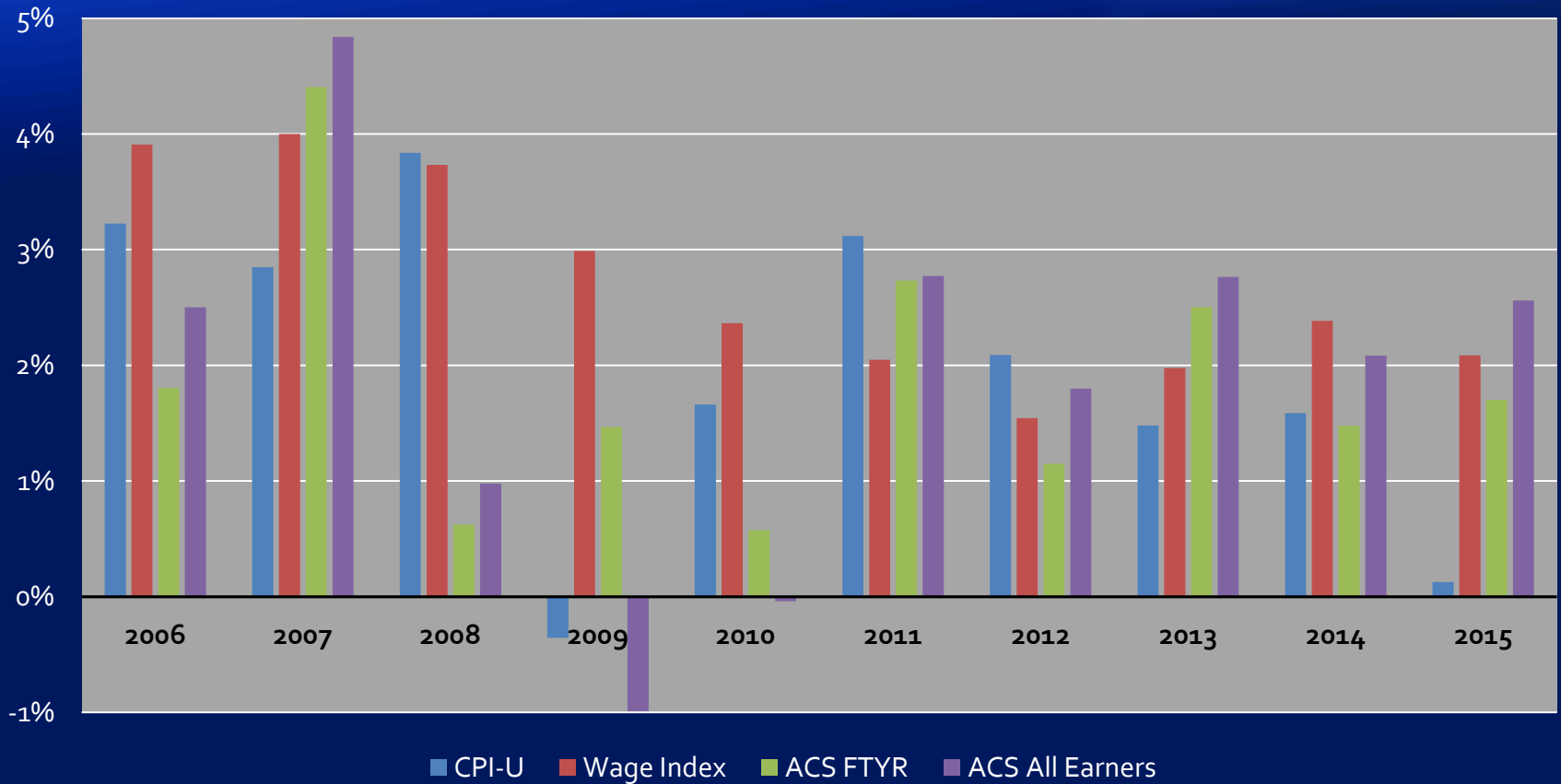
- ◆ CPI-U
- ◆ Wage index
  - ◆ Average hourly earnings
  - ◆ BLS series CEU0500000008
- ◆ Internal ACS derivations
  - ◆ All earnings
  - ◆ Full-time, year-round earnings

# Why Internal Index?

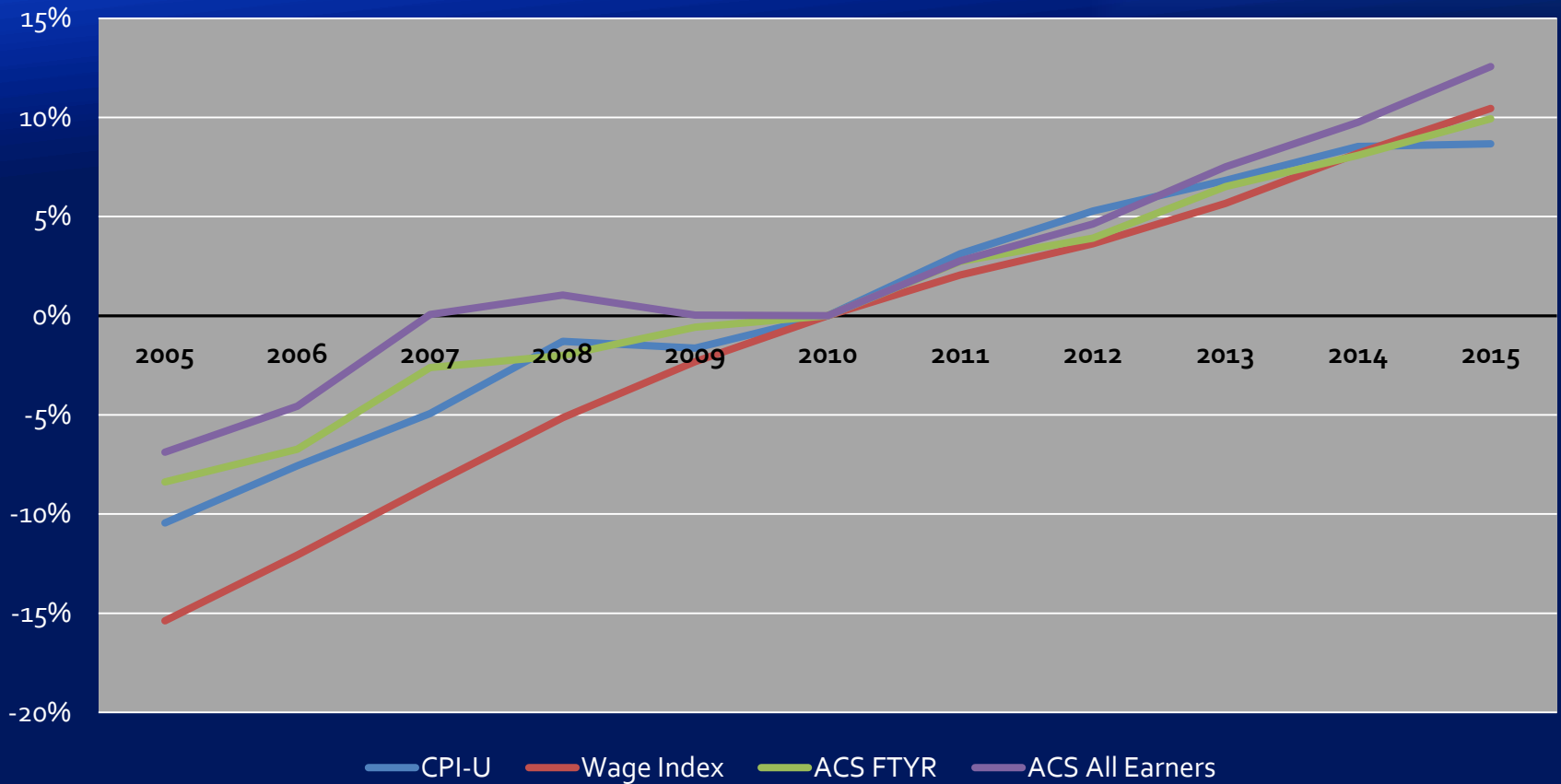
- ◆ Application
  - ◆ Compute at top level
  - ◆ Apply to subpopulations
- ◆ Internal better
  - ◆ Combining multiple PUMS
  - ◆ Making comparable



# Year-to-Year Change

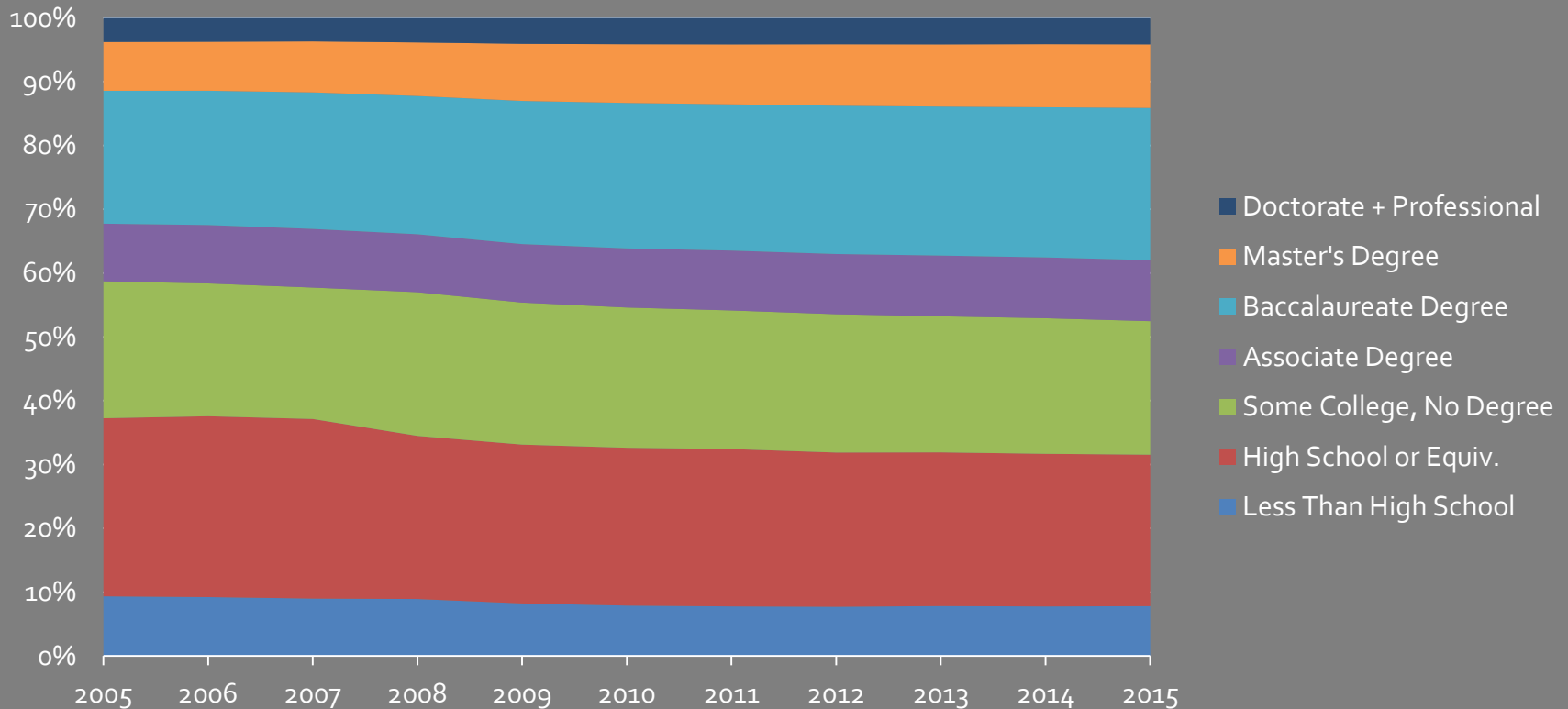


# Cumulative Change from 2010



# Education Mix - FTYR

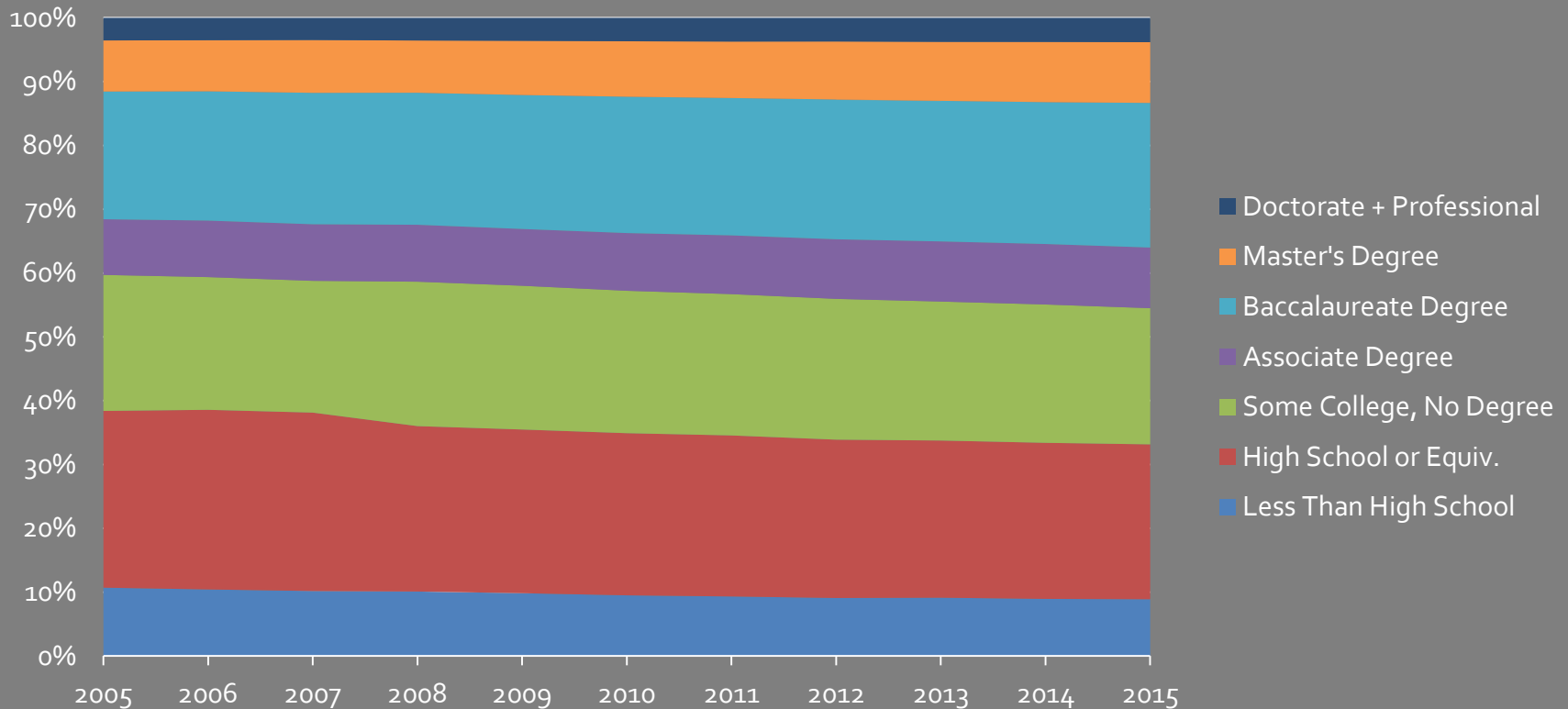
Distribution of FTYR Earners by Education



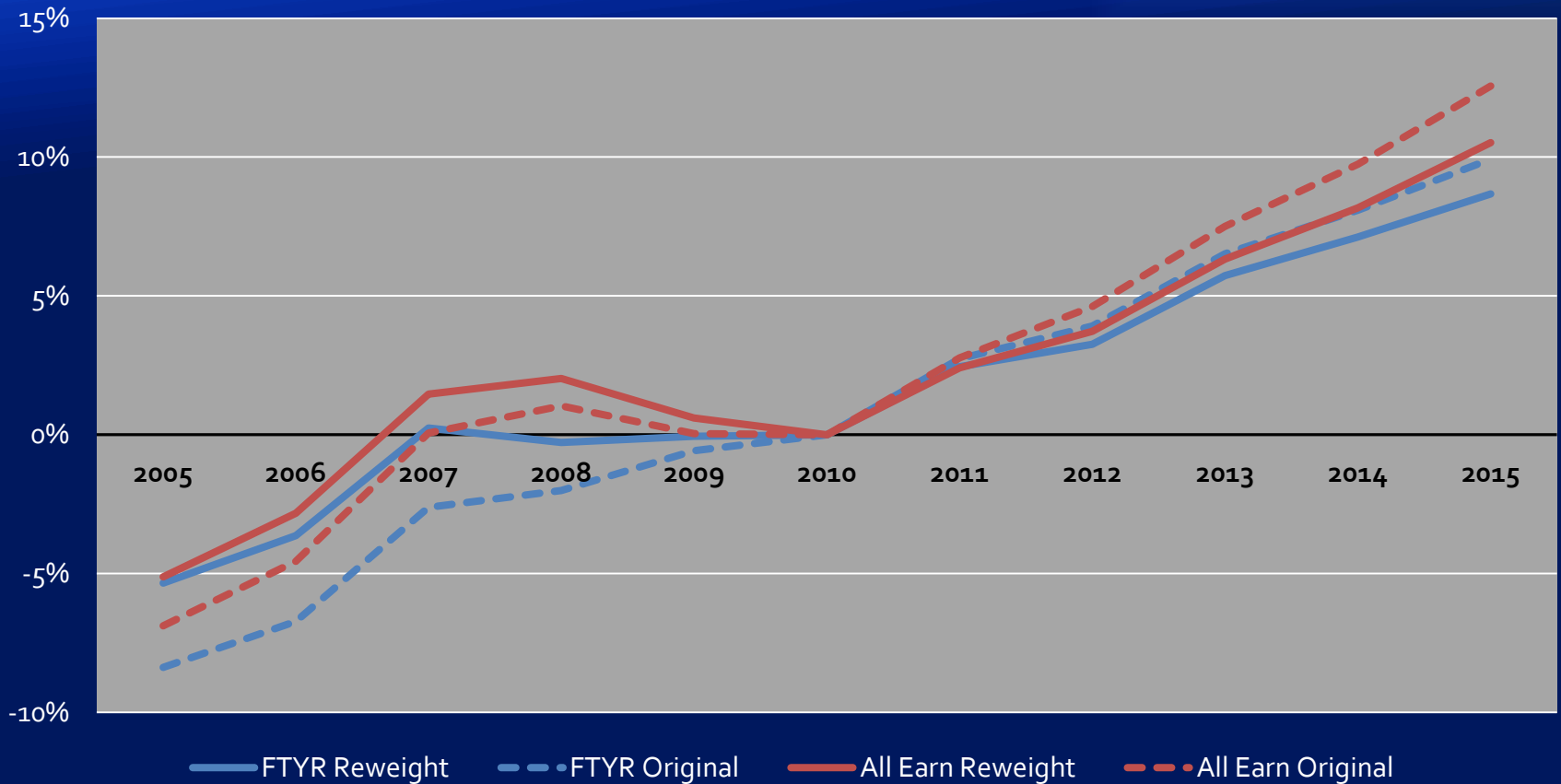


# Education Mix – All Earners

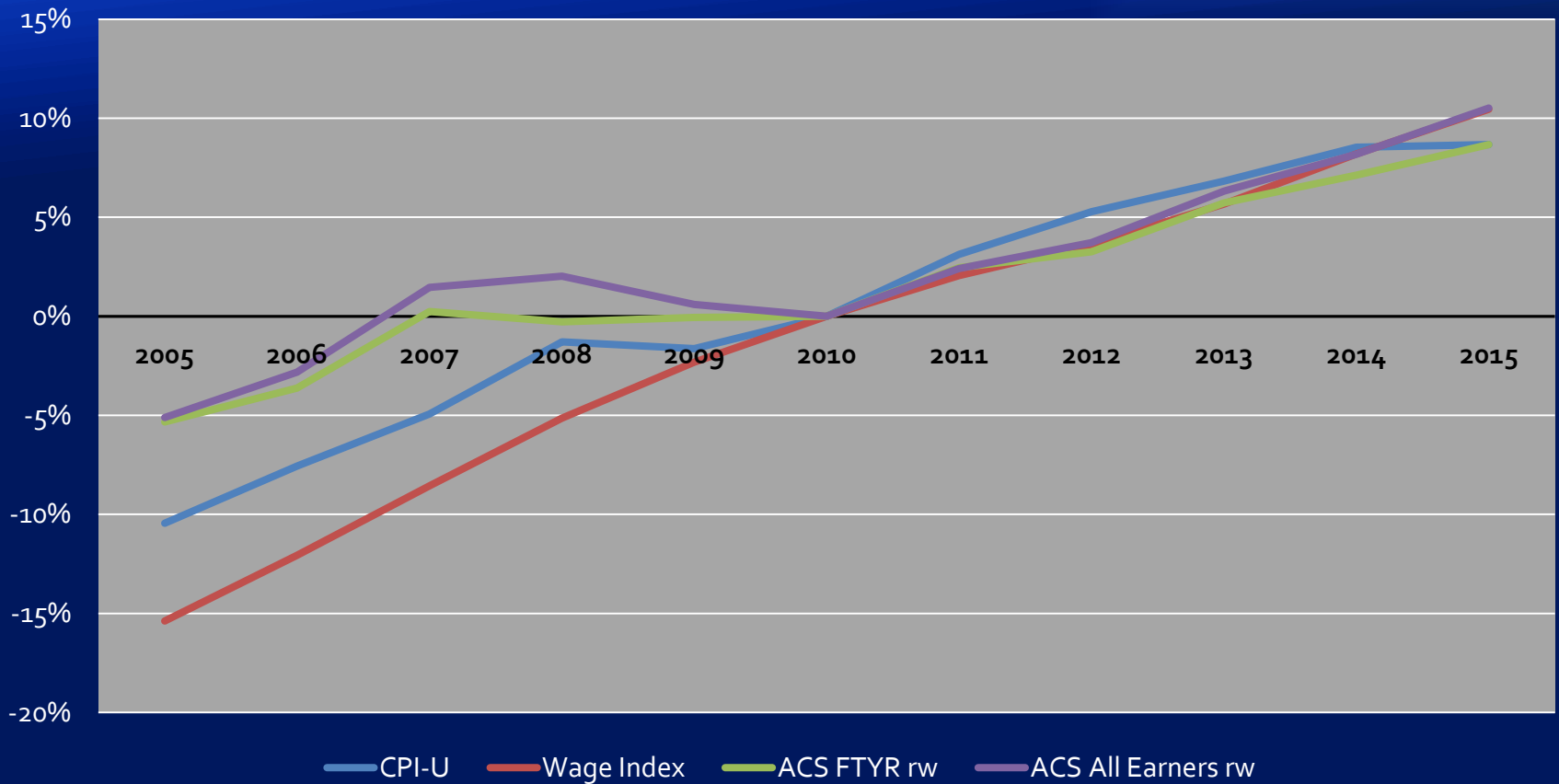
Distribution of All Earners by Education



# Reweighted Change to 2010



# Cumulative Change from 2010



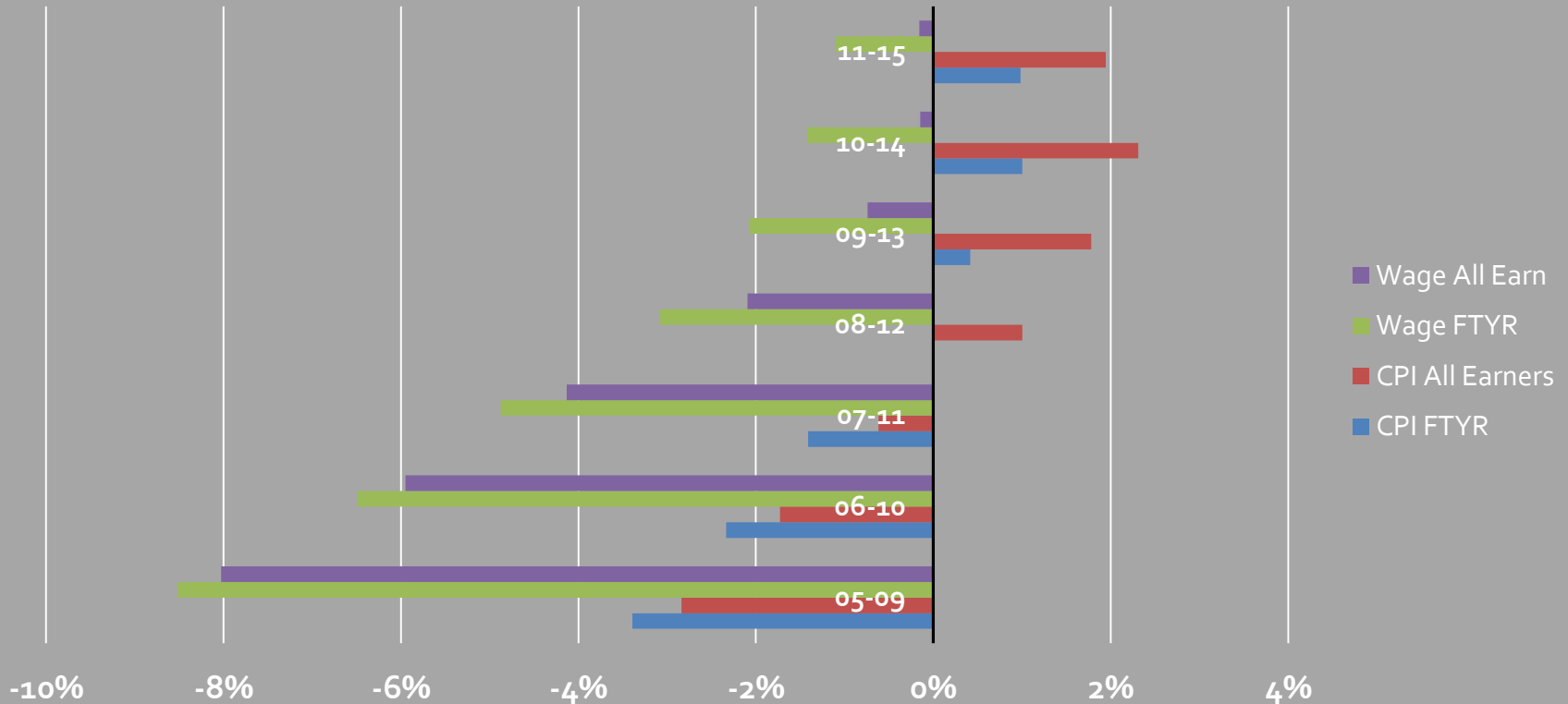
# Construct ACS Index

- ◆ Centered at 2010
- ◆ Basis for restatement
- ◆ Separate for
  - ◆ FTYR
  - ◆ All Earners

Year	FTYR Index	FTYR to 2015	All Earn Index	All Earn to 2015
2005	94.66	1.148	94.88	1.165
2006	96.37	1.128	97.17	1.137
2007	100.24	1.084	101.46	1.089
2008	99.72	1.090	102.03	1.083
2009	99.94	1.087	100.60	1.099
2010	100.00	1.087	100.00	1.105
2011	102.45	1.061	102.41	1.079
2012	103.25	1.052	103.73	1.065
2013	105.73	1.028	106.32	1.039
2014	107.12	1.014	108.17	1.022
2015	108.67	1.000	110.52	1.000

# 5-Year PUMS Impact

Impact on 5-year PUMS – Variance from Constructed Index



# Application



- ◆ Update/add “index” each year
- ◆ Restate to *current* year
  - ◆ Constructed index to last ACS year
  - ◆ Some inflation measure since
    - ◆ Wage index
    - ◆ CPI

**Dave Gibson**

DaveG@vocecon.com

312.781.9125

