

UC Alumni Employment Outcomes

A First Glimpse at EDD Wage Data

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Background

- July 2010: segments authorized to obtain EDD quarterly wage data on “individuals attending their institutions”
- April 2011: UCOP signed 3-year contract with EDD to obtain UC degree recipients’ quarterly wage records back to 2000
- October 2011: UCOP receives initial transmission of ~450K graduates’ wage records
- Annual transmission of updated wage records

Presentation

- **Data Overview**
- **Preliminary UC Systemwide Findings**
 - CA Employment “Hit” Rates
 - Average annual earnings of UC BA recipients up to 11 years post-degree
 - Distribution of BA recipients’ annual earnings – initial and 5 years out
- **UC Davis Alumni Survey Comparison**
 - UCD Class of 2004-05
 - EDD based annual earnings compared to alumni survey responses

EDD Wage Data

- Person level quarterly wage records from 2000 to 2011 on all 1999 to 2010 UC graduates
- ~16 million records
- Data elements
 - Quarterly wage amount
 - NAICS industry code
 - City, county, state, zip
- Matched records through student SSN

Initial Research Questions

- How much do UC graduates earn after graduation and beyond?
- How many recent UC graduates are employed in California after graduation and beyond?
- How do the EDD data compare to what we already know about UC alumni employment outcomes?

Data Quality

Quality Threat	Magnitude	Addressed	Solution
Duplicate SSNs	Negligible	Yes	Diagnostic Report
Missing or Zero Earnings Values	Considerable	Yes	EDD only sends nonzero records
Erroneous Wage Values	Unclear	Partially	Diagnostic Report Report Trimmed Mean and Median
Outlier Wage Values	Distribution Skewed (mean>median)	Yes	Report Trimmed Mean and Median
Misleading Geographic Tags	Large number of non-CA tags	No	Caveat Geographic Findings

Limitations

- Data limited to wage and salary employment and excludes self-employment, federal employment, and out-of state-employment
- Must apply assumptions and extrapolation to quarterly wage data to estimate annual salary – precludes “one answer”
- Provides broad industry of employment but no information on occupation
- Only have data for recent UC degree recipients in the early stages of their careers (1999 earliest graduating cohort)
- Wage period covered (2000 – 2011) marked by boom and bust
- Still need to account for graduate school enrollment (NSC data) in average salary calculations

Methodology

- Calculate annual earnings 5 ways
 - simple sum of unadulterated data
 - fully employed sum (only count people with 4 quarters of wages)
 - 3 methods that account for missing quarters
- Earnings history joined with student characteristics within UCOP data
 - BA/BS recipients only for initial analysis
 - Initial post-graduate earnings defined as 2 years out
 - All dollar figures in 2011 constant dollars using CA CPI-W
- Resulting annual earnings calculations tested against self-reported earnings from 2010 UC Alumni Survey
 - Among 87 survey respondents from class of 2004, 75 percent had EDD annual earnings within the range of their survey response

Preliminary UC Findings

Declining Cohort Hit Rate

Hit Rate by Years After Degree Attainment

Cohort	Graduates	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	11 years
2000	32,241	76%	72%	70%	70%	69%	68%	66%	64%	63%	62%
2001	34,267	75%	72%	70%	70%	69%	68%	65%	64%	63%	
2002	36,599	76%	72%	70%	70%	69%	66%	65%	64%		
2003	38,001	76%	73%	71%	70%	67%	66%	65%			
2004	40,241	77%	73%	70%	67%	66%	65%				
2005	41,024	77%	72%	67%	66%	65%					
2006	40,908	76%	69%	66%	65%						
2007	41,765	72%	67%	65%							
2008	41,922	69%	66%								
2009	43,962	69%									

Source: UCOP Corporate Student System and EDD Quarterly Wage Data

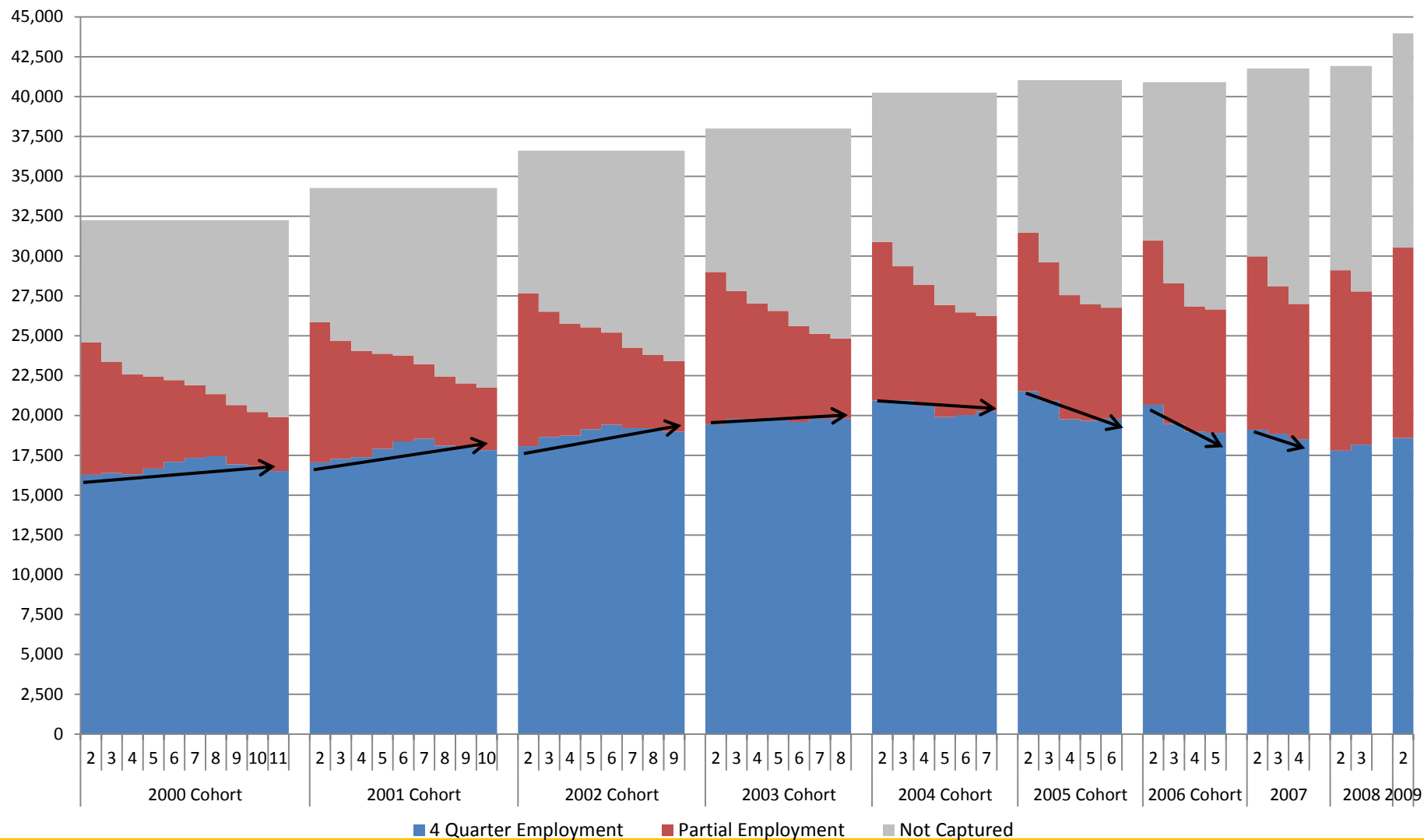
Increasing “Full Employment” Rate

Percent of Hits that are "Fully Employed"

Cohort	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	11 years
2000	66%	70%	72%	74%	77%	79%	82%	82%	83%	83%
2001	66%	70%	72%	75%	77%	80%	81%	82%	82%	
2002	65%	70%	73%	75%	77%	79%	81%	81%		
2003	67%	71%	73%	75%	76%	79%	80%			
2004	68%	71%	73%	74%	76%	77%				
2005	68%	71%	72%	73%	74%					
2006	67%	69%	71%	71%						
2007	64%	67%	69%							
2008	61%	65%								
2009	61%									

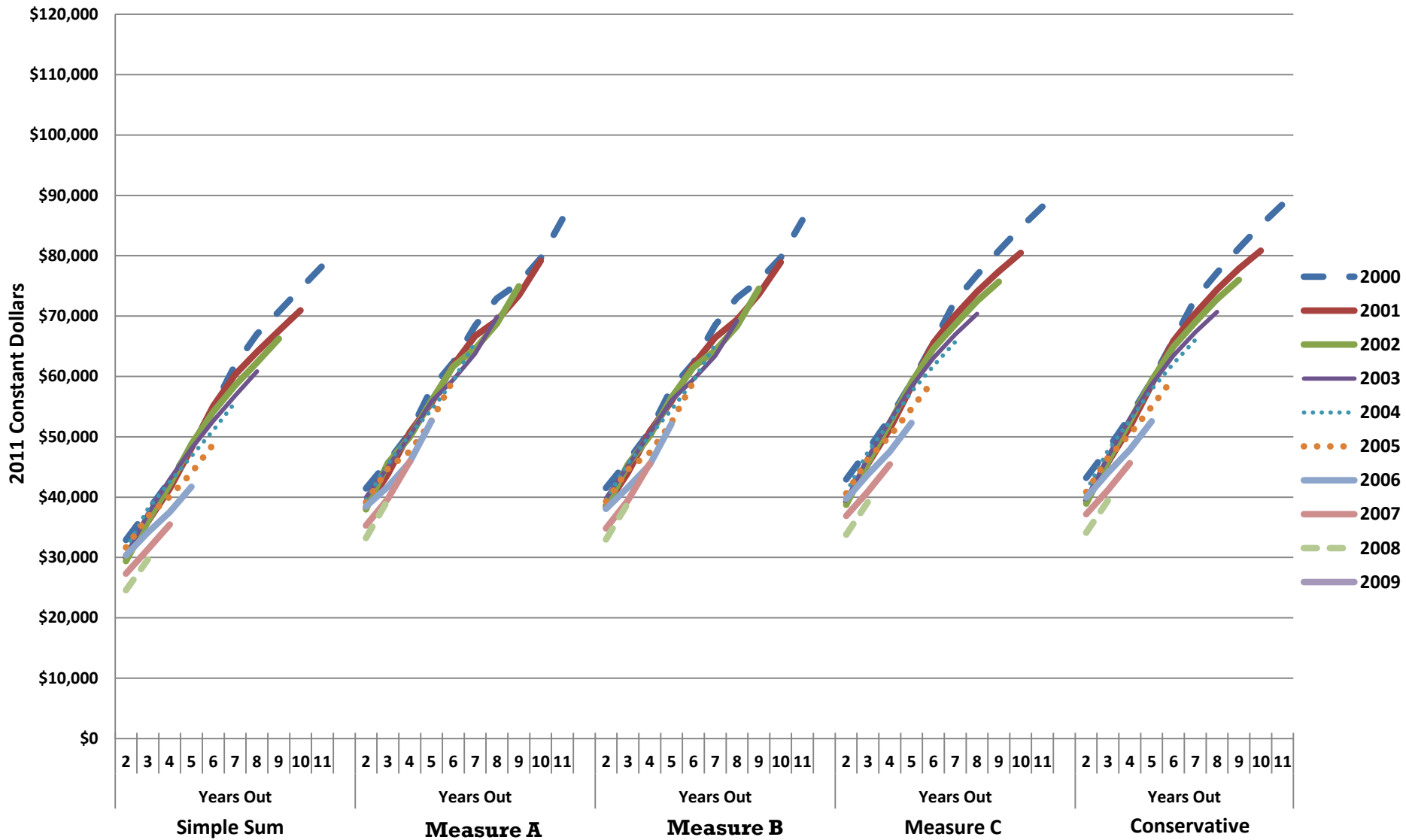
Source: UCOP Corporate Student System and EDD Quarterly Wage Data

UC Graduates Employed in CA by Cohort and Years After Degree



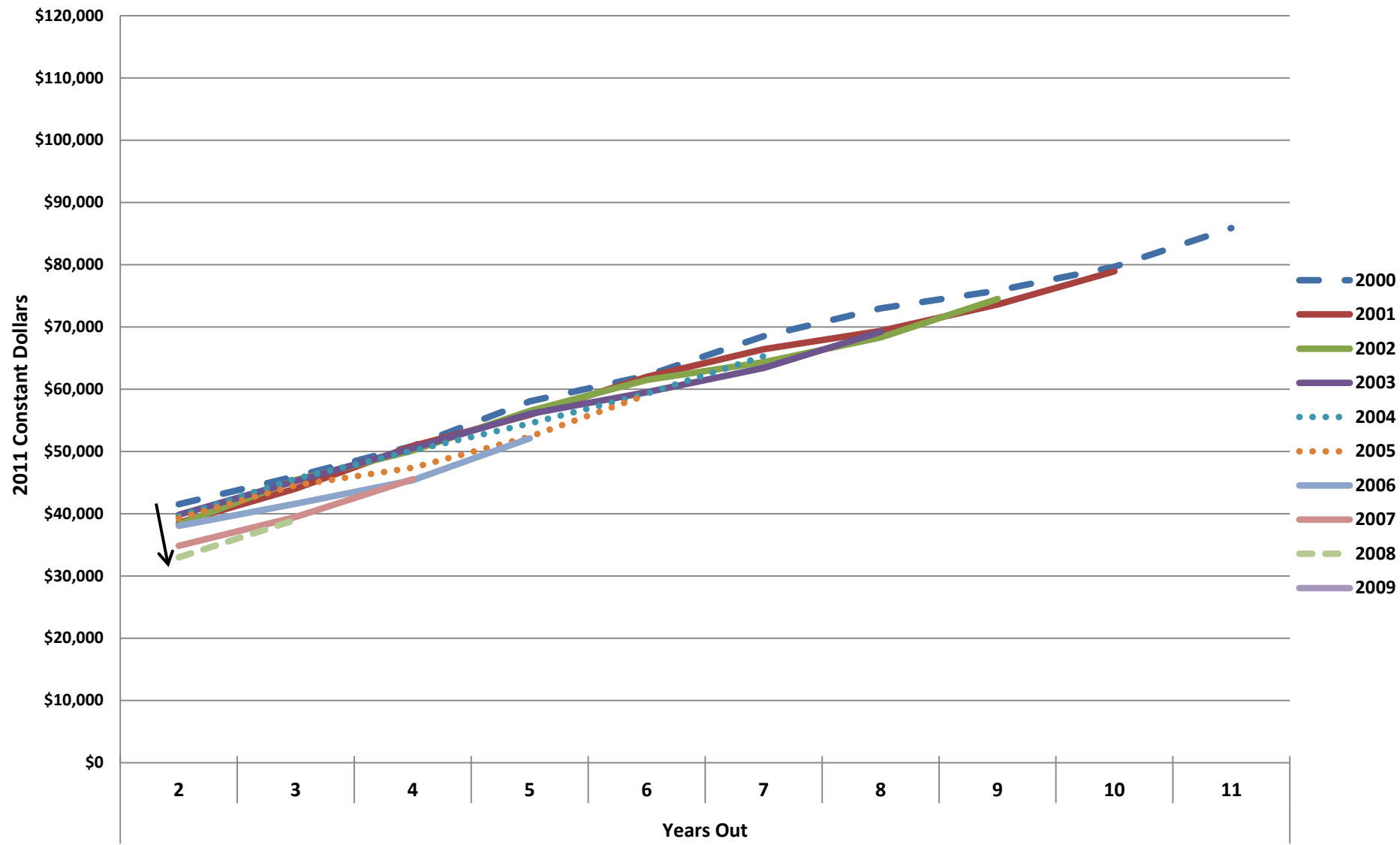
Positive Post-Graduate Earnings Trajectory

Average Annual Earnings by Cohort and Years After Degree

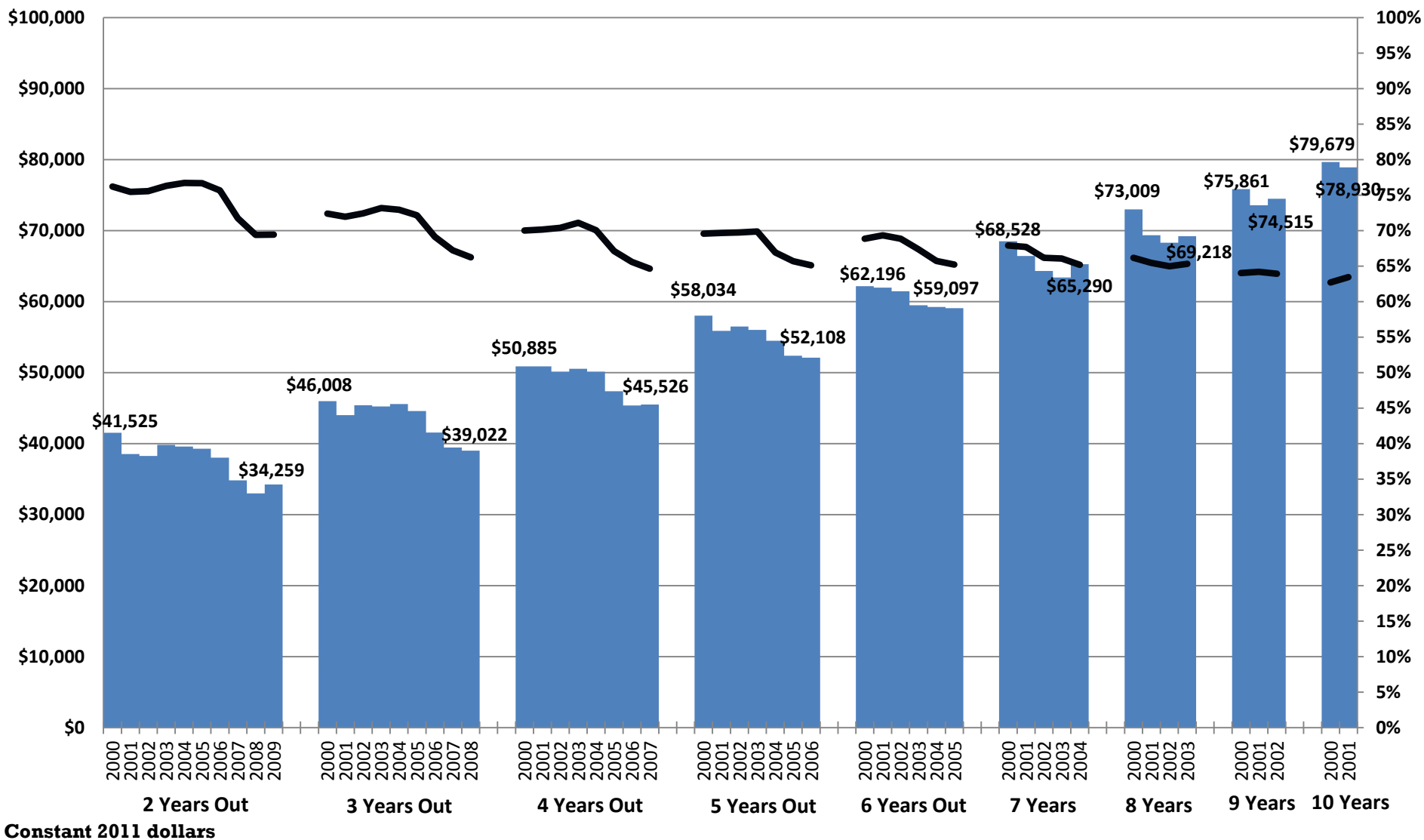


Declining Initial Post-Graduate Average Earnings

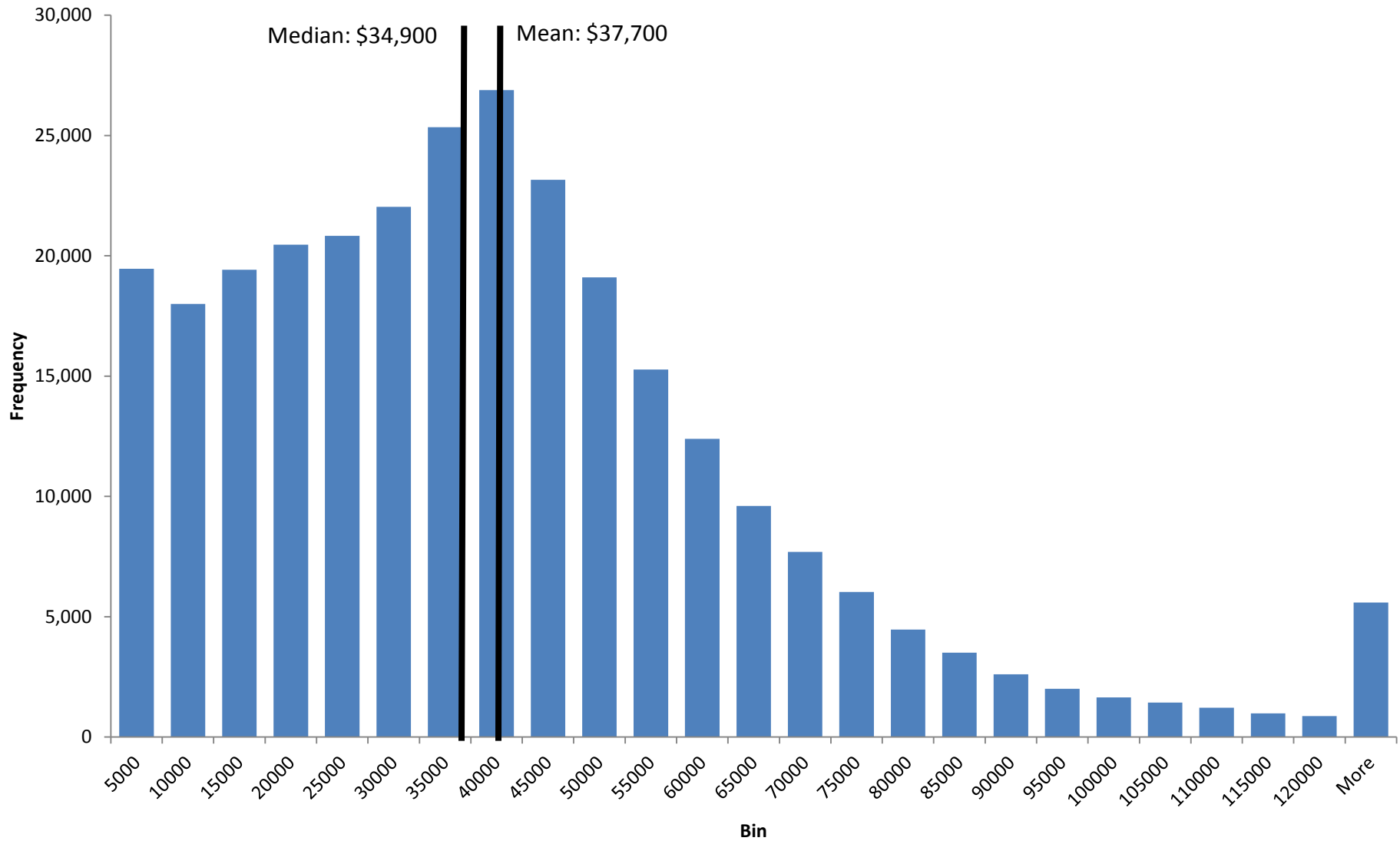
Average Annual Earnings by Cohort Over Time – Measure B



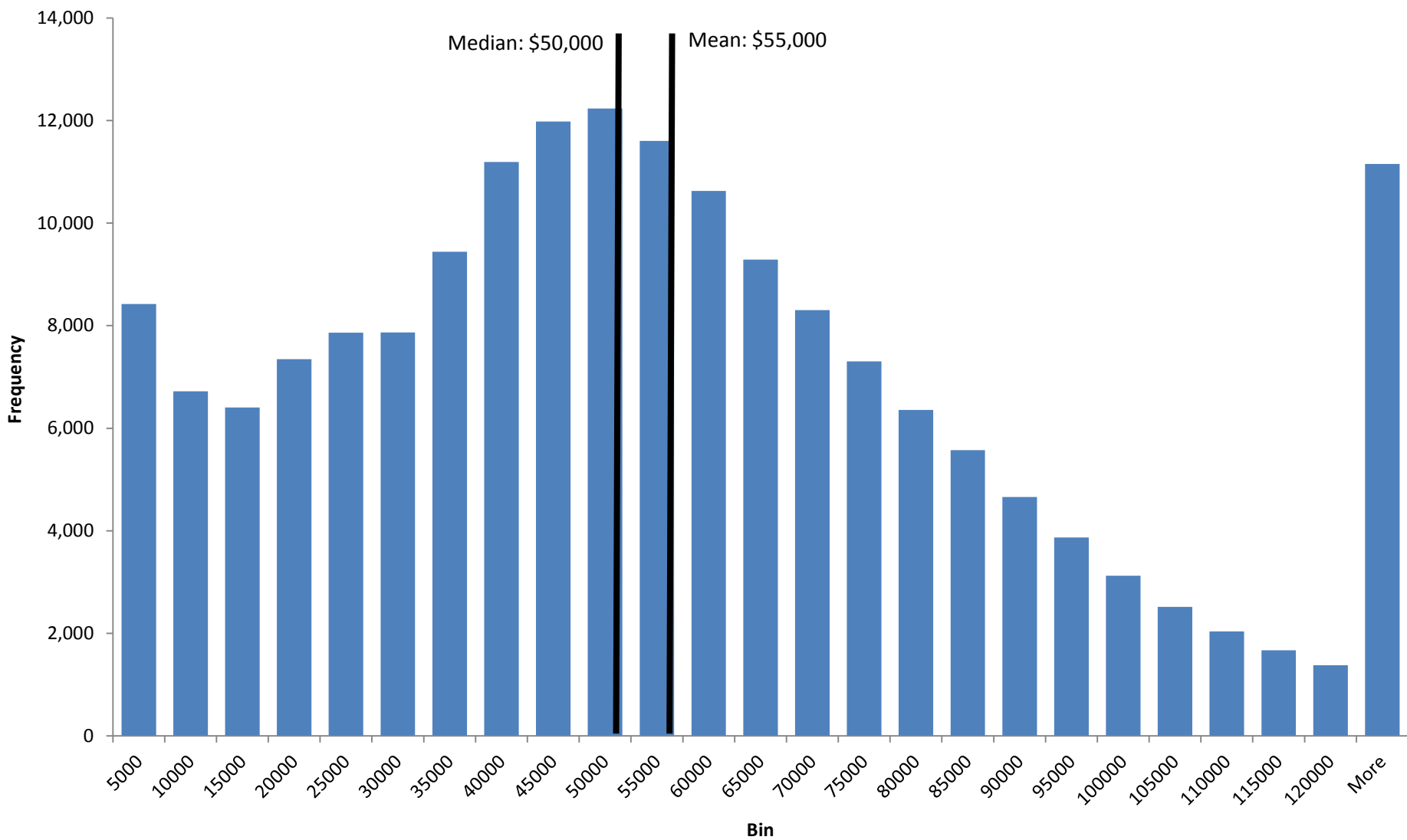
Average Earnings and CA Employment Rates by Cohort and Years After Degree – Measure B



Distribution of Initial Annual Earnings, All Cohorts– Measure B



Distribution of Five Years Out Earnings, All Cohorts— Measure B



UC Davis Alumni Survey Comparison

Survey of Recent Baccalaureate Recipients

- **Four cohorts of Recent Baccalaureate Recipients every three years**
- **2004-05 cohort surveyed in 2006 (summer/fall) and 2009 (summer/fall)**
- **Response rates 36% (1536 grads) and 29% (1510 grads)**
- **Includes information about employment: FT/PT, length of job search. Relatedness to major/career choice, type of employer, employer, salary, zip code**

Questions

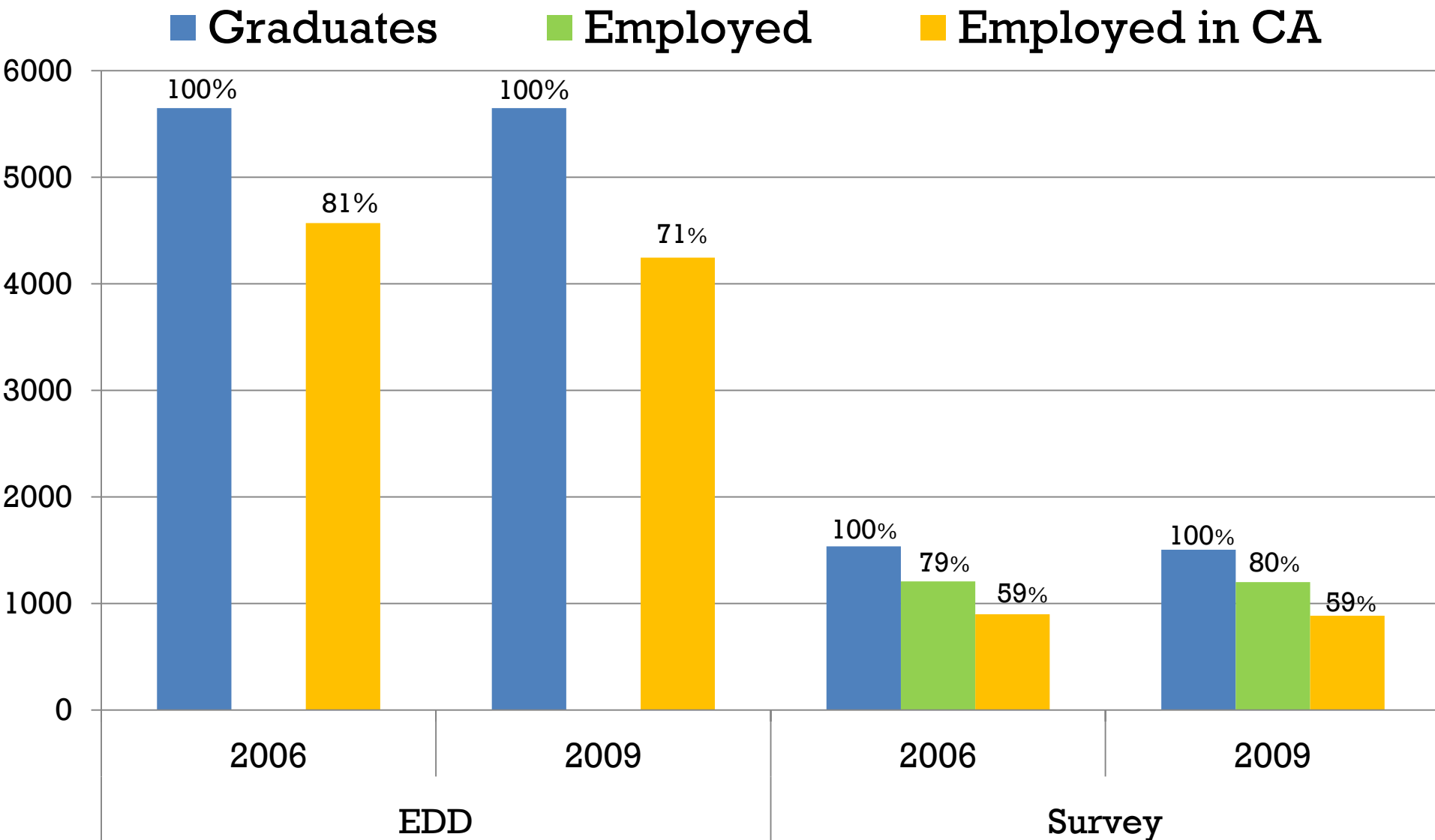
- Does EDD data suggest that our survey data is biased; i.e., that only the most successful graduates respond to our survey?
- Does EDD data suggest that respondents exaggerate their earnings?
- Does it appear that EDD data is an acceptable substitute for survey data?

The Survey Question

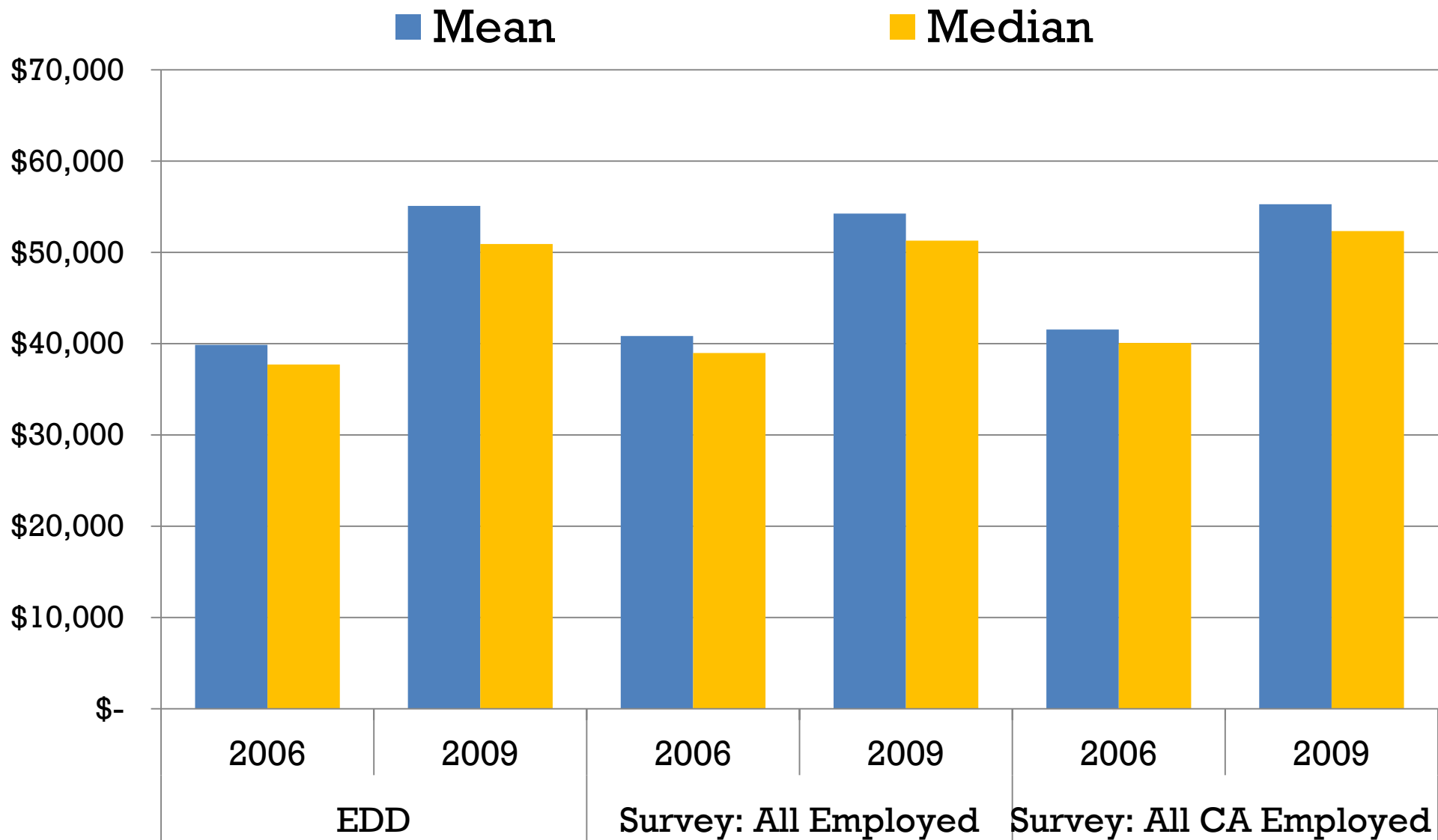
12. Are you currently employed?

- No, seeking work (**Skip to Question 21**)
- No, not seeking work (**Skip to Question 21**)
- Yes, full-time
- Yes, part-time but prefer full-time
- Yes, part-time by choice

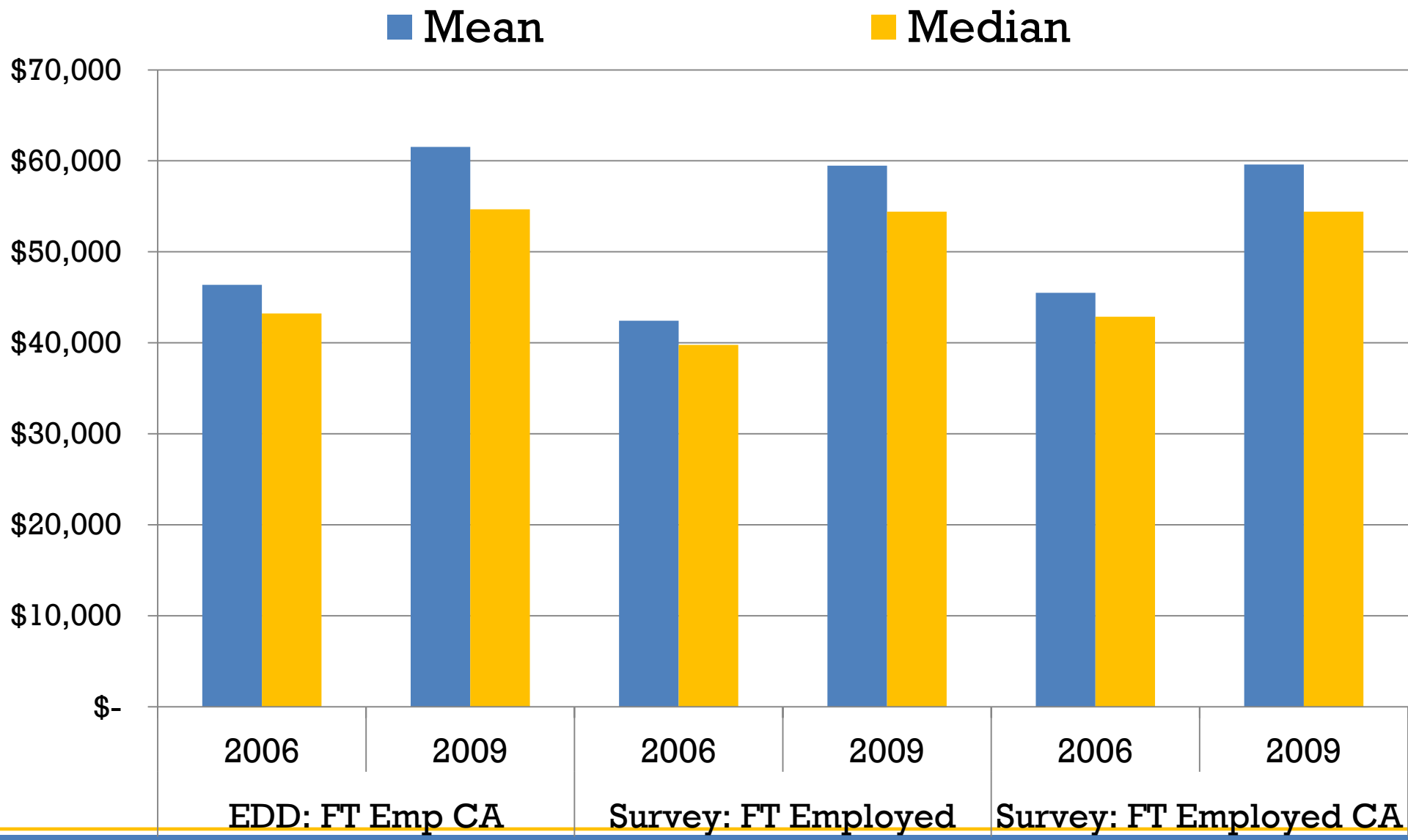
and % Employed and Employed in CA by Data Source



Salaries of All Employed and All CA Employed by Data Source: \$\$ 2011



Salaries of Survey Respondents FT Employed in CA by Data Source: 2011 \$\$



What the Survey can tell us that EDD data can't (for instance)

Employment Status of Recent Graduates Cohorts from 1976 - 2008

Year	Employed: full-time	Employed: part-time, prefer full-time	Unemployed: seeking work	Under- employed
1976	51%	n/a	5%	n/a
1979	58%	n/a	6%	n/a
1983	58%	n/a	n/a	n/a
1987	55%	n/a	7%	n/a
1990	57%	6%	8%	14%
1993	50%	6%	7%	13%
1996	59%	3%	3%	6%
1999	64%	3%	4%	7%
2002	57%	6%	11%	17%
2004-05	64%	3%	7%	10%
2007-08	52%	10%	12%	22%

Data /Methods

- Multiple earnings measures yield largely same results
- Data consistent with alumni survey data
- FT students likely driving measures down

Findings

- Consistent out-migration from CA W/S sector
- Positive post-graduate earnings trajectory
- Declining outcomes in later cohorts (recession)

Future Research Questions

- What is the value added of a UC degree in the California labor market compared to the state average?
- Differences in employment outcomes by UG field of study
- Graduate and professional degree employment outcomes
- Social mobility of UC graduates
- UC graduates' economic and geographic impact on state and its industries