

# Understanding accounting industry employment trends: Implications for accounting education and career planning

Dr. Roberto Castaneda, CPA  
Walden Program Director

Malcolm McLelland, Ph.D. CPA  
Core Accounting Faculty

**WALDEN  
UNIVERSITY**

*A higher degree. A higher purpose.*

# Understanding accounting industry employment trends: Implications for accounting education and career planning

## Overview of webinar

- :: Career paths in accounting and interdisciplinary knowledge
- :: Understanding demand for accounting and information systems knowledge
- :: Trends in accounting industry employment, hours, wages, and total compensation
- :: Understanding trends in accounting industry professional employment statistics
- :: Implications for accounting education and career planning
- :: Questions and comments!

Discussion leaders: Roberto Castaneda, D.B.A., CPA  
Malcolm McLelland, Ph.D., CPA

# Understanding accounting industry employment trends: Implications for accounting education and career planning

## Discussion leaders



Dr. Robert Castaneda, CPA



Malcolm McLelland, Ph.D. CPA

## Discussant biographies

### Dr. Bob Castaneda, CPA and CGMA

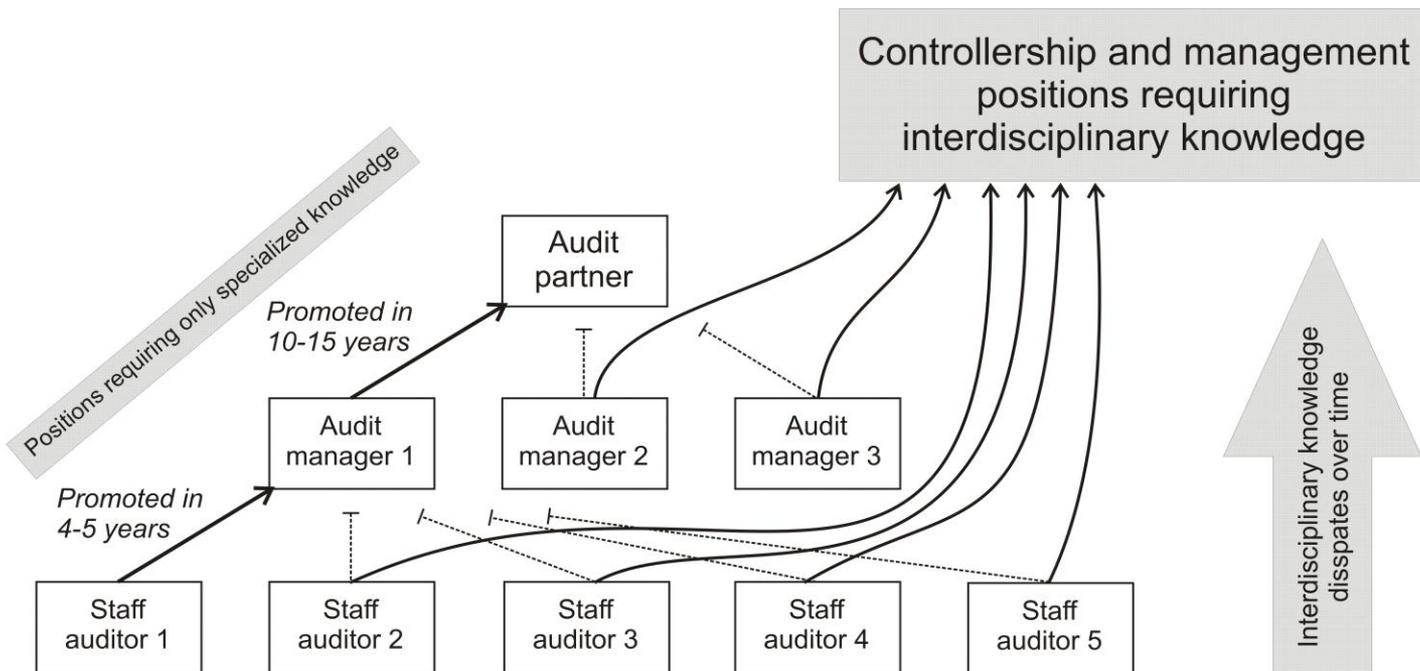
Dr. Castaneda's prior work experience includes Price Waterhouse, McDonald's, PepsiCo and American Express with over 30 years of experience in finance and accounting both domestically and internationally in executive capacities. Some of his awards include Chairman's award for quality and the GAAP award for quality internal controls. Dr. Castaneda's degrees include a DBA in accounting, MBA in finance and marketing and a BS in accounting from Argosy, Northwestern, and DePaul Universities. Dr. Castaneda has been with Walden for over five years and is the BS and MS Accounting Program Director.

### Malcolm McLelland, Ph.D., CPA

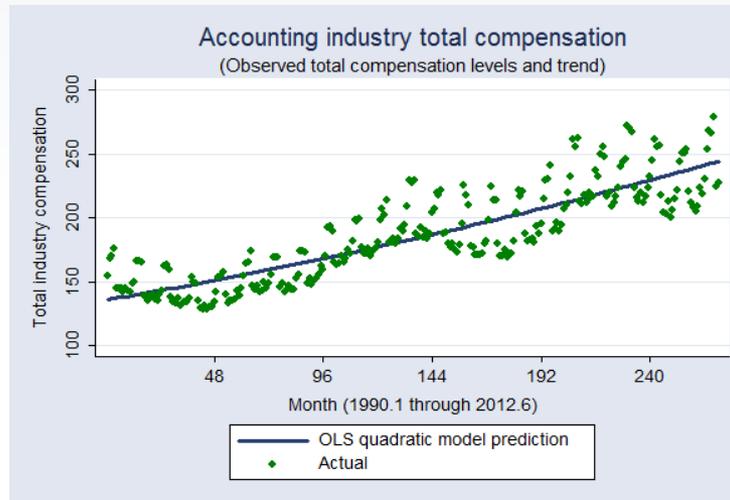
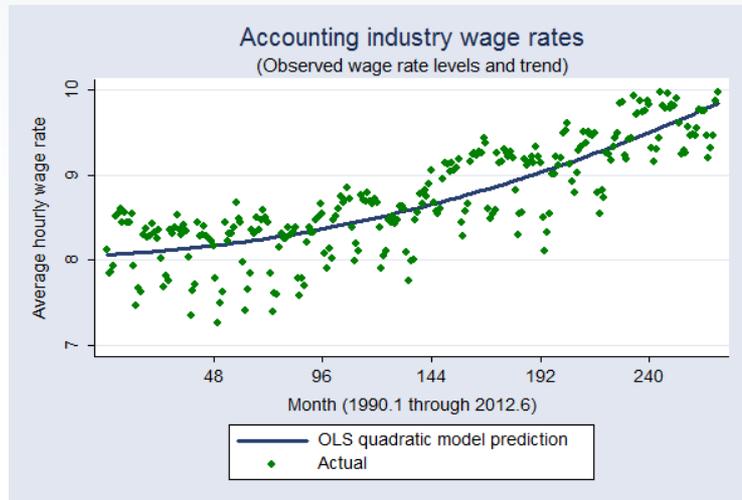
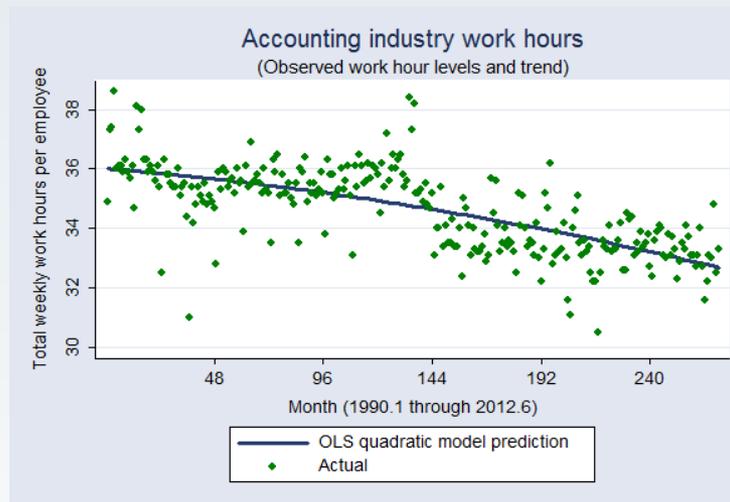
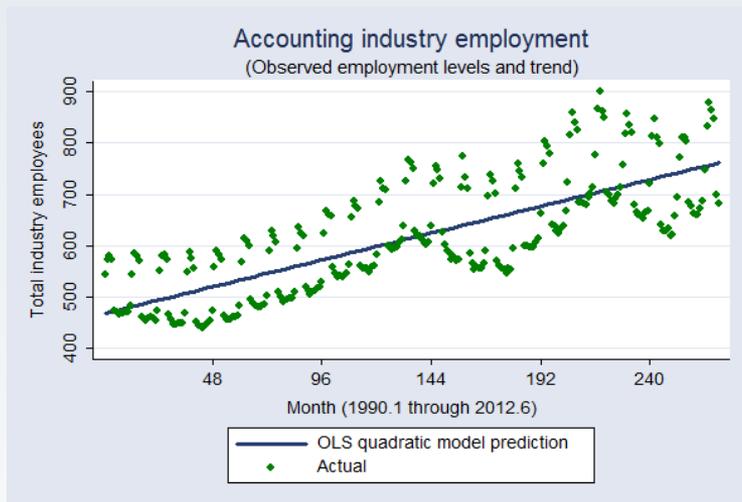
Malcolm has over 20 years experience in accounting, auditing, management consulting, and research. His primary area of expertise is in financial modeling and econometric analysis. Malcolm has taught a wide range of courses including financial accounting and analysis, managerial accounting and decision-making, corporate governance, auditing, asset pricing theory and business valuation at Michigan State University, University of Illinois at Chicago, Purdue University, Indiana University, Steinbeis University (Germany); and he has been with Walden University for approximately two years. Malcolm was graduated from Indiana University with a B.S. in 1981, and from Michigan State University with a Ph.D. in 1999.

# Professional accounting careers: Technical specialization versus generalist career paths

The simplified auditing industry:  
80% of all professionals leave in 5 years,  
93% in 10 to 15 years



# Trends in the accounting industry: Employment levels, work hours, wage rates, and total industry compensation



# Understanding demand for accounting knowledge: Production of accounting information (basic theory)

Theory: Both accounting and information systems inputs (e.g., knowledge, professionals, equipment, software) are jointly necessary to produce accounting information:

financial, managerial, and tax reporting (*FMTR*) information is a non-linear combination of accounting *A* and information system *S* inputs

$$FMTR = \alpha_0 A^{\alpha_A} S^{\alpha_S} \Rightarrow \ln FMTR = \ln \alpha_0 + \alpha_A \ln A + \alpha_S \ln S$$

information product of accounting knowledge

information product of computer systems

Implication: Accounting knowledge and information systems knowledge, etc. are **complements** not **substitutes**, which means they are more valuable together.

# Understanding demand for accountants: Effects of economic factors driving employment demand

Analysis of US Bureau of Labor Statistics and Bureau of Economic Analysis data suggests accounting employment demand depends mainly (approx. 93%) on season, GDP, Sarbanes-Oxley, accounting industry revenue, and IS industry employment:

$$\text{acct industry employment} = \begin{pmatrix} 17.794_{\text{ns}} \\ .001_{\text{ns}} \\ -.090 \\ -.130 \\ -.117 \\ -2.256 \\ -25.044 \\ -.004 \\ 2.748 \\ \mathbf{.870} \\ \mathbf{.558} \end{pmatrix} \begin{pmatrix} 1 \\ \textit{month} \\ \textit{quarter 2} \\ \textit{quarter 3} \\ \textit{quarter 4} \\ \textit{GDP} \\ \textit{SARBOX} \\ \textit{month} \cdot \textit{SARBOX} \\ \textit{GDP} \cdot \textit{SARBOX} \\ \mathbf{\textit{acct industry revenue}} \\ \mathbf{\textit{IS industry employment}} \end{pmatrix}$$

$R^2 \cong .927$   
 $n \cong 156$

**Note:** Accounting employment is *positively* associated with IS industry employment.

# Understanding demand for accountants: Effects of economic factors driving employment demand

Analysis of US Bureau of Labor Statistics and Bureau of Economic Analysis data suggests accounting employment demand depends mainly (approx. 93%) on season, GDP, Sarbanes-Oxley, accounting industry revenue, and IS industry employment:

$$\text{acct industry employment} = \begin{pmatrix} 17.794_{ns} \\ .001_{ns} \\ -.090 \\ -.130 \\ -.117 \\ -2.256 \\ -25.044 \\ -.004 \\ 2.748 \\ \mathbf{.870} \\ \mathbf{.558} \end{pmatrix} \begin{pmatrix} 1 \\ \textit{month} \\ \textit{quarter 2} \\ \textit{quarter 3} \\ \textit{quarter 4} \\ \textit{GDP} \\ \textit{SARBOX} \\ \textit{month} \cdot \textit{SARBOX} \\ \textit{GDP} \cdot \textit{SARBOX} \\ \mathbf{\textit{acct industry revenue}} \\ \mathbf{\textit{IS industry employment}} \end{pmatrix}$$

$R^2 \cong .927$   
 $n \cong 156$

**Note:** Accounting employment is *positively* associated with IS industry employment.

# Understanding demand for accountants: Effects of economic factors driving work hours demand

Analysis of US Bureau of Labor Statistics and Bureau of Economic Analysis data suggests accounting professional work hours depends mainly (approx. 72%) on season, GDP, Sarbanes-Oxley, accounting industry revenue, and IS industry work hours:

$$\text{acct industry work hours} = \begin{pmatrix} -4.363_{\text{ns}} \\ -.002 \\ .019 \\ .018 \\ .007_{\text{ns}} \\ .543 \\ 6.792 \\ .001_{\text{ns}} \\ -.750 \\ \mathbf{.167} \\ \mathbf{.545} \end{pmatrix} \begin{pmatrix} 1 \\ \textit{month} \\ \textit{quarter 2} \\ \textit{quarter 3} \\ \textit{quarter 4} \\ \textit{GDP} \\ \textit{SARBOX} \\ \textit{month} \cdot \textit{SARBOX} \\ \textit{GDP} \cdot \textit{SARBOX} \\ \mathbf{\textit{acct industry revenue}} \\ \mathbf{\textit{IS industry work hours}} \end{pmatrix}$$

$R^2 \cong .717$   
 $n \cong 156$

**Note:** Accounting work hours are *positively* associated with IS industry work hours.

# Understanding demand for accountants: Effects of economic factors driving wages and salaries

Analysis of US Bureau of Labor Statistics and Bureau of Economic Analysis data suggests accounting wage rates depend mainly (approx. 93%) on season, GDP, Sarbanes-Oxley, accounting industry revenue, and IS industry wage rates:

$$\begin{array}{l}
 \text{acct industry wage rates} = \\
 \left( \begin{array}{c}
 3.937 \\
 .001 \\
 .028 \\
 .039 \\
 .048 \\
 -.208_{\text{ns}} \\
 -1.418_{\text{ns}} \\
 -.005_{\text{ns}} \\
 .000_{\text{ns}} \\
 \mathbf{-.244} \\
 \mathbf{.566}
 \end{array} \right)' \left( \begin{array}{c}
 1 \\
 \textit{month} \\
 \textit{quarter 2} \\
 \textit{quarter 3} \\
 \textit{quarter 4} \\
 \textit{GDP} \\
 \textit{SARBOX} \\
 \textit{month} \cdot \textit{SARBOX} \\
 \textit{GDP} \cdot \textit{SARBOX} \\
 \mathbf{\textit{acct industry revenue}} \\
 \mathbf{\textit{IS industry wage rates}}
 \end{array} \right)
 \end{array}
 \quad \begin{array}{l}
 R^2 \cong .933 \\
 n \cong 156
 \end{array}$$

**Note:** Accounting wage rates are *positively* associated with IS industry wage rates.

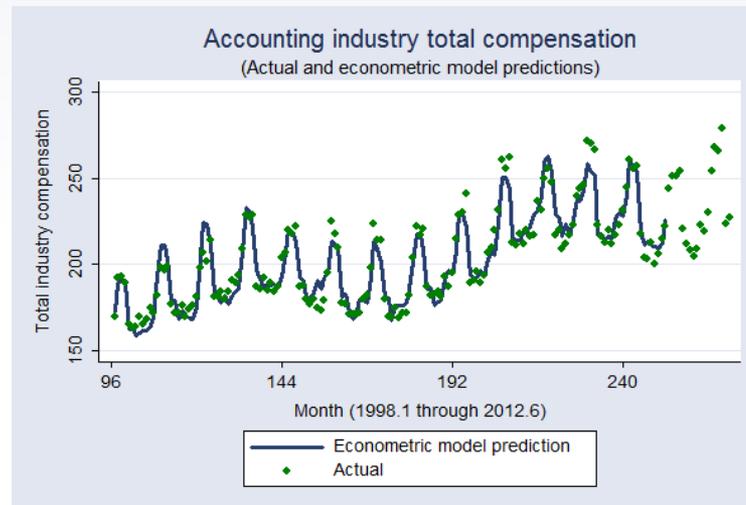
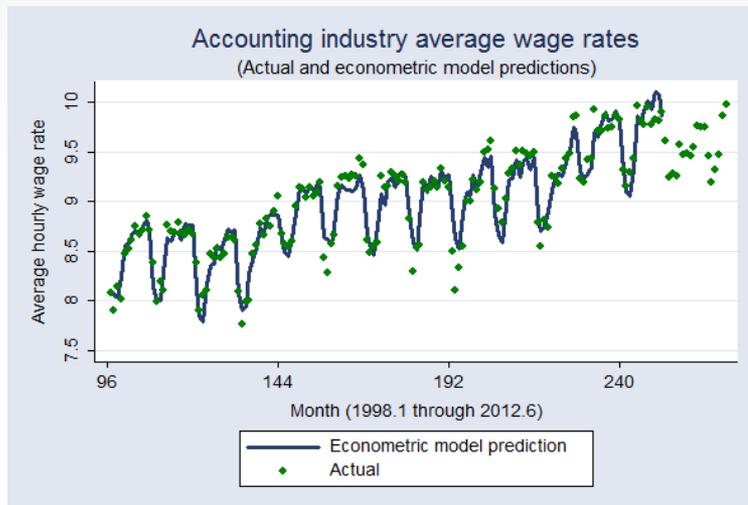
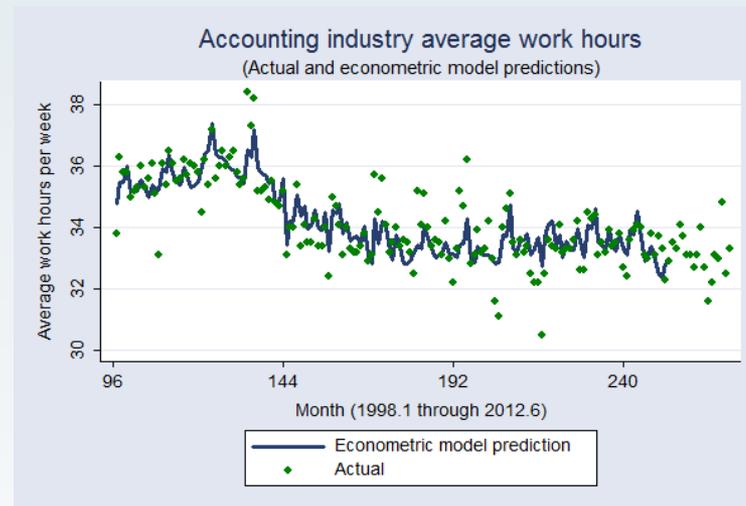
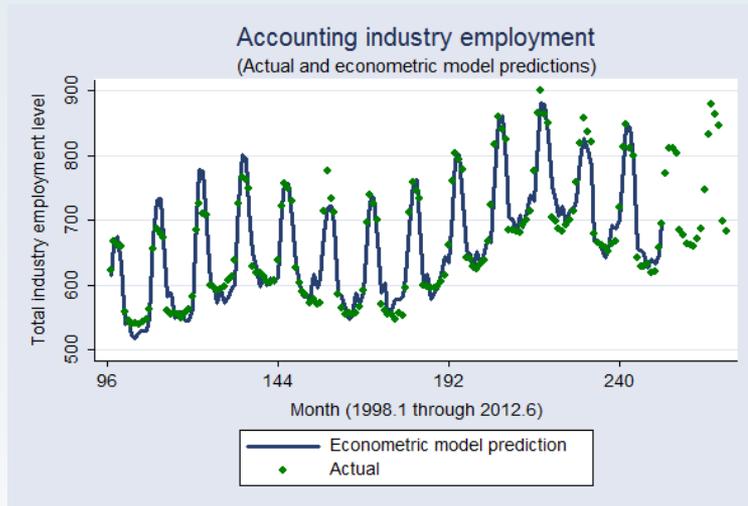
# Understanding demand for accountants: Effects of economic factors driving total industry compensation

Analysis of US Bureau of Labor Statistics and Bureau of Economic Analysis data suggests accounting wage rates depend mainly (approx. 92%) on season, GDP, Sarbanes-Oxley, accounting industry revenue, and IS industry wage rates:

$$\begin{array}{l}
 \text{acct industry compensation} = \\
 \left( \begin{array}{c}
 14.234 \\
 .001_{\text{ns}} \\
 -.043 \\
 -.073 \\
 -.063 \\
 -1.913 \\
 -16.720 \\
 -.003_{\text{ns}} \\
 1.835 \\
 \mathbf{.793} \\
 \mathbf{.556}
 \end{array} \right) \left( \begin{array}{c}
 1 \\
 \textit{month} \\
 \textit{quarter 2} \\
 \textit{quarter 3} \\
 \textit{quarter 4} \\
 \textit{GDP} \\
 \textit{SARBOX} \\
 \textit{month} \cdot \textit{SARBOX} \\
 \textit{GDP} \cdot \textit{SARBOX} \\
 \mathbf{\textit{acct industry revenue}} \\
 \mathbf{\textit{IS industry compensation}}
 \end{array} \right)
 \end{array}
 \quad \begin{array}{l}
 R^2 \cong .924 \\
 n \cong 156
 \end{array}$$

**Note:** Accounting compensation is *positively* associated with IS industry compensation.

# Understanding demand for accountants: Evaluating predictive ability of modeled economic factors (model fit to the data)



## Evaluating the theory and evidence: Implications for accounting education and careers

1. At least 80-90% of all accounting professionals have career paths that require interdisciplinary education, knowledge and skills.
2. Theory suggests that *information systems* education, knowledge, and skills is a highly complementary, valuable fit with accounting education, knowledge, and skills. (By analogy, there are other such complementary disciplines.)
3. Understanding accounting industry trends is not adequate for planning a career in the accounting profession; understanding what factors drive the trends is necessary.
4. Evidence suggests that economic growth, accounting regulation and related laws, and developments in information systems and the IS industry are the primary factors driving changes in the accounting profession.
5. Theory and evidence, taken together, suggest that accountants need more interdisciplinary education, knowledge, and skills; in particular, information systems and managerial accounting (suggesting, among other things, that the CMA examination is more consistent with knowledge and skills needed for 80-90% of accounting professionals). ■

# Professional accounting careers:

Understanding recent accounting industry employment trends

## Time for questions and comments!

(And thank you very much for your time and interest!) ■