Labor Economics Analysis Between Financial Managers and Survey Researchers

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Introduction

Financial managers and survey researchers are occupations that play a vital role in shaping the economy. While survey researchers design and conduct surveys to collect important data for organizations to use as tools, financial managers directly handle an organization's financial well-being to ensure profitability. Studying labor market trends for these occupations is vital for anticipating changes in employment, wages, education requirements, and workforce composition. This analysis provides insights for students choosing career paths while taking into account technological innovation, policy changes, gender wage dynamics, and other key economic factors. Furthermore, understanding how these forces interact with job growth, education, and wage trends helps stakeholders make informed decisions in an evolving labor market.

Autor and Dorn Model

According to Autor and Dorn's occupational classifications, both survey researchers and financial managers fall into the category of high-skilled jobs with non-routine skills. Survey researchers require advanced statistical skills along with the ability to design and interpret complex survey data. However, parts of the data collection and cleaning process are frequently automated by programs controlled by survey researchers. Furthermore, ONET OnLine also corroborates the skills mentioned above and adds data analysis, research design, and communication as part of their occupational repertoire. The increasing importance of data-driven decision-making in both public and private sectors has made their role less susceptible to automation. For financial managers, their work is centered around interpreting complex financial data, making strategic investment decisions, and managing an organization's finances. Similar to survey researchers, the financial managers' profession demands abstract problem-solving and systemic evaluations, skills that are not susceptible to computerization.

Data and Methodology

Data Collection

The databases used for these analyses were the Integrated Public Use Microdata Series (IPUMS), more specifically IPUMS-USA and IPUMS-CPS, as well as ONET. In regard to the IPUMS

data, the collection process was the same. We selected samples from the American Community Survey (ACS) corresponding to the relevant years of our research, 2005 to 2023. Then, in the .dta file format for compatibility with the STATA software, we selected the variables of interest: age, incwage (income from wages), empstat (employment status), statefip (state identifier), occu1990 (occupation code), years of education, and gender. For data collection on the ONET database, we searched for each occupation by name using the search tool and collected the data samples for the years 1990, 2000, 2005, 2010, 2015, 2020, and 2023.

Data Cleaning

Once the data was imported into STATA, we worked to clean the data to ensure the datasets accurately reflected the working population. In STATA, we wrote code to exclude observations with: missing values, no wage income, age less than 18, and age more than 65.

```
keep if occ1990==007 | occ1990== 166
keep if age>=18 & age<=65
keep if empstat==1
keep if incwage>0

// run cpi do file
do cpi.do

// incwage gender variable generation
gen incwage_male=incwage if sex==1
gen incwage_female=incwage if sex==2

//Decomp before collapse
sum incwage if sex==1 & occ1990==84 & year==2015
sum incwage if sex==2 & occ1990==84 & year==2015
```

We then filtered and generated new variables to better align with our research objectives. Such variables include a binary gender variable to simplify filtering and facilitate clearer analysis. We also utilized STATA's collapse function to aggregate data, calculate mean values where necessary, analyze occupational trends, and visualize the data through graphs.

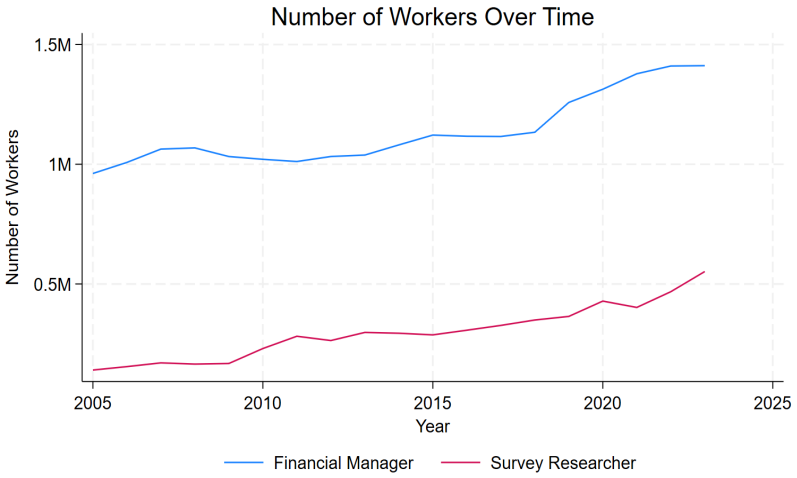
Graphical Analysis and Discussion

Graphical Introduction

In this analysis, we visualized our data through a total of 9 graphs to depict various aspects of the labor market for financial managers and survey researchers from 2005 to 2023. Utilizing these

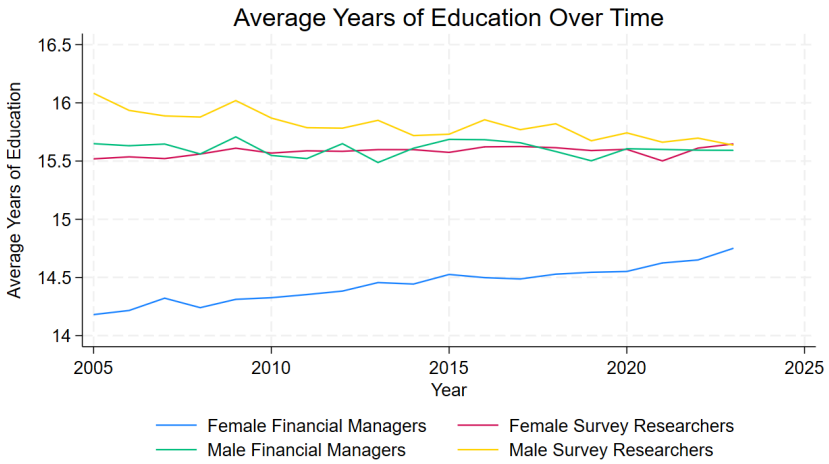
visual representations, we can better understand the trends and implications of the two occupations and their impact on the overall market.

Number of Workers



In this visualization, we depicted the workforce size for financial managers and survey researchers over time. The red line represents the survey researchers' workforce, while the blue line financial managers'. Both workforces have an overall increase in their workforce from 2005 to 2023. One of the most notable differences between the two occupations in this aspect is around 2008, marking the beginning of the Great Recession. While there was a decline in the financial manager workforce, survey researchers saw a sharp uptick in their workforce. This may be attributed to the public sector having a higher demand for survey researchers to conduct studies on the recession; however, more information is needed for a concrete conclusion. The other significant year in the visualization is 2019 at the start of COVID. While other occupations analyzed in our class by our peers had a decline in the workforce, both financial managers and survey researchers saw a sharp increase in their workforce, which may have a similar rationale as the 2008 uptick for survey researchers. Additionally, financial managers' workforce growth can be attributed to the expansion of the global economy in the technology sector.

Average Years of Education

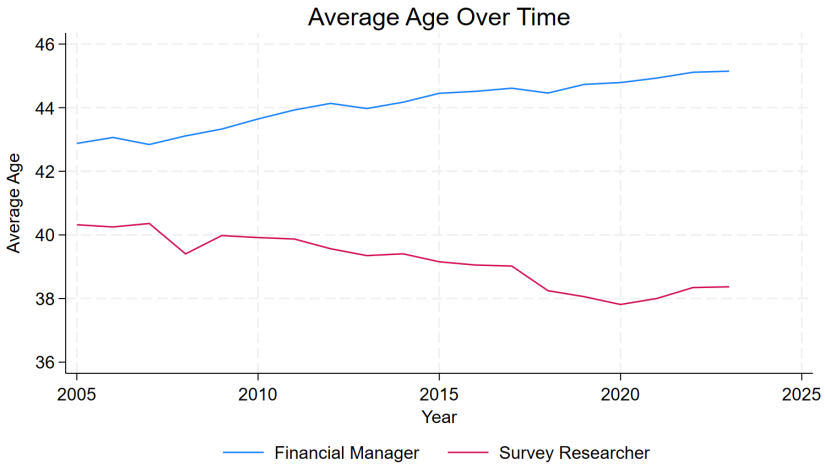


The graphical illustration displays the trends in educational attainment for the financial managers and survey researchers for males and females. The survey researchers' lines are

represented by warm colors (male is yellow and female is red), while financial managers' lines are depicted by cool colors (female is blue and male is green). Survey researchers typically hold degrees in the social science department, such as sociology or psychology, in addition to statistical fields. On the other hand, financial managers tend to hold degrees in finance or economics-related fields. Additionally, both occupations, on average, pursue graduate or post-graduate education, such as MBAs. Unfortunately, the exception to this is female financial managers from 2005 to around 2018. This may be attributed to the finance industry's long history of being a male-dominated field and companies that hold a bias toward male leadership. This may lead to women relying more on experience than educational attainment. Although the education gap is on trend to decrease, there is still roughly a 1-year gap between female financial managers and their male counterparts.

Average Age

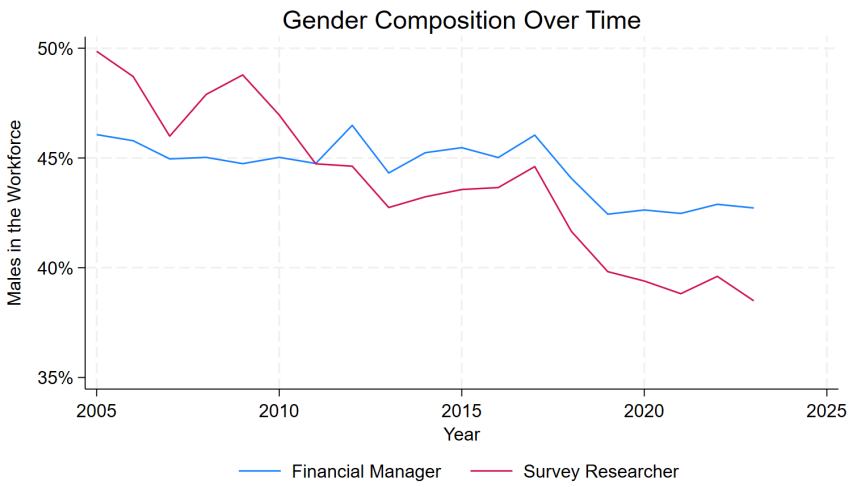
The following is a visualization of the average age of financial managers (blue line) and survey researchers (red line) over time. Interestingly, unlike the aforementioned graphs, the occupations differ in trend lines. While financial managers show an increasing trend, survey researchers are getting younger on average. This can largely be attributed to financial managers being a managerial position requiring years of experience, in addition to the overall finance-sector workforce getting older. Conversely, since survey researchers are largely statistical, technological innovations in the sector, through software, have pushed out older, traditional survey research methods and have replaced them with newer software demanding younger, more tech-savvy individuals.



Gender Composition

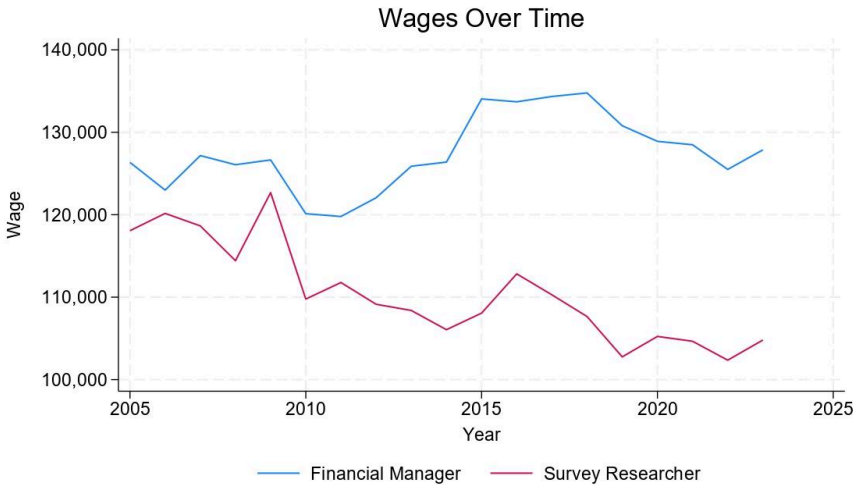
In this graph, the gender composition for financial managers (blue line) and survey researchers (red line) is visualized by a line based on the percentage of men in the workforce. Both

occupations demonstrate female workforce growth, with survey researchers becoming a female-dominated workforce. This shift in dynamic was led by efforts to increase gender equality and diversity in companies, as well as a growing female educational attainment for both occupations, which was previously mentioned. Several factors could explain this trend, including changes in societal attitudes toward gender roles, greater efforts to promote gender equality in both professions and the increasing appeal of research-based work to women. Additionally, the lack of female representation for financial managers is also reflected in other higher-level positions in the financial sector.



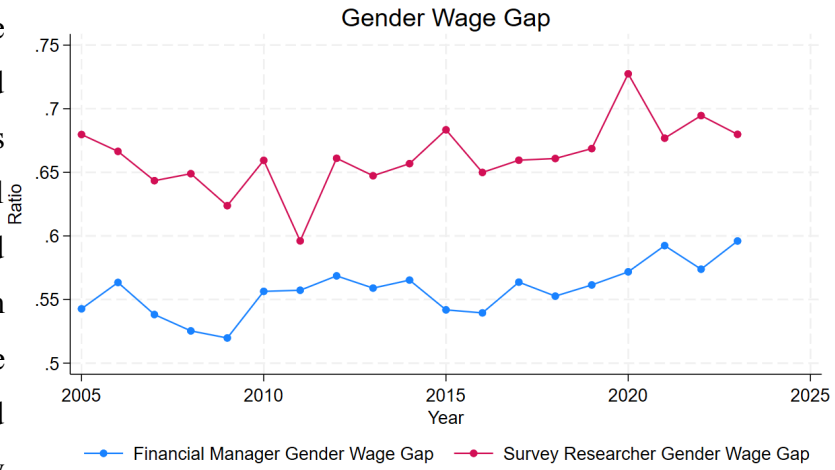
Wages

The following graph displays the wages for financial managers (blue line) and survey researchers (red line). Unsurprisingly, financial managers have a higher average wage in all years for this research. A set of notable years is 2008-2009, the Great Recession, since both occupations depict a decrease in wages in 2008 and then an increase in 2009, with the survey researchers' change being more extreme. As aforementioned in the workforce graph, this positive change for survey researchers can be attributed to the public and private sectors conducting research on the recession as it unfolds. A similar pattern is observed among survey researchers for the 2019-2020 period during the



COVID-19 pandemic, which can be attributed to the same reason. While both occupational wages are relatively volatile, survey researchers exhibit a negative trend, whereas financial managers show a slightly positive trend, illustrating a growing wage gap between occupations.

Gender Wage Gap

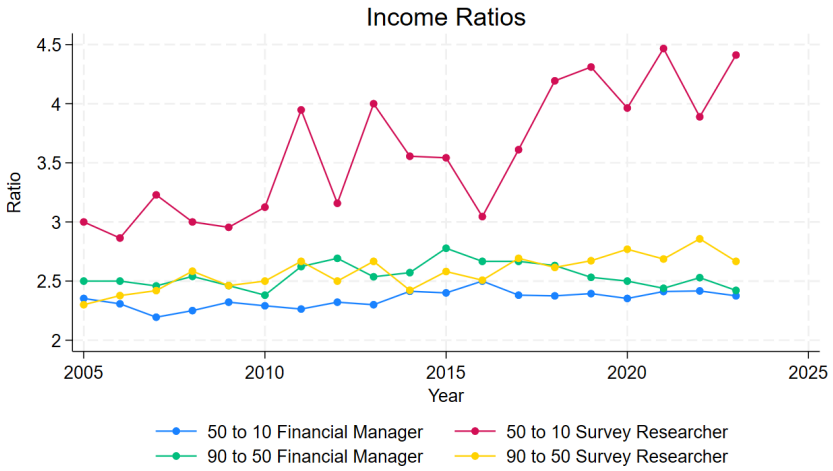


The following graphs visualize the gender wage gap and income ratios, where the lines for financial managers are cool colors (blue and green) and survey researchers are warm colors (red and yellow). The gender wage gap was calculated by separating the wages by gender and dividing the female wage by the male wage. In the gender wage gap graph, survey researchers have a significantly higher gender wage gap than financial managers, meaning that there is a higher wage disparity for women among survey researchers than among financial managers. Despite being volatile, each occupation remains within a general range, 0.6-0.7 for survey researchers and 0.5-0.6 for financial managers. This is interpreted as female survey researchers are paid 60% to 70% of their male counterparts' wages, and female financial managers earn 50% to 60% of theirs. However, there are two outliers for survey researchers, one in 2011 and another in 2020. It is hypothesized that the 2011 dip below 0.6 was caused by the aftermath of the Great Recession. On the other hand, the 2020 peak of about 0.73 is believed to have been caused by COVID-19.

Income Ratios

This visualization depicts the income ratios for the top 90%, 50%, and 10% earners for financial managers (blue and green lines) and survey researchers (red and yellow lines). Except for the 50% to 10% survey researcher line, all lines fluctuate but see little overall change to their ratios, being around 2.5. This means that the top 90%, or the bottom 10%, of earners for both occupations earn approximately 2.5 times the top 50%, or median, earners of their occupations. While the 50% to 10% ratio for financial managers follows the same trend as the 90% to 50%

lines, the financial manager 50% to 10% line has a minimum of 2.8 and a maximum of 4.5. Unlike the previous lines, the 50% to 10% survey researcher line has a significant increase over time, with recent years illustrating that the top 10% of survey researchers earn 4.5 times more than the median earners. Unfortunately, more information is needed to conduct a thorough analysis and conclude the reasoning for the steep increase in the 50% to 10% income ratio for survey researchers



Conclusion

This occupational analysis between financial managers and survey researchers reveals how trends in the labor market are shaped by education, age, gender dynamics, income disparities, as well as broader economic forces. Financial managers have seen consistent growth in employment and wages, while survey researchers have experienced slower growth, due to the evolution of technology and automation in regards to data collection methods. Though financial managers will likely continue to be in demand, survey researchers will likely be under more pressure in the labor market due to technological innovations in artificial intelligence beginning to be able to automate other aspects of the survey researcher occupation.

Works Cited

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