

Wanna be rich? Here's how!

A statistical analysis regarding how the relationship between wealth worth and industry has changed over time in North America

We R Group 5: Lyla Miller, Martin Ma, Joshua Lee, Yeeke Wang

Introduction and Data

- Dataset "Billionaires" (2016)
 - Contains data on the Billionaires in the world in 1996, 2001, 2014
 - Examples of info included (variables): country, wealth worth, wealth type, industry, etc.
- Used multiple variables to come up with a question that helps us gather more insight on the wealth world, specifically focusing on North America



Research Question

Billion dollar question (pun intended): How has the relationship between wealth worth and industry among billionaires changed in North America as time goes on?



Hypothesis

- Increase in number of billionaires per industry
- Increase in the average wealth worth
- A notable industry is computer tech
 - Predict the greatest increase in billionaires



Methodology

A tibble: 17 × 2

wealth.how.industry <chr>	num_billionaires <int>
1 Consumer	86
2 Money Management	58
3 Retail, Restaurant	50
4 Media	42
5 Real Estate	42
6 Diversified financial	24
7 Technology-Computer	22
8 Consturction	16
9 Non-consumer industrial	16
10 Energy	15
11 Technology-Medical	14
12 Mining and metals	12
13 Hedge funds	9
14 Other	8
15 banking	1
16 Private equity/leveraged buyout	1
17 services	1

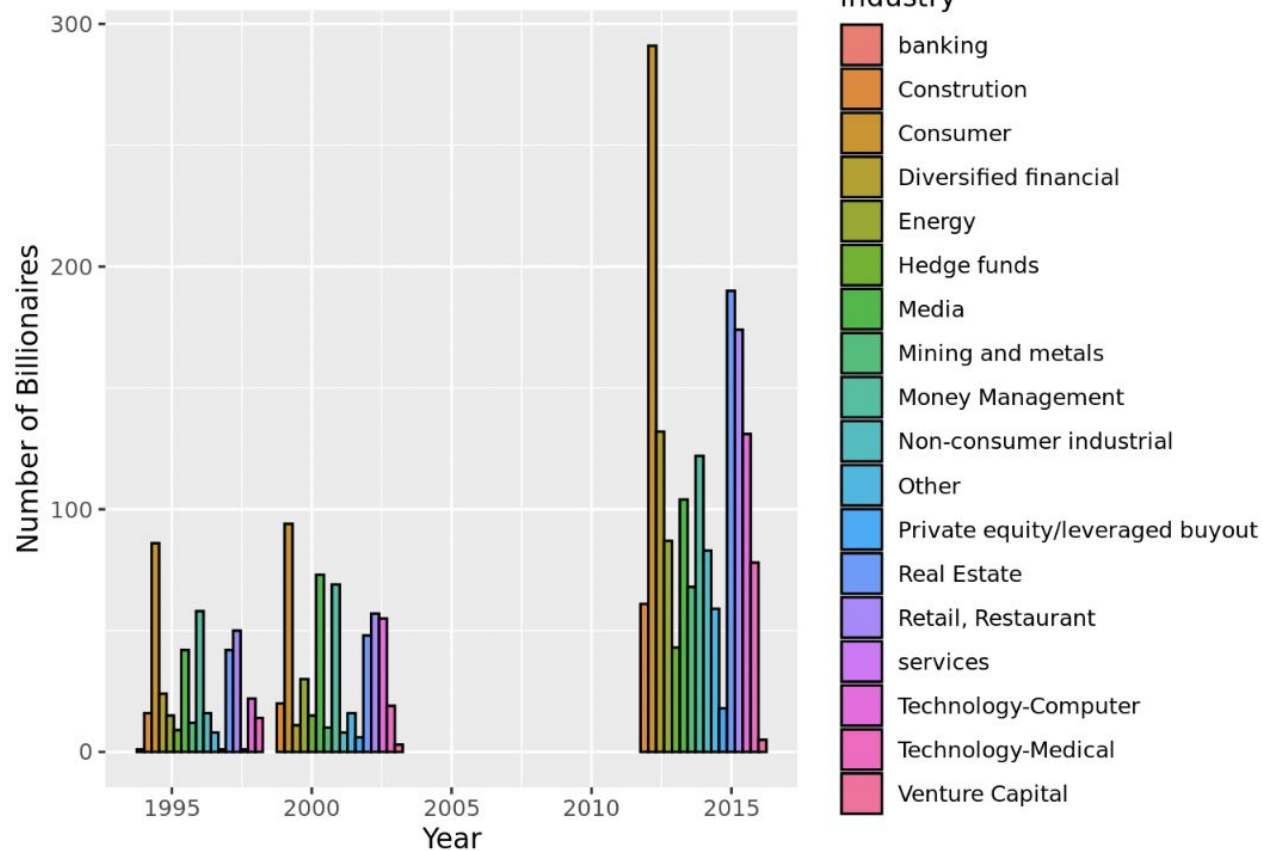
A tibble: 16 × 2

wealth.how.industry <chr>	num_billionaires <int>
1 Consumer	94
2 Media	73
3 Money Management	69
4 Retail, Restaurant	57
5 Technology-Computer	55
6 Real Estate	48
7 Energy	30
8 Consturction	20
9 Technology-Medical	19
10 Other	16
11 Hedge funds	15
12 Diversified financial	11
13 Mining and metals	10
14 Non-consumer industrial	8
15 Private equity/leveraged buyout	6
16 Venture Capital	3

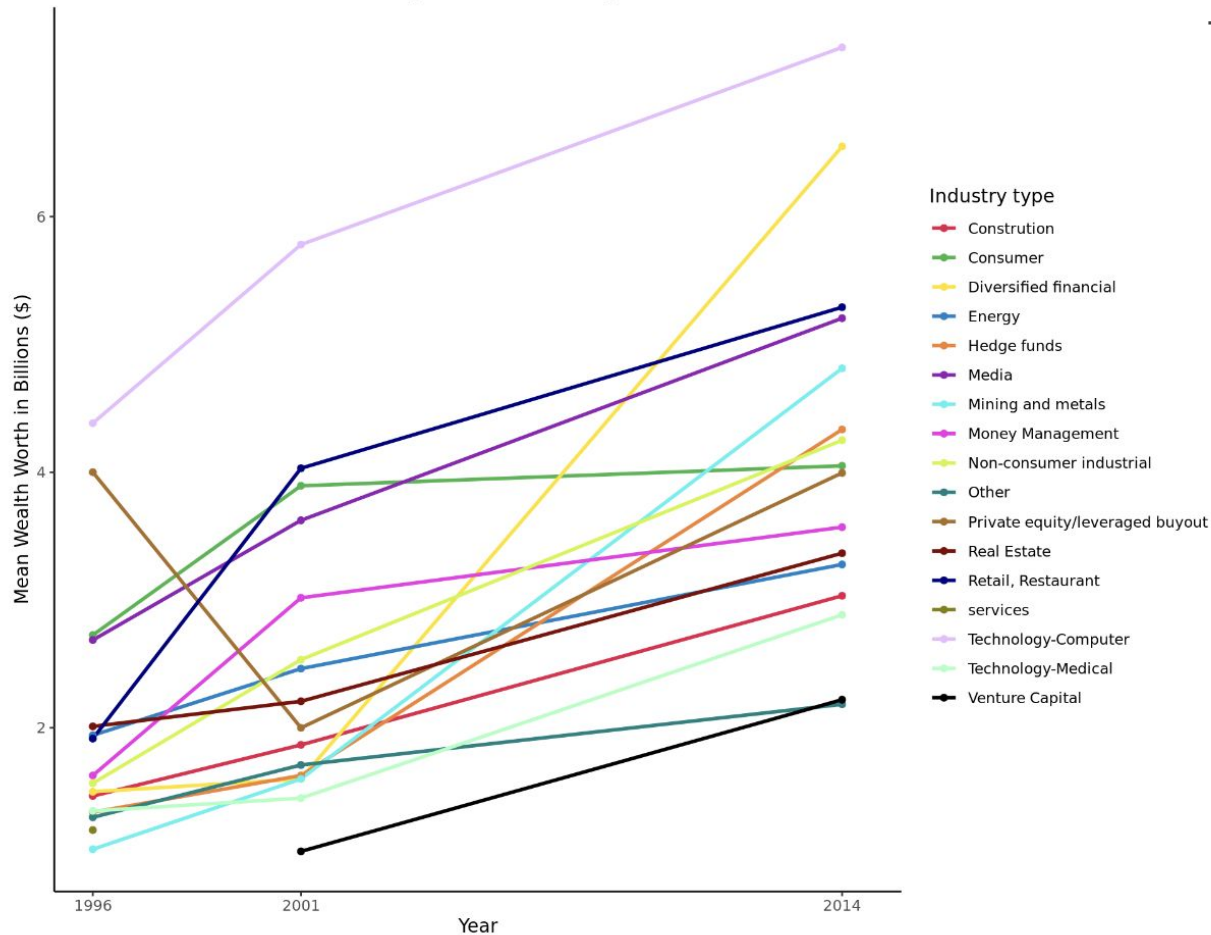
A tibble: 16 × 2

wealth.how.industry <chr>	num_billionaires <int>
1 Consumer	291
2 Real Estate	190
3 Retail, Restaurant	174
4 Diversified financial	132
5 Technology-Computer	131
6 Money Management	122
7 Media	104
8 Energy	87
9 Non-consumer industrial	83
10 Technology-Medical	78
11 Mining and metals	68
12 Consturction	61
13 Other	59
14 Hedge funds	43
15 Private equity/leveraged buyout	18
16 Venture Capital	5

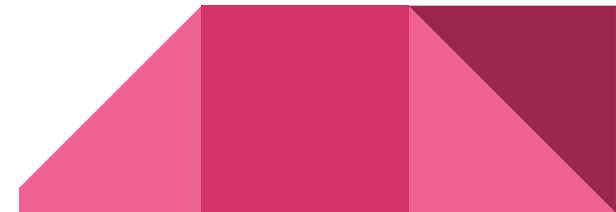
Number of Billionaires per Industry by Year



Mean Wealth Worth in Billions By Year Per Industry



- Compared wealth worth averages per industry by year in a plot



Hypothesis Test

We conducted a two sample t-test to evaluate the change from 2001 to 2014 using the given null hypothesis and alternative hypothesis.

$$H_0 = 2014 - 2001 \leq 0$$

$$H_a = 2014 - 2001 > 0$$

$$p \text{ value} = [1] \ 0.0001527831$$

We conducted a two sample t-test to evaluate the change from 1996 to 2001 using the given null hypothesis and alternative hypothesis.

$$H_0 = 2001 - 1996 \leq 0$$

$$H_a = 2001 - 1996 > 0$$

$$p \text{ value} = [1] \ 0.1394406$$



Results

- As time goes by, there is a clear increase in number of billionaires as well as average wealth worth in billions for MOST industries
- Technology computer industry greatest mean wealth worths overall (all 3 years)
 - But greatest increase in mean wealth worth was in the diversified financial industry
- Services industry removed from dataset in 2001 → decline in its overall success and profitability
- Venture capital industry added to dataset in 2001
- Private equity/leveraged buyout → dip in graph (decreased then increased)



Thank You!

