

Private Capital Rounds of Funding

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Introduction

- ▶ The data that is going to be analyzed is about private capital rounds of funding
- ▶ If you are just jumping into this presentation blindly, there are a couple of resources I recommend:
 - ▶ Startup Funding Explained: Everything You Need to Know [hyperlink]
 - ▶ Glossary of Funding Types
- ▶ In addition, I was able to find/use a complementary data set that tells what industry a company is in (including and prior to 2014)
- ▶ Presentation/Deliverables are available upon request. Contact dj.sioson@alum.utoronto.ca

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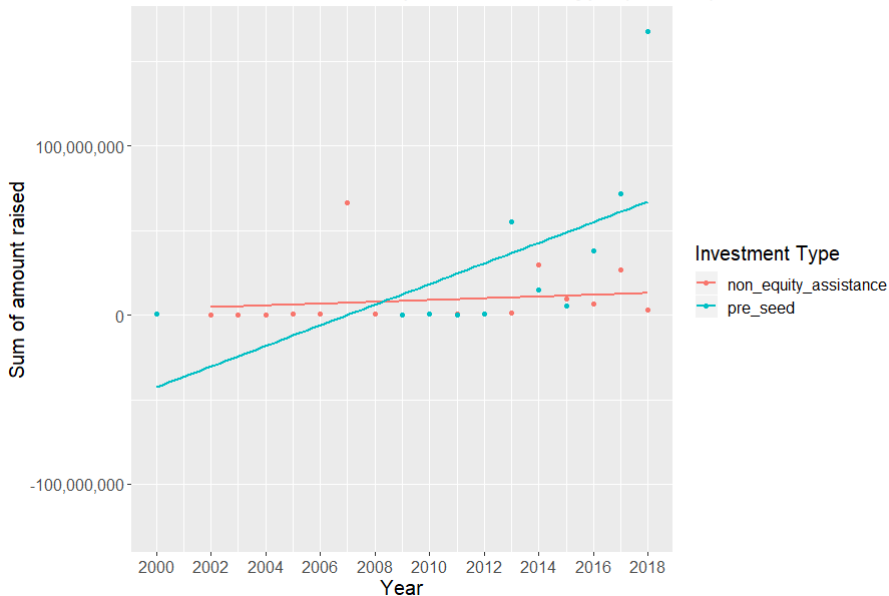
Graced funding over the years

Summation of amount raised per investment type (Graced)

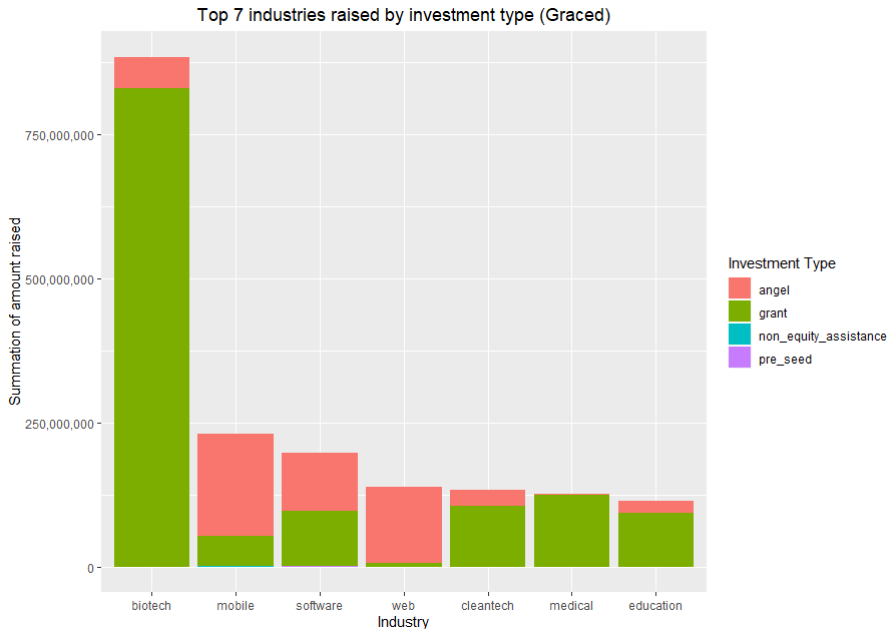


Graced funding (non-angel and non-grant)

Summation of amount raised per investment type (Graced)



Top 7 Graced industries



Graced Cities [interactive]

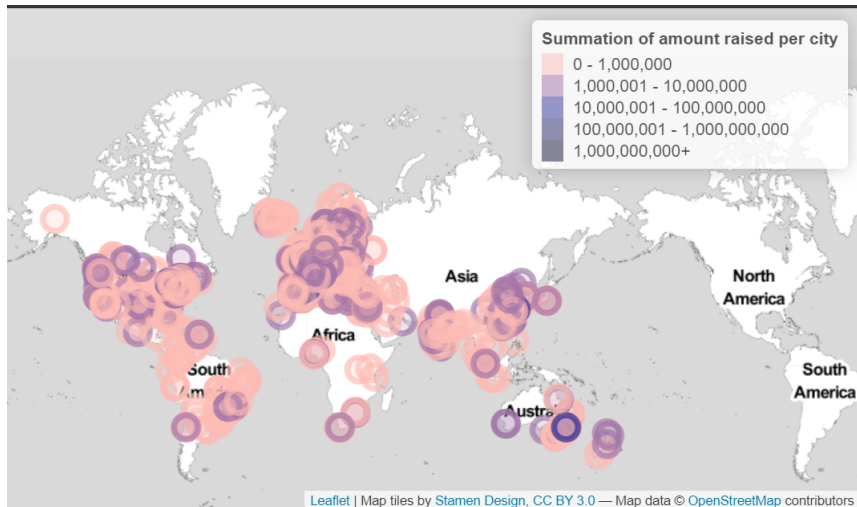


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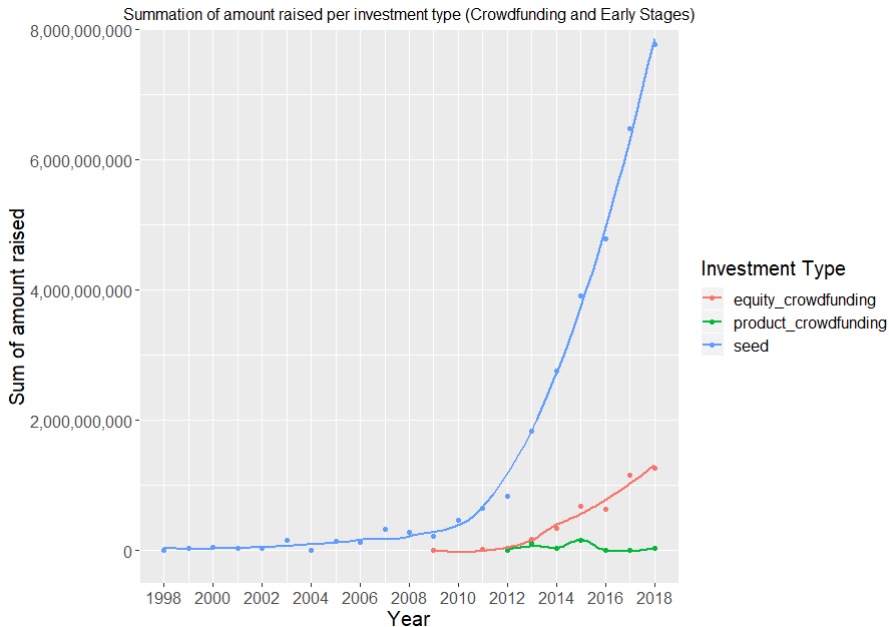
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Crowdfunding and Early Stages

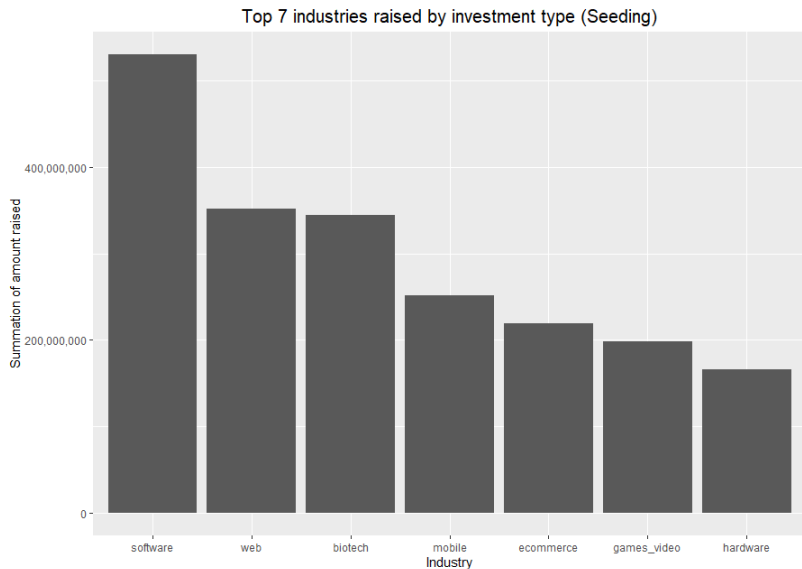


Crowdfunding and Early Stages [non-seed]

Summation of amount raised per investment type (Crowdfunding and Early Stages)



Top 7 industries by seeding



Top 7 industries by crowdfunding

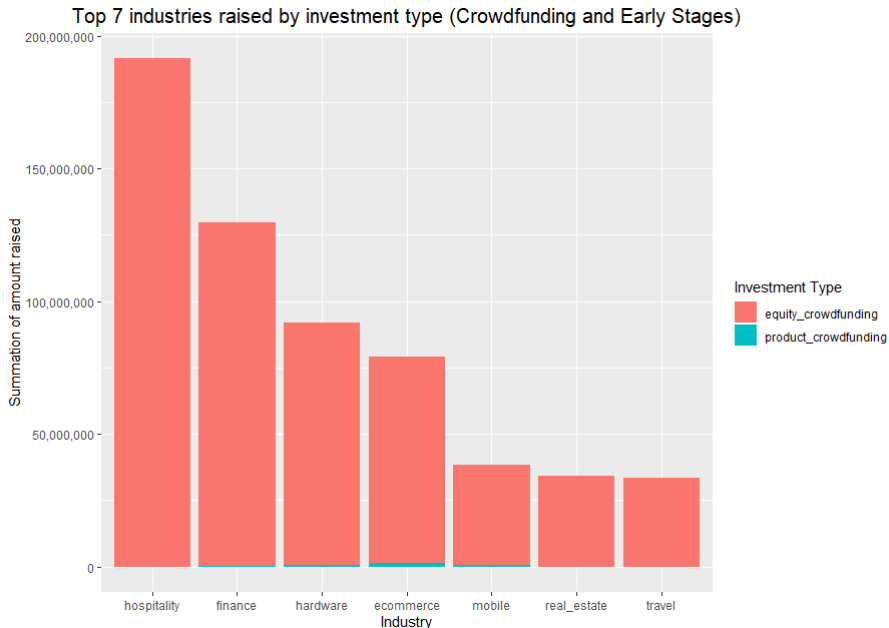


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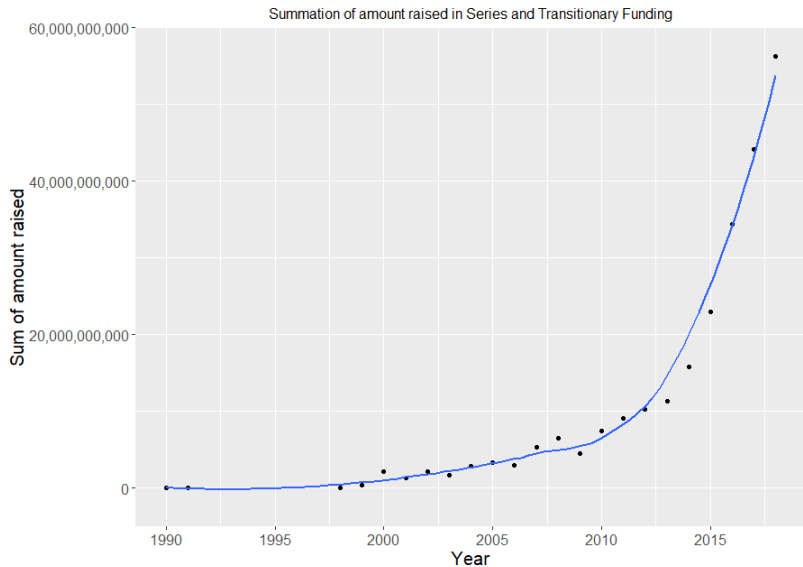
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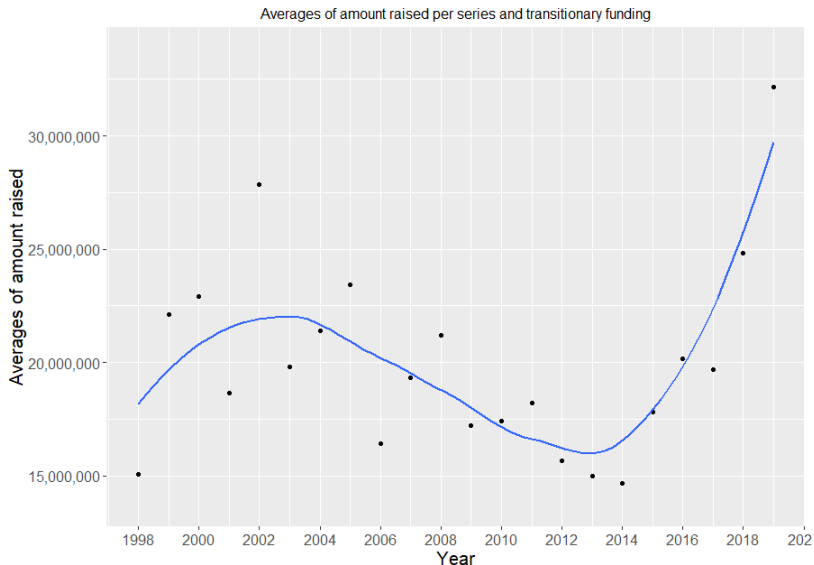
Total amount of funding per region

Next Steps with what is given

Series and Transitory funding summation over the years



Series and Transitory funding averages over the years



Series and Transitory funding summation of industries

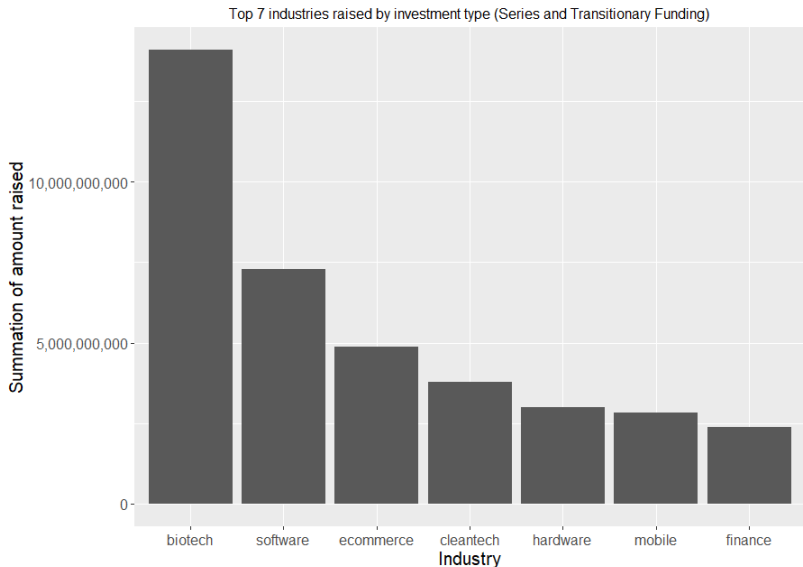


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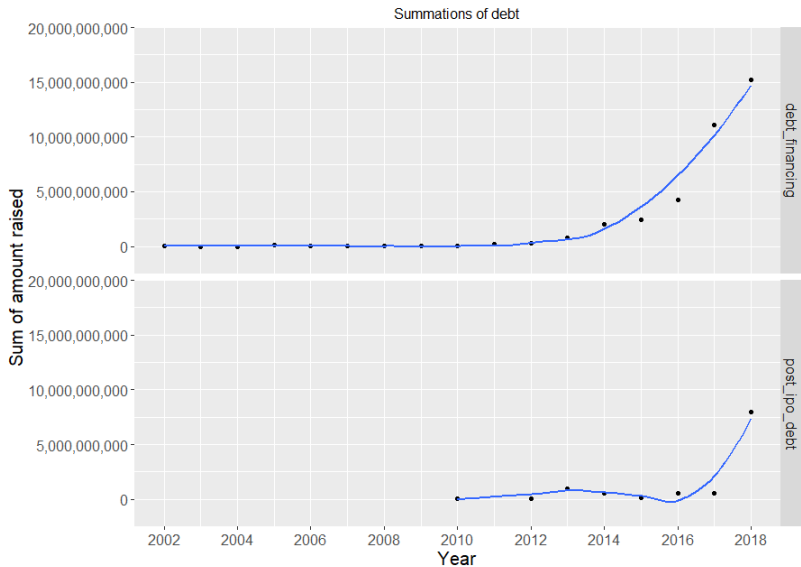
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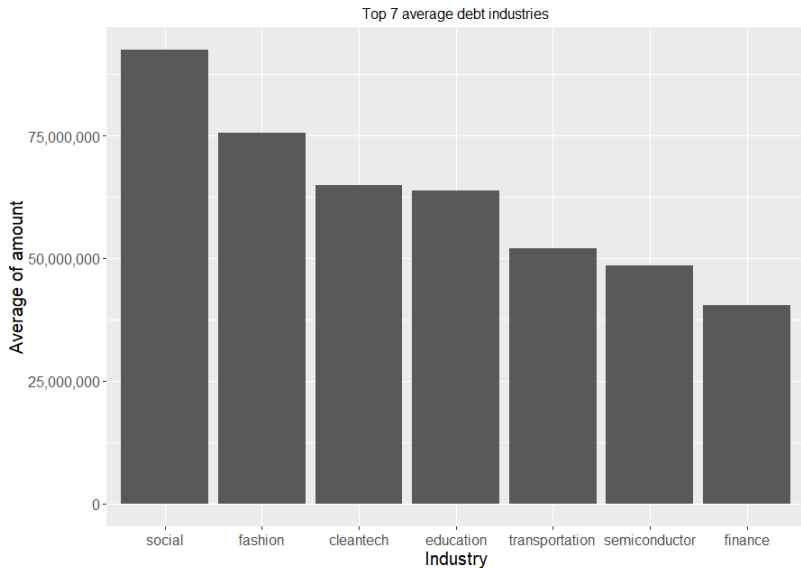
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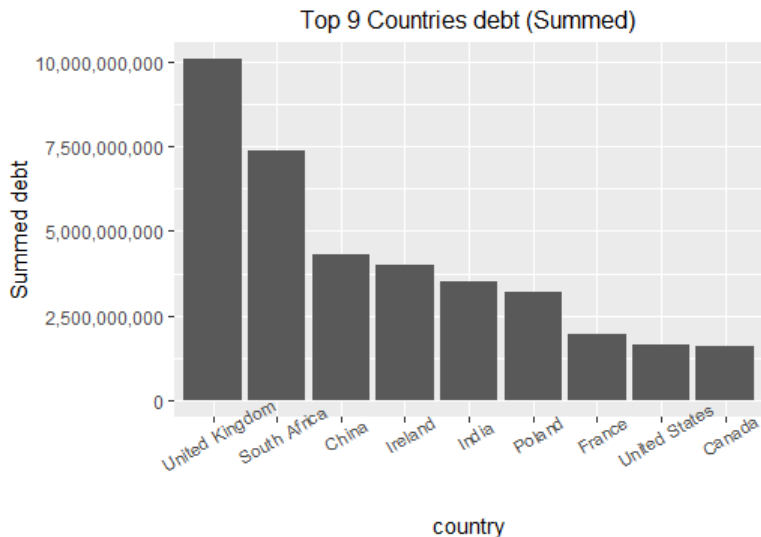
Liquidity Coverages



Liquidity Coverages (industries)



Liquidity Coverages (countries)



Liquidity Coverages (countries)

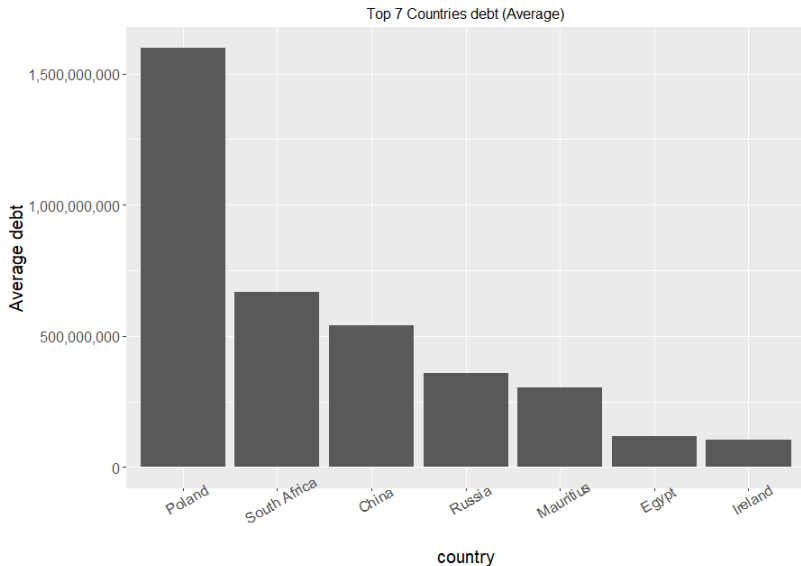


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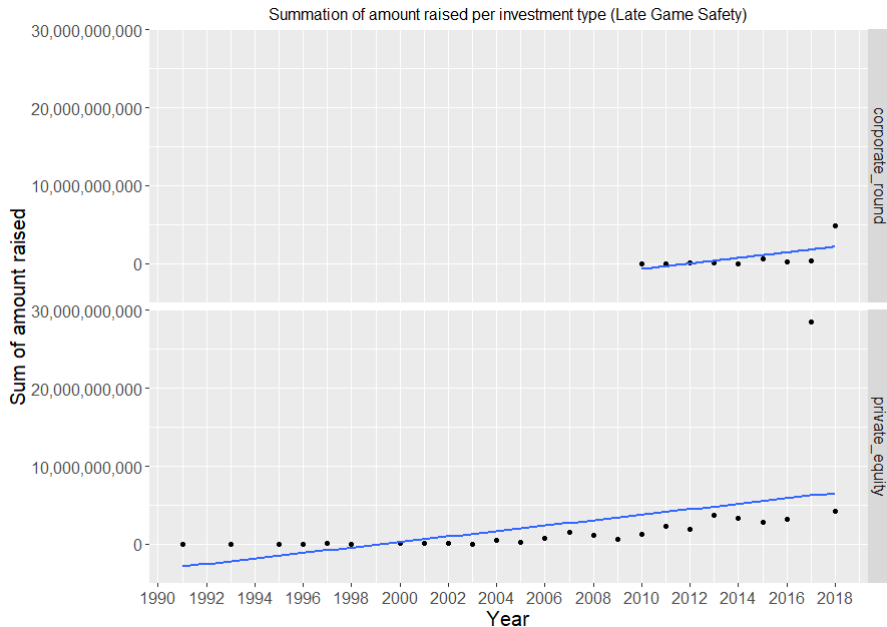
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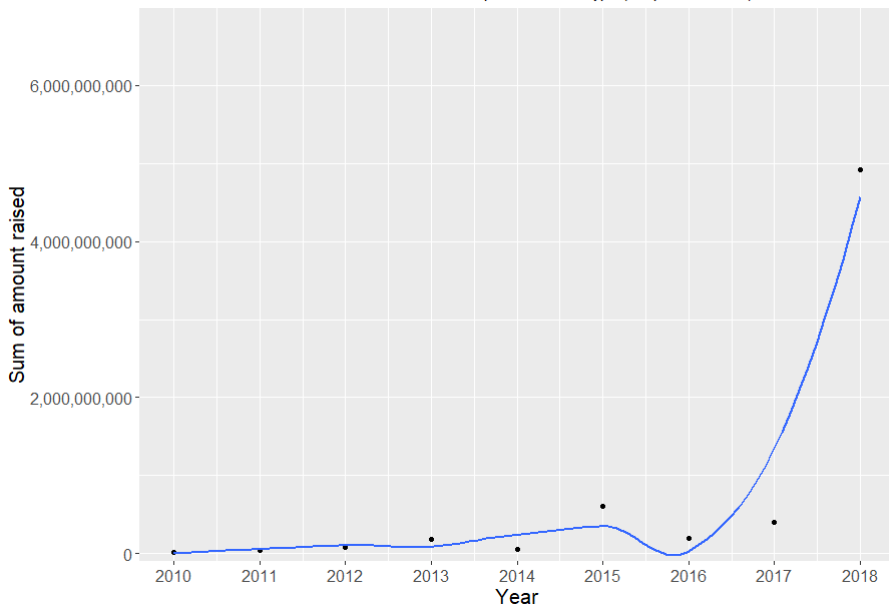
Next Steps with what is given

Late Game Safety [introduction]

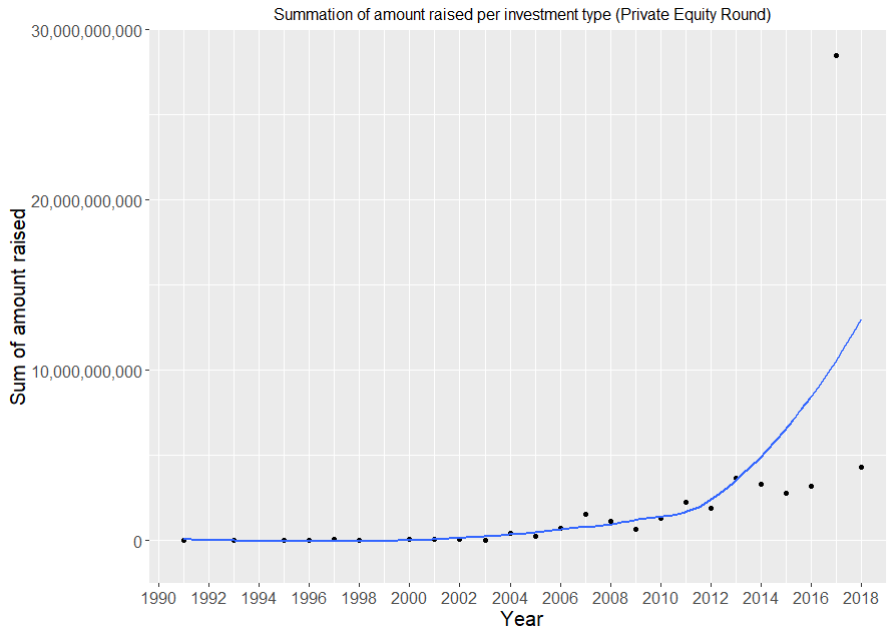


Late Game Safety - Corporate Round

Summation of amount raised per investment type (Corporate Round)



Late Game Safety - Private Equity



Late Game Safety - Private Equity

Tsinghua Unigroup Ltd

+ Add to myFT

Chinese chipmaker Tsinghua Unigroup agrees \$22bn in state financing

Semiconductor group wants to reduce reliance on western imports



© Reuters

Don Weinland in Hong Kong MARCH 28 2017



company_name
<chr>

announced_on
<date>

raised_amount_usd
<dbl>

investment_type
<chr>

Tsinghua Unigroup International

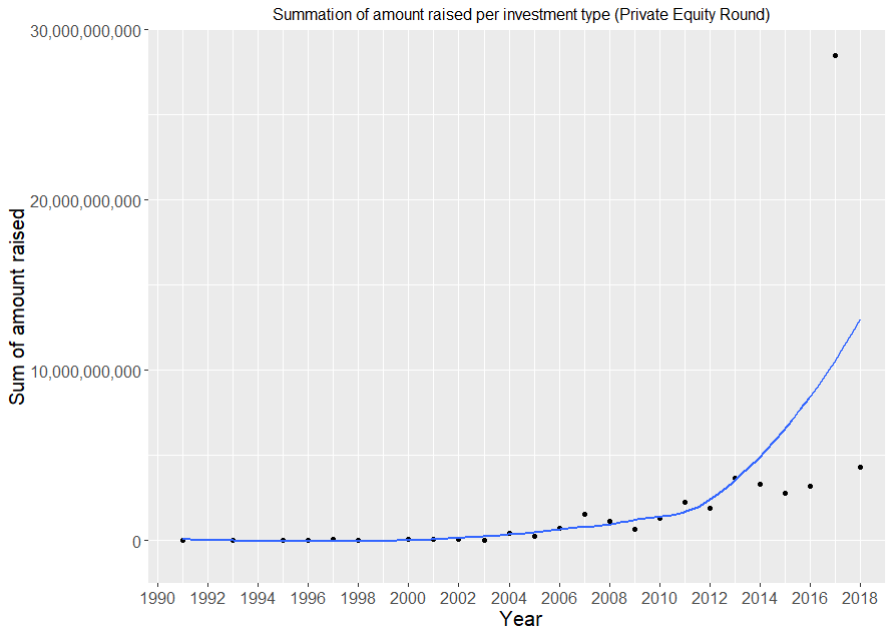
2017-03-28

21801691811

private_equity

Taken From Financial Times [Hyperlink]

Private Equity Comparison - With Tsinghua



Private Equity Comparison - With Tsinghua

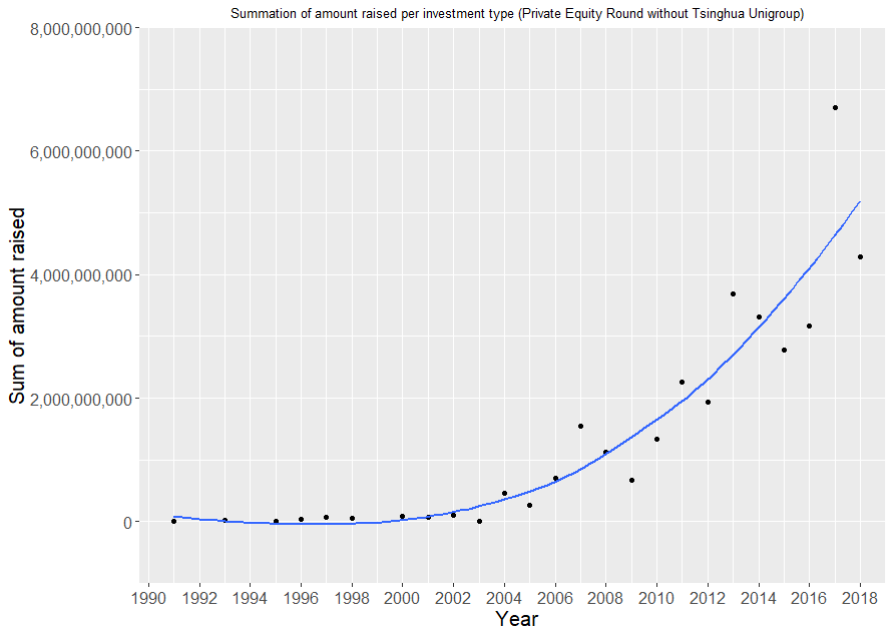


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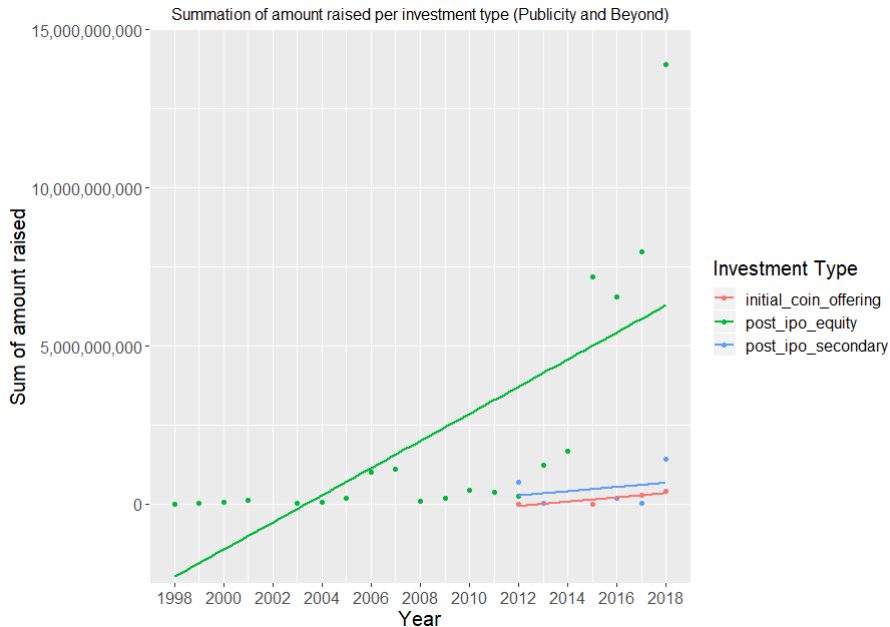
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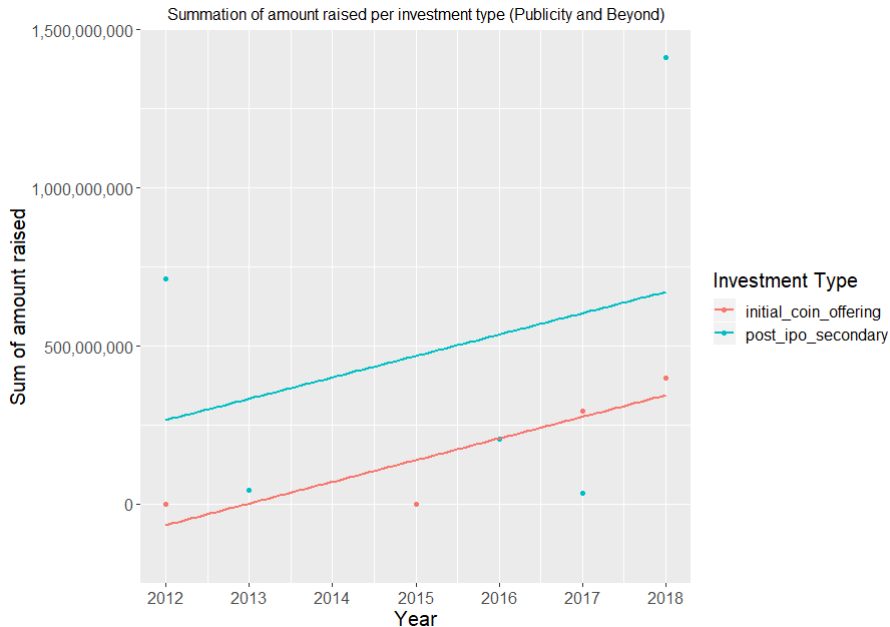
Total amount of funding per region

Next Steps with what is given

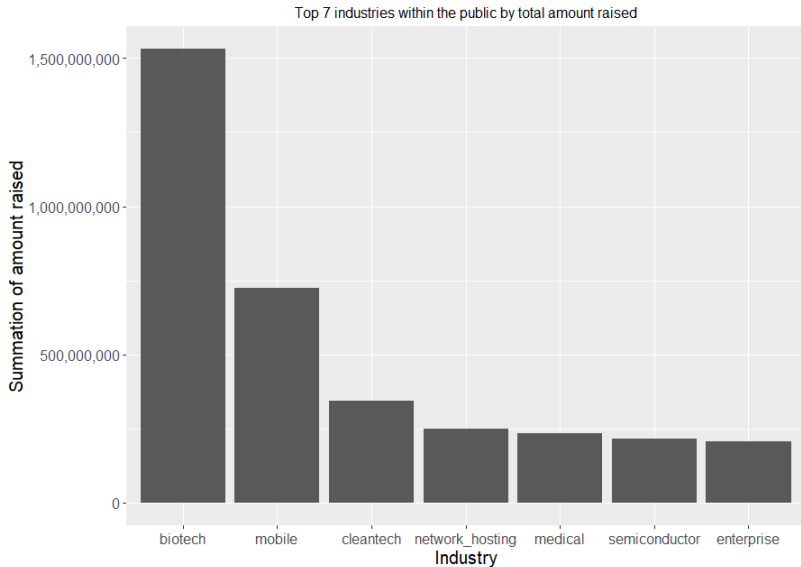
Public and Beyond



Public and Beyond (non Post-IPO Equity)



Public and Beyond (top 7 industries by summation)



Public and Beyond (top 7 industries by averages)

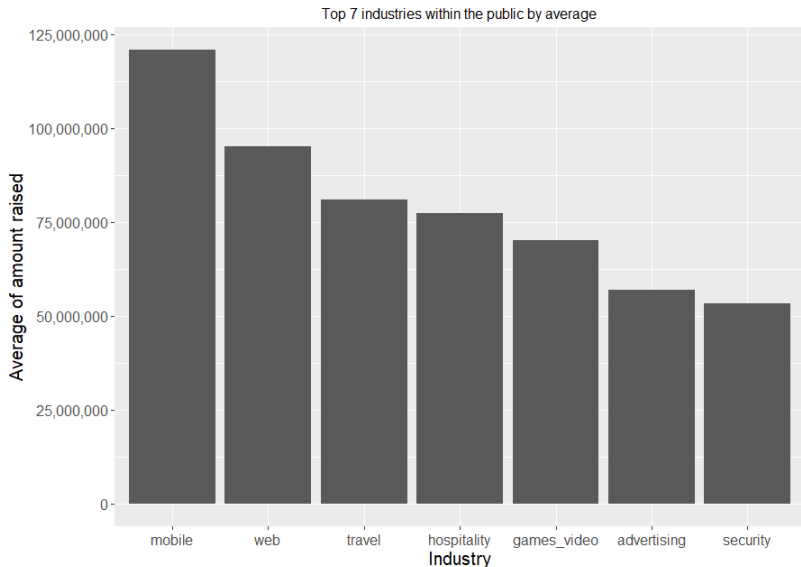


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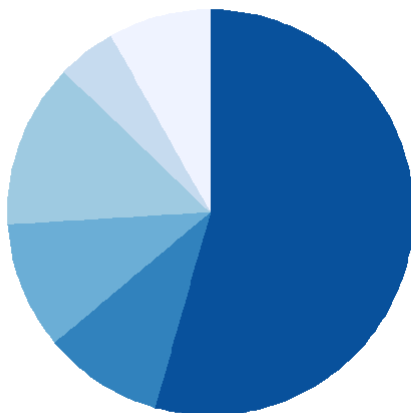
Investor Ownership

Total amount of funding per region

Next Steps with what is given

Distributions of investment types

Situation and amount raised

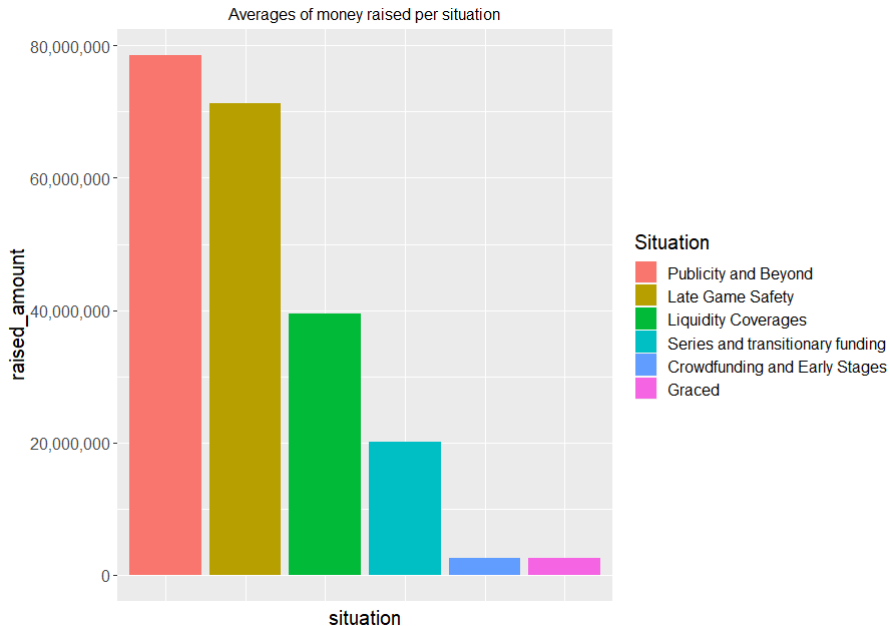


Situation

- Crowdfunding and Early Stages - 8.17 %
- Graced - 4.65 %
- Late Game Safety - 13.14 %
- Liquidity Coverages - 10.13 %
- Publicity and Beyond - 9.51 %
- Series and transitional funding - 54.39 %

Proportion of amount raised

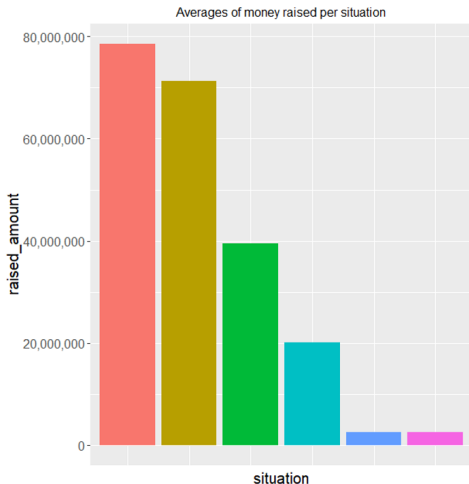
Distributions of investment types [Averages]



Contrast Analysis - What is it?

- ▶ Contrast is a linear combination of group means
- ▶ Notation: μ_A for mean of group A, and so on
- ▶ Null Hypothesis: $H_0 : \mu_A - \mu_B = 0$
- ▶ $\alpha = 0.05$
- ▶ If p-value is less than α , reject the null hypothesis and conclude that there are significant differences between the groups

Contrast Analysis between investment types [Averages]



```
Call:
lm(formula = raised_amount_usd ~ situ_factor, data = fcntrs)

Residuals:
    Min       1Q   Median       3Q      Max
-7.852e+07 -5.427e+06 -2.501e+06 -1.766e+06  2.173e+10

Coefficients:
(Intercept)      Estimate Std. Error t value Pr(>|t|)
situ_factorhyp_gac      2693      836311    0.003  < 2e-16 ***
situ_factorhyp_las     9674626    1839145    5.260  1.44e-07 ***
```

Situation

- Publicity and Beyond
- Late Game Safety
- Liquidity Coverages
- Series and transitional funding
- Crowdfunding and Early Stages
- Graced

Abbreviated name	Comparisons	P-val < 0.05?	Conclusion
hyp_gac	Graced and Crowdfundin g	No; 0.997	Do not reject the null hypothesis
hyp_las	Liquidity and Series	Yes; 1.44e-07	Reject the null hypothesis

Contrast Analysis between investment types [Averages]

Averages of money raised per situation

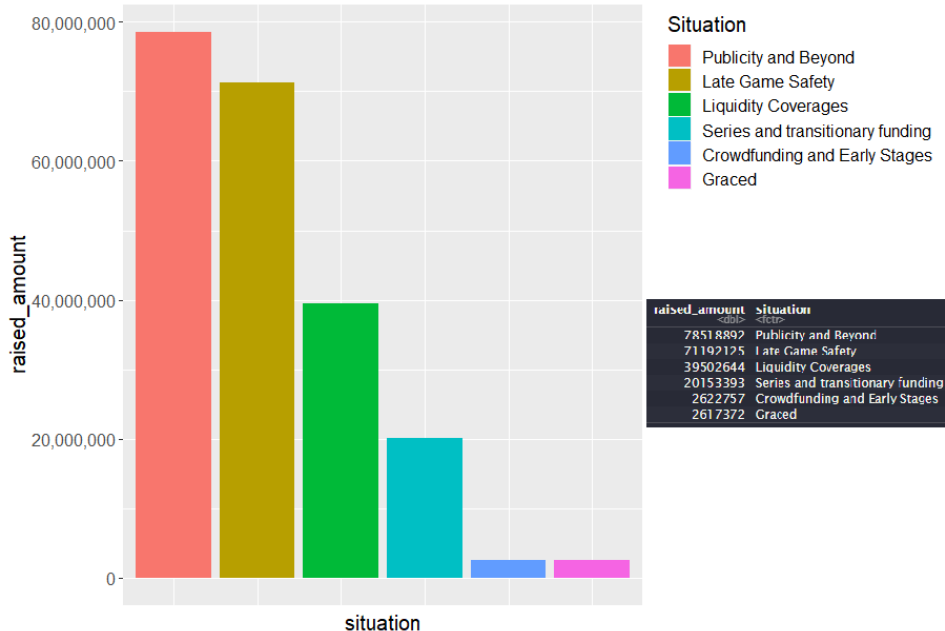


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Investor Ownership - Basics

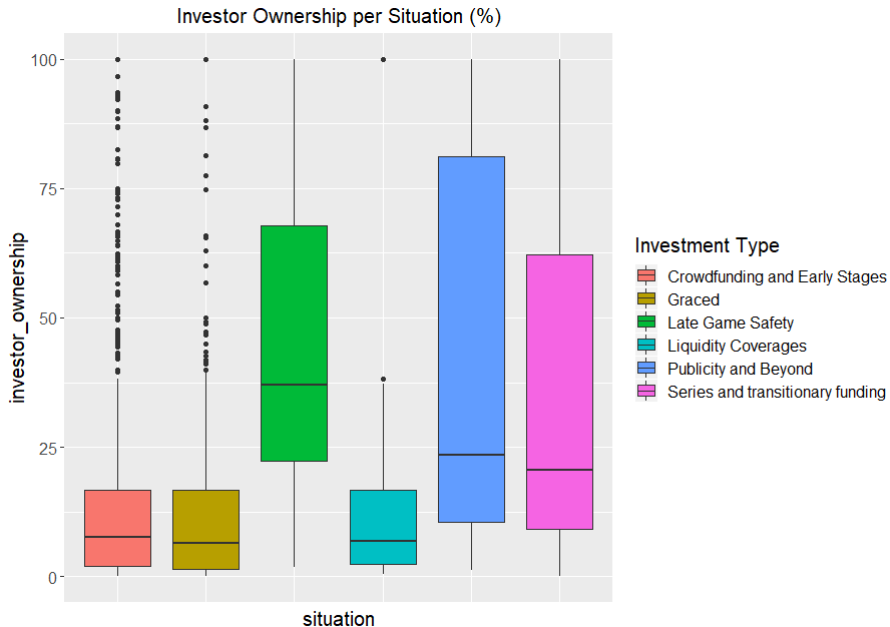
- ▶ The basic formula to determine how much an investor owns is

$$\text{Investor Ownership} = \frac{\text{Amount Raised}}{\text{Post-money valuation}} \%$$

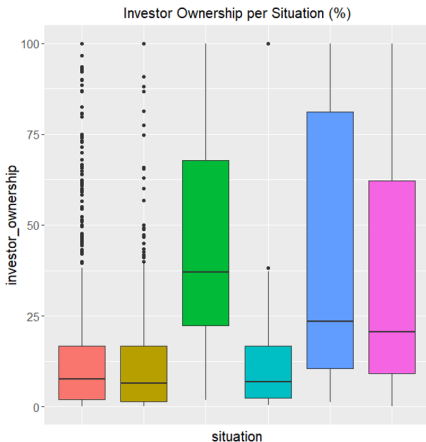
- ▶ The previous owner's share dilutes proportional to

$$100\% - \text{Investor Ownership}\%$$

Investor Ownership



Investor Ownership Contrast Analysis



Investment Type

- Crowdfunding and Early Stages
- Graced
- Late Game Safety
- Liquidity Coverages
- Publicity and Beyond
- Series and transitional funding

```
call:
lm(formula = raised_amount_usd ~ situ_factor, data = diluf_con)
```

Residuals:

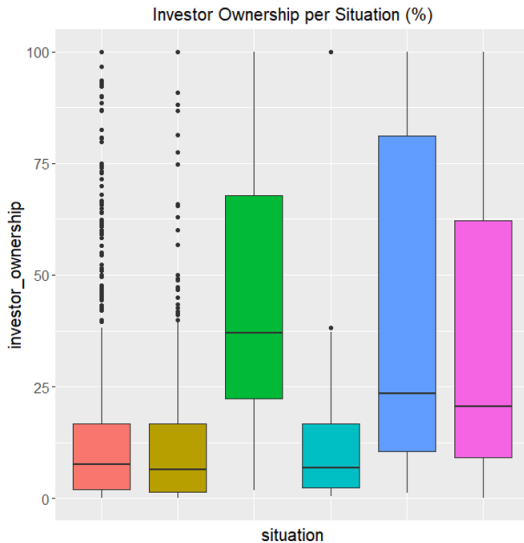
	Min	1Q	Median	3Q	Max
	-236800760	-1743010	-1544520	-936255	3474944611

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	60709922	4677414	12.979	<2e-16 ***
situ_factorhyp_cg	388130	1848640	0.210	0.834
situ_factorhyp_sp	97123473	7450721	13.035	<2e-16 ***
situ_factorhyp_clq	-3449037	11071789	-0.312	0.755
situ_factorhyp_glq	-3837167	11169138	-0.344	0.731203

Abbreviated Name	Comparisons	p-val < 0.05?	Conclusion
hyp_cg	Crowdfunding and Graced	No; 0.834	Do not reject null
hyp_glq	Graced and liquidity	No; 0.732	Do not reject null
hyp_clq	Crowdfunding and liquidity	No; 0.755	Do not reject null
hyp_sp	Series and Public	Yes; <2e-16	Reject the null hypothesis

Investor Ownership Contrast Analysis



Investment Type

- Crowdfunding and Early Stages
- Graced
- Late Game Safety
- Liquidity Coverages
- Publicity and Beyond
- Series and transitional funding

situation	investor_ownership.mean
Late Game Safety	46.56475
Publicity and Beyond	41.72800
Series and transitional funding	36.55822
Liquidity Coverages	18.46615
Crowdfunding and Early Stages	13.54409
Graced	12.23238

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Total amount of funding per region [Interactive]

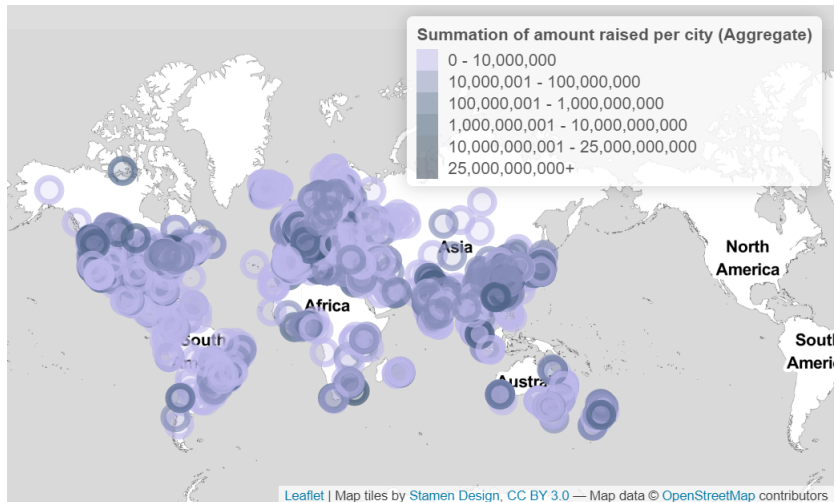


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Next Steps...

- ▶ Further measurement of population density in a city
- ▶ Learn about industries that make global impact, not just economical impact
 - ▶ Determining how we can measure an industry's impact per dollar raised relative to standards of human life and the ecological environment
 - ▶ Which countries/regions provide the largest global impact

Thank you!

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Next Steps with what is given

Made with...

- ▶ base R and libraries:
 - ▶ tidyverse
 - ▶ countrycode
 - ▶ sqldf
 - ▶ ggmap
 - ▶ leaflet