Impact of capital raise on return of firms

Evidence from Tehran Stock Exchange

S.M. Aghajanzadeh M. Heidari A. EbrahimNejad

Tehran Institute for Advanced Studies

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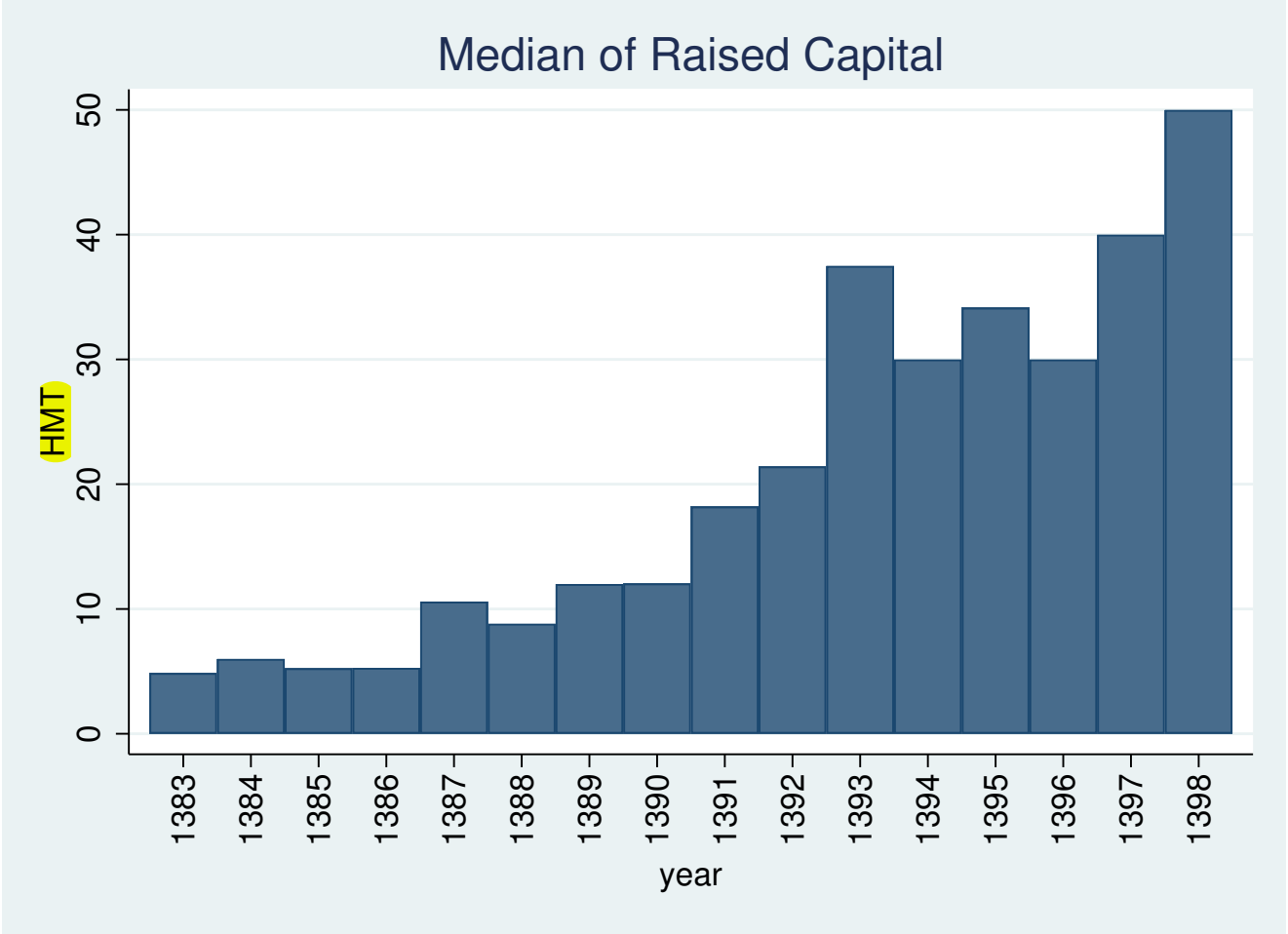
Table of Contents

Data

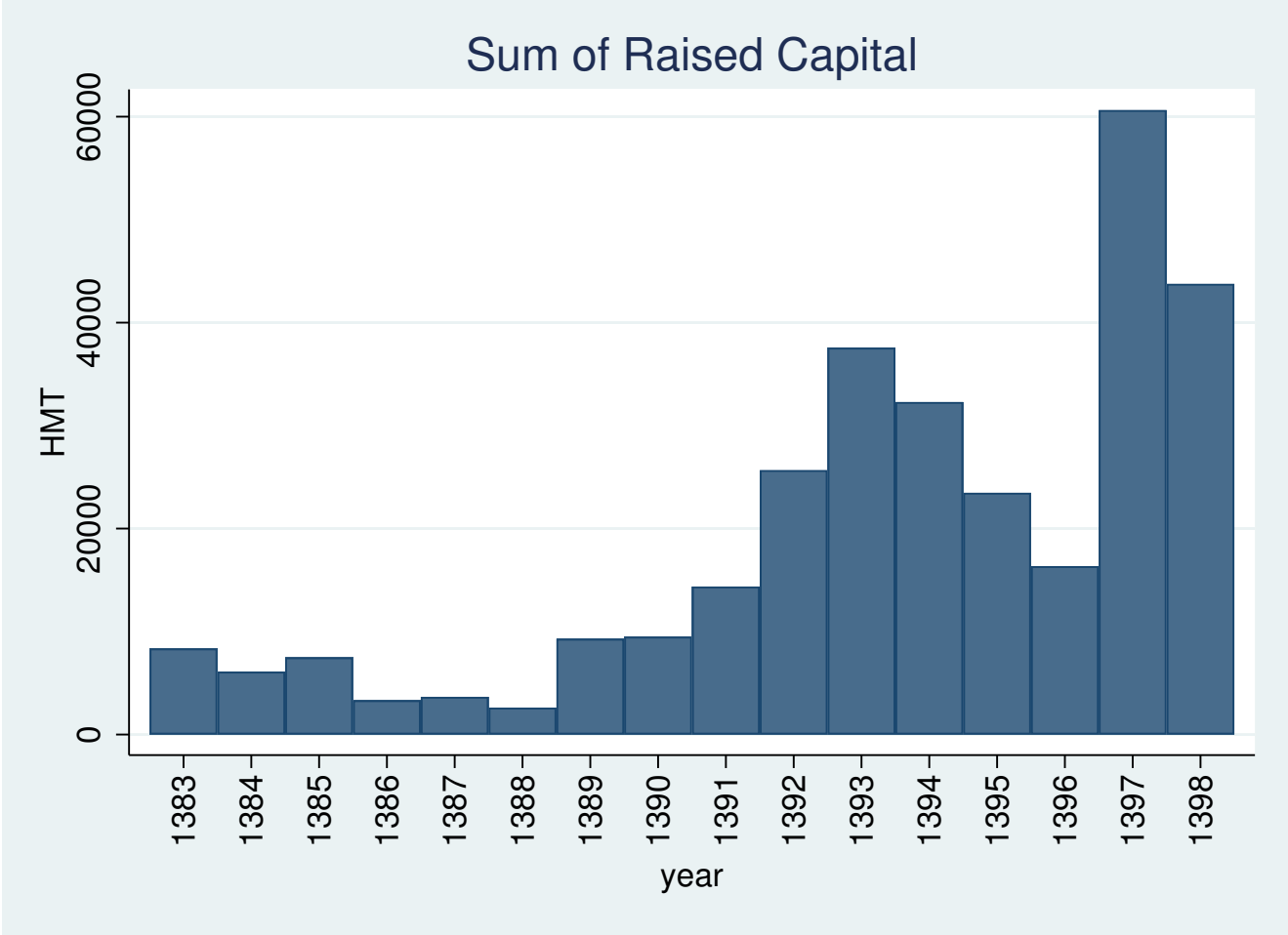
- Data consist of 3721 capital raise for 800 companies
  - Only 469 companies raise their capital after their IPO
  - Four different sources for capital rising: Cash, Saving, Revaluation , and premium

	Cash	Resereves	Premium	Revaluation	Hybrid
Event	1273	681	91	39	232
Percent	55.91	29.91	4	1.71	10.19

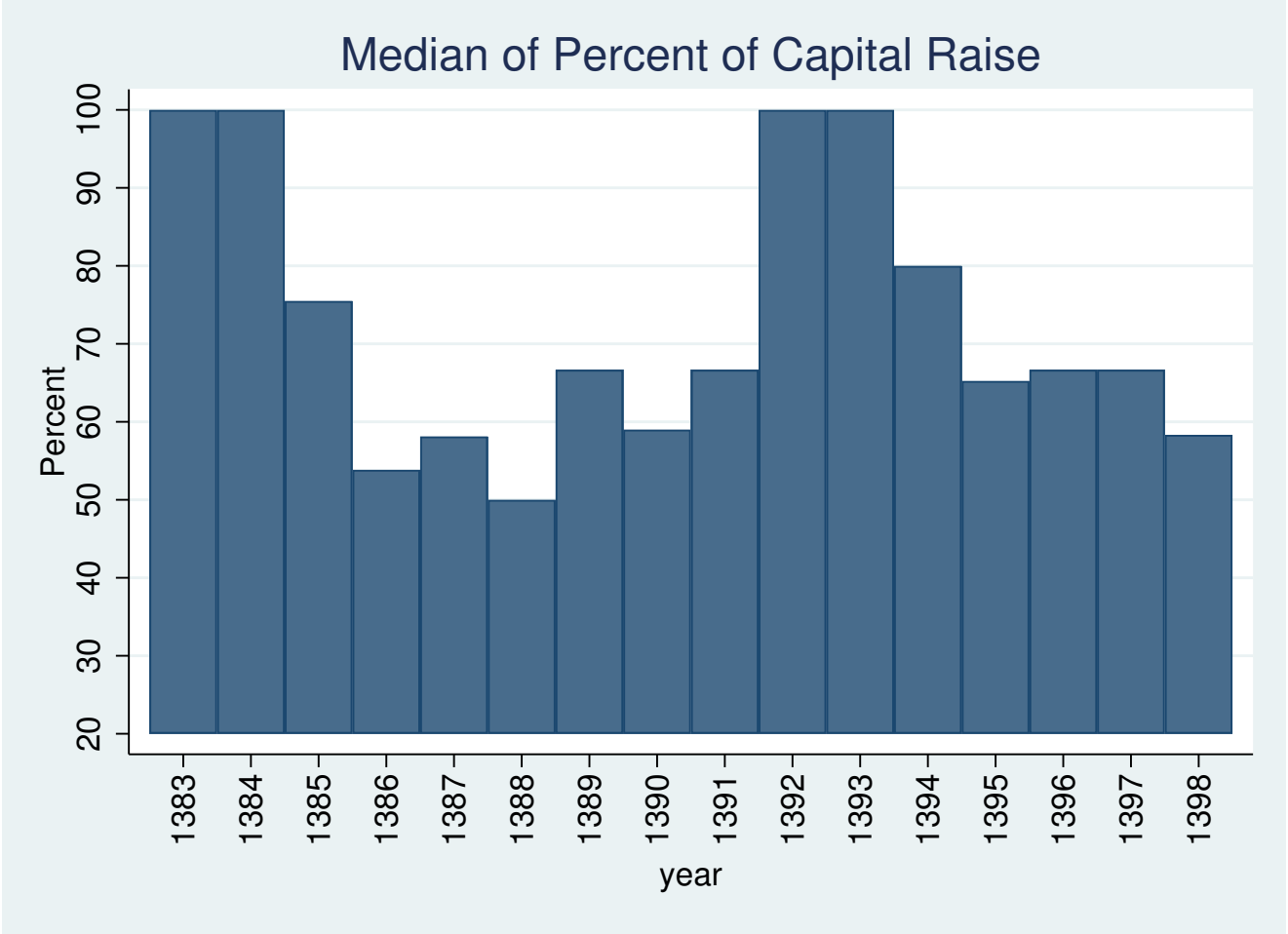
Value of Raised Capital for each Firm



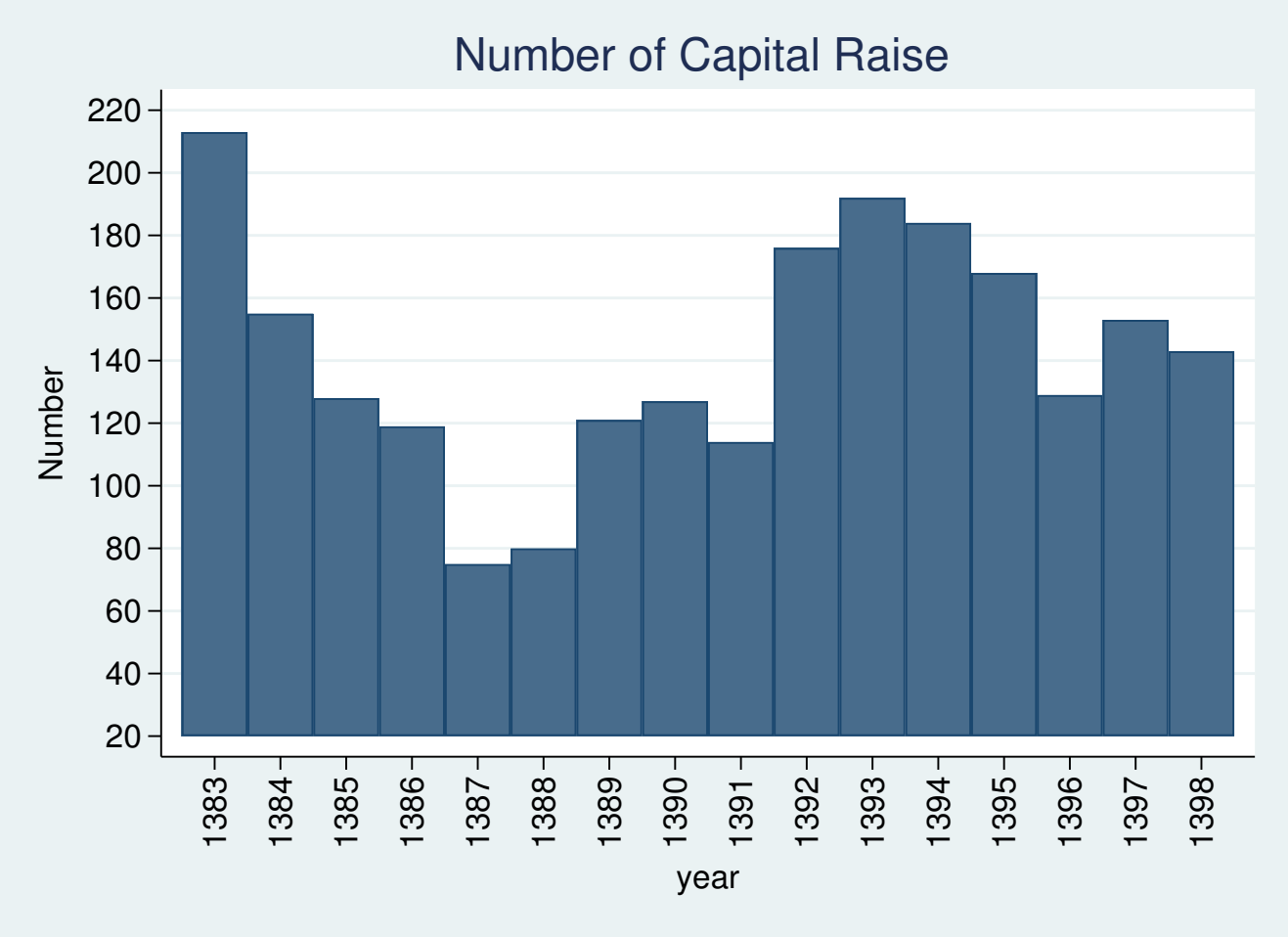
Value of Raised Capital for each Firm



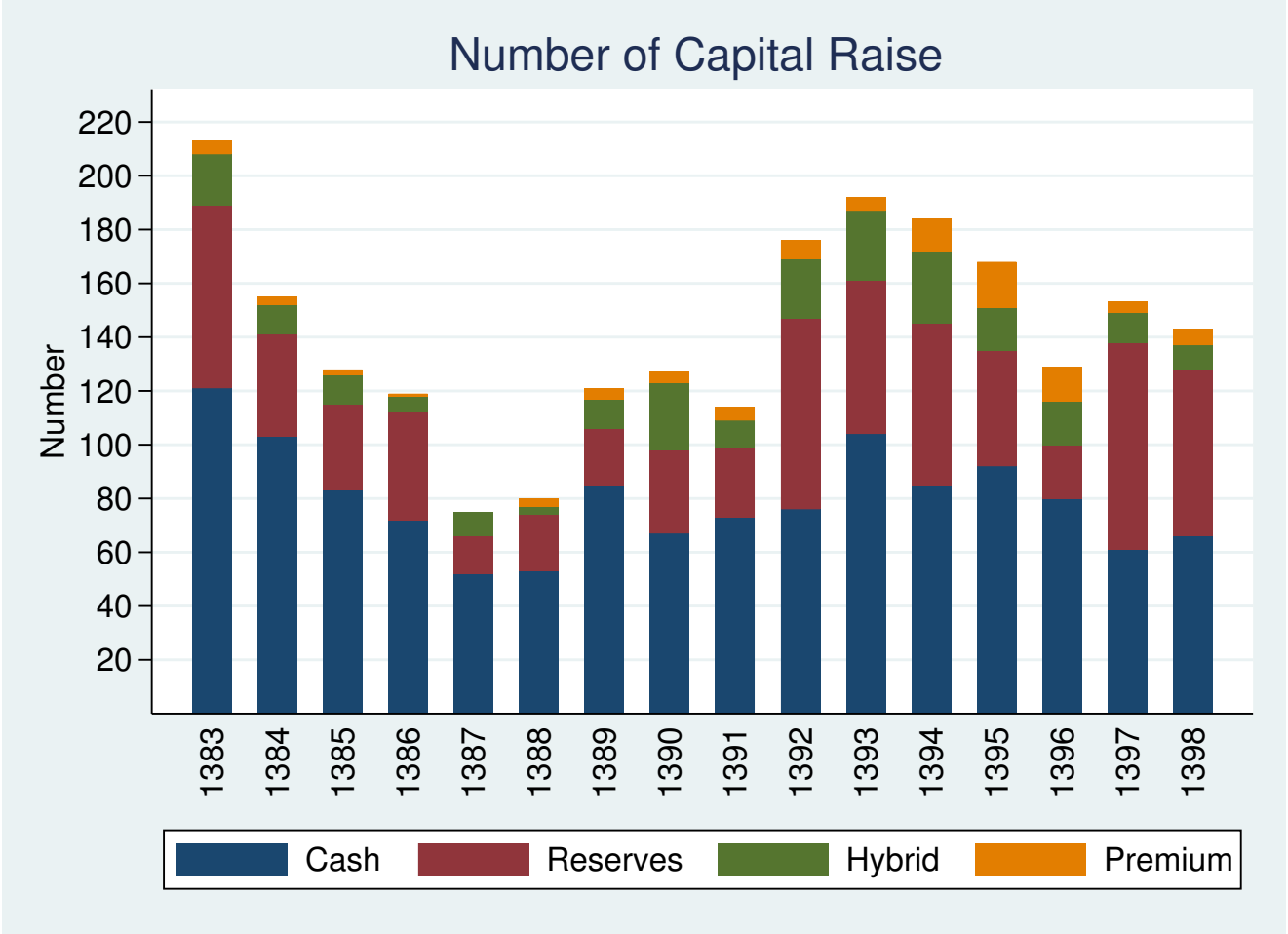
Percent of Raised Capital for each Firm



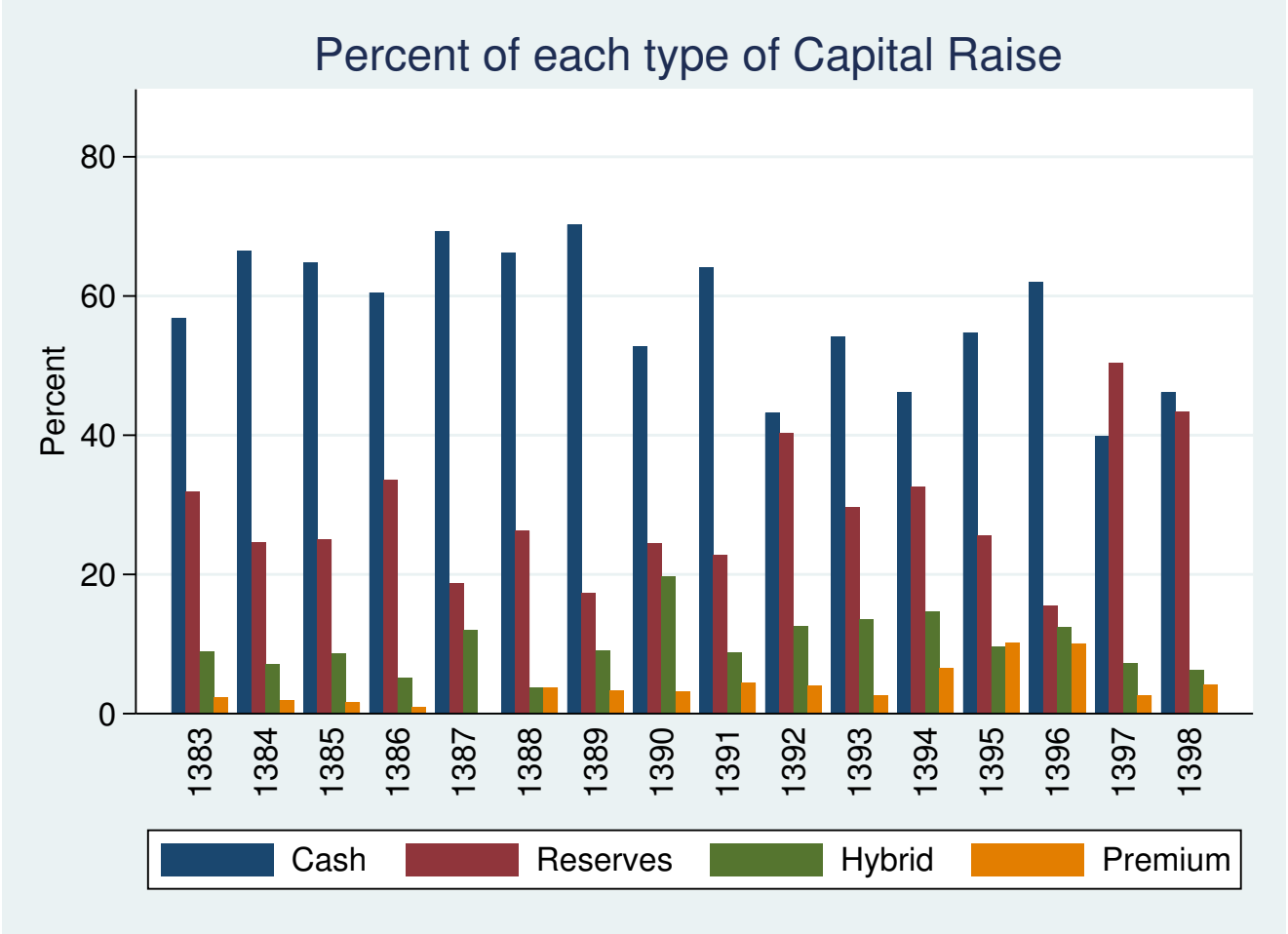
Number of Capital Raise



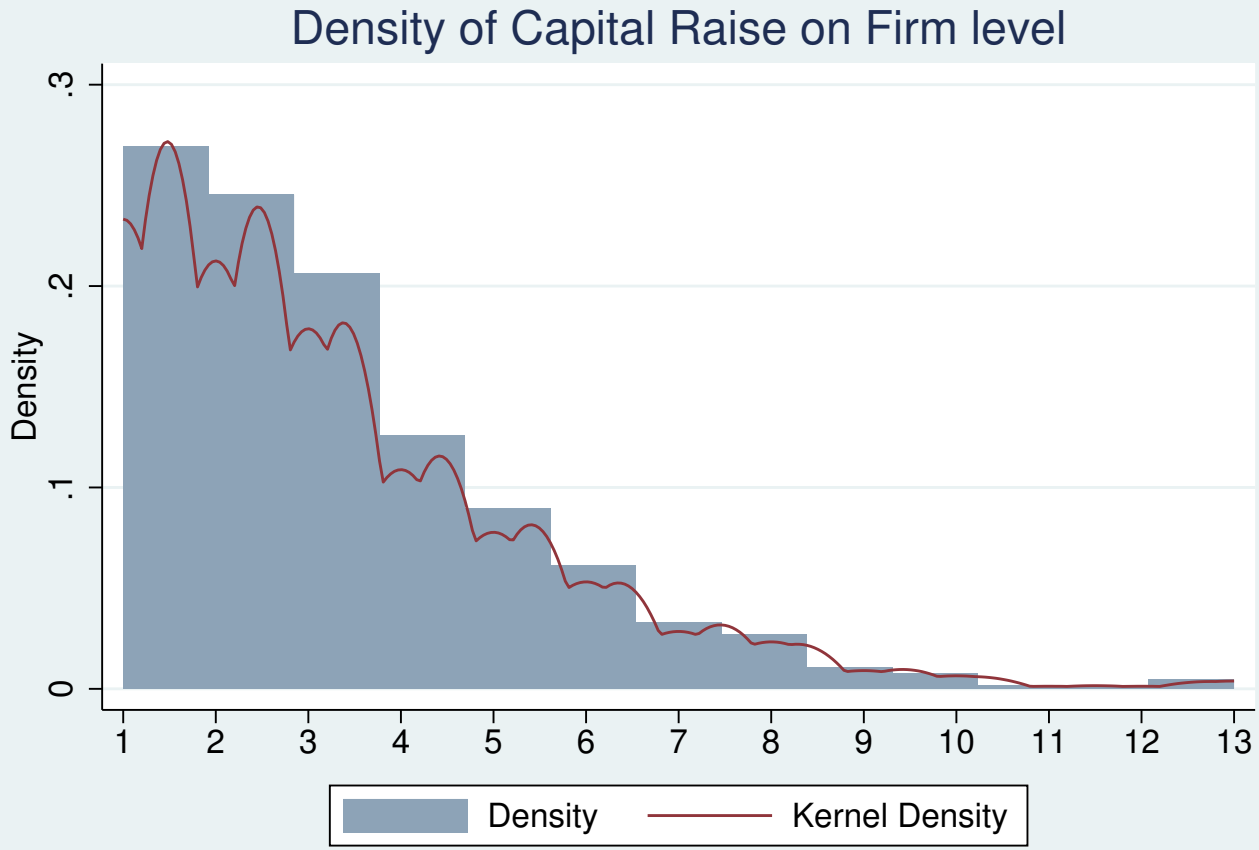
Number of Capital Raise



Number of Capital Raise

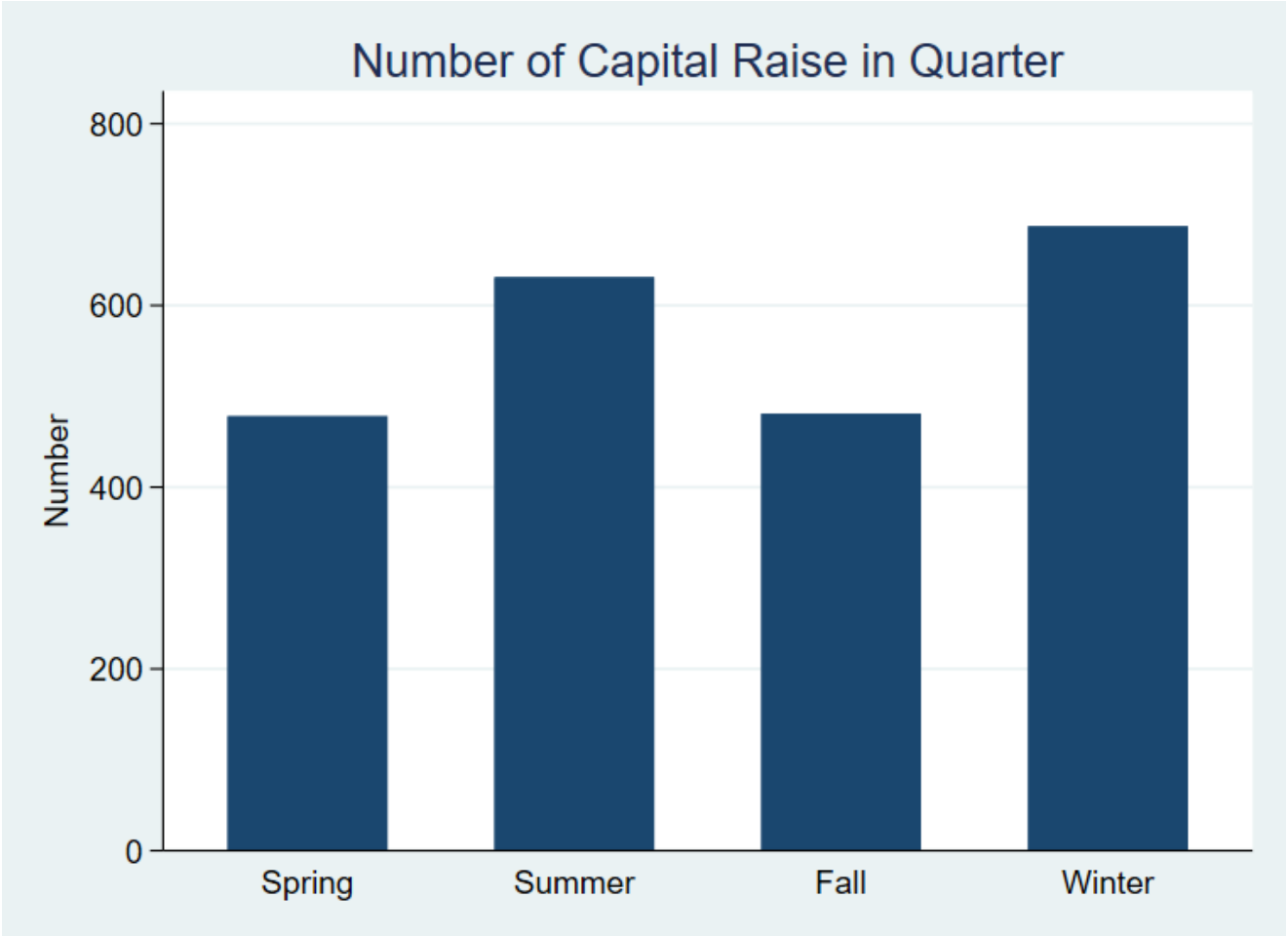


Number of Capital Raise for each Firm

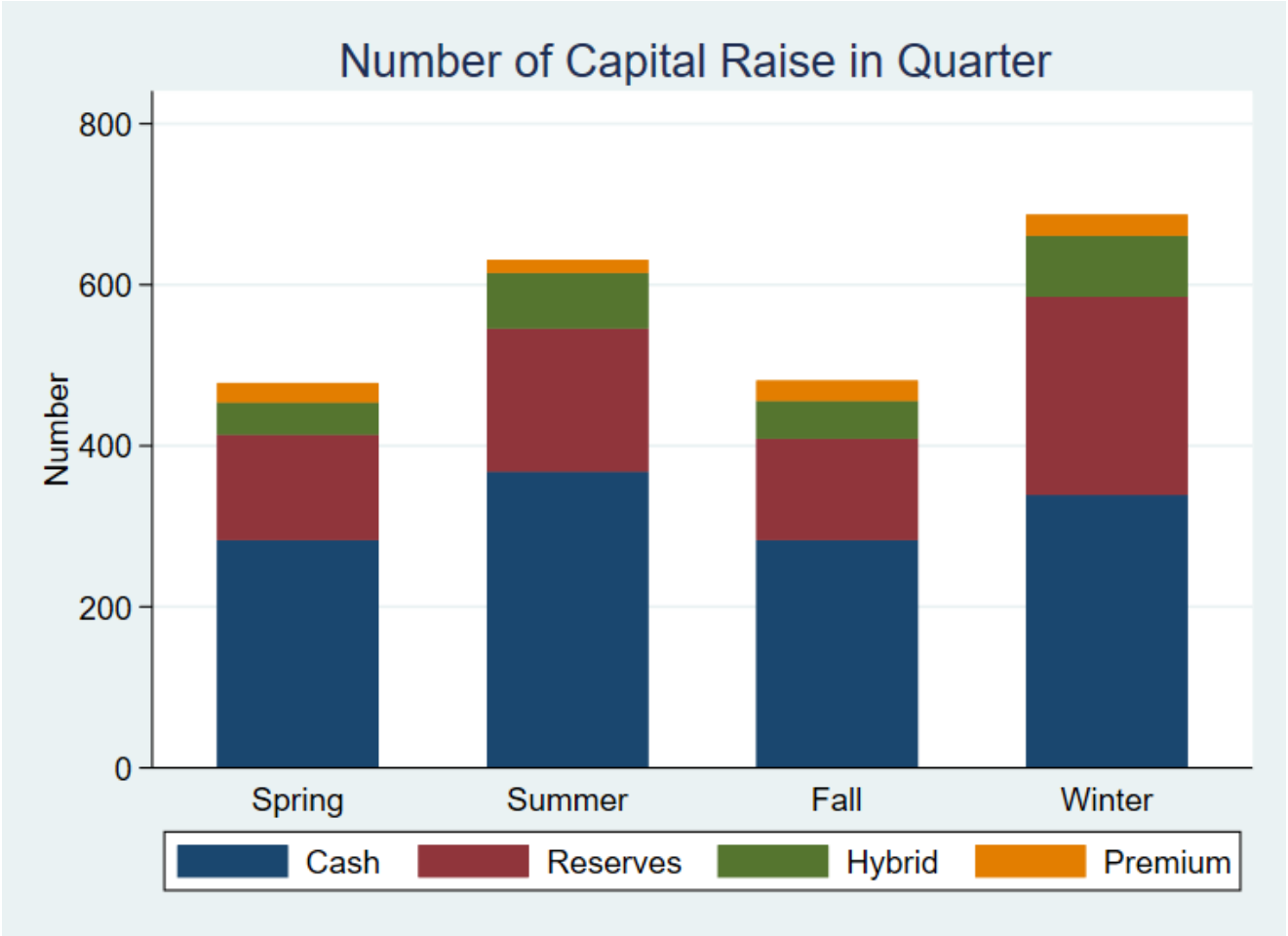


This figure graphs the histogram of number of capital raise for each firm.

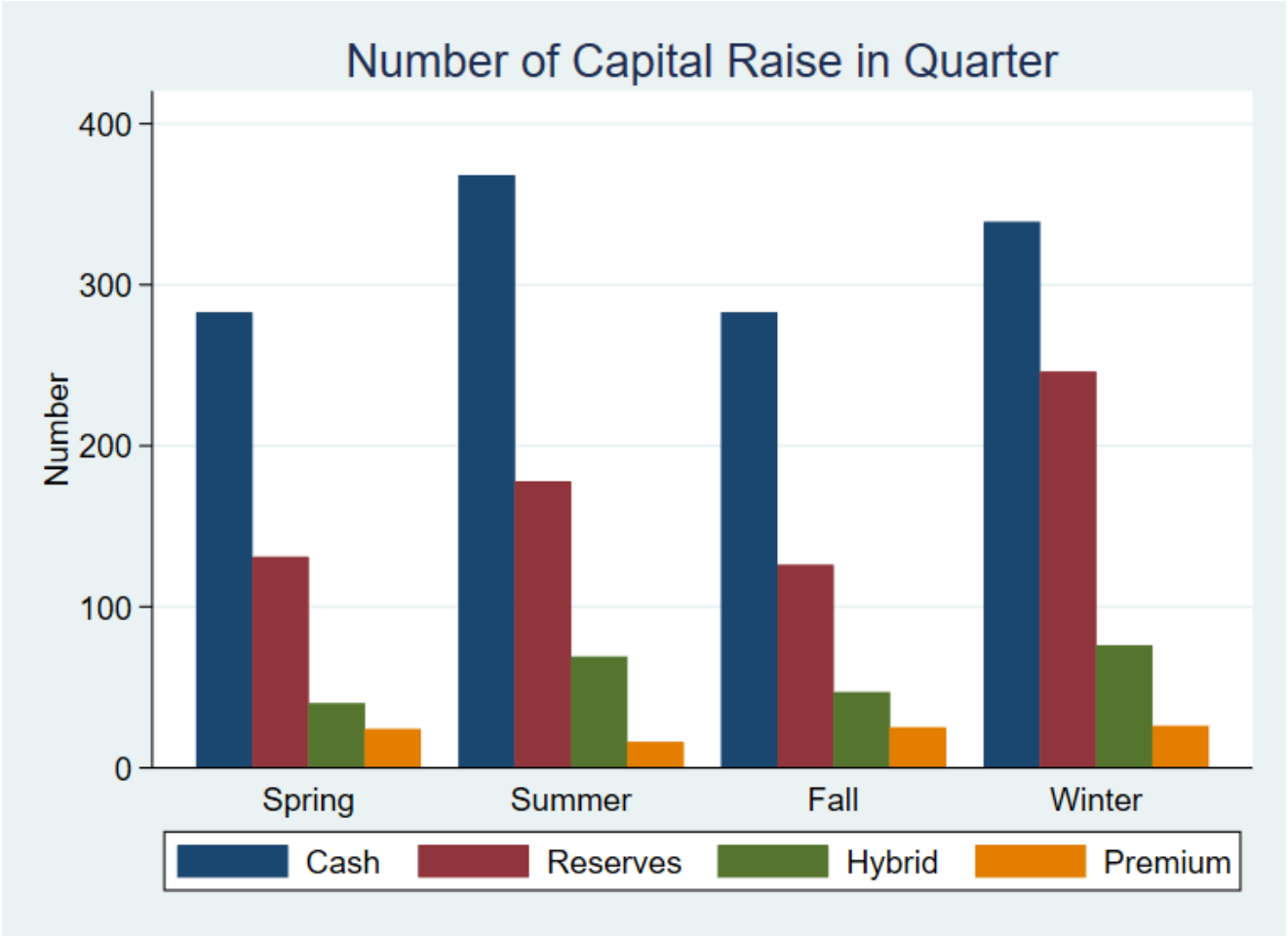
Number of Capital Raise



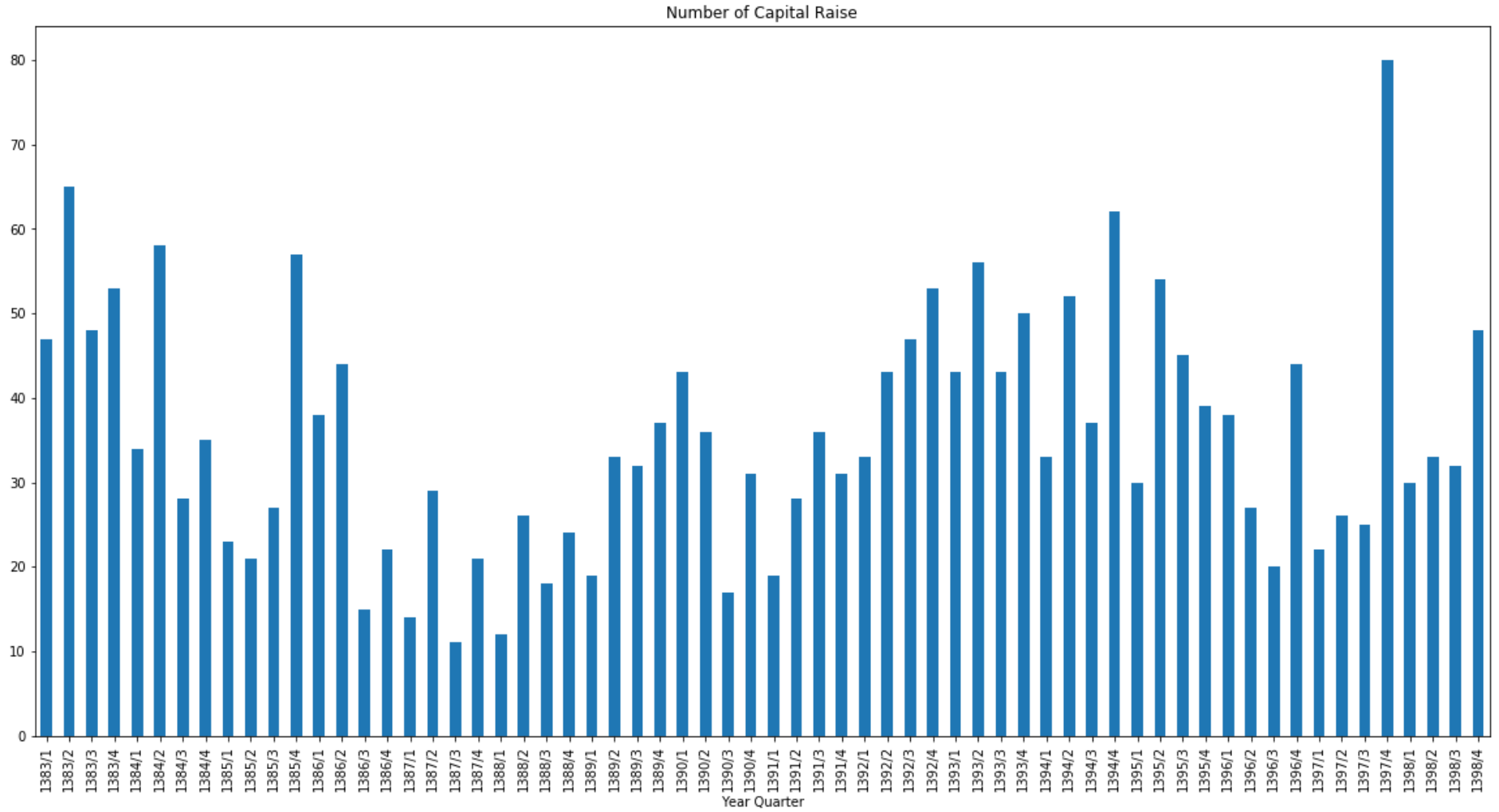
Number of Capital Raise



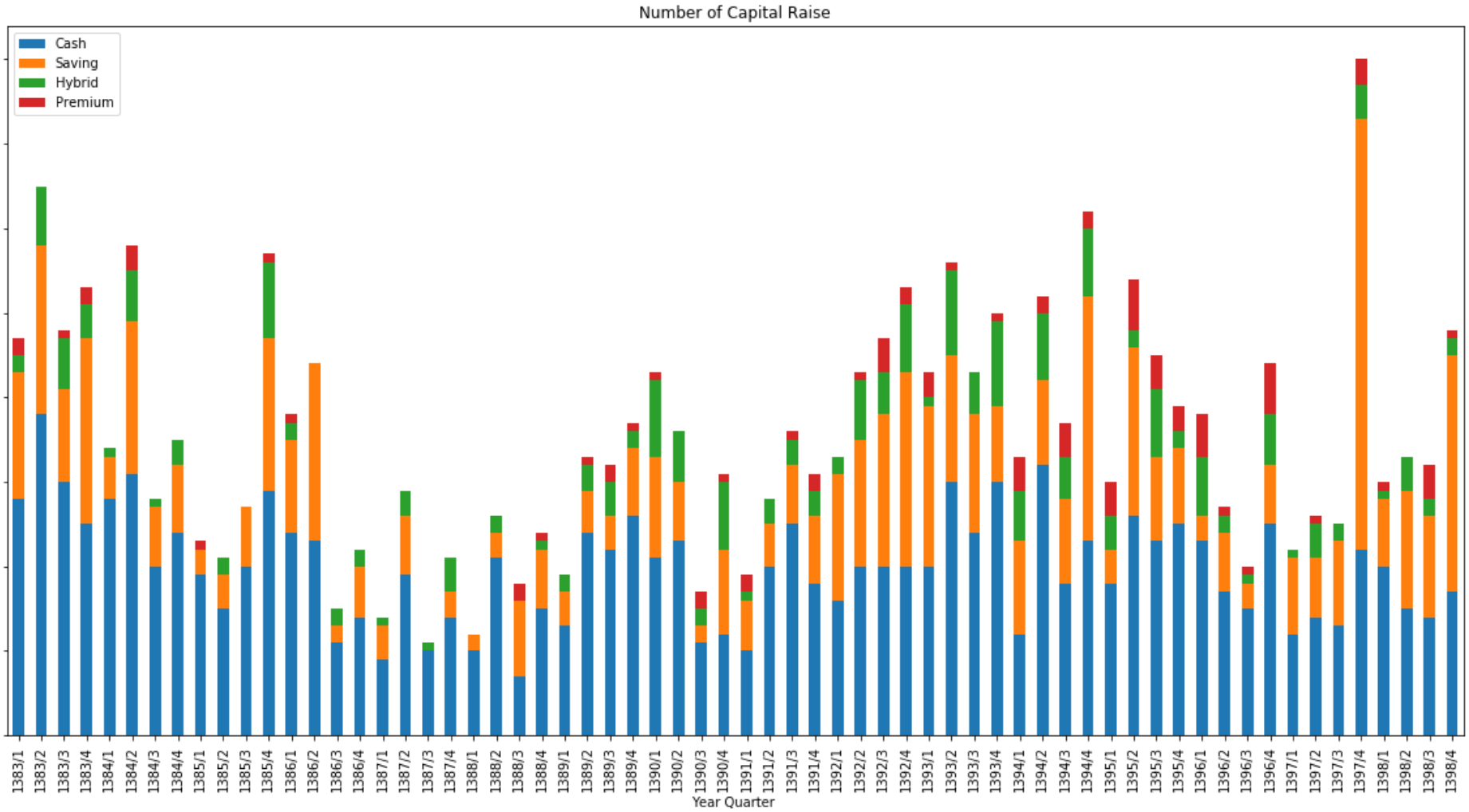
Number of Capital Raise



Number of Capital Raise



Number of Capital Raise



Note: Number of Capital Raise from each source

Table of Contents

Abnormal Return

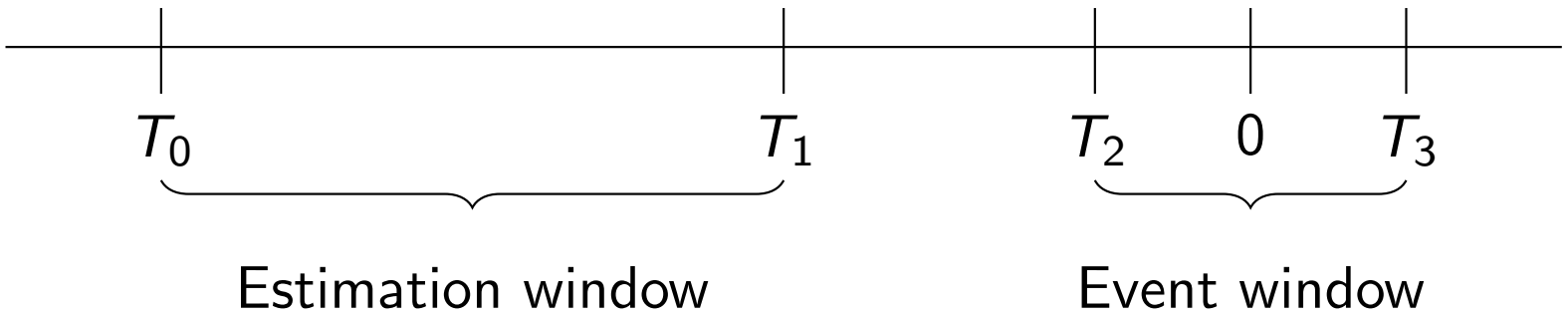
- Abnormal return is the difference between the observed return and the predicted return

$$AR_{i,t} = R_{i,t} - E(R_{i,t}|X_t)$$

- Predicted return
  - Mean-adjusted returns Model (MAR) $\longrightarrow \bar{R}_i$
  - Market-adjusted returns Model (MKAR) $\longrightarrow R_{M,t}$
  - Risk-adjusted returns Model (RAR) $\longrightarrow \alpha_i + \beta_i R_{M,t}$

Abnormal Return Calculation

First Step



- Event windows specifically 3-day, 7-day, and 11-day event periods
- Estimation window : Each event window implies a particular estimation window interval. (For example, 3-day event window [-1,+1] is associated with [-122,-2] estimation window)
- Fama,Fisher,Jensen, and Roll use Event Window as Estimation window [IER-1969-The Adjustment of Stock Prices to New Information]

Abnormal Return Calculation

Second Step

- For each Firm :

$$R_{i,t} - R_f = \hat{\alpha}_i + \hat{\beta}_i(R_{m,t} - R_f) + \boxed{\varepsilon_{i,t}} \rightarrow AR_{i,t}$$

- Average abnormal return during period t: N_t is the number of firms in the sample during period t

$$AAR_t = \sum_{i=1}^{N_t} \frac{AR_{it}}{N_t}$$

- Cumulative average abnormal return from period t_1 to period t_2

$$CAAR_{t_1,t_2} = \sum_{i=t_1}^{t_2} AAR_i$$

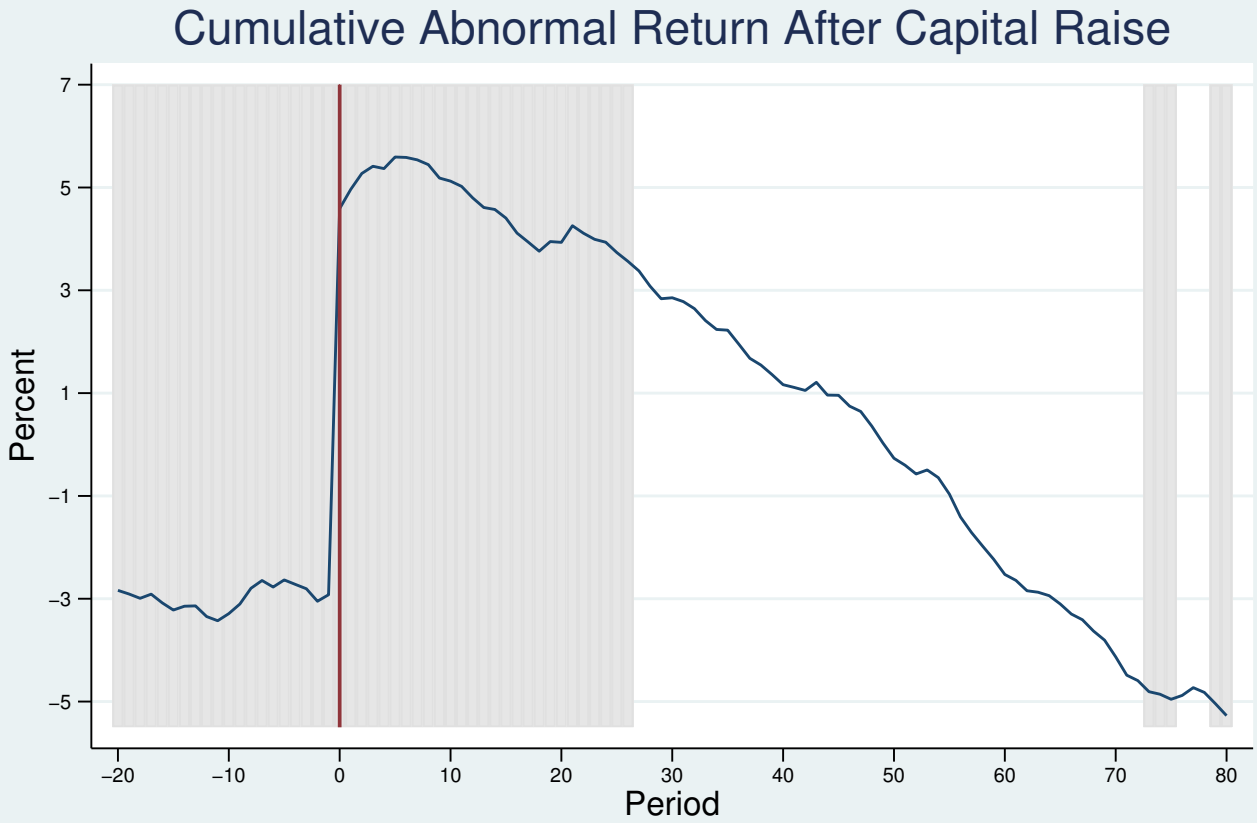
Abnormal Return Calculation

Cross-Sectional Test

- Hypothesis is $\begin{cases} H_0: & CAAR = 0 \\ H_1: & CAAR \neq 0 \end{cases}$
- The t-statistics for this test is
  - $t_{CAAR} = \sqrt{N}\frac{CAAR}{S_{CAAR}}$
  - $S^2_{CAAR} = \frac{1}{N-1}\sum_{i=1}^{N}(CAR_i - CAAR)^2$
  - $CAR_i = \sum_{i=t_1}^{t_2} AR_{i,t}$

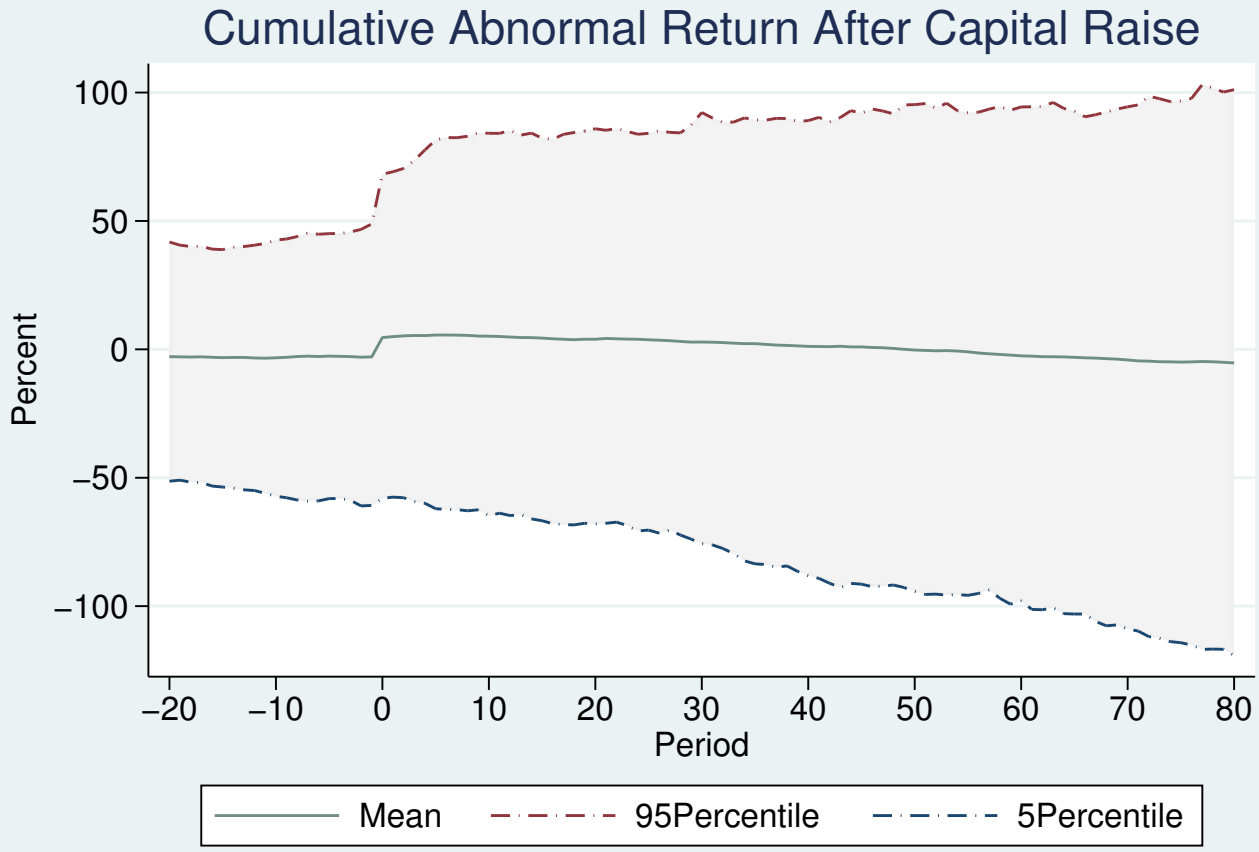
Table of Contents

Abnormal Return



This figure graphs the cumulative Abnormal return from 20 period before event.
The gray area represents significant returns

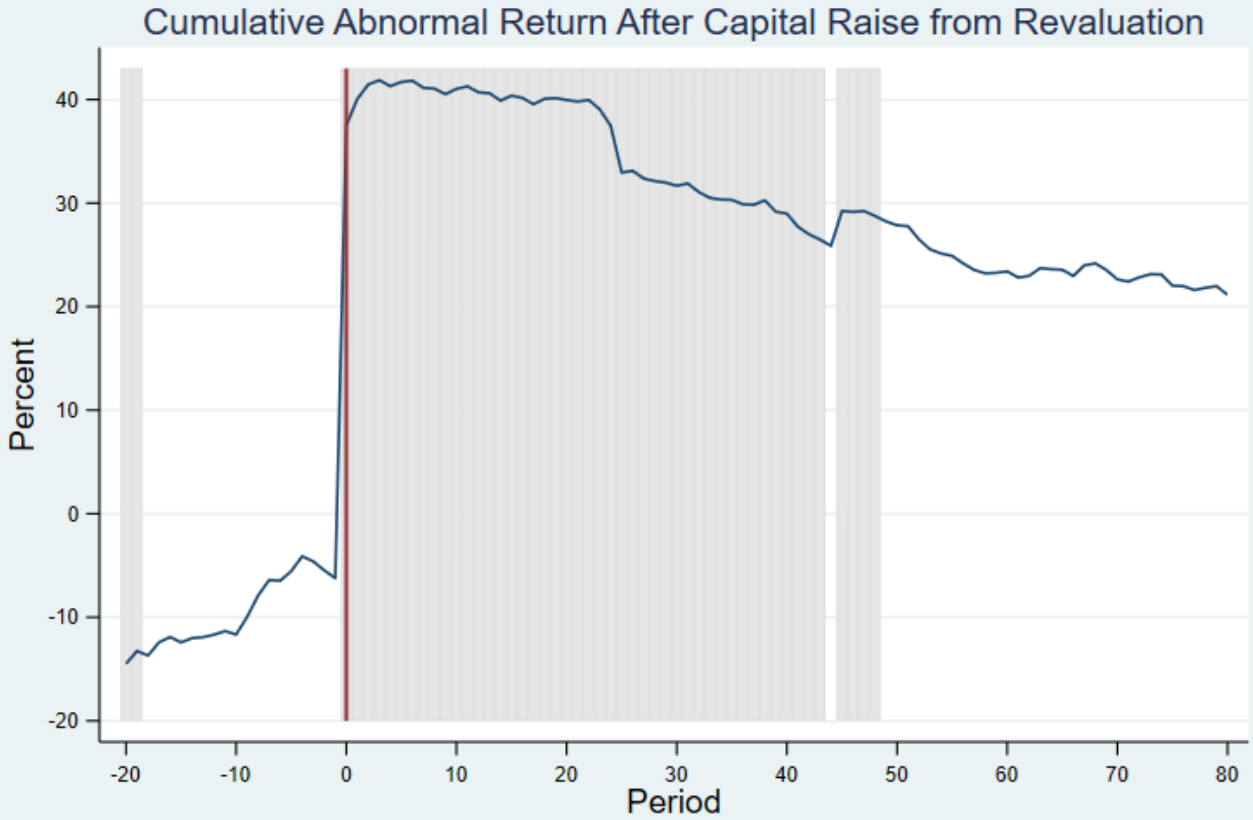
Abnormal Return



This figure graphs the cumulative Abnormal return from 20 period before event

Abnormal Return

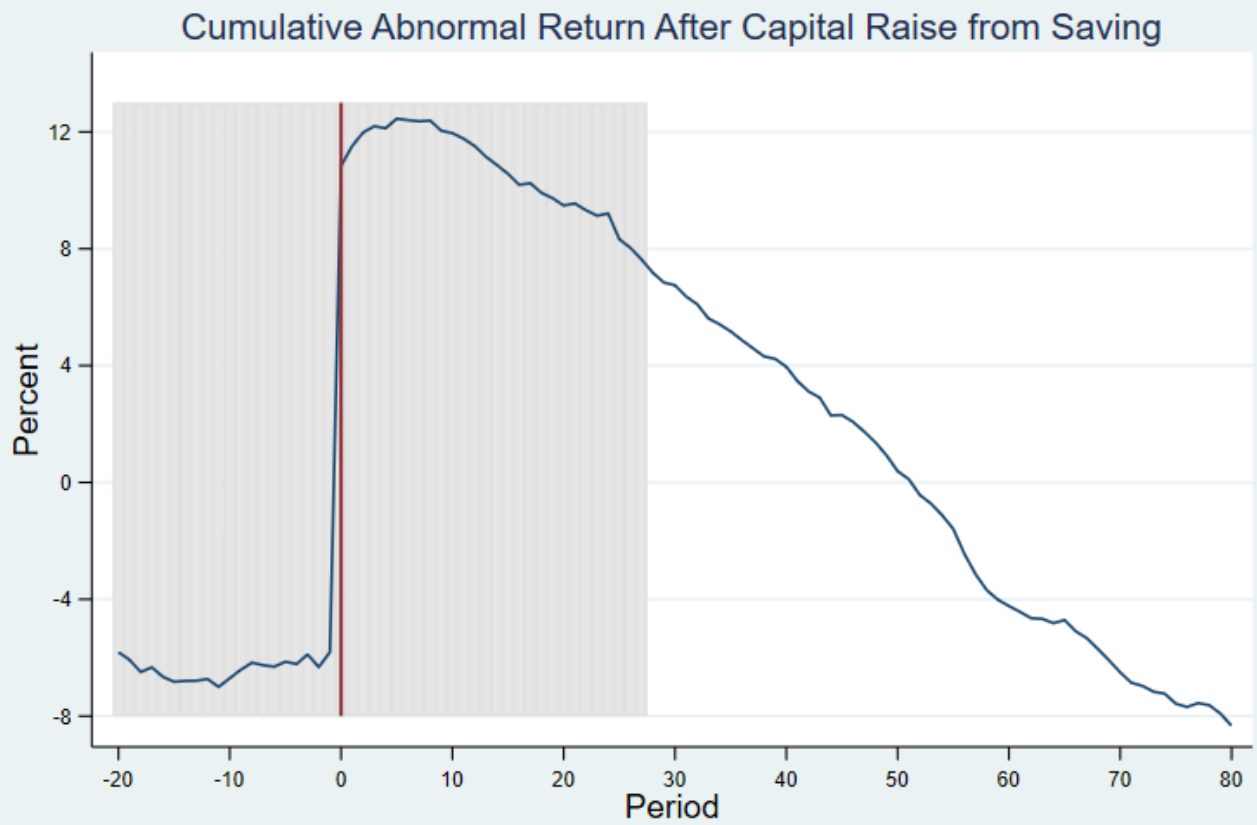
Abnormal return of raised capital from Revaluation



This figure graphs the cumulative Abnormal return from 20 period before event.
The gray area represents significant returns

Abnormal Return

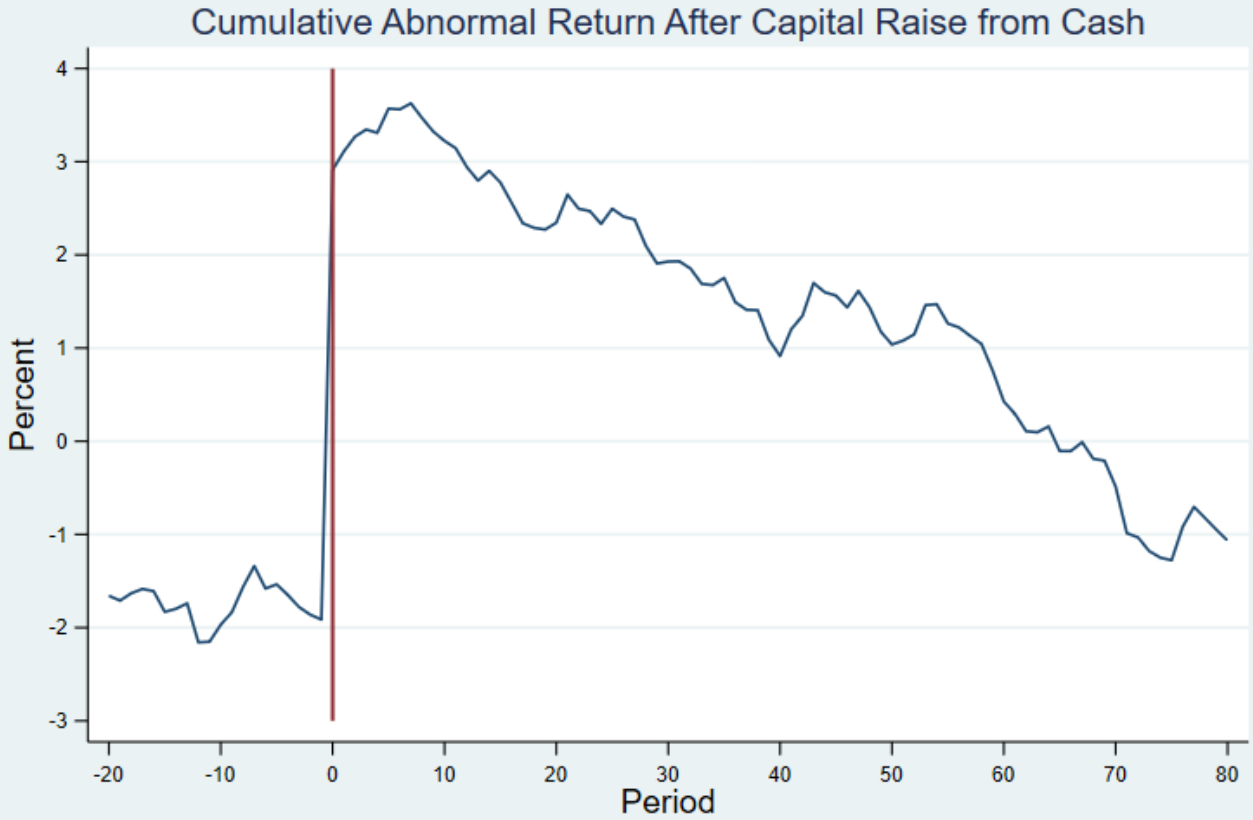
Abnormal return of raised capital from Saving



This figure graphs the cumulative Abnormal return from 20 period before event.
The gray area represents significant returns

Abnormal Return

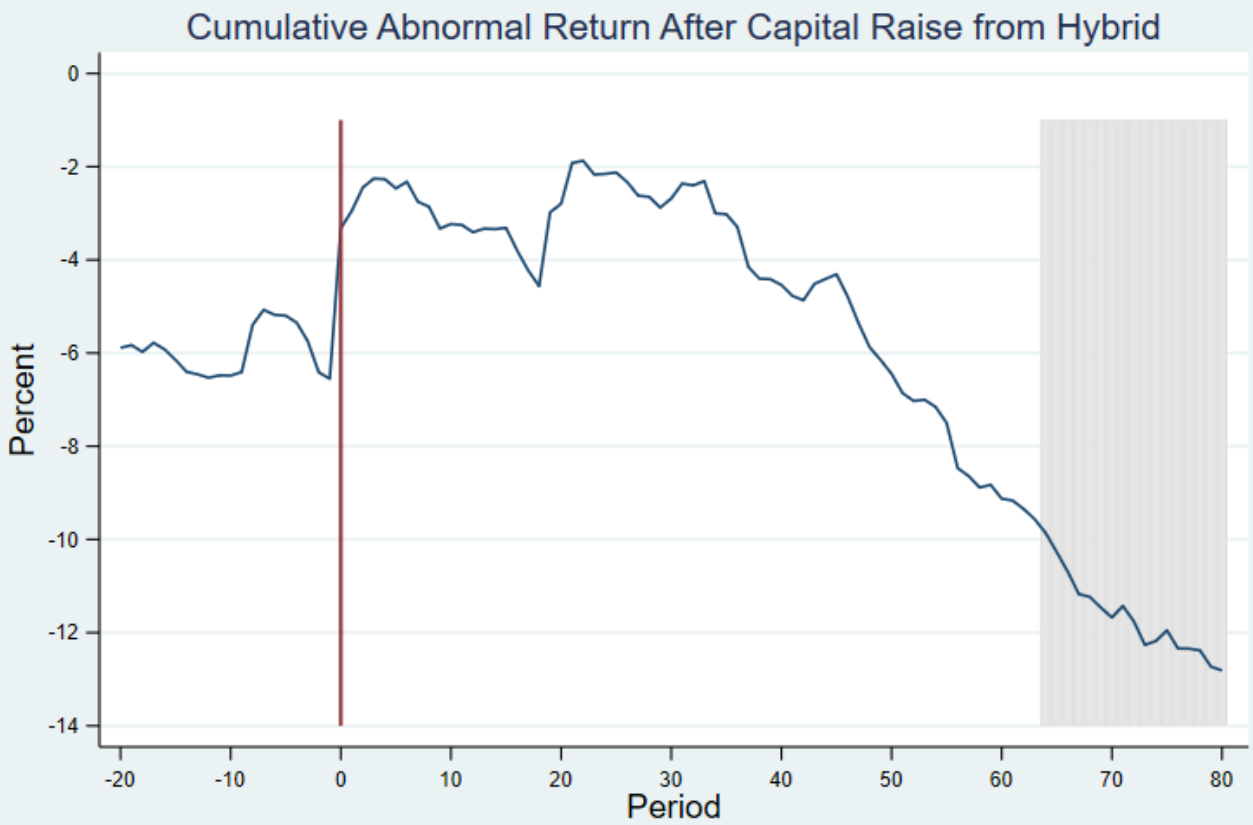
Abnormal return of raised capital from Cash



This figure graphs the cumulative Abnormal return from 20 period before event.
The gray area represents significant returns

Abnormal Return

Abnormal return of raised capital from Hybrid



This figure graphs the cumulative Abnormal return from 20 period before event.
The gray area represents significant returns