2-in-1 Investment: Cryptocurrency-related Announcements by Public Firms

SEC Capital Market Regional Seminar 2022
August 31, 2022

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What is this research about?

Slam Commercial Bank To Buy 51% Stake วาณิชย์ Siam Commercial Bank In Bitkub For 17.85B Baht By 2022

CRYPTO และ CONDO
ครั้งแรก! ซื้อคอนโดมิเนียมและบ้าน ด้วย bitcoin ได้แล้ววันนี้
>> ตอบโจทย์ชีวิตคนเมืองยุค DIGITAL
ANANDA X bitkub
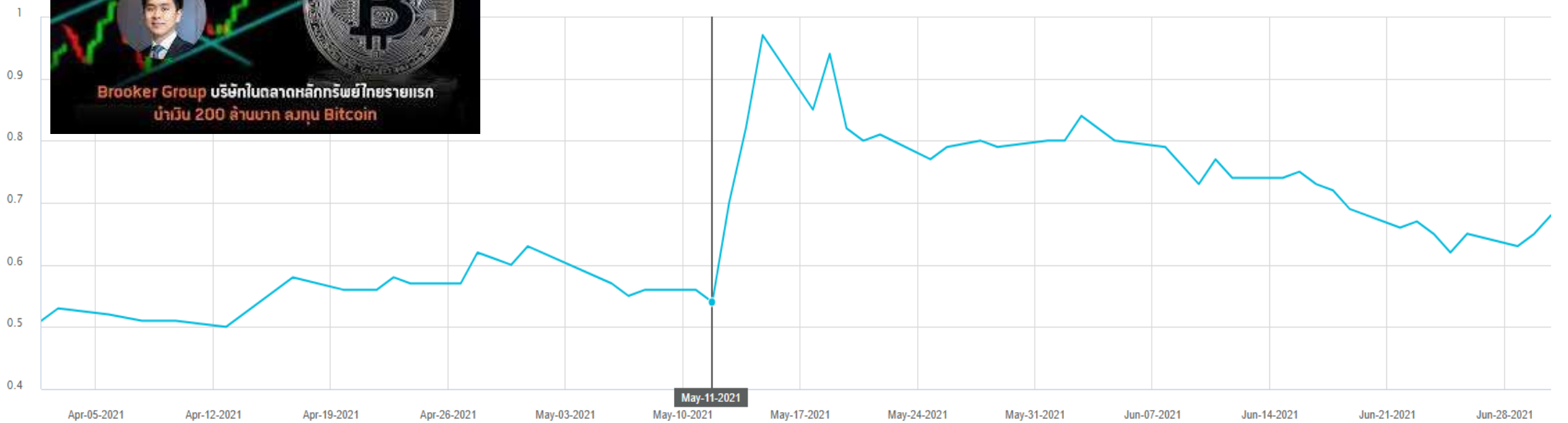
Stock Price?

Brooker Group PCL Case

Announcement: May 11, 2021
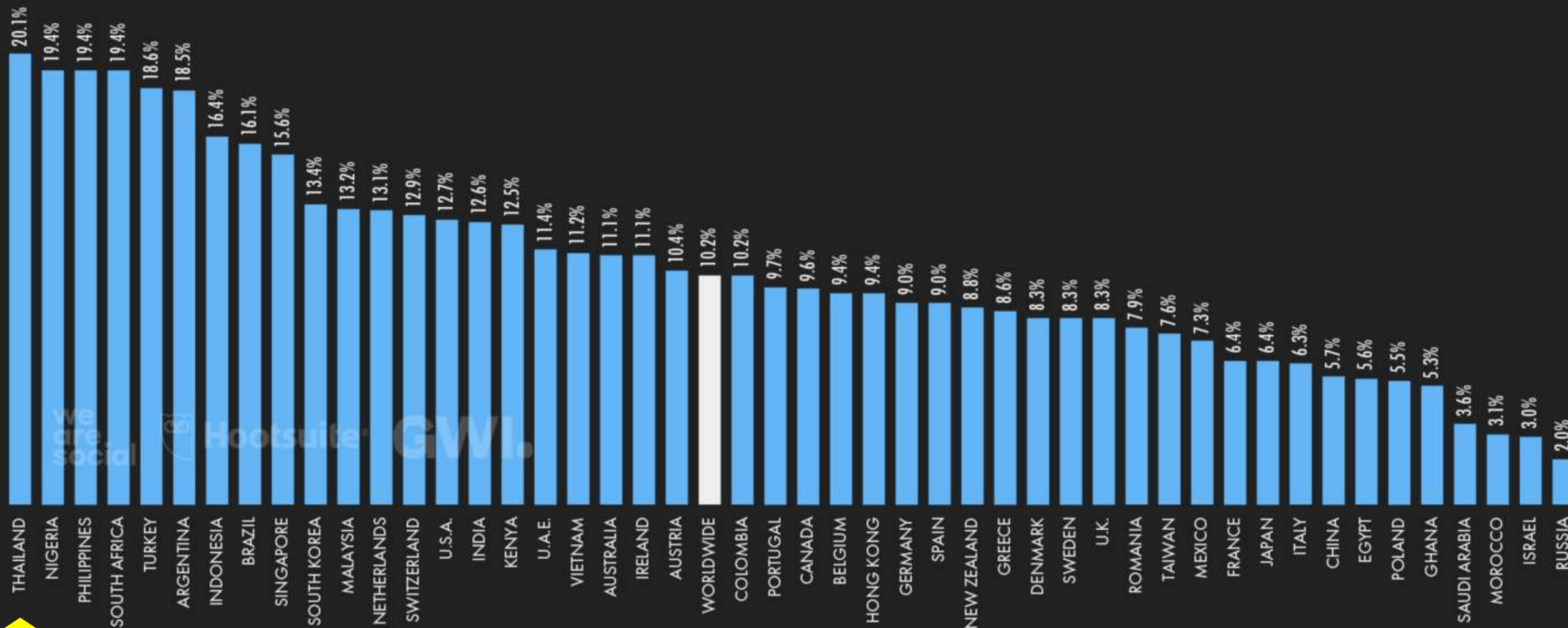
OWNERSHIP OF CRYPTOCURRENCY

PERCENTAGE OF INTERNET USERS AGED 16 TO 64 WHO OWN SOME FORM OF CRYPTOCURRENCY

GLOBAL OVERVIEW

Country	%
THAILAND	20.1%
NIGERIA	19.4%
PHILIPPINES	19.4%
SOUTH AFRICA	19.4%
TURKEY	18.6%
ARGENTINA	18.5%
INDONESIA	16.4%
BRAZIL	16.1%
SINGAPORE	15.6%
SOUTH KOREA	13.4%
MALAYSIA	13.2%
NETHERLANDS	13.1%
SWITZERLAND	12.9%
U.S.A.	12.7%
INDIA	12.6%
KENYA	12.5%
U.A.E.	11.4%
VIETNAM	11.2%
AUSTRALIA	11.1%
IRELAND	11.1%
AUSTRIA	10.4%
WORLDWIDE	10.2%
COLOMBIA	10.2%
PORTUGAL	9.7%
CANADA	9.6%
BELGIUM	9.4%
HONG KONG	9.4%
GERMANY	9.0%
SPAIN	9.0%
NEW ZEALAND	8.8%
GREECE	8.6%
DENMARK	8.3%
SWEDEN	8.3%
U.K.	8.3%
ROMANIA	7.9%
TAIWAN	7.6%
MEXICO	7.3%
FRANCE	6.4%
JAPAN	6.4%
ITALY	6.3%
CHINA	5.7%
EGYPT	5.6%
POLAND	5.5%
GHANA	5.3%
SAUDI ARABIA	3.6%
MOROCCO	3.1%
ISRAEL	3.0%
RUSSIA	2.0%

we are social

Hootsuite®

Data (Jan 2021-Feb 2022)

Group	Sample Size	Announcement	Number of Firms
Direct	10	Invest in cryptocurrency/digital token	3
		Start bitcoin mining	6
		Develop own digital token	1
Indirect	16	Accept cryptocurrency as a means of payment	8
		Invest in ICO portal/cryptocurrency exchange	8
Total	26		

THE BROOKER GROUP PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

STATEMENTS OF FINANCIAL POSITION

AS AT JUNE 30, 2022

		BAHT		
		Consolidated Financial Statement		Separate Financi
	NOTE	June 30, 2022	December 31, 2021	June 30, 2022
		(Unaudited/ but Reviewed)	(Audited)	(Unaudited/ but Reviewed)
ASSETS				
CURRENT ASSETS				
Cash and cash equivalents	3	251,855,009.65	341,495,631.26	108,326,809.70
Trade accounts receivable - net				
Non-related parties	4	127,901,959.92	149,559,406.17	67,211,989.01
Related parties	2.2	84,552,155.11	210,481,375.72	3,399,660.37
Other current receivables				
Non-related parties	5	457,134,312.18	104,790,182.58	12,674,934.61
Related parties	2.3	-	-	32,975,091.50
Digital asset inventory	6	340,693,095.63	986,845,781.82	240,604.02
Loans to				
Non-related parties	7	260,000,000.00	243,000,000.00	260,000,000.00
Related parties	2.4	-	-	2,235,288,016.20
Other current financial assets	8	1,231,331,374.10	1,142,763,445.38	115,613,358.96
Other current assets				
Value added tax - net		23,559,401.07	22,092,066.21	17,969,878.14
Withholding tax withheld		1,744,939.89	2,468,516.70	834,723.74
TOTAL CURRENT ASSETS		2,778,772,247.55	3,203,496,405.84	2,854,535,066.25

Research Hypotheses

- H_1: Cryptocurrency-related announcements are associated with positive stock returns.

- H_2: Firms announcing direct investment in cryptocurrency earn higher market reaction.

- H_3: Firms announcing direct investment in cryptocurrency become more interconnected with bitcoin.

Event-study: Abnormal Returns (AR)

- Market model

  - $AR_{i,t} = R_{i,t} - \alpha - \beta_i (R_{m,t})$

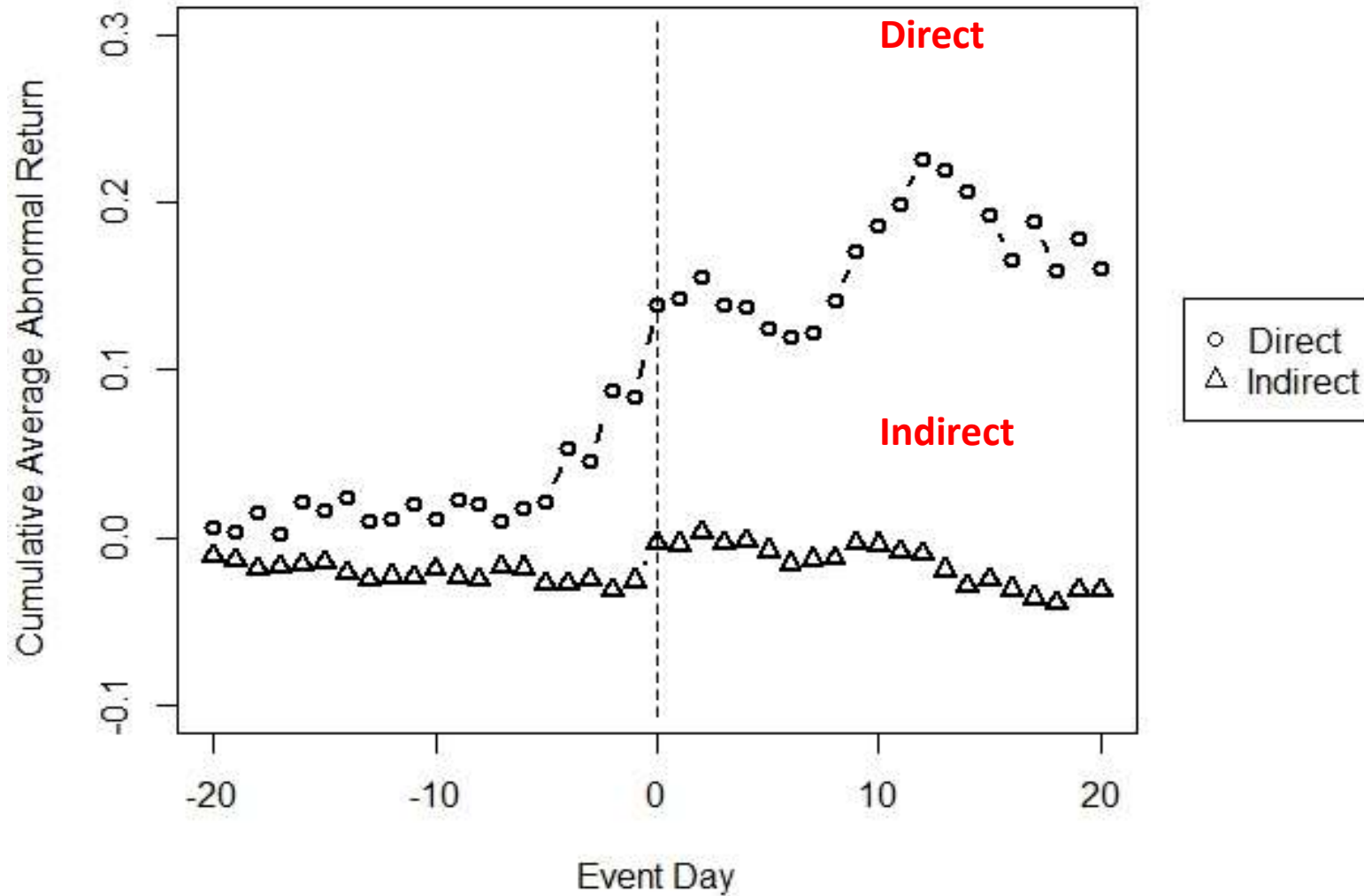- Cumulative abnormal return (CAR) for an event window $[T_1, T_2]$

$$CAR_{i; T_1, T_2} = \sum_{t=T_1}^{T_2} AR_{i,t}$$

- Cumulative average abnormal return (CAAR) across all stocks (N)

$$\overline{CAAR_{T_1, T_2}} = \frac{\sum_{i=1}^{N} CAR_{i; T_1, T_2}}{N}$$

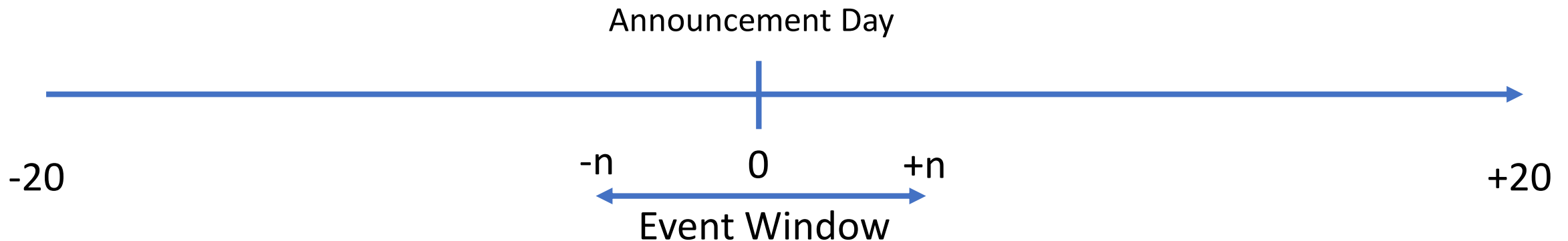# Cumulative Average Abnormal Return

Regression with Bootstrap

Iterate 1,000 times

$$R_{i,t} = \alpha + \beta_{1i}\left(R_{m,t}\right) + \beta_2 D\_event_t + \beta_3 D\_direct_i + \beta_4 lnsize_i + \epsilon_{i,t}$$

Dummy:
1 for event window
0 otherwise

Announcement Day

-20   -n   0   +n   +20

Event Window

Bootstrapped Regression Results

	Event Window							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	[-1,1]	[-2,2]	[-10,10]	[0]	[-1,1]	[-2,2]	[-10,10]	[0]
Market	1.320***	1.316***	1.300***	1.297***	1.319***	1.313***	1.298***	1.294***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Event	0.017***	0.013**	0.006**	0.037***	0.017***	0.013***	0.006**	0.037***
	(0.006)	(0.004)	(0.018)	(0.000)	(0.000)	(0.005)	(0.025)	(0.000)
Direct	0.008***	0.008**	0.008***	0.008***	0.006*	0.006*	0.006*	0.006*
	(0.004)	(0.013)	(0.003)	(0.004)	(0.074)	(0.084)	(0.071)	(0.059)
Size (log)					-0.001	-0.001	-0.001	-0.001
					(0.474)	(0.495)	(0.516)	(0.500)
Constant	-0.001	-0.002	-0.003	-0.001	0.005	0.005	0.003	0.006
	(0.386)	(0.367)	(0.121)	(0.386)	(0.574)	(0.608)	(0.726)	(0.611)

Bootstrapped Regression Results

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
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DCC-GARCH

1) Construct portfolios Direct & Indirect
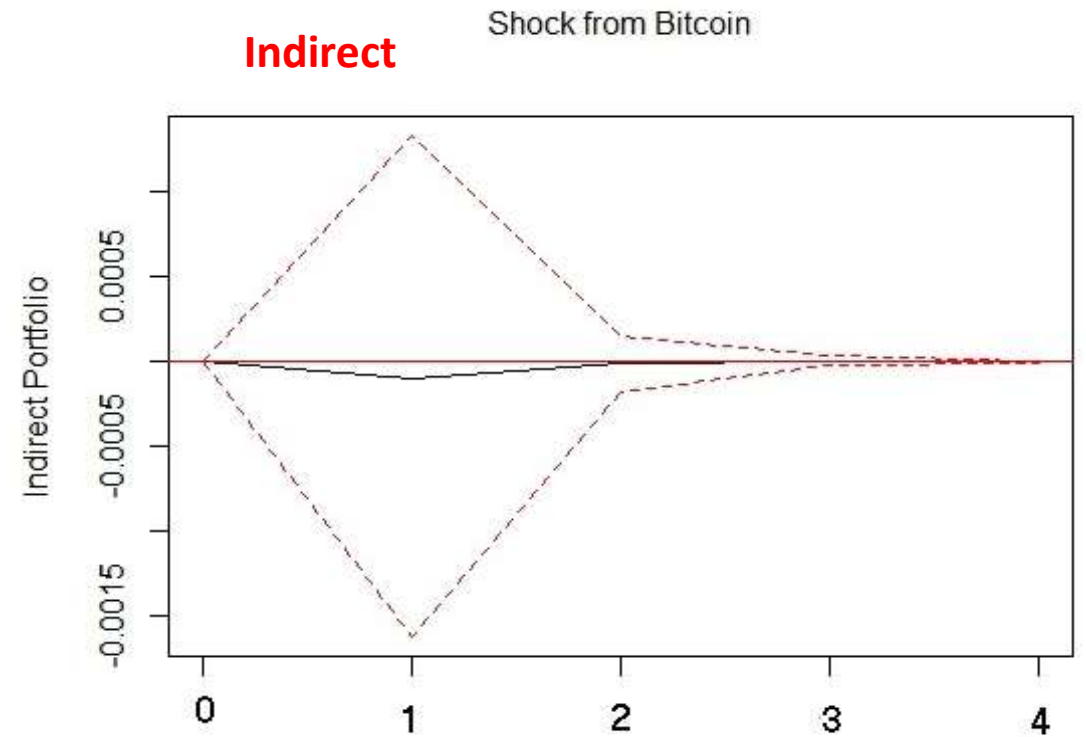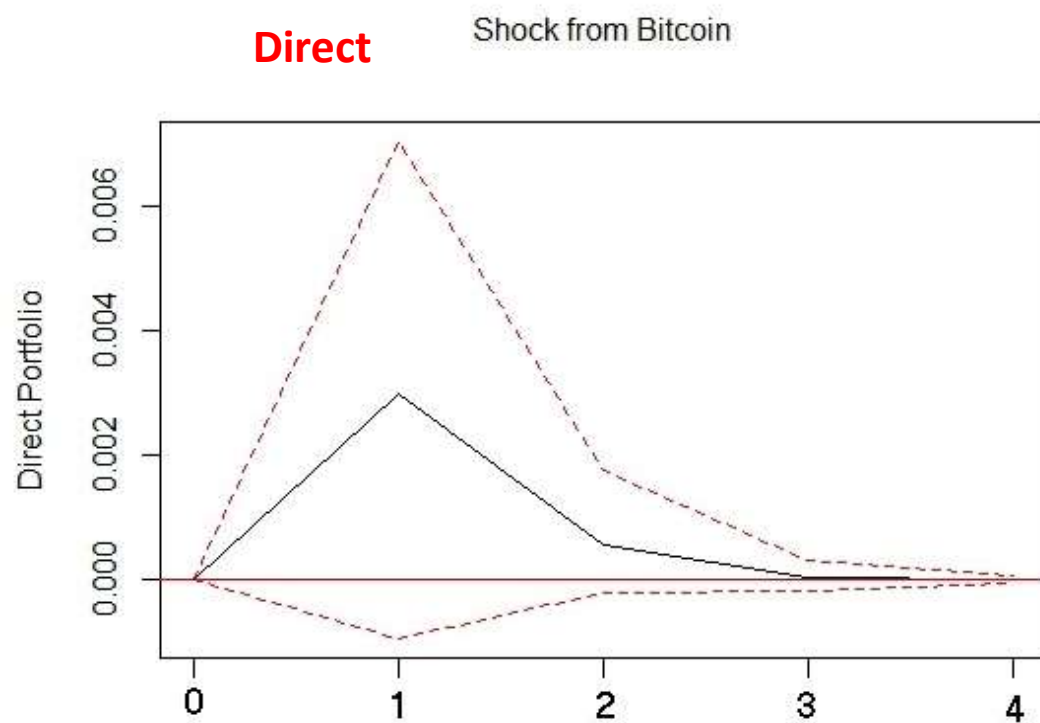2) Examine Dynamic Correlation with Bitcoin after the announcements

Dynamic Correlation with Bitcoin
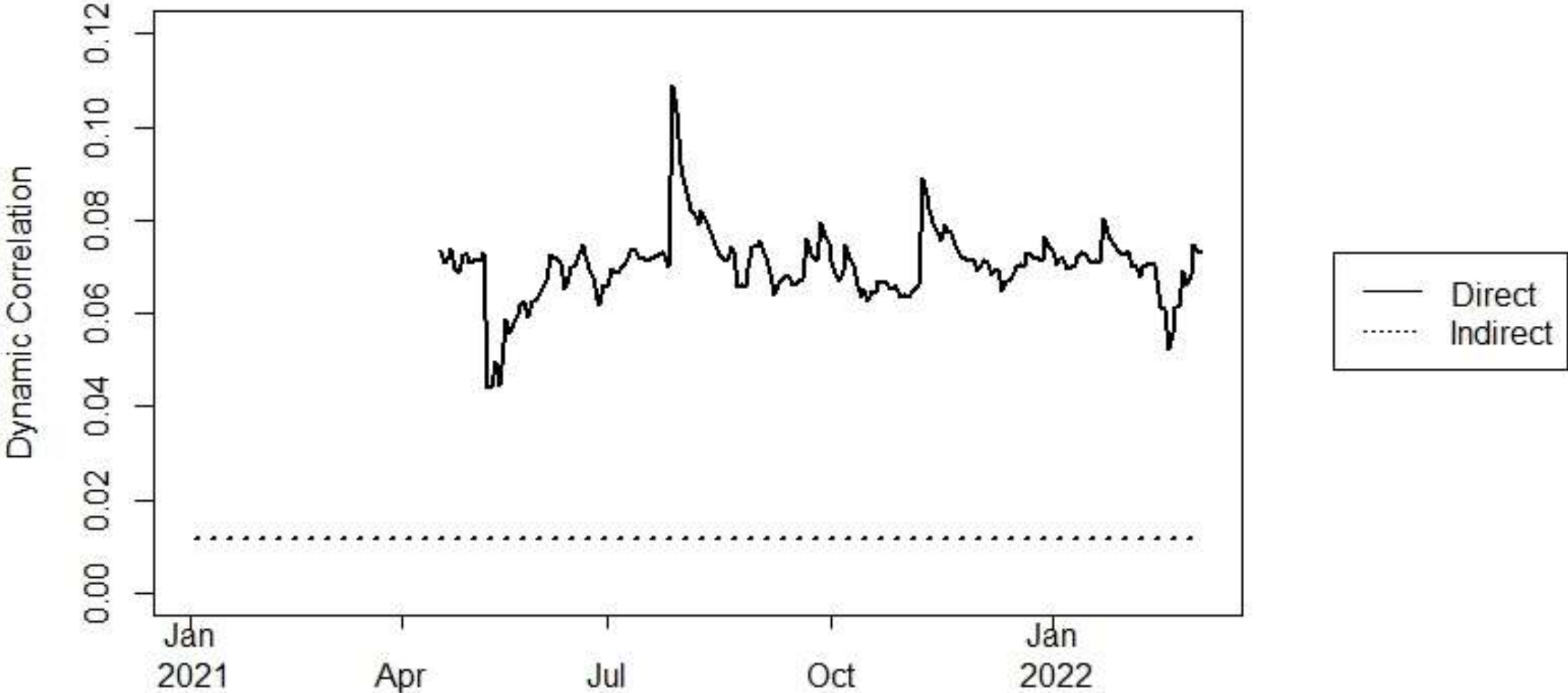
Impulse-Response Analysis

- One standard deviation shock from Bitcoin to Direct and Indirect Portfolios

Conclusion

1) Cryptocurrency-related announcements receive positive reaction from investors.

2) Direct firms earn higher abnormal returns.

3) Direct firms become more tied and sensitive to Bitcoin.

Implications

- Stock market: more regulated and protected
- Crypto market: scams and frauds
- The stock market offers a somewhat safer opportunity to invest in crypto
- Corporate manages should consider adopting crypto/block-chain technology in their businesses

Limitations

- Only short-term returns [-20, 20] are analyzed
- Small sample size
- Concern on increased risk for Direct firms

Thank you

Yosuke Kakinuma