## Speculative Betas<sup>1</sup>

Harrison Hong David A.Sraer

S.M. Aghajanzadeh

Tehran Institute for Advanced Studies

June, 2021

June, 2021

### $\beta$ -Sorted Portfolios

- At the beginning of each calendar month, stocks are ranked in ascending order on the basis of their estimated beta at the end of the previous month for prior year
- The ranked stocks are assigned to 1 of 20 value-weighted portfolios

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
β	0.43	0.49	0.55	0.60	0.67	0.69	0.77	0.79	0.83	0.89	0.95	0.98	1.02	1.11	1.13	1.21	1.26	1.39	1.50	1.78
Median Vol.	1.56	1.14	1.10	1.11	1.13	1.14	1.15	1.17	1.22	1.23	1.28	1.33	1.34	1.43	1.50	1.58	1.70	1.88	2.26	3.16
$R_{i \ t}^{(1)}$	0.12	0.39	0.63	0.61	0.61	0.73	0.87	0.61	0.79	0.60	0.67	0.64	0.53	0.57	0.73	0.54	0.58	0.44	-0.17	-0.72
$R_{i,t}^{(1)}$ $R_{i,t}^{(12)}$	3.21	5.58	7.98	7.74	8.19	7.94	8.10	8.15	8.92	6.88	8.28	8.51	7.46	7.82	8.08	7.86	8.23	6.62	-0.55	-11.69
Stock Disp.	2.97	2.76	2.81	2.78	2.89	3.02	3.24	3.35	3.44	3.38	3.54	3.56	3.60	3.72	3.94	3.93	4.29	4.71	5.03	6.91
% Mkt. Cap.	2.77	3.58	4.15	4.73	4.86	5.00	5.32	5.44	5.49	5.84	5.60	5.58	5.62	5.63	5.36	5.45	5.31	5.09	5.21	7.48
N stocks	171	143	145	147	149	154	157	160	161	169	164	166	167	167	167	168	175	186	210	365

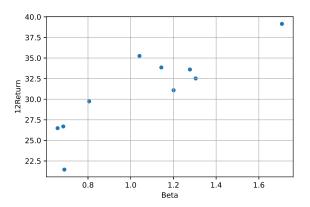
## Iran $\beta$ -Sorted Portfolios

- At the beginning of each calendar month, stocks are ranked in ascending order on the basis of their estimated beta at the end of the previous month for prior year
- The ranked stocks are assigned to 1 of 10 market-weighted portfolios

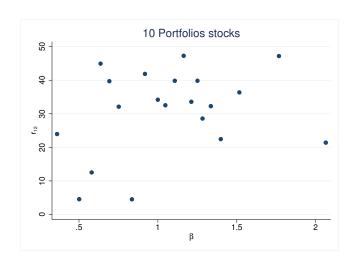
Portfolio	1	2	3	4	5	6	7	8	9	10
β	0.64	0.68	0.71	0.82	0.96	1.21	1.13	1.26	1.38	1.77
12Return	16.63	29.71	26.14	32.11	33.24	34.16	32.44	30.58	37.38	39.75
Mreturn	1.73	2.47	2.32	2.76	3.38	2.69	2.91	2.53	3.43	3.67
Size	35	36	37	37	37	38	38	38	38	36

3/9

### Beta and Return



### Beta and Return



#### $\beta$ -Sorted Portfolios

- Rank stocks based on preranking ratio of  $\beta$  to  $\sigma^2$  and define as speculative stocks all stocks with a ratio above the median ratio
- Then, within each of these two groups creat 20  $\beta$ -sorted portfolios

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
								Panel	A: No	nspec	ulative	Stock	s							
β	0.42	0.46	0.50	0.61	0.64	0.72	0.77	0.83	0.83	0.90	1.00	1.05	1.08	1.17	1.20	1.25	1.33	1.43	1.55	1.95
Median Vol.	1.85	1.35	1.29	1.40	1.38	1.46	1.54	1.62	1.71	1.80	1.86	1.93	2.01	2.15	2.26	2.33	2.43	2.70	2.92	4.09
$\frac{\beta}{\sigma^2}$	0.12	0.25	0.30	0.31	0.33	0.33	0.32	0.31	0.28	0.27	0.29	0.28	0.26	0.25	0.23	0.22	0.22	0.19	0.18	0.1
$R_{i,t}^{(1)}$	0.05	0.21	0.34	0.35	0.57	0.46	0.79	0.59	0.66	0.82	0.82	0.61	0.61	0.93	0.43	0.90	0.75	0.51	0.76	-0.03
$R_{i,t}^{(12)}$	1.89	3.01	3.93	5.70	5.88	7.57	6.77	9.75	9.07	9.03	8.83	8.34	7.90	10.35	10.15	12.73	10.80	11.21	11.58	-2.78
Stock Disp.	3.12	2.85	3.06	3.56	3.34	3.36	3.54	3.80	3.87	4.16	4.74	4.73	4.83	4.95	5.17	5.66	5.96	6.06	6.24	7.99
% Mkt. Cap.	4.31	3.95	4.76	5.15	5.56	5.62	5.90	5.65	5.47	5.57	5.19	5.00	5.06	4.74	4.81	4.61	4.58	4.55	5.14	8.70
N stocks	96	73	71	75	81	84	87	89	93	96	97	98	100	101	108	111	118	126	151	339
								Par	el B: S	Specul	ative S	tocks								
β	0.38	0.51	0.61	0.64	0.70	0.76	0.82	0.84	0.90	0.93	0.95	1.02	1.05	1.11	1.15	1.21	1.32	1.36	1.47	1.72
Median Vol.	0.78	0.86	0.93	0.98	1.01	1.02	1.05	1.09	1.13	1.17	1.17	1.24	1.27	1.34	1.39	1.47	1.56	1.75	1.94	2.60
$\frac{\beta}{\sigma^2}$	0.62	0.68	0.70	0.66	0.68	0.71	0.73	0.70	0.69	0.68	0.68	0.65	0.65	0.62	0.59	0.56	0.54	0.44	0.39	0.25
$R_{i,t}^{(1)}$	0.62	0.81	0.54	0.78	0.76	0.66	0.47	0.61	0.63	0.55	0.83	0.48	0.46	0.73	0.43	0.65	0.49	-0.24	0.00	-0.91
$R_{i,t}^{(12)}$	8.51	9.47	8.71	8.24	7.38	7.10	6.49	7.43	7.96	7.58	7.41	7.90	7.31	7.06	7.55	6.54	4.57	-1.52	-2.38	-11.62
Stock Disp.	1.95	2.17	2.33	2.66	2.76	2.90	2.98	3.07	3.16	3.24	3.23	3.17	3.31	3.49	3.50	3.75	4.21	4.55	5.03	6.57
% Mkt. Cap.	4.16	4.48	4.98	5.05	5.19	5.37	5.88	5.84	5.73	5.50	5.35	5.24	5.30	5.17	4.98	4.68	5.01	5.15	4.81	6.64
N stocks	57	58	58	60	63	64	65	67	68	67	68	69	67	66	65	66	65	66	68	90

Aghajanzadeh Speculative Betas June, 2021 6/9

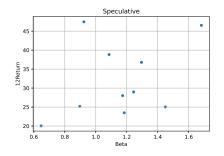
### $\beta$ -Sorted Portfolios

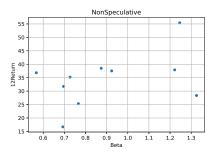
- Rank stocks based on preranking ratio of  $\beta$  to  $\sigma^2$  and define as speculative stocks all stocks with a ratio above the median ratio
- Then, within each of these two groups creat 10  $\beta$ -sorted portfolios

	1	2	3	4	5	6	7	8	9	10				
	Nonspeculative													
β	0.69	0.74	0.71	0.62	0.84	0.73	0.91	1.19	1.16	1.30				
12Return	50.07	42.39	53.00	59.10	64.57	43.80	55.05	71.15	57.46	56.05				
Mreturn	3.42	2.45	3.79	3.64	4.65	2.67	3.73	4.81	3.71	3.26				
Size	17	18	18	18	18	19	19	19	18	18				
	Speculative													
β	0.69	0.91	0.90	1.10	1.14	1.05	1.26	1.24	1.40	1.58				
12Return	43.47	70.68	58.81	42.64	50.55	65.41	64.54	48.93	53.07	70.40				
Mreturn	3.07	4.91	4.23	2.42	3.23	4.38	3.95	3.24	3.43	4.75				
Size	18	18	19	19	19	19	19	19	19	19				

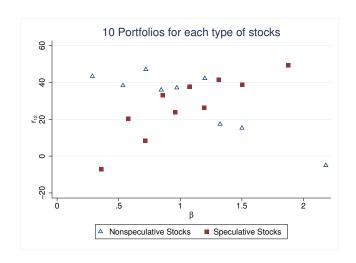
Aghajanzadeh Speculative Betas June, 2021

# Speculative /Non Speculative





## Speculative /Non Speculative



June, 2021

9/9