

Consultation on a Treatment of Potential Index Additions with Extreme Price Increase

MSCI GLOBAL INVESTABLE MARKET INDEXES

February 2021

Background

- MSCI opens a consultation around a proposal to employ additional screening for any potential additions (including size-migrations) to the Standard Indexes of the MSCI Global Investable Market Indexes, which exhibit extreme price increase for a defined time period that precedes an MSCI Index Review
- In line with the methodology that MSCI applies for most initial public offerings (IPOs)*, a central objective of this proposal is to employ a sufficient time period to allow for potential stabilization of price discovery for securities exhibiting exceptionally high price returns and to reduce the scope for potential reverse turnover
- Under this proposal, potential additions to the MSCI Standard Indexes would be screened (out) based on explicit return-based thresholds. Securities which are screened would be reconsidered for index inclusion at the subsequent Index Review
- MSCI welcomes feedback from the investment community until March 31, 2021. MSCI will announce the results of this consultation on or before April 16, 2021

Proposal: Details

- **MSCI proposes to apply a screen based on extreme price increases for additions to the MSCI Standard Indexes (including migrations from the small cap size-segment)**
- **Proposed definition of extreme price increase**
 - Excess returns over the MSCI *ACWI IMI country sector* mean* on the **price cutoff date**** of a given index review of at least **100%, 200% or 400%** for **1, 2 or 3 months** respectively
 - For country sectors with less than 5 constituents, the relevant MSCI *Country IMI* returns would be used instead
- **Proposed application of the screen**
 - Securities meeting the criteria for extreme price increase would not be eligible for inclusion into the Standard Index and would be re-evaluated for Standard Index inclusion in the subsequent Index Review using Standard Index inclusion criteria, including the proposed return-based thresholds for extreme price increase
 - Small Cap constituents migrating to the Standard Index would be retained in the Small Cap Index if they meet the criteria for extreme price increase
 - Large IPOs^ that have come to market in the trailing 3-month period would be excluded from the assessment

Proposal: Rationale

- The proposal aims at striking a balance between the postponement of inclusion of securities identified as experiencing exceptionally high price increases and continuing to reflect changes to the Indexes in a timely fashion
- The proposed extreme price increase thresholds are based on analysis of historical additions to the MSCI Standard Indexes over approximately 10 years*. Additionally,
 - Use of excess returns over the respective country/sector mean would remove potential country-sector bias and allows for greater comparability across securities;
 - Use of granular return measurement periods (5-day increment) would allow capturing specific periods of exceptionally high returns; and
 - Use of a 60-business day window aims to capture the returns observed between index reviews
- As smaller securities are often characterized by higher returns volatility, MSCI proposes to implement this methodology enhancement only for potential additions to the MSCI Standard Indexes for the time being. MSCI may consider extending this treatment, potentially with a different set of thresholds, for the small cap size-segment in the future

Illustration of the Proposal

1

Screen for Extreme Price Increase

Period*	5D	10D	15D	20D	25D	30D	35D	40D	45D	50D	55D	60D
Proposed Excess Returns Threshold	100%	100%	100%	100%	200%	200%	200%	200%	400%	400%	400%	400%

Stocks breaching the threshold in **any** period of measure within the 3-month window are considered to have 'Extreme Price Increase'

2

Securities with Extreme Price Increases are not eligible for Standard Index inclusion and evaluated in the following index review



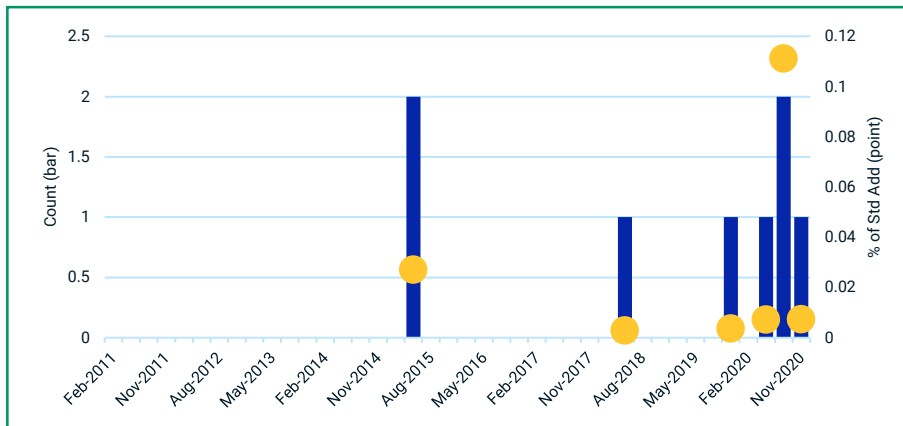
Allows for stability of security returns and market capitalization before potential inclusion

Impact of the Proposal

Summary of Historical Impact

	Standard Add
Historical Sample Size*	2,162
Impacted No of Securities	8
Impacted % of Historical Sample	.37%
Average per Rebalancing**	0.20

Impact per rebalancing



Simulated List of Impacted Securities at Proposed Thresholds

Security	Impacted Index Review	Country	Sector	Company Full Mcap (USD million)	Security FIF Mcap* (USD million)	Eligibility in following Index Review
GOLDIN PROPERTIES HLDGS	May 2015	CN	Financials	6,896	2,758	No
HANMI PHARM CO (NEW)	May 2015	KR	Health Care	3,370	1,685	Yes
CHINA FIRST CAPITAL GRP	May 2018	CN	Consumer Discretionary	4,087	2,657	Yes
ARTGO HOLDINGS	Nov 2019	CN	Industrials	2,323	1,975	No
AFTERPAY	May 2020	AU	Information Technology	4,590	3,672	Yes
SHIN POONG PHARMA CO	Aug 2020	KR	Health Care	5,828	2,999	Yes
SUPERMAX CORP	Aug 2020	MY	Health Care	5,540	3,047	Yes
HEBEI CONSTRUCTION GRP H	Nov 2020	CN	Industrials	5,625	1,473	n/a

- The above table includes the simulated list of securities that would be subject to seasoning at relevant index reviews as they would have met the extreme price increase thresholds
- After the relevant seasoning period, *Goldin Properties and Artgo Holdings* would not have been added in later index review due to decrease in price. *Goldin Properties* was also included in the Hong Kong High Shareholding Concentration list

Alternative and Discussion Points



Considered Alternative

- An alternative scenario with lower return thresholds* was also evaluated, which would have resulted in a higher number of postponed additions
 - For example, some companies such as Tesla, Moderna and Zoom would have been impacted historically, using these alternative thresholds. Appendix I provides further details

Excess returns thresholds under proposed and alternative scenarios

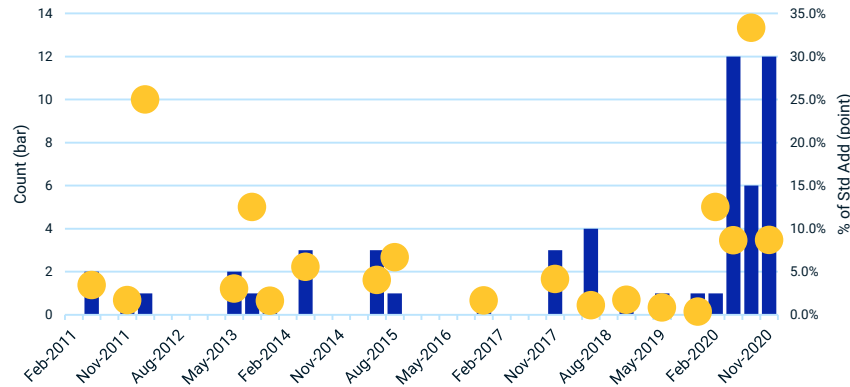
Period*	5D	10D	15D	20D	25D	30D	35D	40D	45D	50D	55D	60D
Proposed Excess Returns Threshold	100%	100%	100%	100%	200%	200%	200%	200%	400%	400%	400%	400%
Alternative Excess Returns Threshold	50%	50%	50%	50%	50%	50%	100%	100%	100%	100%	100%	100%

Impact of the Alternative

Summary of Historical Impact

	Standard Add
Historical Sample Size*	2,162
Impacted No of Securities	57
Impacted % of Historical Sample	2.64%
Average per Rebalancing**	1.43

Impact per rebalancing



Discussion Points

- Is it appropriate to apply screening for additions to the MSCI Standard Indexes that exhibit extreme price increases leading into an index review?
- Are the proposed return thresholds sufficient or other measures need to be considered?
- Should MSCI consider a longer timeframe for price stabilization before re-evaluating securities for MSCI Standard Index Inclusion?
- Do you agree with the proposal to not apply the treatment to sizeable IPOs?
- If accepted, should MSCI implement the proposed screen starting from the May 2021 Semi-Annual Index Review (SAIR)?

Appendix I

SIMULATED LIST OF IMPACTED STANDARD ADDITIONS (PROPOSED AND ALTERNATIVE THRESHOLDS)

Simulated List of Impacted Standard Additions (Proposed and Alternative Thresholds)

Security	Impacted Index Review	Cty	Sector	Full Mcap	FIF Mcap	60-D Return*	ACWI weight	World weight	EM weight	Effective Day Return	3-month return**
GREEN MOUNT COF ROASTERS	May 2011	US	Consumer Staples	9,293	7,899	88.6%	0.035%	0.041%		-3.0%	27.2%
HYUNDAI WIA CORP	May 2011	KR	Consumer Discretionary	2,852	1,284	0.0%	0.005%		0.040%	-3.3%	-4.7%
LUNDIN PETROLEUM	Nov 2011	SE	Energy	6,794	4,756	63.3%	0.022%	0.025%		-0.7%	-11.0%
COBALT INTERNATIONAL	Feb 2012	US	Energy	7,843	2,745	80.5%	0.019%	0.022%		3.1%	-24.7%
TOKYO TATEMONO CO	May 2013	JP	Financials	4,149	3,942	128.6%	0.010%	0.011%		-5.61%	7.0%
GUNGHO ONLINE ENT	May 2013	JP	Information Technology	6,149	1,845	251.3%	0.014%	0.016%		-3.2%	-48.5%
TESLA MOTORS	Aug 2013	US	Consumer Discretionary	14,551	10,186	127.3%	0.044%	0.050%		0.0%	-28.7%
HANERGY SOLAR GROUP	Nov 2013	CN	Information Technology	4,995	1,998	127.9%	0.005%		0.047%	2.4%	-13.6%
PAKISTAN TOBACCO CO	May 2014	PK	Consumer Staples	3,691	185	99.1%				-0.6%	-15.5%
FORTE OIL	May 2014	NG	Energy	992	496	60.5%				10.2%	7.1%
LAFARGE SURMA CEMENT	May 2014	BD	Materials	1,021	357	62.6%				2.3%	35.5%
CHINA STH AIRLINES H	May 2015	CN	Industrials	14,538	1,758	76.5%	0.005%		0.045%	-1.4%	-36.5%
GOLDIN PROPERTIES HLDGS	May 2015	CN	Financials	6,896	2,758	240.5%	0.012%		0.111%	0.0%	-70.2%
HANMI PHARM CO (NEW)	May 2015	KR	Health Care	3,370	1,685	255.9%	0.005%		0.046%	5.6%	5.6%
HANMI SCIENCE CO	Aug 2015	KR	Health Care	6,717	1,343	215.5%	0.004%		0.045%	-2.8%	-6.9%
JASTRZEBSKA SPOLKA WEGL	Nov 2016	PL	Materials	2,152	969	206.8%	0.003%		0.026%	1.5%	-15.8%
ALNYLAM PHARMACEUTICALS	Nov 2017	US	Health Care	10,602	9,541	39.68%	0.026%	0.030%		2.06%	-10.7%

Market Cap data as of the price cutoff date of the relevant Index Review. Index weights as of the effective date of the relevant Index Review.

*60-day return as of the price cutoff date of the relevant index review

**Return as of the implementation date of the index review after the relevant seasoning period. For the November 2020 Index Reviews, return as of December 1, 2020 is shown.

Impacted at the Proposed Threshold

Simulated List of Impacted Standard Additions (Proposed and Alternative Thresholds)

Security	Impacted Index Review	Cty	Sector	Full Mcap	FIF Mcap	60-D Return*	ACWI weight	World weight	EM weight	Effective Day Return	3-month return**
KINGSTON FINANCIAL GROUP	Nov 2017	HK	Financials	9,630	2,889	102.9%	0.011%	0.013%		-7.3%	-50.8%
SILLAJEN	Nov 2017	KR	Health Care	3,541	2,833	142.7%	0.012%		0.103%	-1.9%	-7.3%
WALSIN TECHNOLOGY CORP	May 2018	TW	Information Technology	2,964	1,926	83.7%	0.009%		0.075%	-2.5%	-18.8%
CHINA FIRST CAPITAL GRP	May 2018	CN	Consumer Discretionary	4,087	2,657	122.3%	0.007%		0.058%	-38.7%	-46.6%
HLB	May 2018	KR	Consumer Discretionary	3,716	3,159	135.9%	0.009%		0.072%	-2.5%	-24.6%
JIAYUAN INTERNATIONAL	May 2018	CN	Real Estate	4,514	1,806	87.3%	0.004%		0.034%	-0.3%	4.3%
CHINA INV FUND INTL (CN)	Nov 2018	CN	Financials	4,141	3,106	104.1%	0.006%		0.055%	0.9%	11.0%
HITHINK ROYAL A (HK-C)	May 2019	CN	Financials	8,556	2,568	151.9%	0.000%		0.004%	-1.6%	1.2%
ARTGO HOLDINGS	Nov 2019	CN	Industrials	2,323	1,975	138.1%				-3.8%	-66.3%
LUCKIN COFFEE A ADR	Feb 2020	CN	Consumer Discretionary	11,308	3,757	128.1%	0.007%		0.059%	-1.4%	-94.5%
AMBU B	May 2020	DK	Health Care	8,753	5,671	103.2%	0.012%	0.013%		0.0%	-18.1%
CELLTRION PHARM	May 2020	KR	Health Care	2,105	947	79.4%	0.003%		0.022%	23.2%	21.2%
PUREGOLD PRICE CLUB	May 2020	PH	Consumer Staples	2,641	924	19.2%	0.002%		0.017%	-4.1%	17.4%
CHINA OVERSEAS PPTY HLDG	May 2020	CN	Real Estate	3,613	1,445	66.1%	0.003%		0.028%	0.0%	-20.3%
AFTERPAY	May 2020	AU	Information Technology	4,590	3,672	-25.6%	0.015%	0.016%		0.7%	92.9%
JIANGSU SHAGANG A (HK-C)	May 2020	CN	Materials	4,110	1,230	114.3%	0.001%		0.005%	0.0%	-11.9%
DA AN GENE CO A (HK-C)	May 2020	CN	Health Care	3,045	912	81.6%	0.000%		0.003%	1.7%	94.7%
MODERNA	May 2020	US	Health Care	16,207	10,534	120.3%	0.036%	0.041%		1.1%	5.5%
TIANJIN CHASE A (HK-C)	May 2020	CN	Health Care	3,079	922	80.6%	0.000%		0.002%	-0.2%	11.4%
ZOOM VIDEO COMM A	May 2020	US	Information Technology	39,973	15,523	100.3%	0.042%	0.048%		13.7%	81.1%

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Impacted at the Proposed Threshold

Simulated List of Impacted Standard Additions (Proposed and Alternative Thresholds)

Security	Impacted Index Review	Cty	Sector	Full Mcap	FIF Mcap	60-D Return*	ACWI weight	World weight	EM weight	Effective Day Return	3-month return**
CANSINO BIOLOGICS H	May 2020	CN	Health Care	3,910	1,048	101.6%	0.003%		0.026%	4.9%	-9.4%
CROWDSTRIKE HLDGS A	May 2020	US	Information Technology	14,087	6,835	11.9%	0.020%	0.022%		8.0%	43.2%
SHIN POONG PHARMA CO	Aug 2020	KR	Health Care	5,828	2,999	636.5%	0.006%		0.052%	7.7%	-3.3%
HARMONY GOLD MINING CO	Aug 2020	ZA	Materials	3,845	3,461	54.5%	0.007%		0.055%	-5.1%	-42.8%
SUPERMAX CORP	Aug 2020	MY	Health Care	5,540	3,047	633.9%	0.007%		0.061%	-1.3%	-17.8%
SEEGENE	Aug 2020	KR	Health Care	4,106	2,874	101.4%	0.008%		0.063%	-3.2%	-28.6%
ALTEOGEN	Aug 2020	KR	Health Care	3,614	2,349	227.7%	0.006%		0.049%	-2.1%	-23.1%
MICROPORT SCI (HK)	Aug 2020	HK	Health Care	9,348	3,739	138.2%	0.006%	0.007%		3.7%	-5.1%
DELTA ELECTRONICS THAI	Nov 2020	TH	Information Technology	7,438	1,859	106.7%	0.004%		0.032%	-1.3%	-1.3%
IMMUNOMEDICS	Nov 2020	US	Health Care	20,252	17,214	102.3%					
HOPSON DEVELOPMENT HLDGS	Nov 2020	CN	Real Estate	5,666	1,700	110.2%	0.003%		0.024%	-8.7%	-8.7%
ENPHASE ENERGY	Nov 2020	US	Information Technology	14,452	13,729	84.3%	0.029%	0.033%		-5.7%	-5.7%
SOLAREEDGE TECHNOLOGIES	Nov 2020	US	Information Technology	15,492	15,492	71.0%	0.025%	0.028%		-1.4%	-1.4%
NOVOCURE	Nov 2020	US	Health Care	13,378	11,372	97.5%	0.019%	0.022%		1.1%	1.1%
MYOKARDIA	Nov 2020	US	Health Care	11,831	11,240	132.2%					
HEBEI CONSTRUCTION GRP H	Nov 2020	CN	Industrials	5,625	1,473	129.6%	0.002%		0.018%	-59.5%	-59.5%
ADANI GREEN ENERGY	Nov 2020	IN	Utilities	14,981	3,745	105.4%	0.011%		0.082%	-0.1%	-0.1%
EAST GROUP A (HK-C)	Nov 2020	CN	Industrials	4,086	1,230	135.8%	0.000%		0.003%	1.1%	1.1%
CLOUDFLARE A	Nov 2020	US	Information Technology	17,815	8,984	56.0%	0.020%	0.023%		-3.7%	-3.7%
JA SOLAR TECH A (HK-C)	Nov 2020	CN	Industrials	7,346	1,474	56.0%	0.001%		0.004%	-1.1%	-1.1%

Market Cap data as of the price cutoff date of the relevant Index Review. Index weights as of the effective date of the relevant Index Review.

*60-day return as of the price cutoff date of the relevant index review

**Return as of the implementation date of the index review after the relevant seasoning period. For the November 2020 Index Reviews, return as of December 1, 2020 is shown.

Impacted at the Proposed Threshold

Appendix II

DETAILED EXAMPLES



Defining the Return Thresholds

- MSCI evaluated historical index review additions* since 2011** and set the proposed thresholds based on the 99.9th percentile of excess returns
- MSCI also considered alternative thresholds which were defined based on 99th percentile of historical excess returns of index review additions*
- The table to the right illustrates the Excess Returns of historical index review additions at the 99.9th and 99th percentile respectively, as well as the proposed and alternative thresholds which were set based on the historical excess returns

Period (business days)	Proposed		Alternative	
	Excess Returns (%) of Standard Adds* @ 99.9 th	Excess Return (%) Threshold @ 99.9 th	Excess Returns (%) of Standard Adds* @ 99 th	Excess Return (%) Threshold @ 99 th
5d	44	100	18	50
10d	76	100	30	50
15d	101	100	36	50
20d	109	100	45	50
25d	127	200	54	50
30d	181	200	62	50
35d	208	200	73	100
40d	243	200	78	100
45d	241	400	84	100
50d	272	400	92	100
55d	337	400	100	100
60d	382	400	116	100

Example: Calculation of Excess Returns

1

Calculating mean country sector returns from absolute returns

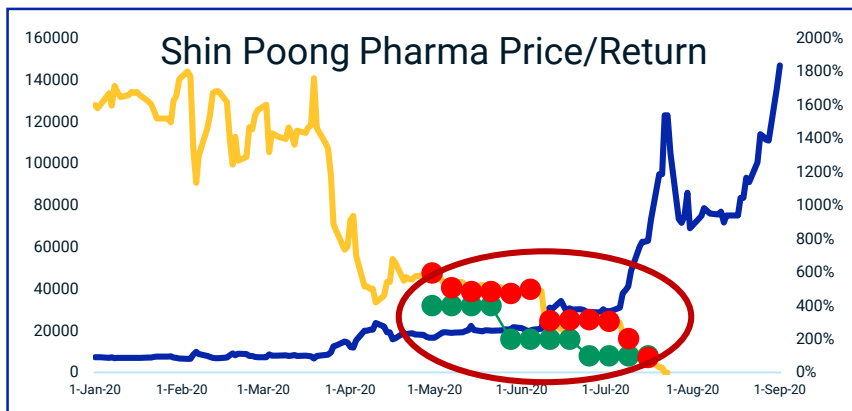
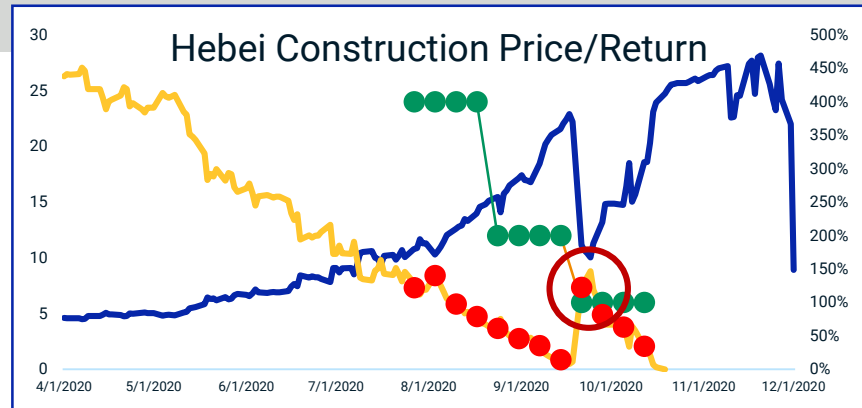
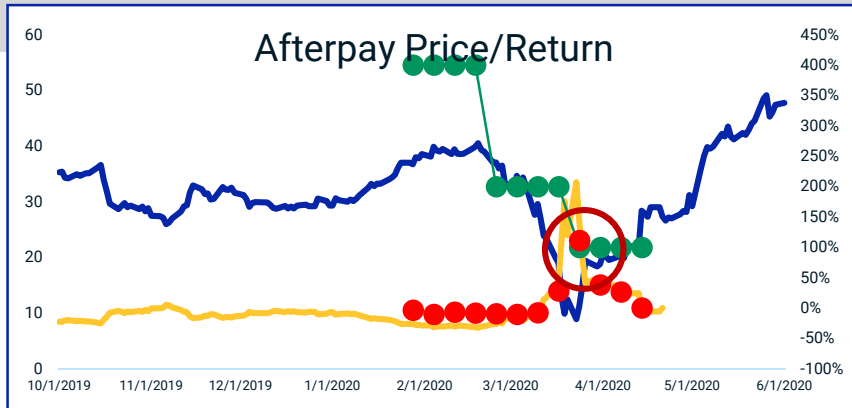
Security	Cur Index	PF Index	Mcap	5D	10D	15D	20D	25D	30D	35D	40D	45D	50D	55D	60D	120D	180D	250D
All Cap Country Sector Mean Return				9	18	37	53	51	38	54	59	93	122	174	191	271	335	320
TOP GLOVE CORP	STD	STD	14,883	13	20	44	58	57	45	68	92	129	165	249	240	337	455	439
HARTALEGA HOLDINGS	STD	STD	13,812	11	6	18	44	46	39	55	60	85	96	140	126	203	229	245
IHH HEALTHCARE	STD	STD	11,121	(1)	1	(0)	(0)	0	(3)	(2)	(1)	(5)	1	4	3	(6)	0	(6)
SUPERMAX CORP	SC	STD	5,540	15	59	104	143	140	103	143	151	277	381	506	634	907	1,105	1,013
KOSSAN RUBBER INDUSTRIES	SC	STD	4,217	10	24	57	73	67	54	67	58	82	96	149	151	200	233	239
KPJ HEALTHCARE	SC	SC	867	2	(1)	1	(2)	(3)	(7)	(6)	(6)	(7)	(6)	(5)	(7)	(16)	(9)	(10)
DUOPHARMA BIOTECH			476	57	79	78	82	74	77	83	74	74	71	93	90	87	118	116
APEX HEALTHCARE			441	37	41	45	41	40	32	38	36	37	63	74	72	73	70	94
PHARMANIAGA			280	67	90	105	98	90	72	83	90	105	139	160	161	133	99	80
TMC LIFE SCIENCES			231	12	13	14	9	7	9	8	9	2	(2)	(1)	4	(9)	(12)	(19)
ADVENTA			60	(2)	(1)	10	12	11	(7)	14	53	56	45	86	91	124	211	224

2

Screening excess returns against preset thresholds

Security	Cur Index	PF Index	Mcap	5D	10D	15D	20D	25D	30D	35D	40D	45D	50D	55D	60D	120D	180D	250D	
Proposed Threshold				100	100	100	100	200	200	200	200	400	400	400	400	400			
Alternative Threshold				50	50	50	50	50	50	100	100	100	100	100	100	100			
TOP GLOVE CORP	STD	STD	14,883	5	2	7	6	6	6	14	33	35	43	75	49	66	120	119	
HARTALEGA HOLDINGS	STD	STD	13,812	3	(12)	(20)	(9)	(6)	1	1	1	(9)	(26)	(34)	(65)	(68)	(106)	(75)	
IHH HEALTHCARE	STD	STD	11,121	(9)	(17)	(37)	(53)	(51)	(42)	(56)	(60)	(99)	(121)	(170)	(188)	(277)	(335)	(326)	
SUPERMAX CORP	SC	STD	5,540	6	41	67	91	89	64	89	92	184	259	332	443	636	769	693	
KOSSAN RUBBER INDUSTRIES	SC	STD	4,217	2	6	20	20	16	16	13	(1)	(11)	(27)	(25)	(40)	(71)	(102)	(81)	
KPJ HEALTHCARE	SC	SC	867	(6)	(19)	(37)	(54)	(55)	(46)	(60)	(65)	(100)	(128)	(178)	(198)	(287)	(345)	(330)	
DUOPHARMA BIOTECH			476	48	61	41	29	23	39	29	15	(19)	(51)	(80)	(101)	(184)	(218)	(204)	
APEX HEALTHCARE			441	29	22	8	(12)	(11)	(6)	(16)	(23)	(57)	(59)	(100)	(119)	(198)	(266)	(226)	
PHARMANIAGA			280	59	72	68	45	39	34	29	31	12	17	(14)	(30)	(138)	(237)	(240)	
TMC LIFE SCIENCES			231	3	(5)	(23)	(44)	(44)	(30)	(46)	(50)	(92)	(124)	(175)	(187)	(280)	(347)	(339)	
ADVENTA			60	(11)	(19)	(27)	(41)	(41)	(46)	(41)	(6)	(38)	(77)	(88)	(100)	(147)	(125)	(96)	

Example: Application on Specific Securities



- (top left) **Afterpay (AU)** breached the excess return threshold (103% vs 100%) 20 days prior to the review date of the May 2020 SAIR
- (bottom left) **Shin Poong Pharma (KR)** breached most of the excess return threshold across the 60-day window leading to the review date of the Aug 2020 QIR
- (top right) **Hebei Construction (CN)** breached the excess return threshold (123% vs 100%) 20 days prior to the review date of the Nov 2020 SAIR

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