

Capital:	SWF TEST	\$ 93,047,109,113
	SGD	132,089,676,097

GICS Sector	Contribution to		Gross	Net	Risk-adj Net	Beta-wtd Net	Port Vol
	Long	Short					
Consumer Discretionary	1%		1%	1%	0%	1%	1%
Consumer Staples	2%		2%	2%	2%	1%	2%
Energy	1%		1%	1%	2%	3%	2%
Financials	38%		38%	38%	39%	44%	43%
Health Care	4%		4%	4%	5%	4%	5%
Industrials	16%		16%	16%	12%	10%	13%
Information Technology	5%		5%	5%	6%	8%	7%
Materials	1%		1%	1%	1%	2%	2%
Real Estate	4%		4%	4%	2%	4%	2%
Telecommunication Services	29%		29%	29%	19%	15%	24%
Utilities							
Other							
<b>Total</b>	<b>100%</b>	<b>0%</b>	<b>100%</b>	<b>100%</b>	<b>88%</b>	<b>91%</b>	<b>100%</b>

Exp Vol Stats:

	Port Vol	ACWI Vol
Annual	15%	16%
Monthly	4.3%	4.6%
Daily	0.9%	1.0%

VaR Stats:

	Loss Freq	Loss Est
1 day a month		-1.9%
1 month a year		-7.1%

Note: loss est based on hybrid dist (75% normal, 25% worst-case);  
potential loss est, worse than or equal to, indicated level.

Historical Stress Testing:

Episode	Period	Hypothetical Port Return	MSCI AC World Local MSELACWF Return
September - October, 2008	09/19/08 - 10/27/08	-28.1%	-32.7%
July - August, 2011	07/07/11 - 08/10/11	-13.7%	-16.5%
April - August, 2015	04/27/15 - 08/24/15	-10.7%	-13.3%

Salient Nominal Expo Stats:

"Top 5" Long Stock Expo	54%
"Top 10" Long Stock Expo	75%
# Long Stocks >= 5%	4
Avg Long Stock Expo	2.2%
"Top 5" Short Stock Expo	0%
"Top 10" Short Stock Expo	0%
# Short Stocks <= -3%	0
Avg Short Stock Expo	0.0%
"Top 10" Gross Stock Expo	75%
"Top 20" Gross Stock Expo	93%
# Stocks	46
# Long Stocks	46
# Short Stocks	0
Gross Expo Wtd-Avg Mkt Cap	\$ 65,341
Long Expo Wtd-Avg Mkt Cap	\$ 65,341
Short Expo Wtd-Avg Mkt Cap	\$ -
Simple Median Mkt Cap	\$ 16,471

Expo Dist by Factor Spectra:

Fundamental Factor	Bottom Quintile		Top Quintile	
	Long	Short	Long	Short
Market Cap*	2%	0%	21%	0%
Volatility	52%	0%	4%	0%
Dividend Yield	19%	0%	49%	0%
LT Px MOM	10%	0%	11%	0%
Analyst Buy Reco	17%	0%	43%	0%
EVA Spread (ROIC - WACC)	8%	0%	1%	0%
P/Sales	11%	0%	11%	0%
China Growth	8%	0%	42%	0%

\* discreet buckets

Liquidity:

FirmWide Wtd Avg Liq = 295d			
Days	Remaining \$Gross Expo	Remaining %Gross Expo	% Reduction
-	\$ 93,047,109,113	100%	0%
10	\$ 84,065,514,198	90%	10%
20	\$ 79,221,478,105	85%	15%
30	\$ 76,120,131,381	82%	18%
40	\$ 73,025,608,723	78%	22%
50	\$ 70,136,231,775	75%	25%
100	\$ 60,557,419,330	65%	35%
250	\$ 42,670,880,985	46%	54%

Remaining gross exposure & liquidation over time (20% participation)

Good house, bad block? MSCI ACWI Sector:

MSCI ACWI Sector	% Change vs.		% Change vs.	
	Mov-Avg 1M	Trailing 1M	High 1M	Low 1M
MSCI AC World Local	1%	3%	-1%	4%
Consumer Discretionary	1%	4%	-2%	5%
Consumer Staples	-2%	-4%	-4%	0%
Energy	4%	7%	0%	8%
Financials	3%	10%	-1%	10%
Health Care	-1%	1%	-4%	2%
Industrials	2%	7%	0%	7%
Information Technology	-1%	-1%	-3%	1%
Materials	2%	5%	0%	6%
Real Estate	0%	-1%	-2%	1%
Telecommunication Services	0%	0%	-1%	3%
Utilities	-1%	-4%	-5%	1%

Note: analysis based on ccy-hedged local-market returns where applicable

Summary: Pg 1

Capital:	SWF TEST	\$	93,047,109,113
	SGD		132,089,676,097

Long	100%
Short	0%
Gross	100%
Net	100%
Risk-adj Net	88%
Beta-wtd Net	91%

100%

Item	Ticker	Nominal Expo	Imp vol Risk Ratio	Trad Beta	Contribution to Port Vol	Short Name
1	ST SP	23.1%	0.6	0.4	19%	SINGAPORE TELECO
2	939 HK	10.1%	1.0	1.2	12%	CCB-H
3	DBS SP	10.0%	0.8	0.8	8%	DBS GROUP HLDGS
4	1398 HK	5.7%	1.0	1.1	6%	ICBC-H
5	SIA SP	4.8%	0.5	0.1	3%	SINGAPORE AIRLIN
6	BABA	4.7%	1.2	1.6	6%	ALIBABA GRP-ADR
7	STAN LN	4.5%	1.4	1.8	7%	STANDARD CHARTER
8	STE SP	4.1%	0.7	0.9	3%	SINGAP TECH ENG
9	LVL T	3.9%	0.8	1.1	4%	LEVEL 3 COMM INC
10	CAPL SP	3.9%	0.6	1.0	2%	CAPITALAND LTD
11	1299 HK	2.3%	0.9	1.1	2%	AIA
12	OLAM SP	2.2%	0.7	0.6	2%	OLAM INTERNATION
13	SCI SP	2.0%	1.0	1.3	2%	SEMCORP INDUS
14	INTUCH TB	2.0%	0.7	0.5	1%	INTOUCH HOLDINGS
15	BDMN IJ	1.8%	1.6	1.2	3%	BANK DANAMON
16	2318 HK	1.8%	1.0	1.5	2%	PING AN-H
17	SATS SP	1.7%	0.9	0.2	2%	SATS LTD
18	KEP SP	1.7%	1.0	1.2	2%	KEPPEL CORP LTD
19	068270 KS	1.6%	1.2	1.0	2%	CELLTRION INC
20	GILD	1.1%	1.1	0.9	1%	GILEAD SCIENCES
21	REP SM	1.1%	1.2	1.9	1%	REPSOL SA
22	INFO	0.8%	0.9	0.6	1%	IHS MARKIT LTD
23	TRQ CN	0.6%	1.6	1.6	1%	TURQUOISE HILL R
24	DUFN VX	0.6%	0.8	1.0	1%	DUFREY AG-REG
25	UNVR	0.6%	1.2	1.4	1%	UNIVAR INC
26	EVK GY	0.4%	0.8	1.1	0%	EVONIK INDUSTRIE
27	TMO	0.4%	0.9	0.8	0%	THERMO FISHER
28	PRU LN	0.4%	1.2	1.7	0%	PRUDENTIAL PLC
29	2601 HK	0.3%	1.2	1.7	0%	CHINA PACIFIC-H
30	BMRN	0.3%	1.8	0.9	1%	BIOMARIN PHARMAC
31	LNG	0.3%	1.8	1.6	1%	CHENIERE ENERGY
32	SYF	0.3%	1.3	1.3	0%	SYNCHRONY FINANC
33	PYPL	0.2%	1.1	1.2	0%	PAYPAL HOLDINGS
34	VIRT	0.2%	1.4	0.5	0%	VIRTU FINANCIA-A
35	ALXN	0.1%	2.1	0.9	0%	ALEXION PHARM
36	PTLA	0.1%	3.4	1.6	1%	PORTOLA PHARMACE
37	3988 HK	0.1%	1.0	1.1	0%	BANK OF CHINA-H
38	CLNE	0.0%	3.0	2.1	0%	CLEAN ENERGY FUE
39	FIS	0.0%	0.9	0.7	0%	FIDELITY NATIONA
40	MON	0.0%	0.4	0.7	0%	MONSANTO CO
41	Q	0.0%	1.0	0.7	0%	QUINTILES IMS HO
42	REGN	0.0%	1.7	1.4	0%	REGENERON PHARM
43	ILMN	0.0%	1.8	1.0	0%	ILLUMINA INC
44	JUNO	0.0%	3.4	1.7	0%	JUNO THERAPEUTIC
45	HXL	0.0%	1.0	1.2	0%	HEXCEL CORP
46	MRIN	0.0%	3.4	1.1	0%	MARIN SOFTWARE I

"Top 5" Long Stock Expo	54%
"Top 10" Long Stock Expo	75%
# Long Stocks >= 5%	4
Avg Long Stock Expo	2.2%
"Top 5" Short Stock Expo	0%
"Top 10" Short Stock Expo	0%
# Short Stocks <= -3%	0
Avg Short Stock Expo	
"Top 10" Gross Stock Expo	75%
"Top 20" Gross Stock Expo	93%
# Stocks	46
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Long Expo Wtd-Avg Mkt Cap \$	65,341
Short Expo Wtd-Avg Mkt Cap	
Simple Median Mkt Cap \$	16,471

	Port Vol	ACWI Vol
Annual	15%	16%
Monthly	4.3%	4.6%
Daily	0.9%	1.0%

	Vol (% of K)	Vol (% of A)
Composite Portfolio	15%	
Long Portfolio	15%	15%
Short Portfolio	0%	
Implied Correlation (Long-Short Portfolio)		

	Loss Freq	Loss Est
1 day a month		-1.9%
1 month a year		-7.1%

Note: loss est based on hybrid dist (75% normal, 25% worst-case); potential loss est, worse than or equal to, indicated level.

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GICS Sector	Long	Short	Gross	Net	Risk-adj Net	Contribution to	
						Beta-wtd Net	Port Vol
Consumer Discretionary	1%	0%	1%	1%	0%	1%	1%
Consumer Staples	2%		2%	2%	2%	1%	2%
Energy	1%	0%	1%	1%	2%	3%	2%
Financials	38%		38%	38%	39%	44%	43%
Health Care	4%	0%	4%	4%	5%	4%	5%
Industrials	16%		16%	16%	12%	10%	13%
Information Technology	5%	0%	5%	5%	6%	8%	7%
Materials	1%		1%	1%	1%	2%	2%
Real Estate	4%	0%	4%	4%	2%	4%	2%
Telecommunication Services	29%		29%	29%	19%	15%	24%
Utilities	0%	0%	0%	0%	1%	0%	0%
Other							
<b>Total</b>	<b>100%</b>	<b>0%</b>	<b>100%</b>	<b>100%</b>	<b>88%</b>	<b>91%</b>	<b>100%</b>

GICS Sector . GICS Industry Group	Long	Short	Gross	Net	Risk-adj Net	Contribution to	
						Beta-wtd Net	Port Vol
Consumer Discretionary . Automobiles & Components	0%	0%	0%	0%	1%	0%	0%
Consumer Discretionary . Consumer Durables & Apparel	0%	0%	0%	0%	0%	0%	0%
Consumer Discretionary . Consumer Services	0%	0%	0%	0%	1%	0%	0%
Consumer Discretionary . Media	0%	0%	0%	0%	1%	0%	0%
Consumer Discretionary . Retailing	1%	0%	1%	1%	0%	1%	1%
Consumer Staples . Food & Staples Retailing	2%		2%	2%	2%	1%	2%
Consumer Staples . Food Beverage & Tobacco							
Consumer Staples . Household & Personal Products							
Energy . Energy	1%	0%	1%	1%	2%	3%	2%
Financials . Banks	32%		32%	32%	33%	38%	37%
Financials . Diversified Financials	0%		0%	0%	1%	0%	1%
Financials . Insurance	5%		5%	5%	5%	6%	5%
Health Care . Health Care Equipment & Servic	0%	0%	0%	0%	1%	0%	0%
Health Care . Pharmaceuticals, Biotechnology	4%	0%	4%	4%	5%	4%	5%
Industrials . Capital Goods	8%		8%	8%	7%	9%	8%
Industrials . Commercial & Professional Serv	1%		1%	1%	1%	0%	1%
Industrials . Transportation	7%		7%	7%	4%	1%	4%
Information Technology . Semiconductors & Semiconductor	0%	0%	0%	0%	1%	0%	0%
Information Technology . Software & Services	5%	0%	5%	5%	6%	8%	7%
Information Technology . Technology Hardware & Equipmen	0%	0%	0%	0%	1%	0%	0%
Materials . Materials	1%		1%	1%	1%	2%	2%
Real Estate . Real Estate	4%	0%	4%	4%	2%	4%	2%
Telecommunication Services . Telecommunication Services	29%		29%	29%	19%	15%	24%
Utilities . Utilities	0%	0%	0%	0%	1%	0%	0%
Consumer Discretionary . Other							
Consumer Staples . Other	0%	0%	0%	0%	1%	0%	0%
Energy . Other							
Financials . Other	0%	0%	0%	0%	1%	0%	0%
Health Care . Other							
Industrials . Other	0%	0%	0%	0%	1%	0%	0%
Information Technology . Other							
Materials . Other	0%	0%	0%	0%	1%	0%	0%
Real Estate . Other							
Telecommunication Services . Other	0%	0%	0%	0%	1%	0%	0%
Utilities . Other							
Other . Other	0%	0%	0%	0%	1%	0%	0%
<b>Total</b>	<b>100%</b>	<b>0%</b>	<b>100%</b>	<b>100%</b>	<b>88%</b>	<b>91%</b>	<b>100%</b>

Capital: SWF TEST \$ 93,047,109,113  
SGD 132,089,676,097

Contribution to

GICS Sector . GICS Industry Group . GICS Industry	Long	Short	Gross	Net	Risk-adj Net	Beta-wtd Net	Port Vol
Consumer Discretionary . Automobiles & Components . Auto Components							
Consumer Discretionary . Automobiles & Components . Automobiles							
Consumer Discretionary . Consumer Durables & Apparel . Household Durables							
Consumer Discretionary . Consumer Durables & Apparel . Leisure Products							
Consumer Discretionary . Consumer Durables & Apparel . Textiles, Apparel & Luxury Goo							
Consumer Discretionary . Consumer Services . Diversified Consumer Services							
Consumer Discretionary . Consumer Services . Hotels Restaurants & Leisure							
Consumer Discretionary . Media . Media							
Consumer Discretionary . Retailing . Distributors							
Consumer Discretionary . Retailing . Internet & Direct Marketing Re							
Consumer Discretionary . Retailing . Multiline Retail							
Consumer Discretionary . Retailing . Specialty Retail	1%		1%	1%	0%	1%	1%
Consumer Staples . Food & Staples Retailing . Food & Staples Retailing	2%	0%	2%	2%	2%	1%	2%
Consumer Staples . Food Beverage & Tobacco . Beverages	0%	0%	0%	0%	0%	0%	0%
Consumer Staples . Food Beverage & Tobacco . Food Products	0%	0%	0%	0%	0%	0%	0%
Consumer Staples . Food Beverage & Tobacco . Tobacco	0%	0%	0%	0%	0%	0%	0%
Consumer Staples . Household & Personal Products . Household Products	0%	0%	0%	0%	0%	0%	0%
Consumer Staples . Household & Personal Products . Personal Products	0%	0%	0%	0%	0%	0%	0%
Energy . Energy . Energy Equipment & Services							
Energy . Energy . Oil, Gas & Consumable Fuels	1%		1%	1%	2%	3%	2%
Financials . Banks . Banks	32%	0%	32%	32%	33%	38%	37%
Financials . Banks . Thrifts & Mortgage Finance	0%	0%	0%	0%	0%	0%	0%
Financials . Diversified Financials . Capital Markets	0%	0%	0%	0%	0%	0%	0%
Financials . Diversified Financials . Consumer Finance	0%	0%	0%	0%	0%	0%	0%
Financials . Diversified Financials . Diversified Financial Services	0%	0%	0%	0%	0%	0%	0%
Financials . Diversified Financials . Mortgage Real Estate Investmen	0%	0%	0%	0%	0%	0%	0%
Financials . Insurance . Insurance	5%	0%	5%	5%	5%	6%	5%
Health Care . Health Care Equipment & Servic . Health Care Equipment & Suppl							
Health Care . Health Care Equipment & Servic . Health Care Providers & Servic							
Health Care . Health Care Equipment & Servic . Health Care Technology							
Health Care . Pharmaceuticals, Biotechnology . Biotechnology	3%		3%	3%	5%	3%	5%
Health Care . Pharmaceuticals, Biotechnology . Life Sciences Tools & Services	1%		1%	1%	0%	0%	1%
Health Care . Pharmaceuticals, Biotechnology . Pharmaceuticals							
Industrials . Capital Goods . Aerospace & Defense	4%	0%	4%	4%	3%	4%	3%
Industrials . Capital Goods . Building Products	0%	0%	0%	0%	0%	0%	0%
Industrials . Capital Goods . Construction & Engineering	0%	0%	0%	0%	0%	0%	0%
Industrials . Capital Goods . Electrical Equipment	0%	0%	0%	0%	0%	0%	0%
Industrials . Capital Goods . Industrial Conglomerates	4%	0%	4%	4%	4%	5%	4%
Industrials . Capital Goods . Machinery	0%	0%	0%	0%	0%	0%	0%
Industrials . Capital Goods . Trading Companies & Distributo	1%	0%	1%	1%	1%	1%	1%
Industrials . Commercial & Professional Serv . Commercial Services & Supplies	0%	0%	0%	0%	0%	0%	0%
Industrials . Commercial & Professional Serv . Professional Services	1%	0%	1%	1%	1%	0%	1%
Industrials . Transportation . Air Freight & Logistics	0%	0%	0%	0%	0%	0%	0%
Industrials . Transportation . Airlines	5%	0%	5%	5%	2%	1%	3%
Industrials . Transportation . Marine	0%	0%	0%	0%	0%	0%	0%
Industrials . Transportation . Road & Rail	0%	0%	0%	0%	0%	0%	0%
Industrials . Transportation . Transportation Infrastructure	2%	0%	2%	2%	2%	0%	2%
Information Technology . Semiconductors & Semiconductor . Semiconductors & Semiconductor							
Information Technology . Software & Services . Internet Software & Services	5%		5%	5%	6%	7%	6%
Information Technology . Software & Services . IT Services	0%		0%	0%	0%	0%	0%
Information Technology . Software & Services . Software							
Information Technology . Technology Hardware & Equipmen . Communications Equipment							
Information Technology . Technology Hardware & Equipmen . Electronic Equip., Instruments							
Information Technology . Technology Hardware & Equipmen . Technology Hardware, Storage &							
Materials . Materials . Chemicals	0%	0%	0%	0%	0%	0%	0%
Materials . Materials . Construction Materials	0%	0%	0%	0%	0%	0%	0%
Materials . Materials . Containers & Packaging	0%	0%	0%	0%	0%	0%	0%
Materials . Materials . Metals & Mining	1%	0%	1%	1%	1%	1%	1%
Materials . Materials . Paper & Forest Products	0%	0%	0%	0%	0%	0%	0%
Real Estate . Real Estate . Equity Real Estate Investment							
Real Estate . Real Estate . Real Estate Management & Devel	4%		4%	4%	2%	4%	2%
Telecommunication Services . Telecommunication Services . Diversified Telecommunication	27%	0%	27%	27%	18%	14%	23%
Telecommunication Services . Telecommunication Services . Wireless Telecommunication Ser	2%	0%	2%	2%	1%	1%	1%
Utilities . Utilities . Electric Utilities							
Utilities . Utilities . Gas Utilities							
Utilities . Utilities . Independent Power and Renewabl							
Utilities . Utilities . Multi-Utilities							
Utilities . Utilities . Water Utilities							
Consumer Discretionary . Other . Other	0%	0%	0%	0%	0%	0%	0%
Consumer Staples . Other . Other							
Energy . Other . Other	0%	0%	0%	0%	0%	0%	0%
Financials . Other . Other							
Health Care . Other . Other	0%	0%	0%	0%	0%	0%	0%
Industrials . Other . Other							
Information Technology . Other . Other	0%	0%	0%	0%	0%	0%	0%
Materials . Other . Other							
Real Estate . Other . Other	0%	0%	0%	0%	0%	0%	0%
Telecommunication Services . Other . Other							
Utilities . Other . Other	0%	0%	0%	0%	0%	0%	0%
Other . Other . Other							
<b>Total</b>	<b>100%</b>	<b>0%</b>	<b>100%</b>	<b>100%</b>	<b>88%</b>	<b>91%</b>	<b>100%</b>

(EoD 12/02/16)

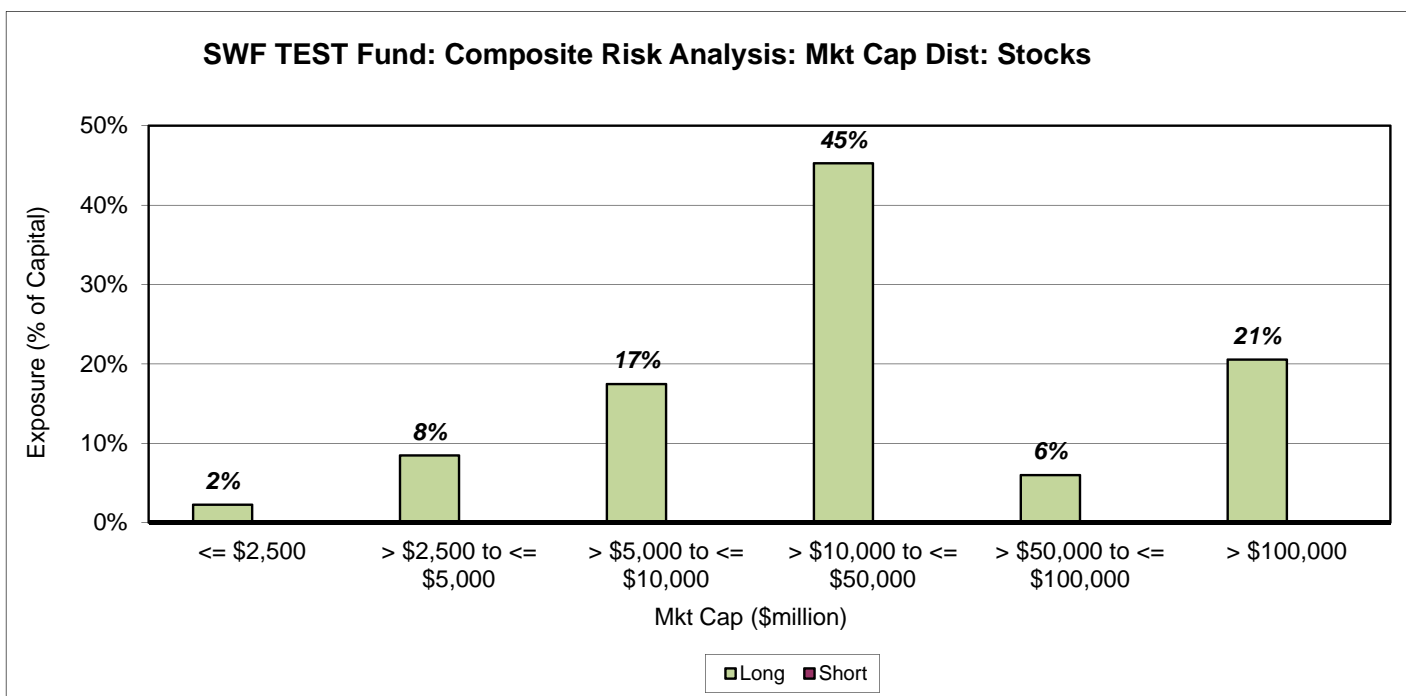
**SWF TEST Fund: Composite Risk Analysis: Country Detail: Stocks**

Bottom-up Risk Report SAMPLE SWF

Capital: SWF TEST \$ 93,047,109,113

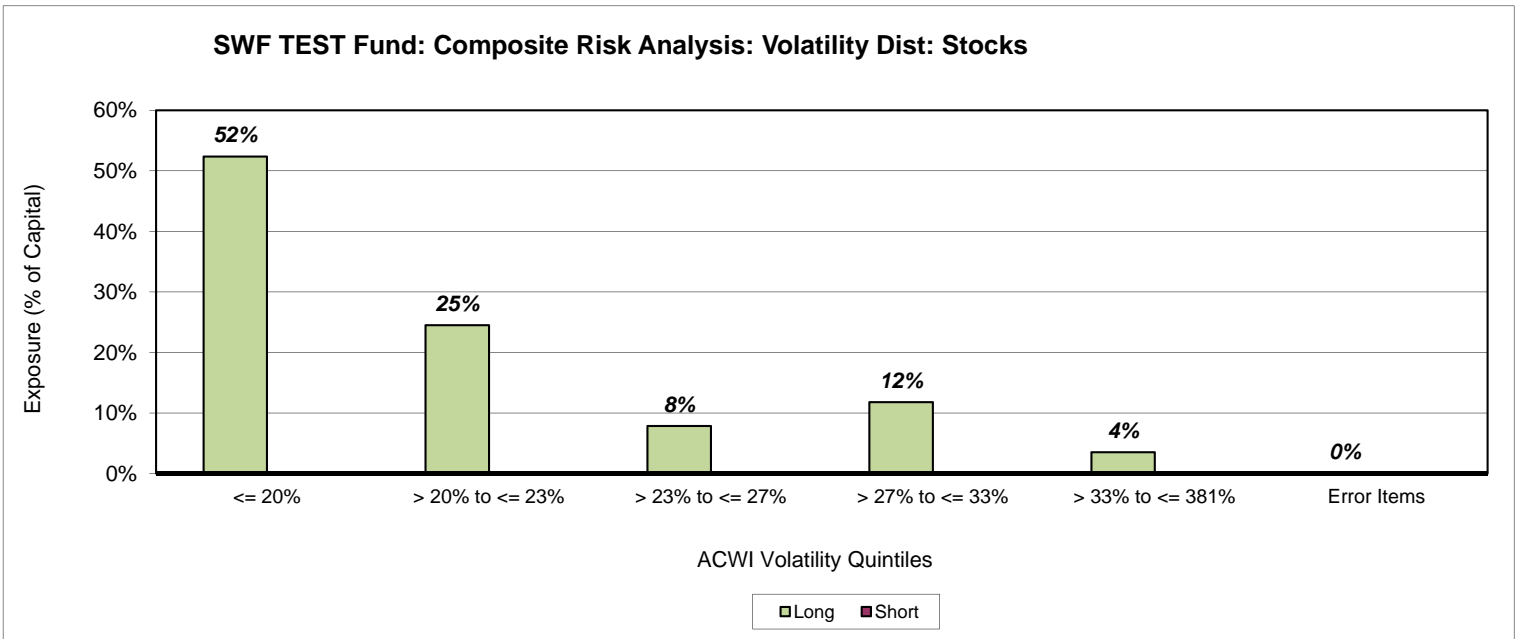
SGD 132,089,676,097

	100%	0%	100%	100%	88%	91%	100%
<b>Country</b>	<b>Long</b>	<b>Short</b>	<b>Gross</b>	<b>Net</b>	<b>Risk-adj Net</b>	<b>Beta-wtd Net</b>	<b>Contrib to Port Vol</b>
SINGAPORE	53%	0%	53%	53%	36%	32%	43%
CHINA	23%	0%	23%	23%	24%	29%	27%
UNITED STATES	8%	0%	8%	8%	9%	9%	10%
BRITAIN	6%	0%	6%	6%	8%	9%	8%
INDONESIA	2%	0%	2%	2%	3%	2%	3%
HONG KONG	2%	0%	2%	2%	2%	3%	2%
SOUTH KOREA	2%	0%	2%	2%	2%	1%	2%
THAILAND	2%	0%	2%	2%	1%	1%	1%
SPAIN	1%	0%	1%	1%	1%	2%	1%
CANADA	1%	0%	1%	1%	1%	1%	1%
SWITZERLAND	1%	0%	1%	1%	0%	1%	1%
GERMANY	0%	0%	0%	0%	0%	0%	0%



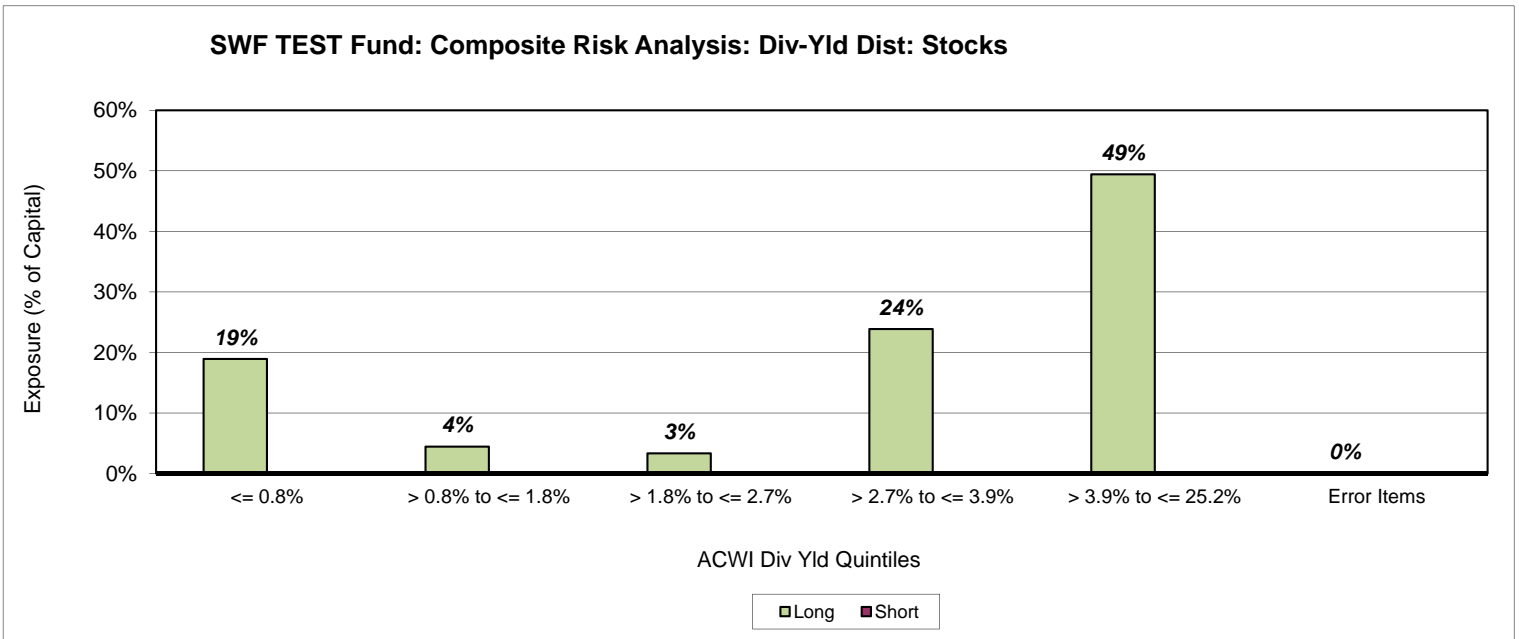
Market-Cap-Based Buckets: Stocks

	# of Tickers	6	6	8	17	5	4.00
		> \$2,500	> \$5,000	> \$10,000	> \$50,000		
Item		<= \$2,500	<= \$5,000	<= \$10,000	<= \$50,000	<= \$100,000	> \$100,000
1	BDMN IJ	OLAM SP	SIA SP	ST SP	1299 HK	939 HK	
2	VIRT	SCI SP	STE SP	DBS SP	2318 HK	1398 HK	
3	PTLA	INTUCH TB	CAPL SP	STAN LN	GILD	BABA	
4	CLNE	SATS SP	KEP SP	LVLT	TMO	3988 HK	
5	JUNO	UNVR	068270 KS	REP SM	PRU LN		
6	MRIN	HXL	TRQ CN	INFO			
7			DUFN VX	EVK GY			
8			LNG	2601 HK			
9				BMRN			
10				SYF			
11				PYPL			
12				ALXN			
13				FIS			
14				MON			
15				Q			
16				REGN			
17				ILMN			



Volatility-Based Buckets: Stocks

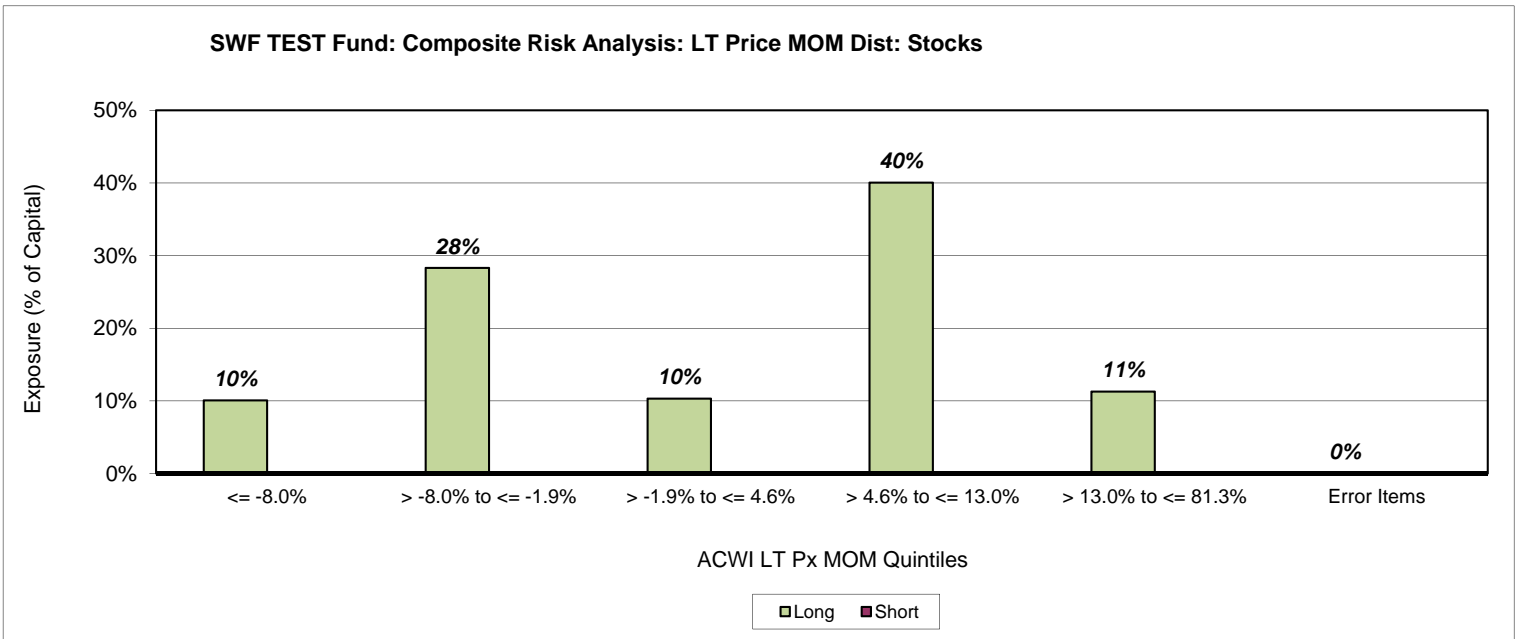
# of Tickers	10	8	11	6	11	-
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Error Items
Item	<= 20%	<= 23%	<= 27%	<= 33%	<= 381%	
1	ST SP	939 HK	SCI SP	BABA	BDMN IJ	
2	DBS SP	1398 HK	KEP SP	STAN LN	TRQ CN	
3	SIA SP	LVLT	GILD	068270 KS	BMRN	
4	STE SP	2318 HK	REP SM	UNVR	LNG	
5	CAPL SP	SATS SP	DUFN VX	SYF	ALXN	
6	1299 HK	INFO	EVK GY	VIRT	PTLA	
7	OLAM SP	TMO	PRU LN		CLNE	
8	INTUCH TB	3988 HK	2601 HK		REGN	
9	FIS		PYPL		ILMN	
10	MON		Q		JUNO	
11			HXL		MRIN	



Div-Yld-Based Buckets: Stocks

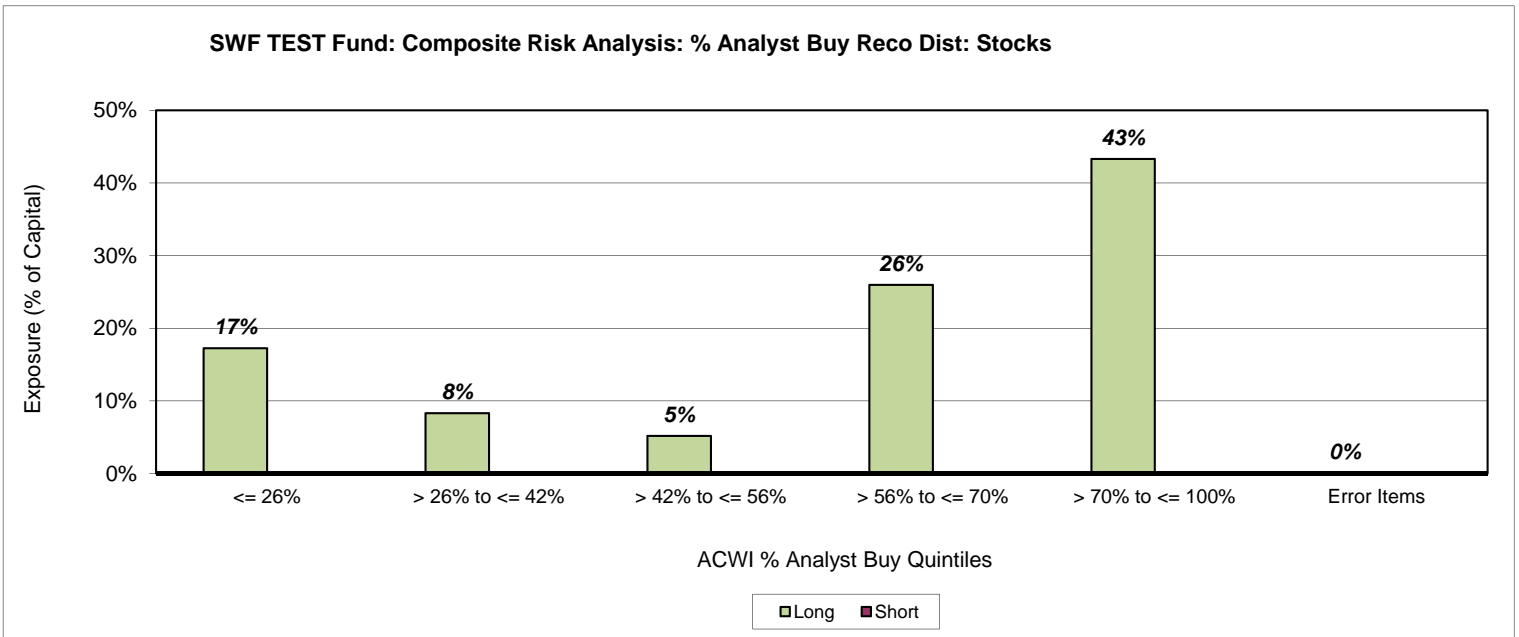
# of Tickers	20	5	4	6	11	-
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Error Items
Item	<= 0.8%	<= 1.8%	<= 2.7%	<= 3.9%	<= 25.2%	
1	BABA	1299 HK	BDMN IJ	DBS SP	ST SP	
2	STAN LN	2318 HK	GILD	STE SP	939 HK	
3	LVLN	SYF	PRU LN	CAPL SP	1398 HK	
4	068270 KS	FIS	MON	OLAM SP	SIA SP	
5	INFO	HXL		SCI SP	INTUCH TB	
6	TRQ CN			SATS SP	KEP SP	
7	DUFN VX				REP SM	
8	UNVR				EVK GY	
9	TMO				2601 HK	
10	BMRN				VIRT	
11	LNG				3988 HK	
12	PYPL					
13	ALXN					
14	PTLA					
15	CLNE					
16	Q					
17	REGN					
18	ILMN					
19	JUNO					
20	MRIN					





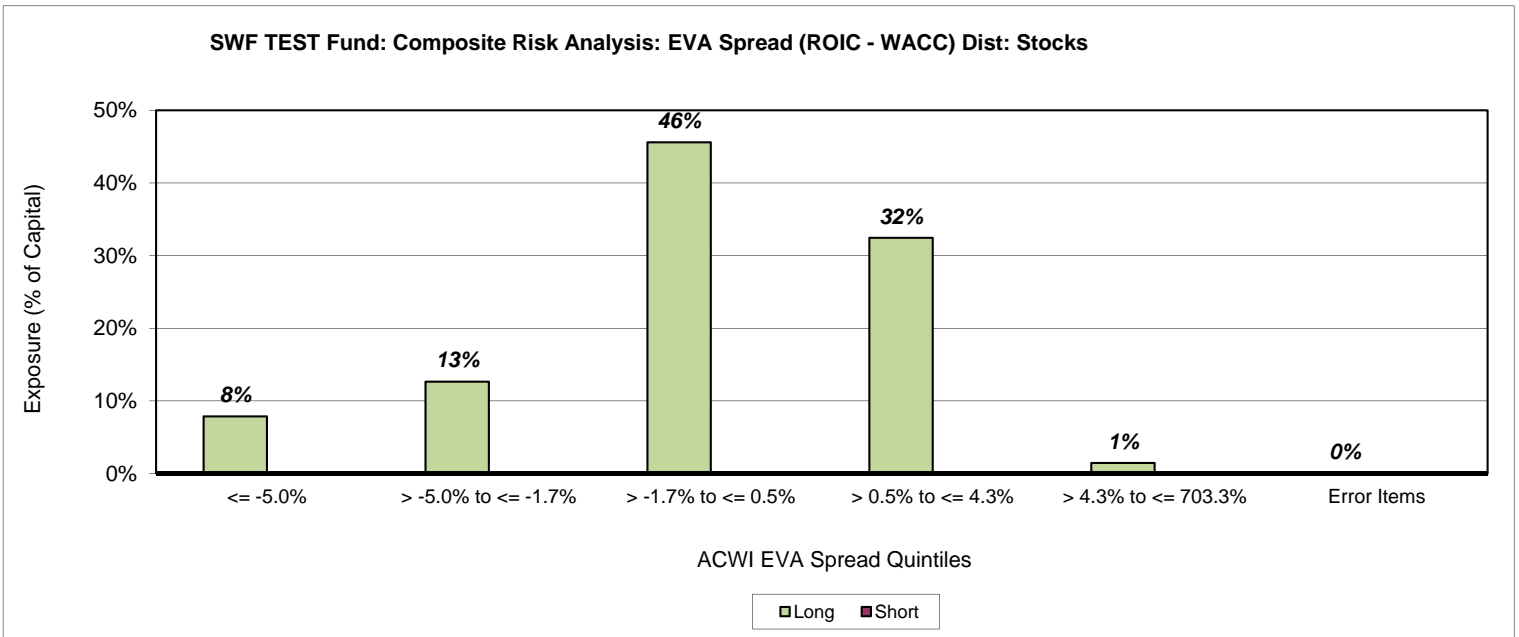
LT Px MOM-Based Buckets: Stocks

# of Tickers	8	9	9	15	5	-
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Error Items
Item	<= -8.0%	<= -1.9%	<= 4.6%	<= 13.0%	<= 81.3%	
1	SIA SP	ST SP	BABA	939 HK	DBS SP	
2	INTUCH TB	1299 HK	CAPL SP	1398 HK	UNVR	
3	BDMN IJ	068270 KS	INFO	STAN LN	PRU LN	
4	GILD	EVK GY	DUFN VX	STE SP	SYF	
5	VIRT	TMO	PYPL	LVLT	HXL	
6	PTLA	BMRN	CLNE	OLAM SP		
7	ILMN	ALXN	FIS	SCI SP		
8	JUNO	REGN	MON	2318 HK		
9		MRIN	Q	SATS SP		
10				KEP SP		
11				REP SM		
12				TRQ CN		
13				2601 HK		
14				LNG		
15				3988 HK		



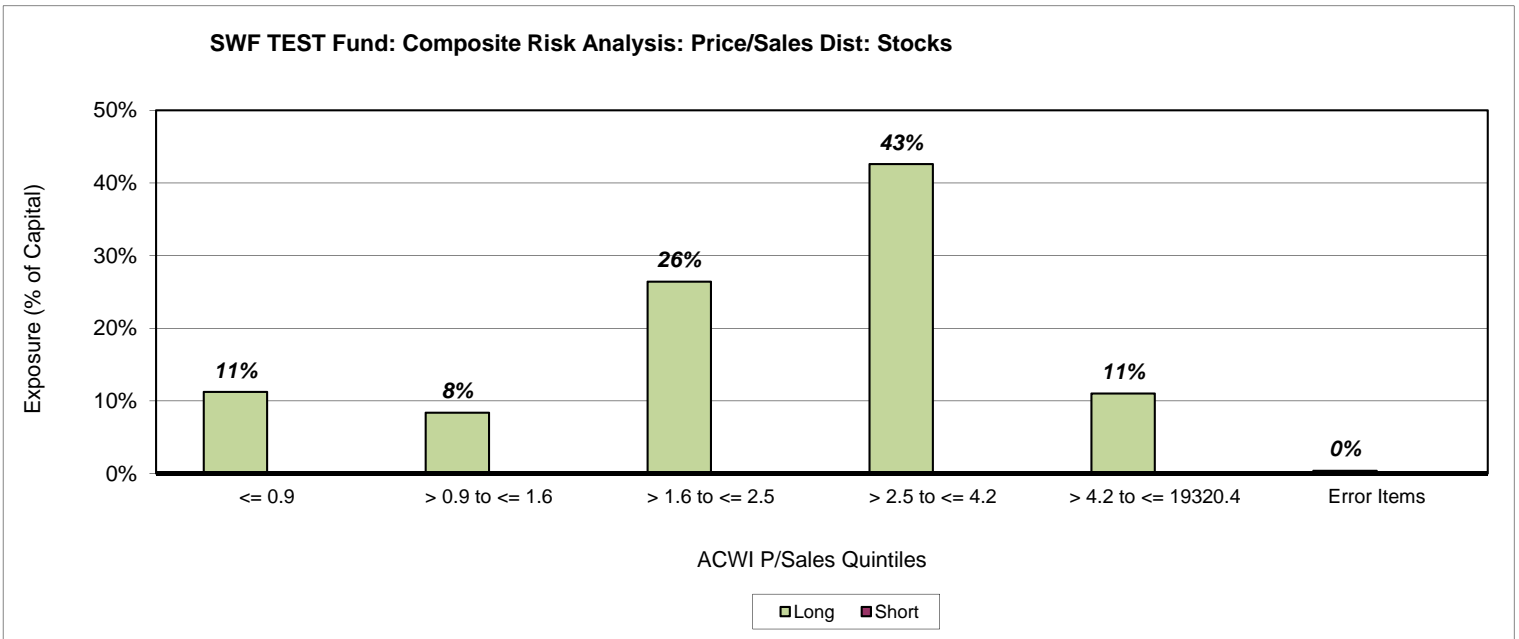
% Analyst Buy Reco-Based Buckets: Stocks

# of Tickers	6	9	8	5	18	-
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Error Items
Item	<= 26%	<= 42%	<= 56%	<= 70%	<= 100%	
1	SIA SP	SCI SP	STE SP	ST SP	939 HK	
2	STAN LN	SATS SP	TRQ CN	068270 KS	DBS SP	
3	LVLT	KEP SP	VIRT	GILD	1398 HK	
4	OLAM SP	REP SM	PTLA	PYPL	BABA	
5	BDMN IJ	INFO	CLNE	MON	CAPL SP	
6	MRIN	UNVR	Q		1299 HK	
7		EVK GY	REGN		INTUCH TB	
8		ILMN	JUNO		2318 HK	
9		HXL			DUFN VX	
10					TMO	
11					PRU LN	
12					2601 HK	
13					BMRN	
14					LNG	
15					SYF	
16					ALXN	
17					3988 HK	
18					FIS	



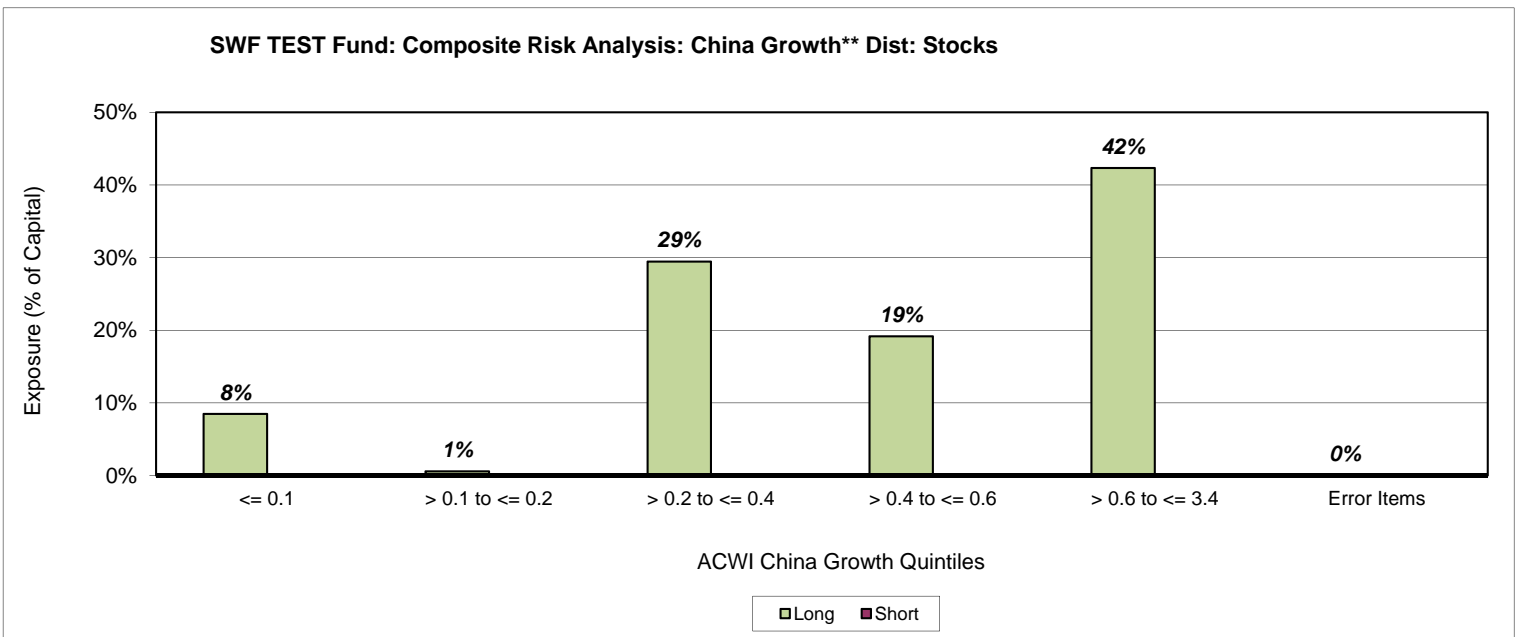
EVA Spread-Based Buckets: Stocks

# of Tickers	14	5	9	12	6	-
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Error Items
Item	<= -5.0%	<= -1.7%	<= 0.5%	<= 4.3%	<= 703.3%	
1	1299 HK	STAN LN	ST SP	939 HK	GILD	
2	068270 KS	LVLT	DBS SP	1398 HK	PYPL	
3	REP SM	SCI SP	SIA SP	STE SP	FIS	
4	INFO	KEP SP	BABA	CAPL SP	Q	
5	TRQ CN	UNVR	OLAM SP	INTUCH TB	REGN	
6	PRU LN		TMO	BDMN IJ	HXL	
7	BMRN		2601 HK	2318 HK		
8	LNG		MON	SATS SP		
9	VIRT		ILMN	DUFN VX		
10	ALXN			EVK GY		
11	PTLA			SYF		
12	CLNE			3988 HK		
13	JUNO					
14	MRIN					



P/Sales-Based Buckets: Stocks

# of Tickers	6	7	8	10	14	1
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Error Items
Item	<= 0.9	<= 1.6	<= 2.5	<= 4.2	<= 19320.4	
1	SIA SP	STE SP	939 HK	ST SP	BABA	PRU LN
2	OLAM SP	2318 HK	1398 HK	DBS SP	INTUCH TB	
3	SCI SP	KEP SP	STAN LN	CAPL SP	068270 KS	
4	REP SM	EVK GY	LVLT	1299 HK	INFO	
5	DUFN VX	2601 HK	BDMN IJ	SATS SP	TRQ CN	
6	UNVR	CLNE	SYF	GILD	BMRN	
7		MRIN	3988 HK	TMO	LNG	
8			HXL	FIS	PYPL	
9				MON	VIRT	
10				Q	ALXN	
11					PTLA	
12					REGN	
13					ILMN	
14					JUNO	



\*\* economic growth proxy: GS WF China growth basket

**China Growth-Based Buckets: Stocks**

# of Tickers	3	4	9	9	21	-
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Error Items
Item	<= 0.1	<= 0.2	<= 0.4	<= 0.6	<= 3.4	
1	SIA SP	EVK GY	ST SP	BABA	939 HK	
2	INTUCH TB	FIS	BDMN IJ	STE SP	DBS SP	
3	SATS SP	Q	068270 KS	LVLT	1398 HK	
4		ILMN	GILD	CAPL SP	STAN LN	
5			INFO	1299 HK	OLAM SP	
6			TMO	VIRT	SCI SP	
7			BMRN	PTLA	2318 HK	
8			PYPL	MON	KEP SP	
9			ALXN	REGN	REP SM	
10					TRQ CN	
11					DUFN VX	
12					UNVR	
13					PRU LN	
14					2601 HK	
15					LNG	
16					SYF	
17					3988 HK	
18					CLNE	
19					JUNO	
20					HXL	
21					MRIN	

Hypothetical pReturn	<b>-19.7%</b>	<b>-22.7%</b>	<b>-23.8%</b>	<b>-13.7%</b>	<b>-28.1%</b>	<b>-20.0%</b>	<b>-18.2%</b>	<b>-13.7%</b>	<b>-10.7%</b>	<b>-10.8%</b>
From	7/20/1998	5/22/2001	3/19/2002	12/10/2007	9/19/2008	11/4/2008	2/9/2009	7/7/2011	4/27/2015	12/1/2015
To	10/8/1998	9/21/2001	7/23/2002	1/22/2008	10/27/2008	11/20/2008	3/9/2009	8/10/2011	8/24/2015	1/20/2016

MSCI ACWI Sector	Nominal Expo	Sector Beta-adj. Expo	July -	May -	December -	September -	November -	February - July - August -		December -		
			October, 1998	September, 2001	March - July, 2002	January, 2008	October, 2008	November, 2008	March, 2009	2011	August, 2015	January, 2016
Consumer Discretionary	1%	1%	-23.8%	-36.0%	-29.6%	-17.0%	-34.6%	-23.5%	-15.2%	-17.5%	-11.4%	-13.9%
Consumer Staples	2%	1%	-23.8%	-8.1%	-16.8%	-10.4%	-20.6%	-11.5%	-11.6%	-10.6%	-8.4%	-6.0%
Energy	1%	2%	-23.8%	-22.9%	-27.5%	-13.1%	-36.2%	-22.3%	-16.6%	-17.7%	-26.5%	-21.3%
Financials	38%	38%	-23.8%	-26.9%	-26.6%	-18.7%	-38.1%	-31.4%	-28.5%	-19.0%	-13.1%	-15.5%
Health Care	4%	4%	-23.8%	-11.9%	-33.5%	-8.3%	-18.5%	-14.6%	-16.9%	-16.6%	-7.4%	-8.3%
Industrials	16%	9%	-23.8%	-33.6%	-26.4%	-17.2%	-38.2%	-22.7%	-22.3%	-20.6%	-13.5%	-13.6%
Information Technology	5%	7%	-23.8%	-43.5%	-37.1%	-17.7%	-32.9%	-23.6%	-16.1%	-14.4%	-14.7%	-13.1%
Materials	1%	1%	-23.8%	-27.8%	-18.5%	-16.0%	-44.8%	-27.0%	-15.7%	-16.5%	-21.1%	-16.6%
Real Estate	4%	4%	-23.8%	-18.8%	-8.9%	-20.4%	-40.0%	-30.1%	-23.5%	-14.0%	-12.8%	-10.4%
Telecommunication Services	29%	17%	-23.8%	-25.1%	-35.4%	-12.5%	-24.4%	-10.9%	-12.6%	-10.5%	-11.1%	-8.3%
Utilities	0%	0%	-23.8%	-14.4%	-26.9%	-12.7%	-22.3%	-10.2%	-17.2%	-13.6%	-9.5%	-4.3%
Other	0%	0%	-23.8%	-27.7%	-28.7%	-15.3%	-32.7%	-21.6%	-18.3%	-16.5%	-13.3%	-12.7%

Note: 'Other' proxied by MSCI AC Wor **100%** **83%**

US Systemic Risk-Premium Episodes

Hypothetical pReturn	<b>-13.6%</b>	<b>-9.5%</b>	<b>-9.8%</b>	<b>-12.8%</b>	<b>-5.5%</b>
From	7/1/2011	3/20/2012	7/20/2015	11/6/2015	5/27/2016
To	8/10/2011	6/1/2012	8/24/2015	2/11/2016	6/27/2016

SPX	-16.2%	-8.7%	-10.8%	-12.3%	-4.6%
d(VIX)	27%	11%	28%	14%	11%
d(UST 5y yield)	-0.86%	-0.58%	-0.34%	-0.60%	-0.41%
d(HY CDS Spread)	2.40%	1.75%	0.88%	1.56%	0.45%
JPYUSD	5.2%	7.3%	4.9%	9.5%	8.1%
Gold	20.5%	-1.6%	5.3%	14.4%	9.2%
Consumer Discretionary	-16.3%	-10.2%	-11.5%	-17.2%	-7.4%
Consumer Staples	-9.7%	-2.9%	-9.5%	-3.2%	-1.2%
Energy	-16.6%	-15.9%	-16.1%	-19.9%	-1.6%
Financials	-19.3%	-15.4%	-13.1%	-20.9%	-10.1%
Health Care	-16.3%	-3.9%	-11.1%	-12.7%	-4.1%
Industrials	-19.9%	-12.5%	-11.2%	-13.6%	-6.3%
Information Technology	-12.8%	-12.3%	-14.0%	-15.7%	-6.2%
Materials	-15.2%	-13.7%	-14.6%	-15.9%	-4.5%
Real Estate	-12.4%	-6.5%	-8.5%	-11.3%	-1.5%
Telecommunication Services	-10.9%	-4.3%	-9.1%	-5.5%	-2.0%
Utilities	-14.1%	-6.0%	-6.2%	-2.1%	0.3%
Other	<b>-15.9%</b>	<b>-11.0%</b>	<b>-12.1%</b>	<b>-14.7%</b>	<b>-5.6%</b>

Note: 'Other' proxied by MSCI AC World Local

		Gross Expo Wtd Avg Abs		Abs Share Wtd Avg		Gross Expo		Wtd Avg Adj Vol		Participation Factor			
		4,121,336,768		\$ 2.0		93,047,109,113		13,956,786		295		1,476	
										20%			
Item	Ticker	Shares	Px Last	Exposure	Adj Vol Avg 3m	Firm's Share of Adj Vol Avg 3m	Days to Liquidate	Short Interest Ratio (Days)	Firm's Share of Float	(as a % of Float) Short Interest	Firm's Share of Short Interest	(if Short)	
1	ST SP	8,106,162,115	\$ 2.6	\$ 21,452,147,421	22,642,860	358	1,790	Error	104.4%	Error	-		
2	939 HK	12,549,932,988	\$ 0.7	\$ 9,385,969,382	267,292,600	47	235	Error	13.8%	Error	-		
3	DBS SP	740,398,041	\$ 12.6	\$ 9,322,721,933	5,403,907	137	685	Error	41.5%	Error	-		
4	1398 HK	8,614,854,588	\$ 0.6	\$ 5,276,598,435	264,673,200	33	163	Error	11.0%	Error	-		
5	SIA SP	656,011,895	\$ 6.8	\$ 4,464,830,078	1,468,255	447	2,234	Error	125.7%	Error	-		
6	BABA	47,858,541	\$ 90.5	\$ 4,330,240,790	15,839,788	3	15	7	1.9%	4%	-		
7	STAN LN	512,448,408	\$ 8.2	\$ 4,193,093,725	8,451,304	61	303	Error	18.5%	Error	-		
8	STE SP	1,601,085,572	\$ 2.4	\$ 3,775,087,594	3,412,220	469	2,346	Error	106.3%	Error	-		
9	LVL	64,549,680	\$ 55.8	\$ 3,603,163,138	4,369,265	15	74	1	22.1%	1%	-		
10	CAPL SP	1,659,388,349	\$ 2.2	\$ 3,585,523,375	8,903,614	186	932	Error	66.5%	Error	-		
11	1299 HK	366,457,511	\$ 5.8	\$ 2,140,595,588	23,309,840	16	79	Error	3.0%	Error	-		
12	OLAM SP	1,451,867,443	\$ 1.4	\$ 2,064,163,500	570,238	2,546	12,730	Error	296.7%	Error	-		
13	SCI SP	893,043,490	\$ 2.1	\$ 1,854,226,198	5,140,175	174	869	Error	99.7%	Error	-		
14	INTUCH TB	1,307,056,366	\$ 1.4	\$ 1,826,467,495	10,836,130	121	603	Error	173.2%	Error	-		
15	BDMN IJ	6,912,362,548	\$ 0.2	\$ 1,720,625,285	1,735,665	3,983	19,913	Error	222.1%	Error	-		
16	2318 HK	310,085,107	\$ 5.4	\$ 1,675,358,825	32,953,260	9	47	Error	6.2%	Error	-		
17	SATS SP	480,477,595	\$ 3.3	\$ 1,599,562,766	5,330,620	90	451	Error	73.1%	Error	-		
18	KEP SP	376,938,526	\$ 4.2	\$ 1,573,228,326	4,721,579	80	399	Error	20.8%	Error	-		
19	068270 KS	16,973,013	\$ 85.3	\$ 1,448,236,592	399,598	42	212	Error	19.3%	Error	-		
20	GILD	13,724,728	\$ 72.4	\$ 993,944,802	9,592,542	1	7	2	1.0%	1%	-		
21	REP SM	72,257,332	\$ 13.6	\$ 983,852,942	6,793,036	11	53	Error	5.4%	Error	-		
22	INFO	20,979,341	\$ 34.9	\$ 731,759,414	2,184,481	10	48	3	5.9%	2%	-		
23	TRQ CN	173,914,264	\$ 3.3	\$ 578,623,191	2,369,455	73	367	2	17.6%	1%	-		
24	DUFN VX	4,508,490	\$ 122.3	\$ 551,394,864	177,487	25	127	Error	13.7%	Error	-		
25	UNVR	21,583,810	\$ 24.7	\$ 533,551,783	500,499	43	216	5	30.9%	4%	-		
26	EVK GY	14,829,423	\$ 27.8	\$ 411,590,635	922,746	16	80	Error	10.0%	Error	-		
27	TMO	2,880,788	\$ 141.9	\$ 408,812,625	1,938,072	1	7	2	0.7%	1%	-		
28	PRU LN	17,821,123	\$ 19.8	\$ 352,909,026	6,248,322	3	14	Error	0.7%	Error	-		
29	2601 HK	79,339,040	\$ 3.8	\$ 303,336,158	9,156,644	9	43	Error	2.9%	Error	-		
30	BMRN	3,596,604	\$ 82.2	\$ 295,676,815	1,256,165	3	14	6	2.1%	4%	-		
31	LNG	6,576,586	\$ 41.3	\$ 271,415,704	2,267,713	3	15	8	3.4%	9%	-		
32	SYF	7,762,942	\$ 34.5	\$ 267,743,870	7,606,973	1	5	1	0.9%	1%	-		
33	PYPL	5,763,884	\$ 38.6	\$ 222,601,200	9,200,442	1	3	3	0.5%	2%	-		
34	VIRT	13,416,910	\$ 14.0	\$ 187,836,740	357,425	38	188	9	50.1%	12%	-		
35	ALXN	1,065,392	\$ 123.0	\$ 131,000,600	2,153,903	0	2	2	0.5%	2%	-		
36	PTLA	7,270,781	\$ 17.9	\$ 130,437,811	822,846	9	44	6	13.1%	9%	-		
37	3988 HK	267,952,006	\$ 0.5	\$ 122,312,052	275,662,100	1	5	Error	0.4%	Error	-		
38	CLNE	12,655,626	\$ 3.5	\$ 44,294,691	1,825,670	7	35	6	10.7%	9%	-		
39	FIS	585,705	\$ 75.0	\$ 43,927,875	1,831,311	0	2	2	0.2%	1%	-		
40	MON	422,623	\$ 103.9	\$ 43,914,756	3,420,833	0	1	1	0.1%	1%	-		
41	Q	569,600	\$ 74.0	\$ 42,167,488	1,556,584	0	2	4	0.4%	5%	-		
42	REGN	102,877	\$ 372.7	\$ 38,343,287	859,018	0	1	4	0.1%	5%	-		
43	ILMN	228,740	\$ 127.9	\$ 29,255,846	1,427,235	0	1	3	0.2%	3%	-		
44	JUNO	973,510	\$ 20.4	\$ 19,888,809	1,886,533	1	3	6	1.2%	14%	-		
45	HXL	169,668	\$ 51.8	\$ 8,782,016	592,281	0	1	8	0.2%	5%	-		
46	MRIN	2,455,694	\$ 2.4	\$ 5,893,666	55,279	44	222	10	8.7%	2%	-		

**"Flagged" Ticker Liquidity Analysis**

**FirmWide Wtd Avg Liq = 295d**

<b>Index</b>	<b>"Flagged" Tickers</b>	<b>Firm's Share of Adj Vol Avg 3m</b>	<b>(as a % of Float)</b>	<b>Firm's Share of Short Interest</b>	<b>Days</b>	<b>Firm's Share of Float</b>
			<b>Short Interest &gt;= 12%</b>		<b>Short Int Ratio &gt;= 8</b>	
1	<i>ST SP</i>	358				104%
2	<i>DBS SP</i>	137				41%
3	<i>SIA SP</i>	447				126%
4	<i>STAN LN</i>	61				
5	<i>STE SP</i>	469				106%
6	<i>CAPL SP</i>	186				67%
7	<i>OLAM SP</i>	2,546				297%
8	<i>SCI SP</i>	174				100%
9	<i>INTUCH TB</i>	121				173%
10	<i>BDMN IJ</i>	3,983				222%
11	<i>SATS SP</i>	90				73%
12	<i>KEP SP</i>	80				
13	<i>TRQ CN</i>	73				
14	UNVR					31%
15	LNG				8	
16	VIRT				9	50%
17	JUNO		14%	Long!		
18	MRIN				10	



**SWF TEST Fund: Composite Risk Analysis: Liquidity Report: Stocks**  
 Remaining gross exposure & liquidation over time (20% participation)

Days	Remaining \$Gross Expo	Remaining %Gross Expo	% Reduction
-	\$ 93,047,109,113	100%	0%
10	\$ 84,065,514,198	90%	10%
20	\$ 79,221,478,105	85%	15%
30	\$ 76,120,131,381	82%	18%
40	\$ 73,025,608,723	78%	22%
50	\$ 70,136,231,775	75%	25%
100	\$ 60,557,419,330	65%	35%
250	\$ 42,670,880,985	46%	54%

**Sector Liquidity Detail**

GICS Sector	Participation @ 100% of Adj Vol Avg 3m		% Long of Gross Expo	Long Liquidity	% Short of Gross Expo	<-- % of Gross Exposure Based Liquidity Buckets -->						
	% of Gross Exposure	Wtd Avg Liquidity				2	5	10	25	50	100	3,983
Consumer Discretionary	1%	25	1%	25	0%	0%	0%	0%	0%	1%	0%	0%
Consumer Staples	2%	2,546	2%	2,546	0%							2%
Energy	1%	9	1%	9	0%		0%	0%	1%	0%	0%	0%
Financials	38%	259	38%	259	0%	0%	0%	2%	2%	16%	5%	12%
Health Care	4%	19	4%	19	0%	2%	0%	0%	0%	2%	0%	0%
Industrials	16%	302	16%	302	0%	0%		1%		1%	3%	11%
Information Technology	5%	3	5%	3	0%	0%	5%	0%	0%	0%	0%	0%
Materials	1%	47	1%	47	0%	0%			0%		1%	0%
Real Estate	4%	186	4%	186	0%	0%	0%	0%	0%	0%	0%	4%
Telecommunication Services	29%	296	29%	296	0%				4%			25%
Utilities	0%	-	0%	-	0%	0%	0%	0%	0%	0%	0%	0%
Other												
<b>Total</b>	<b>100%</b>	<b>295</b>	<b>100%</b>	<b>295</b>	<b>0%</b>	<b>3%</b>	<b>6%</b>	<b>3%</b>	<b>8%</b>	<b>19%</b>	<b>9%</b>	<b>54%</b>

**Market-Cap Liquidity Detail**

Mkt Cap (\$million)	Participation @ 100% of Adj Vol Avg 3m		% Long of Gross Expo	Long Liquidity	% Short of Gross Expo	<-- % of Gross Exposure Based Liquidity Buckets (Days Volume) -->						
	% of Gross Exposure	Wtd Avg Liquidity				2	5	10	25	50	100	3,983
<= \$2,500	2%	3,253	2%	3,253	0%	0%	0%	0%	0%	0%	0%	2%
> \$2,500 to <= \$5,000	8%	756	8%	756	0%					1%	2%	6%
> \$5,000 to <= \$10,000	17%	288	17%	288	0%	0%	0%	0%	0%	2%	2%	13%
> \$10,000 to <= \$50,000	45%	221	45%	221	0%	1%	0%	1%	5%		5%	33%
> \$50,000 to <= \$100,000	6%	9	6%	9	0%	2%	0%	2%	2%	0%	0%	0%
> \$100,000	21%	33	21%	33	0%	0%	5%			16%		0%
<b>Total</b>	<b>100%</b>	<b>295</b>	<b>100%</b>	<b>295</b>	<b>0%</b>	<b>3%</b>	<b>6%</b>	<b>3%</b>	<b>8%</b>	<b>19%</b>	<b>9%</b>	<b>54%</b>

Mov Avg Term **200**  
(Days)

Volatility Toggle **1** **5.0%**  
(1=Imp Vol; 2=Hist Vol)

Flag

"z-Score" Flag **2.0**  
Mvg Avg Threshold Flag **20.0%**  
"Hi/Lo" Threshold Flag **35.0%**

Item	Ticker	Px Last	Mov Avg 200d	High 52week	Low 52week	(vs Mov Avg) (vs High 52week) (vs Low 52week)			Volatility Used	Exp Daily % Px Change	Short Name	z-Score
						% Change	% Change	% Change				
1	ST SP	3.8	3.9	4.4	3.4	-4%	-14%	11%	17%	0.8%	SINGAPORE TELECO	
2	939 HK	5.8	5.3	6.1	4.3	10%	-6%	35%	22%	1.1%	CCB-H	
3	DBS SP	17.9	15.4	18.0	13.0	16%	0%	<b>38%</b>	16%	0.8%	<b>DBS GROUP HDGS</b>	
4	1398 HK	4.8	4.4	5.1	3.7	7%	-7%	28%	22%	1.1%	ICBC-H	
5	SIA SP	9.7	10.8	11.7	9.6	-10%	-17%	1%	13%	0.7%	SINGAPORE AIRLIN	
6	BABA	90.5	86.7	109.9	59.3	4%	-18%	<b>53%</b>	28%	1.4%	<b>ALIBABA GRP-ADR</b>	
7	STAN LN	645.0	575.6	719.3	373.4	12%	-10%	<b>73%</b>	31%	1.5%	<b>STANDARD CHARTER</b>	
8	STE SP	3.4	3.2	3.5	2.6	5%	-3%	27%	17%	0.8%	SINGAP TECH ENG	
9	LVLV	55.8	51.3	57.6	41.7	9%	-3%	34%	23%	1.1%	LEVEL 3 COMM INC	
10	CAPL SP	3.1	3.1	3.4	2.8	0%	-10%	10%	14%	0.7%	CAPITALAND LTD	
11	1299 HK	45.3	46.7	54.2	36.9	-3%	-16%	23%	20%	1.0%	AIA	
12	OLAM SP	2.0	1.9	2.2	1.6	8%	-7%	30%	17%	0.8%	OLAM INTERNATION	
13	SCI SP	3.0	2.8	3.3	2.2	6%	-10%	<b>37%</b>	24%	1.2%	<b>SEMBCORP INDUS</b>	
14	INTUCH TB	49.8	55.6	68.8	44.5	-10%	-28%	12%	19%	0.9%	INTOUCH HOLDINGS	
15	BDMN IJ	3,350.0	3,639.8	4,220.0	2,775.0	-8%	-21%	21%	34%	1.7%	BANK DANAMON	
16	2318 HK	41.9	37.5	44.4	30.5	12%	-6%	<b>37%</b>	22%	1.1%	<b>PING AN-H</b>	
17	SATS SP	4.7	4.4	5.2	3.8	7%	-10%	26%	23%	1.1%	SATS LTD	
18	KEP SP	5.9	5.5	6.6	4.6	9%	-10%	28%	25%	1.2%	KEPPEL CORP LTD	
19	068270 KS	99,600.0	103,721.5	129,000.0	73,883.5	-4%	-23%	35%	29%	1.4%	CELLTRION INC	
20	GILD	72.4	83.4	104.8	71.4	-13%	-31%	1%	25%	1.2%	GILEAD SCIENCES	
21	REP SM	12.8	11.6	13.2	8.0	10%	-3%	<b>60%</b>	24%	1.2%	<b>REPSOL SA</b>	
22	INFO	34.9	34.5	37.9	26.0	1%	-8%	34%	22%	1.1%	IHS MARKIT LTD	
23	TRQ CN	4.4	3.9	5.0	2.3	12%	-12%	<b>92%</b>	56%	2.8%	<b>TURQUOISE HILL R</b>	
24	DUFN VX	123.5	119.6	136.9	92.3	3%	-10%	34%	24%	1.2%	DUFREY AG-REG	
25	UNVR	24.7	19.4	25.2	10.7	<b>27%</b>	-2%	<b>132%</b>	31%	1.6%	<b>UNIVAR INC</b>	
26	EVK GY	26.0	27.7	31.7	24.4	-6%	-18%	7%	27%	1.3%	EVONIK INDUSTRIE	
27	TMO	141.9	148.7	160.7	119.8	-5%	-12%	19%	21%	1.0%	THERMO FISHER	
28	PRU LN	1,561.0	1,354.5	1,585.5	1,076.8	15%	-2%	<b>45%</b>	25%	1.2%	<b>PRUDENTIAL PLC</b>	
29	2601 HK	29.7	27.6	33.4	23.7	7%	-11%	25%	25%	1.2%	CHINA PACIFIC-H	
30	BMRN	82.2	88.0	107.6	62.1	-7%	-24%	32%	42%	2.1%	BIOMARIN PHARMAC	
31	LNG	41.3	38.4	46.0	22.8	7%	-10%	<b>81%</b>	36%	1.8%	<b>CHENIERE ENERGY</b>	
32	SYF	34.5	28.6	35.5	23.3	<b>20%</b>	-3%	<b>48%</b>	29%	1.4%	<b>SYNCHRONY FINAN</b>	
33	PYPL	38.6	38.9	44.5	30.5	-1%	-13%	27%	25%	1.2%	PAYPAL HOLDINGS	
34	VIRT	14.0	17.7	24.0	12.4	<b>-21%</b>	<b>-42%</b>	13%	31%	1.5%	<b>VIRTU FINANCIA-A</b>	
35	ALXN	123.0	133.0	193.5	110.6	-8%	<b>-36%</b>	11%	49%	2.4%	<b>ALEXION PHARM</b>	
36	PTLA	17.9	23.5	52.9	15.7	<b>-24%</b>	<b>-66%</b>	14%	99%	4.9%	<b>PORTOLA PHARMACE</b>	
37	3988 HK	3.5	3.3	3.8	2.8	8%	-6%	25%	22%	1.1%	BANK OF CHINA-H	
38	CLNE	3.5	3.5	4.8	2.2	-1%	-27%	<b>63%</b>	58%	2.9%	<b>CLEAN ENERGY FUE</b>	
39	FIS	75.0	72.9	81.7	55.1	3%	-8%	<b>36%</b>	19%	1.0%	<b>FIDELITY NATIONA</b>	
40	MON	103.9	100.1	114.3	83.7	4%	-9%	24%	15%	0.7%	MONSANTO CO	
41	Q	74.0	71.5	81.5	55.0	3%	-9%	35%	24%	1.2%	QUINTILES IMS HO	
42	REGN	372.7	389.2	563.8	325.4	-4%	-34%	15%	39%	1.9%	REGENERON PHARM	
43	ILMN	127.9	152.5	196.5	126.4	-16%	-35%	1%	41%	2.0%	ILLUMINA INC	
44	JUNO	20.4	34.5	52.6	19.4	<b>-41%</b>	<b>-61%</b>	5%	78%	3.9%	<b>JUNO THERAPEUTIC</b>	
45	HXL	51.8	44.2	52.0	37.5	17%	0%	<b>38%</b>	25%	1.2%	<b>HEXCEL CORP</b>	
46	MRIN	2.4	2.6	4.0	1.9	-6%	<b>-40%</b>	28%	90%	4.5%	<b>MARIN SOFTWARE I</b>	

**"Flagged" Ticker LT Px Change Analysis**

<u>-</u>		<i>vs Mov Avg 200d</i>	<i>vs Mov Avg 200d</i>	<i>(vs High 52week)</i>	<i>(vs Low 52week)</i>	<i>Exp Daily</i>
<u>Item</u>	<u>Ticker</u>	<u>% Change</u>	<u>z-Score</u>	<u>% Change</u>	<u>% Change</u>	<u>% Px Change</u>
1	DBS SP				38%	
2	BABA				53%	
3	STAN LN				73%	
4	SCI SP				37%	
5	2318 HK				37%	
6	REP SM				60%	
7	TRQ CN				92%	
8	UNVR	27%			132%	
9	PRU LN				45%	
10	LNG				81%	
11	SYF	20%			48%	
12	VIRT	-21%		-42%		
13	ALXN			-36%		
14	PTLA	-24%		-66%		
15	CLNE				63%	
16	FIS				36%	
17	JUNO	-41%		-61%		
18	HXL				38%	
19	MRIN			-40%		

+ve alpha highlight flag	10%	20%	25%	35%	35%
-ve alpha highlight flag	-10%	-20%	-25%	-35%	-35%

<b>MSELACWF</b>	<b>3.0%</b>	<b>0.1%</b>	<b>4.3%</b>	<b>3.8%</b>	<b>1.3%</b>
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MSCI AC World Local

		1mo	1mo	3mo	3mo	6mo	6mo	YTD	YTD	1yr	1yr
Item	Ticker	Return	Alpha	Return	Alpha	Return	Alpha	Return	Alpha	Return	Alpha
1	ST SP	-4%	-5%	-3%	-3%	-1%	-3%	5%	3%	2%	2%
2	939 HK	3%	-1%	-2%	-2%	21%	16%	16%	12%	14%	13%
3	<b>DBS SP</b>	19%	<b>17%</b>	19%	19%	18%	14%	12%	8%	12%	11%
4	1398 HK	2%	-1%	-3%	-3%	22%	17%	8%	4%	6%	5%
5	SIA SP	-4%	-4%	-8%	-8%	-4%	-5%	-10%	-11%	-2%	-2%
6	<b>BABA</b>	-8%	<b>-13%</b>	-9%	-9%	17%	10%	11%	5%	6%	5%
7	STAN LN	0%	-5%	-2%	-3%	21%	13%	14%	8%	19%	17%
8	STE SP	8%	5%	3%	3%	8%	4%	16%	13%	20%	19%
9	LVLT	5%	2%	11%	11%	4%	-1%	3%	-1%	7%	6%
10	CAPL SP	-1%	-4%	0%	0%	3%	-1%	-6%	-9%	-1%	-2%
11	1299 HK	-6%	-9%	-9%	-9%	-1%	-6%	-1%	-5%	-5%	-7%
12	OLAM SP	-4%	-6%	-2%	-3%	14%	11%	15%	13%	15%	14%
13	<b>SCI SP</b>	18%	<b>14%</b>	10%	10%	8%	2%	0%	-5%	-3%	-5%
14	INTUCH TB	-6%	-8%	-11%	-11%	-7%	-9%	3%	1%	-20%	-21%
15	<b>BDMN IJ</b>	-12%	<b>-15%</b>	-15%	-16%	2%	-3%	7%	3%	16%	14%
16	2318 HK	3%	-2%	1%	1%	22%	16%	-1%	-6%	-4%	-5%
17	SATS SP	-1%	-2%	0%	0%	18%	18%	28%	27%	25%	24%
18	KEP SP	13%	9%	14%	14%	14%	8%	-4%	-9%	-4%	-6%
19	068270 KS	-6%	-9%	-9%	-9%	1%	-3%	18%	14%	19%	18%
20	GILD	0%	-3%	-5%	-5%	-16%	-19%	-27%	-31%	-29%	-30%
21	REP SM	3%	-2%	2%	2%	15%	7%	29%	23%	14%	12%
22	INFO	-5%	-7%	-7%	-7%	3%	0%	16%	13%	19%	18%
23	TRQ CN	9%	4%	8%	8%	19%	12%	26%	20%	29%	27%
24	DUFN VX	4%	1%	6%	6%	-5%	-10%	3%	-1%	0%	-1%
25	<b>UNVR</b>	12%	8%	18%	18%	28%	22%	45%	<b>40%</b>	34%	32%
26	<b>EVK GY</b>	-7%	<b>-10%</b>	-15%	-15%	-3%	-7%	-11%	-15%	-14%	-15%
27	TMO	-3%	-5%	-6%	-6%	-7%	-11%	0%	-3%	4%	3%
28	<b>PRU LN</b>	17%	<b>12%</b>	11%	11%	17%	10%	6%	0%	4%	2%
29	2601 HK	6%	1%	6%	6%	16%	9%	-3%	-9%	-7%	-9%
30	BMRN	2%	-1%	-14%	-14%	-10%	-14%	-22%	-25%	-14%	-15%
31	LNG	14%	9%	-5%	-6%	21%	14%	11%	5%	-9%	-11%
32	<b>SYF</b>	22%	<b>18%</b>	25%	<b>24%</b>	11%	6%	14%	10%	9%	8%
33	<b>PYPL</b>	-7%	<b>-10%</b>	4%	4%	0%	-5%	7%	2%	10%	8%
34	<b>VIRT</b>	13%	<b>11%</b>	-12%	-13%	-20%	-23%	-35%	<b>-37%</b>	-33%	-34%
35	<b>ALXN</b>	-4%	-7%	-1%	-1%	-22%	<b>-26%</b>	-36%	<b>-39%</b>	-30%	-32%
36	<b>PTLA</b>	1%	-3%	-15%	-15%	-36%	<b>-43%</b>	-65%	<b>-71%</b>	-65%	<b>-67%</b>
37	3988 HK	3%	-1%	-1%	-1%	18%	14%	9%	5%	8%	6%
38	<b>CLNE</b>	-15%	<b>-21%</b>	-23%	<b>-24%</b>	-3%	-12%	-3%	-10%	-21%	-24%
39	FIS	0%	-2%	-6%	-7%	0%	-3%	25%	22%	17%	16%
40	MON	4%	2%	-3%	-3%	-5%	-8%	8%	5%	9%	8%
41	Q	2%	0%	-4%	-4%	9%	6%	8%	5%	11%	10%
42	<b>REGN</b>	8%	4%	-4%	-4%	-8%	-14%	-31%	<b>-37%</b>	-32%	-34%
43	<b>ILMN</b>	-6%	-9%	-24%	<b>-24%</b>	-13%	-17%	-33%	<b>-37%</b>	-30%	-31%
44	<b>JUNO</b>	-15%	<b>-20%</b>	-28%	<b>-28%</b>	-55%	<b>-62%</b>	-54%	<b>-60%</b>	-63%	<b>-65%</b>
45	<b>HXL</b>	16%	<b>12%</b>	14%	14%	18%	13%	13%	8%	12%	10%
46	<b>MRIN</b>	4%	1%	-2%	-2%	-1%	-6%	-33%	<b>-37%</b>	-37%	<b>-38%</b>

*Note: analysis based on ccy-hedged local-market returns where applicable*

i) Summary:

- page 1: high-level summary risk statistics compiled from the various risk modules

ii) Exposure & volatility analysis:

- page 2: ticker-level exposure & contribution to portfolio volatility detail along with salient concentration, volatility and VaR stats
- page 3: GICS sector- and industry group-level exposure & contribution to portfolio volatility aggregation
- page 4: GICS industry-level exposure & contribution to portfolio volatility aggregation
- page 5: country-level exposure & contribution to portfolio volatility aggregation

*Note:*

1. risk-adjusted net is computed using forward-looking risk ratios (as opposed to traditional rear-view beta) which are based on implied stock and index volatility (if available, else ST historical volatility) and hybrid correlation (intra-sector average correlation and inter-sector extreme-move conditional correlation; calibrated to ACWI implied average correlation). Philosophically, it represents a “significant”-move gauge better calibrated to market dislocations.
2. portfolio volatility, computed using implied stock volatility, is an estimate of the potential dispersion of returns around the mean return. On average, portfolio returns should fall within a +/- 1 sigma band, around the mean return, in 2 times out of 3.
3. VaR represents the minimum potential loss that the fund could experience 1-day a month and 1-month a year

iii) Exposure & ticker factor analysis:

- L/S exposure distribution along quintile bucketing (save discreet market-cap buckets) of pertinent fundamental factors
- ticker-level dissection, by quintile bucket, for factors explored
- fundamental factors explored:
  - page 6: market cap
  - page 7: implied volatility
  - page 8: dividend yield
  - page 9: LT (200d) price momentum
  - page 10: analyst buy recommendation
  - page 11: EVA spread (ROIC - WACC)
  - page 12: price/sales
  - page 13: China growth (GS WF growth basket as proxy)

*Note* : quintile threshold are determined using the full universe of ACWI component stocks. Additionally, the fundamental factors used can adjusted to more pertinent barometers and/or modified to suit the prevailing risk regime.

iv) Historical Stress Testing:

- page 14: hypothetical portfolio returns along with sector returns for a variety of historical stress episodes spanning the last ~ 20y, and recent US systemic risk-premium episodes

*Note* : hypothetical portfolio return is computed using stock sector-based betas and realized episodic sector returns

v) Liquidity analysis:

- page 15: ticker-level guts of the report with information on days volume owned (100% of 3m ADTV); days to liquidate (assumes 20% of 3m ADTV); SI ratio (days; using 3m ADTV); SI as a % of float and firm’s share of short interest if short. *Note: SI metrics scant for non-US stocks.*
- page 16: “flagged” ticker summary report highlighting stocks with >= 50d volume owned at 100% of 3m ADTV; stocks with SI as a % of float >= 12% and firm’s share of SI for those stocks (stocks that have a high SI as a % of float, particularly those that the firm represents a small fraction of the SI, may be vulnerable to short-covering rallies as jumpy shorts scramble to cover and opportunistic longs target to buy); stocks with SIR >= 8d and stocks where firms ownership >= 25% of float. *Note* : these thresholds can be varied and are currently set at illustrative levels.
- page 17:
  - table 1: evolution of gross exposure reduction in liquidation mode (assumes 20% participation of ADTV)
  - table 2: sector-level liquidity aggregation using fractional G/L/S and % of G in various liquidity buckets (0%-200% of ADTV, 200%-500% of ADTV etc.)
  - table 3: market cap-level liquidity aggregation using fractional G/L/S and % of G in various liquidity buckets (0%-200% of ADTV, 200%-500% of ADTV etc.)

vi) LT Px change analysis:

- page 18: ticker-level LT Px change vs. 200d mvg avg, 52week hi/lo, vol-based E(Px change) & realized 200d z-score >= +/- 2-sigma
- page 19: “flagged” ticker summary report highlighting stocks whose Px change vs. 200d mvg avg >= +/- 20% (and/or realized 200d z-score >= +/- 2-sigma), vs. 52week hi/lo >= +/- 35% or exp daily Px change >= +/- 5%. *Note* : these thresholds can be varied and are currently set at illustrative levels.

*Note:* stock-level stop-loss safeguards represent a triangulation between:

- stock-level cost-based stop-loss trigger (e.g., 20% adverse move vs. cost basis)
- stock-level portfolio-impact trigger (e.g., 100 bp portfolio-level loss)
- short-term price-change trigger (e.g., 35% drawdown vs. trailing high-water mark)

vii) Trailing alpha analysis:

- page 20: trailing stock returns and their alpha over the last 1m, 3m, 6m, YTD and 1y highlighted for alpha threshold breaches

*Note: expected stock return is computed using tradition beta, MSCI AC World Local return and Fed Funds as the risk-free rate*