



Semiconductors  
Active GEM Fund Ownership Report  
9/30/2023

# Semiconductors Active GEM Fund Ownership Report 9/30/2023

## Introduction

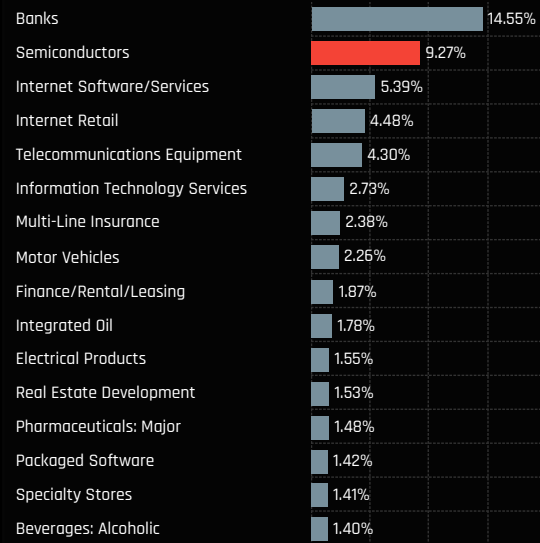
In this data report, we analyse Semiconductors holdings among active GEM Equity Funds. We analyse the latest published filings for all funds and aggregate together as of 9/30/2023. We show the most recent snapshot in positioning, time series data going back to 1/31/2008 and recent allocation shifts by the managers in our analysis. The current fund sample spans 371 active funds with a combined AUM of \$391.84Bn.

For benchmark comparisons, we use the iShares MSCI Emerging Markets ETF, proportionally adjusted to remove any cash holdings. All Cash Flow calculations are on a best estimates basis. We use monthly position changes and month end prices to estimate the net buying and selling value for each stock within each fund in our analysis.

For further information on the calculation methodology that we use in the analysis and the classification of fund Styles, please view the Glossary on page 22.

Chart 1. The equally weighted average fund weight, among active GEM managers by Industry  
 Chart 2. The time series of average fund weight for Semiconductors stocks

Ch 1. Industry: Average Fund Weights



Ch 2. Semiconductors: Average Fund Weight Time-Series

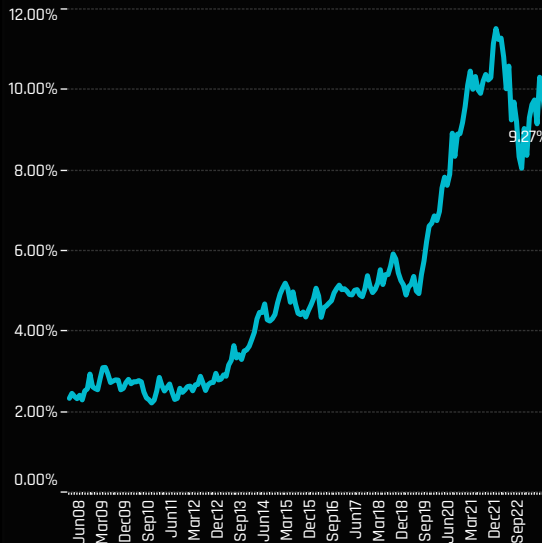
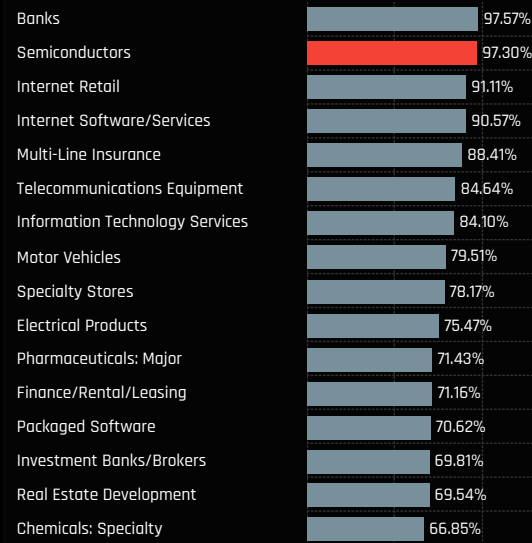


Chart 5. The 'Funds Invested %' measures the percentage of active GEM funds with exposure to each Industry. A figure of 100% means that every fund in our analysis has some exposure to that Industry  
 Chart 6. The time series of funds invested % for Semiconductors stocks

Ch 5. Industry: Funds Invested %



Ch 6. Semiconductors: Funds Invested % Time-Series

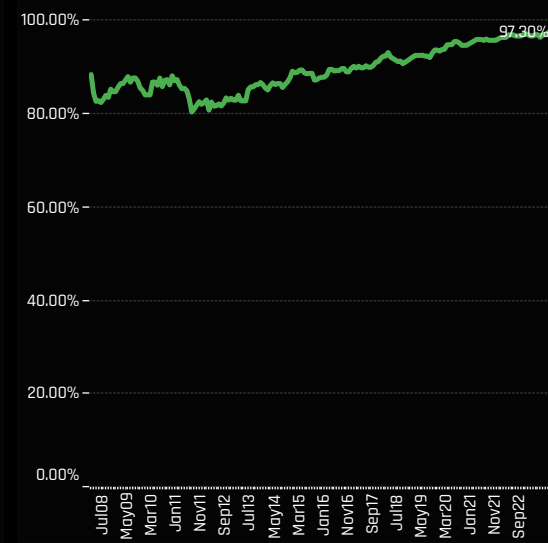
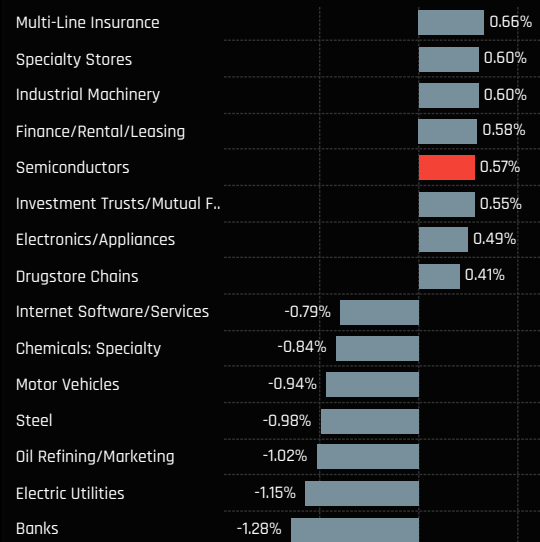


Chart 3. The average fund weight minus the weight in the iShares MSCI Emerging Markets ETF, by Industry. A positive value represents an 'overweight' position on average, a negative value represents an 'underweight'.

Chart 4. The time series of average fund weight minus benchmark for Semiconductors stocks

Ch 3. Industry: Average Fund Weights vs EEM



Ch 4. Semiconductors: Average Weight vs EEM Time-Series

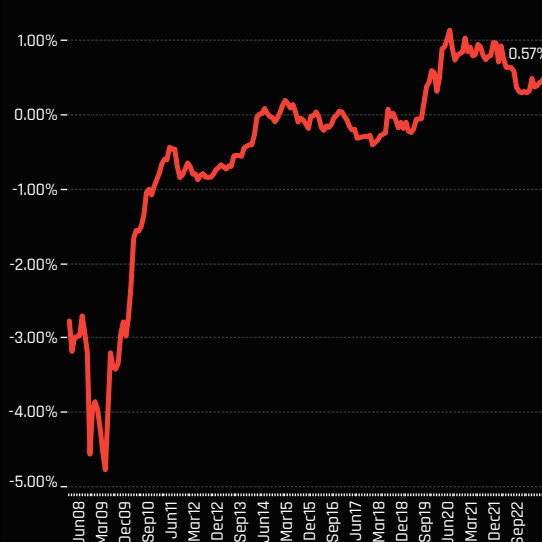
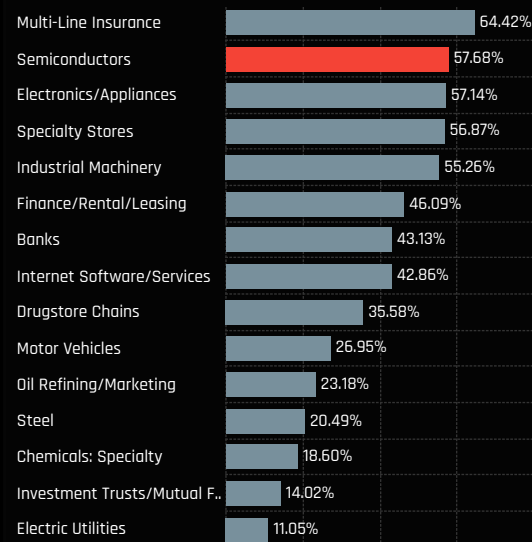
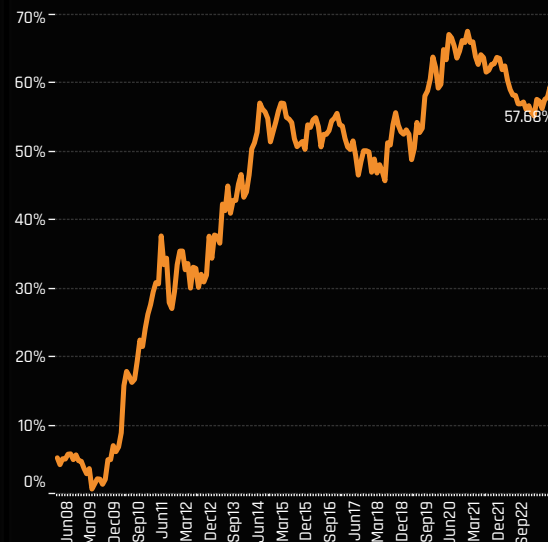


Chart 7. The percentage of active GEM funds who are overweight the iShares MSCI Emerging Markets ETF weight, by Industry  
 Chart 8. The time series of Funds Overweight % for Semiconductors stocks

Ch 7. Industry: Funds Overweight %



Ch 8. Semiconductors: Funds Overweight % Time-Series



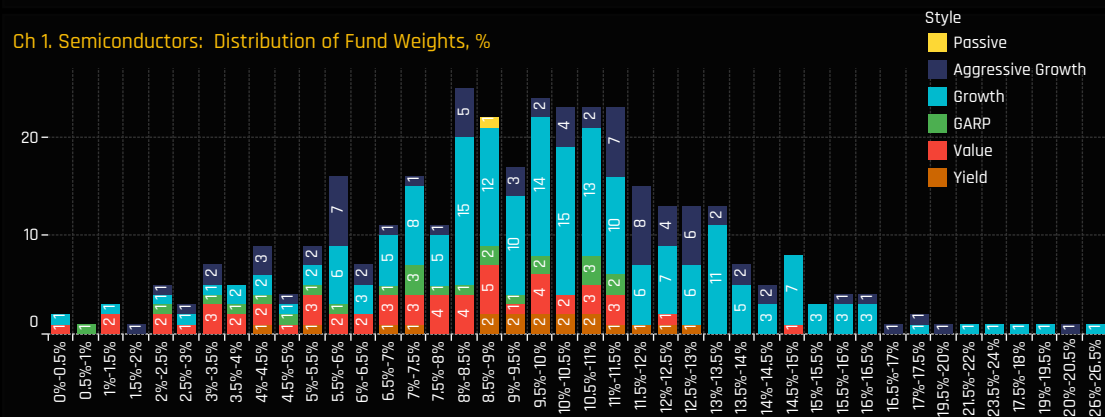
# Semiconductors

# Fund Holdings

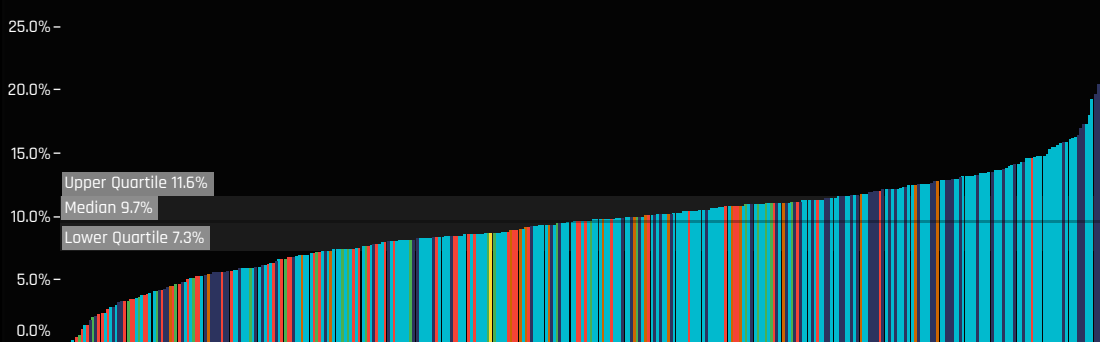
Chart 1. The distribution of Semiconductors weights among the 371 active GEM funds in our analysis, broken down by fund Style.  
 Chart 2. The largest 30 Semiconductors holders in our analysis, on a portfolio weight basis.

Chart 3. The individual Semiconductors fund weights funds in our analysis, ranked by allocation size with Median and Quartiles.  
 Chart 4. The largest 30 Semiconductors holders in our analysis, on an \$ AUM basis.

Ch 1. Semiconductors: Distribution of Fund Weights, %



Ch 3. Semiconductors: Fund Weights, %



Ch 2. Semiconductors: Top Fund Holdings, %

Fund Name	Style	Weight (%)
Macquarie Fd. Sol. - Emerging Markets Fund	Growth	26.34%
Delaware Emerging Markets Fund	Growth	23.98%
Delaware VIP Trust - Emerging Markets Series	Growth	21.66%
PGIM Jennison Emerging Markets Equity Opportunities Fund	Aggressive Growth	20.43%
AB FCP I - Emerging Markets Growth Portfolio	Aggressive Growth	19.65%
Mirabaud - Equities Global Emerging Markets	Growth	19.31%
Celsius Invt. Fd. SICAV - Sustainable Em. Markets	Growth	17.98%
UBS (Irl) Investor Selection Plc - Glob. Emer. Oppo. Fund	Growth	17.30%
Fidelity Inv. Trust - Emerging Markets Fund	Aggressive Growth	17.26%
Omnis Portfolio Investments ICVC - Global EM Equity Lead. Fund	Aggressive Growth	16.97%
Polar Capital Funds Plc - Emerging Market Stars Fund	Aggressive Growth	16.42%
Fisher Invt. EM. Mrkts. Eq. Responsible ex-Fossil Fuels	Growth	16.24%
Fidelity Institutional Funds - Emerging Markets Fund	Growth	16.18%
UBS Investment Funds ICVC - Global Emerging Markets Equity	Growth	16.05%
Ashmore Emerging Markets Equity Fund	Growth	15.89%
Handelsbanken Tillvaextmarknad Tema	Aggressive Growth	15.85%
Fisher Invt. Instl. Fds. Plc - Emerging Markets Eq. ESG Fund	Growth	15.75%
Fisher Invt. Instl. Fds. Plc - Emerging Markets Equity Fund	Growth	15.68%
Edmond de Rothschild Fund - Strategic Emerging	Growth	15.48%
UBS (Lux) Equity Fund - Emerging Markets Sust. Leaders (USD)	Growth	15.41%
Neuberger Berman Invt. Funds Plc - EM Sus. Eq. Fd.	Growth	15.35%
John Hancock Emerging Markets Equity Fund	Growth	14.94%
Danske Invest Emerging Markets Equity Fund (FI)	Growth	14.79%
Natixis AM Funds SICAV - DNCA Global Emerging Equity	Growth	14.76%
RBC Funds (Lux) - Emerging Markets Equity Focus Fund	Growth	14.76%
Fidelity Funds SICAV - Emerging Markets Fund	Growth	14.73%
Mondrian Emerging Markets Value Equity Fund	Value	14.62%
Boston Common ESG Impact Emerging Markets Fund	Growth	14.61%
JPMorgan Funds - Emerging Markets Opportunities Fund	Growth	14.52%
Pear Tree Axiom Emerging Markets World Equity Fund	Aggressive Growth	14.29%

Ch 4. Semiconductors: Top Fund Holdings, \$

Fund Name	Style	AUM (\$M)
American Funds New World Fund	Aggressive Growth	\$2,824.92M
Fidelity Inv. Trust - Emerging Markets Opportunities Fund	Growth	\$2,096.66M
Invesco Developing Markets Fund	Growth	\$1,875.73M
GQG Partners Emerging Markets Equity Fund	Growth	\$1,854.11M
iShares MSCI Emerging Markets ETF	Passive	\$1,654.41M
Fidelity Inv. Trust - Emerging Markets Fund	Aggressive Growth	\$1,242.86M
Delaware Emerging Markets Fund	Growth	\$1,094.09M
JPMorgan Emerging Markets Equity Fund	Aggressive Growth	\$927.33M
T Rowe Price Emerging Markets Stock Fund	Aggressive Growth	\$751.03M
Schroder ISF - Emerging Markets	Growth	\$591.45M
MFS Emerging Markets Equity Fund	Growth	\$532.87M
Fidelity Funds SICAV - Emerging Markets Fund	Growth	\$476.23M
Fidelity Series Emerging Markets Fund	Growth	\$461.32M
St. James's Place Unit Trust - Emerging Markets Equity	Growth	\$458.73M
Federated Hermes Invt. Funds - Global Emerging Markets Equity	Growth	\$454.66M
Fidelity Institutional Funds - Emerging Markets Fund	Growth	\$435.04M
Vontobel Fund - mtx Sustainable Emerging Markets Leaders	Growth	\$425.03M
Allspring Emerging Markets Equity Fund	Growth	\$384.57M
GS Funds - Emerging Markets Equity Portfolio	Growth	\$364.95M
BlackRock Emerging Markets Fund Inc.	Growth	\$354.38M
JPMorgan Funds - Emerging Markets Opportunities Fund	Growth	\$345.81M
Candriam Sustainable - Equity Emerging Market	Aggressive Growth	\$318.06M
Nordea 1 - Emerging Stars Equity Fund	Aggressive Growth	\$313.65M
RBC Funds Trust - Emerging Markets Equity Fund	Growth	\$311.68M
Handelsbanken Tillvaextmarknad Tema	Aggressive Growth	\$287.04M
American Century Emerging Markets Fund	Growth	\$286.32M
Artisan Developing World Fund	Aggressive Growth	\$285.51M
Fidelity Advisor Focused Emerging Markets Fund	Growth	\$284.32M
Baron Emerging Markets Fund	Aggressive Growth	\$279.63M
Lazard Emerging Markets Equity Portfolio	Value	\$277.08M

# Semiconductors

# Fund Holding Changes

Chart 1. The largest fund weight increases in Semiconductors stocks between 3/31/2023 - 9/30/2023.  
 Chart 2. The largest fund weight decreases in Semiconductors stocks between 3/31/2023 - 9/30/2023  
 Both charts show the current weight and whether the weight change represented a new or closed position.

### Ch 1. Semiconductors: Largest Increases in Position, %

Fund Name	New or Close..	Latest Weight	Weight Change
TCW Developing Markets Equity Fund		13.15%	10.88%
GQG Partners Emerging Markets Equity Fund		14.29%	4.55%
Danske Invest Emerging Markets Equity Fund (FI)		14.79%	3.92%
Invesco Funds - Emerging Markets Select Equity Fund		6.79%	3.18%
Amana Developing World Fund		10.75%	3.15%
BlackRock Defensive Advantage Emerging Markets Fund		2.73%	2.33%
PGIM Jennison Emerging Markets Equity Opportunities Fund		20.43%	1.94%
AB FCP II - Emerging Market Value Portfolio		10.82%	1.93%
TIAA-CREF Emerging Markets Equity Fund		13.45%	1.89%
Macquarie Fd. Sol. - Emerging Markets Fund		25.34%	1.83%
Brandes Emerging Markets Value Fund		8.80%	1.70%
Pear Tree Axiom Emerging Markets World Equity Fund		14.29%	1.69%
Threadneedle Specialist Inv. Fds.-Global Emerging Markets		11.54%	1.60%
Candriam Equities L - Emerging Markets		11.14%	1.58%
Polen Emerging Markets Growth Fund		4.79%	1.46%
Redwheel Next Generation Emerging Markets Equity Fund	New	1.40%	1.40%
T Rowe Price Emerging Markets Stock Fund		12.91%	1.40%
River & Mercantile Investment Funds - EM ILC Equity Fund		10.53%	1.37%
Neuberger Berman Inv. Funds Plc - EM Sus. Eq. Fd.		15.35%	1.30%
LO Funds - Emerging High Conviction		12.33%	1.26%

### Ch 2. Semiconductors: Largest Decreases in Position, %

Fund Name	New or Close..	Latest Weight	Weight Change
Optimix Emerging Markets Fund		2.36%	-9.53%
Virtus Emerging Markets Opportunities Fund		8.53%	-6.49%
Amundi Funds - New Silk Road		11.05%	-5.43%
BNY Mellon Investment Fds. - Global Emerging Markets Opp. Fund		9.95%	-5.20%
AB SICAV I - Emerging Markets Low Volatility Equity Portfolio		6.99%	-4.71%
Virtus NFJ Emerging Markets Value Fund		11.17%	-4.66%
Heptagon Fd. Plc - Driehaus Emerging Mrkts. Sustainable Eq.		7.36%	-4.34%
Empower Emerging Markets Equity Fund		9.24%	-3.75%
Schroder ISF - Global Emerging Market Opportunities		9.28%	-3.59%
Wasatch Emerging Markets Select Fund		6.43%	-3.53%
Driehaus Mutual Funds - Emerging Markets Growth Fund		7.57%	-3.48%
TT International Funds Plc - Emerging Markets Unconstrained		8.29%	-3.38%
Alger Funds II - Emerging Markets Fund		4.30%	-3.30%
Oaktree (Lux.) Funds - Emerging Markets Equity		8.47%	-3.02%
East Capital - Global Emerging Markets Sustainable		12.81%	-2.96%
CT (Lux) III - Responsible Global Emerging Markets Equity		8.00%	-2.95%
Pictet Global Selection Fund - Global High Yield Emerg. Eq.		8.89%	-2.94%
Allianz Intl. Inv. Fds. - Emerging Markets Equity Fund		6.76%	-2.67%
Handelsbanken Tillvaextmarknad Tema		15.85%	-2.63%
UBS Investment Funds ICVC - Global Emerging Markets Equity		16.05%	-2.63%

Chart 3. The largest buyers in US dollar terms in Semiconductors stocks between 3/31/2023 - 9/30/2023.  
 Chart 4. The largest sellers in US dollar terms in Semiconductors stocks between 3/31/2023 - 9/30/2023  
 Both charts show the current AUM and whether the fund flow represented a new or closed position.

### Ch 3. Semiconductors: Largest Fund Inflows, \$

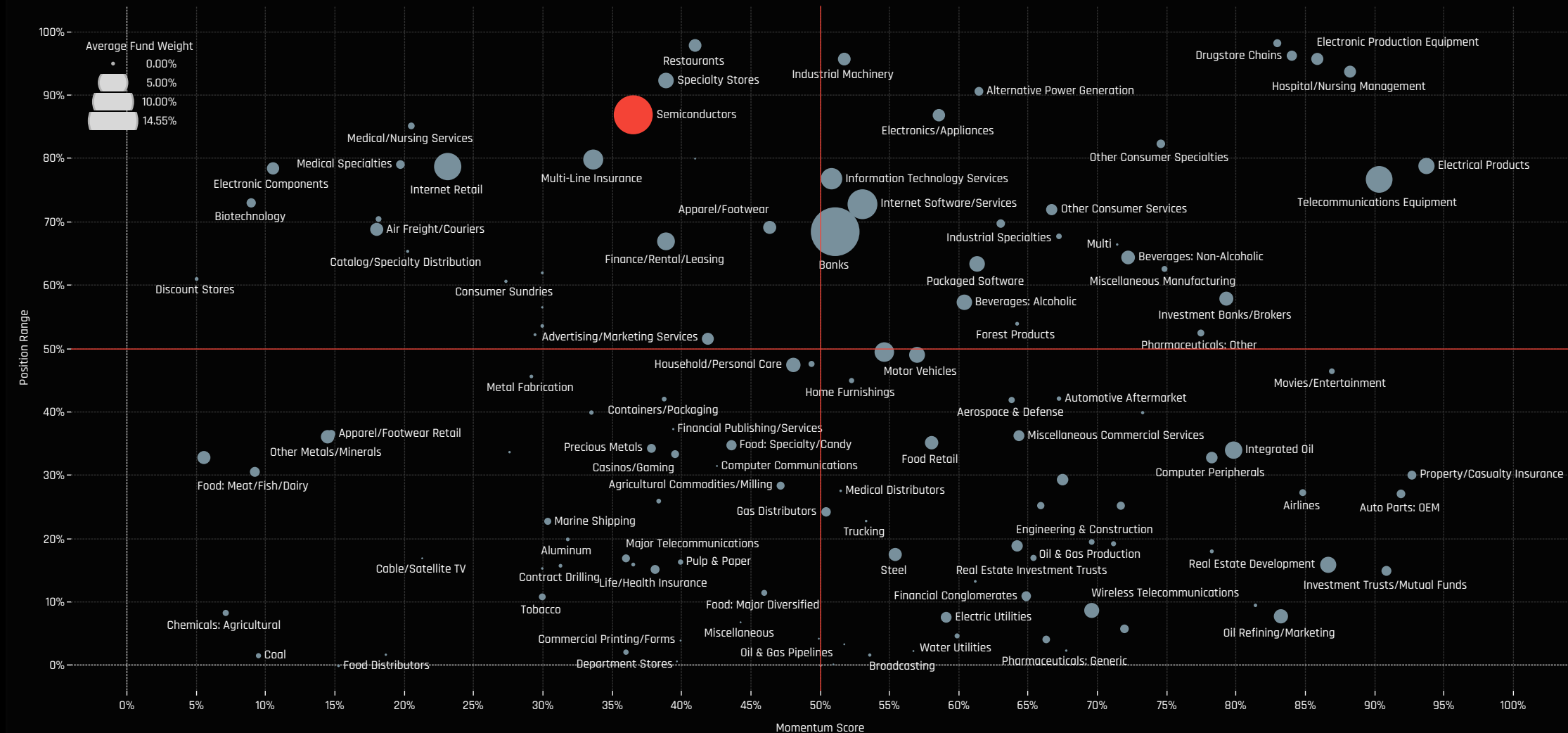
Fund Name	New or Close..	Latest AUM, \$	Fund Flows, \$
GQG Partners Emerging Markets Equity Fund		\$1,854.11M	\$730.40M
T Rowe Price Emerging Markets Stock Fund		\$751.03M	\$94.73M
Fidelity Series Emerging Markets Fund		\$461.32M	\$84.91M
Fidelity Advisor Focused Emerging Markets Fund		\$284.32M	\$59.90M
Polar Capital Funds Plc - Emerging Market Stars Fund		\$201.98M	\$39.53M
Seafarer Overseas Growth & Income Fund		\$104.89M	\$36.91M
TIAA-CREF Emerging Markets Equity Fund		\$202.73M	\$28.16M
Goldman Sachs Emerging Markets Equity Insights Fund		\$171.65M	\$26.47M
Celsius Inv. Fd. SICAV - Sustainable Em. Markets		\$253.30M	\$26.14M
Swedbank Robur Access Edge Emerging Markets		\$163.72M	\$24.68M
RBC Funds Trust - Emerging Markets Equity Fund		\$311.68M	\$24.46M
Morgan Stanley Inv. Fds. - Sustainable EM Eq. Fds.		\$60.71M	\$24.17M
VALIC Company I - Emerging Economies Fund		\$78.95M	\$22.33M
JOHCM Emerging Markets Opportunities Fund		\$60.81M	\$20.66M
T Rowe Price Emerging Markets Discovery Stock Fund		\$222.25M	\$20.41M
Fidelity Inv. Trust - Emerging Markets Discovery Fund		\$30.57M	\$19.58M
JPMorgan Funds - Emerging Markets Sustainable Equity Fund		\$132.49M	\$14.84M
JPMorgan Funds - Emerging Markets Dividend Fund		\$79.17M	\$13.84M
Aviva Investors - Global Emerging Markets Core Fund		\$149.30M	\$13.31M
Lazard Glb. Active Fds. Plc - Emerging Markets Eq. Adv. Fd.		\$62.23M	\$12.96M

### Ch 4. Semiconductors: Largest Fund Outflows, \$

Fund Name	New or Close..	Latest AUM, \$	Fund Flows, \$
iShares MSCI Emerging Markets ETF		\$1,654.41M	(\$508.73M)
American Funds New World Fund		\$2,824.92M	(\$210.56M)
Fidelity Inv. Trust - Emerging Markets Opportunities Fund		\$2,096.66M	(\$139.25M)
Artisan Developing World Fund		\$285.51M	(\$136.58M)
JPMorgan Trust IV - Emerging Markets Research Enhanced Equity		\$175.99M	(\$110.62M)
Fidelity Funds SICAV - Emerging Markets Fund		\$476.23M	(\$102.97M)
BlackRock Emerging Markets Fund Inc.		\$354.38M	(\$93.97M)
Vontobel Fund - mtx Sustainable Emerging Markets Leaders		\$425.03M	(\$77.68M)
Fidelity Inv. Trust - Emerging Markets Fund		\$1,242.86M	(\$73.25M)
JPMorgan Funds - Emerging Markets Opportunities Fund		\$345.81M	(\$73.00M)
Federated Hermes Inv. Funds - Global Emerging Markets Equity		\$454.66M	(\$62.03M)
Candriam Sustainable - Equity Emerging Market		\$318.06M	(\$56.77M)
Driehaus Mutual Funds - Emerging Markets Growth Fund		\$183.84M	(\$52.15M)
Nordea 1 - Emerging Stars Equity Fund		\$313.65M	(\$51.90M)
Transamerica Emerging Markets Opportunities		\$31.86M	(\$51.42M)
Baron Emerging Markets Fund		\$279.63M	(\$49.27M)
Redwheel Global Emerging Markets Fund		\$184.24M	(\$47.49M)
John Hancock Emerging Markets Equity Fund		\$226.00M	(\$47.26M)
Schroder ISF - Global Emerging Market Opportunities		\$155.92M	(\$45.22M)
Handelsbanken Tillvaextmarknad Tema		\$287.04M	(\$39.30M)

Z-Score of today's average weight, funds invested % and funds o/w % relative to all monthly observations in our fund history (going back to 1/31/2008). A figure close to 100% would indicate today's positioning is close to its maximum ever level, a figure close to zero, the lowest. The X-axis provides a measure of short-term fund activity, or 'Momentum', by looking at the changes in average weight, funds invested % and funds o/w % between 3/31/2023 and 9/30/2023, relative to each Industry. A figure above 50% means a Industry has seen relative increases in ownership, a figure below 50% indicates a relative decrease in positioning. The size of the bubble represents the average weight of each Industry.

Industry Sentiment Grid. GEM Active Funds  
Momentum Measure between 3/31/2023 - 9/30/2023



Position Range: Average of:  
Z-Score Average Weight vs history  
Z-Score Funds Invested % vs history  
Z-Score Funds O/W % vs history

Momentum Score: Average of:  
Change in Average Weight (Percentile vs Peers)  
Change in Funds Invested % (Percentile vs Peers)  
Change in Funds O/W % (Percentile vs Peers)

# Semiconductors

# Aggregate Ownership Changes

Chart 1. Measures the largest changes in average industry weight between 3/31/2023 and 9/30/2023.

**Ch 1. Industry: Change in Average Weight 3/31/2023 - 9/30/2023**

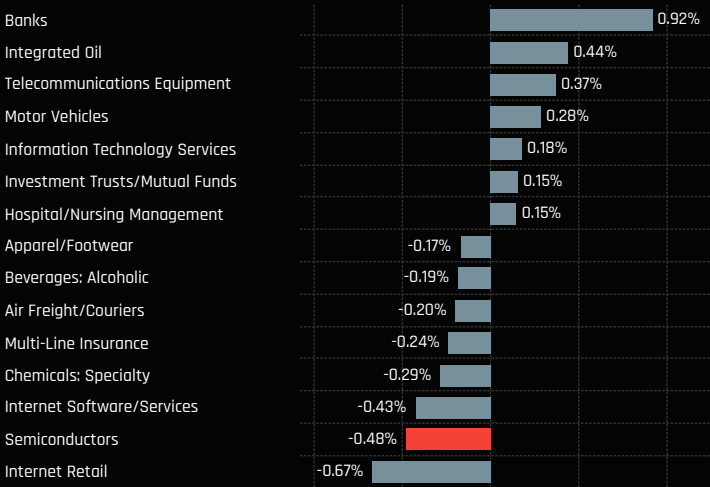


Chart 2. Measures the largest changes in the average industry weight vs EEM between 3/31/2023 and 9/30/2023. An increasing figure would indicate an increasing overweight or decreasing underweight.

**Ch 2. Industry: Change in Average Fund Weight vs EEM**

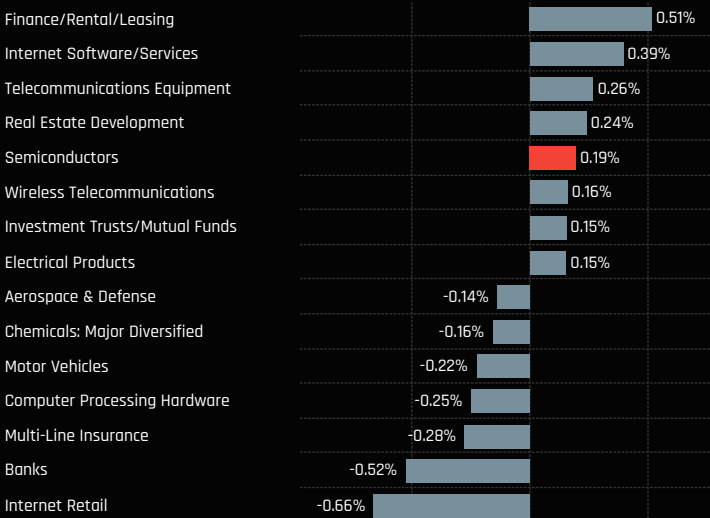


Chart 3. Measures the largest changes in the percentage of funds invested in each industry between 3/31/2023 and 9/30/2023.

**Ch 3. Industry: Change in Funds Invested % 3/31/2023 - 9/30/2023**

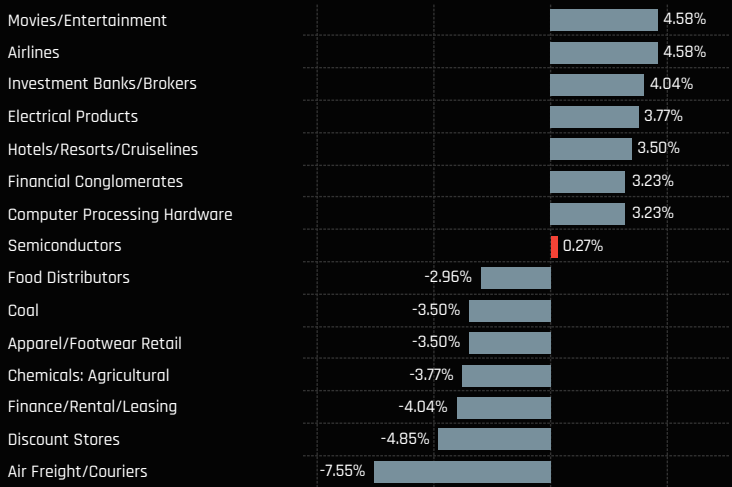


Chart 4. Measures the largest changes in the percentage of funds overweight each industry compared to the iShares MSCI Emerging Markets ETF between 3/31/2023 and 9/30/2023. An increasing figure would indicate more funds are positioning themselves overweight over the period.

**Ch 4. Industry: Change in the Funds Overweight % 3/31/2023 - 9/30/2023**

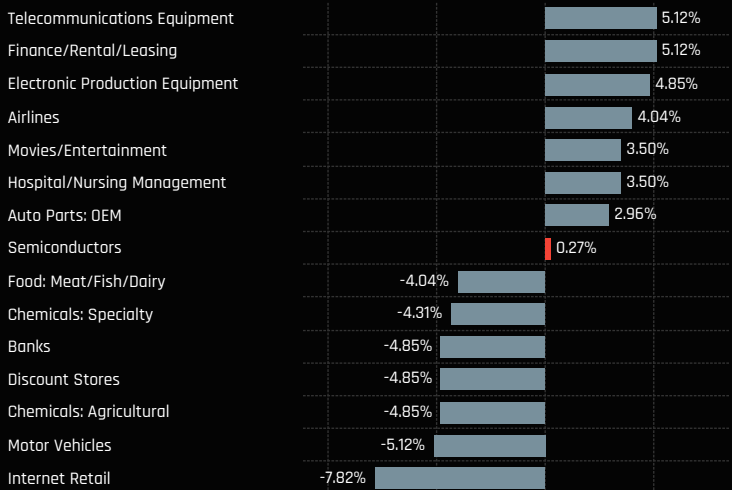


Chart 5. Shows the cumulative fund flows for Semiconductors stocks among the 371 active GEM funds in our analysis. Monthly fund flows are estimated by multiplying the monthly change in stock position by the stock price for every position in every fund in our analysis.

**Ch 5. Semiconductors: Cumulative Fund Flows, \$**

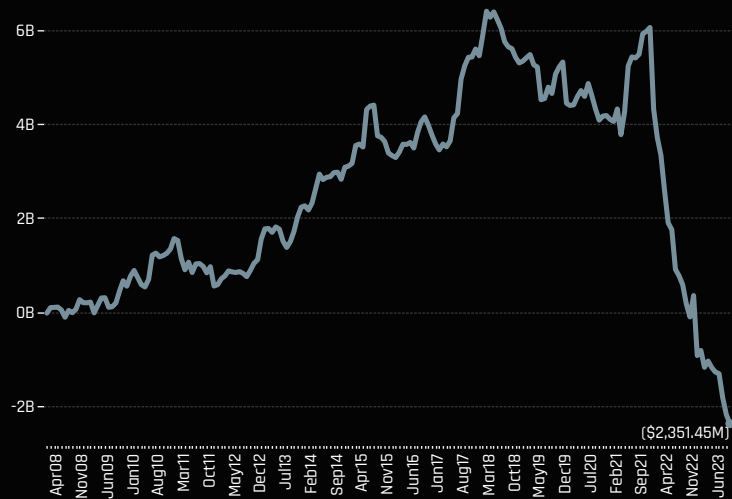


Chart 6. Measures the largest estimated fund flows for each industry between 3/31/2023 and 9/30/2023.

**Ch 6. Industry: Largest Fund Flows per Industry 3/31/2023 - 9/30/2023**

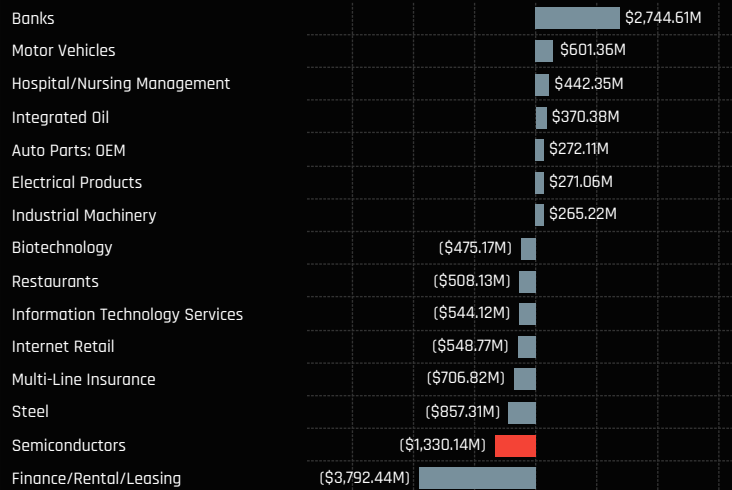
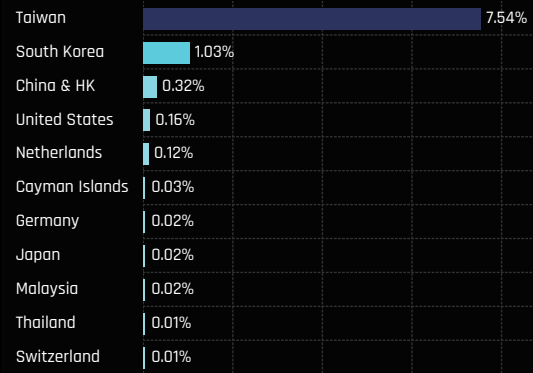
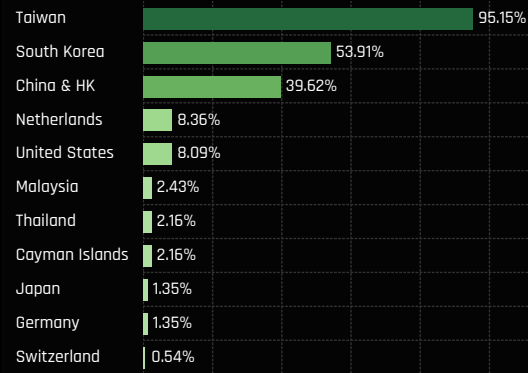


Chart 1-5. Semiconductors: Key ownership statistics by Country. As of **9/30/2023**

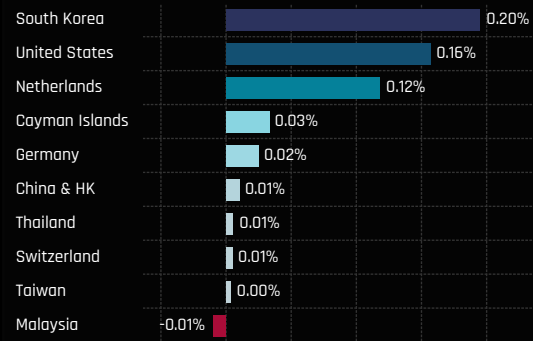
### Ch 1. Average Country Weights



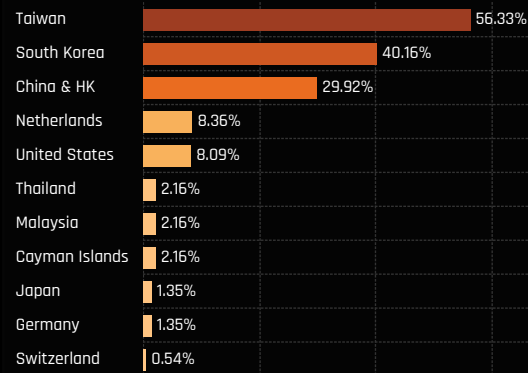
### Ch 3. Funds Invested % by Country



### Ch 2. Average Country Weights vs EEM



### Ch 4. Funds O/W % by Country



### Ch 5. Combined Fund AUM by Country

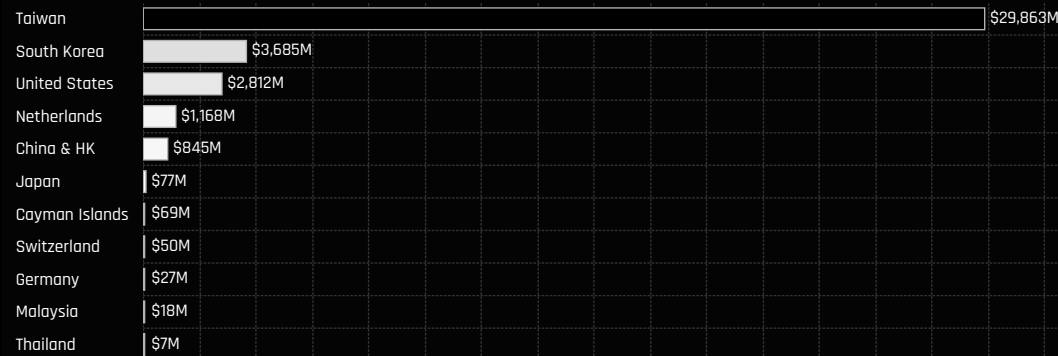
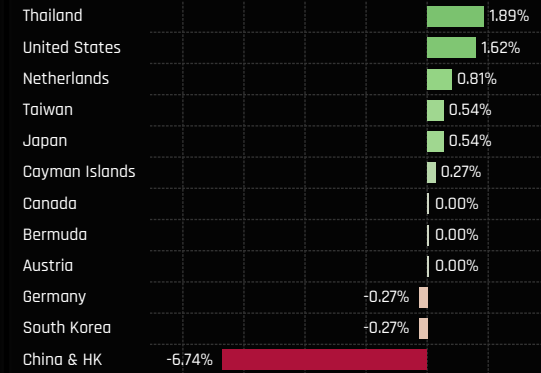


Chart 6-10. Semiconductors: Key ownership activity statistics by Country between **3/31/2023 - 9/30/2023**

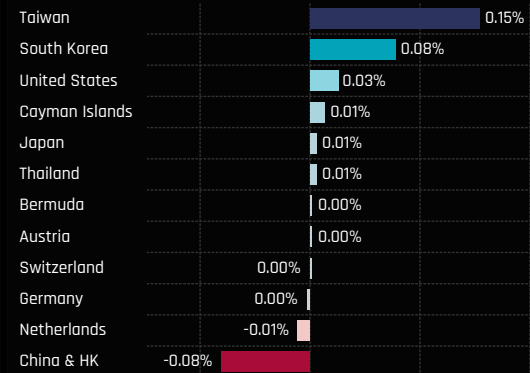
### Ch 6. Average Country Weight Change



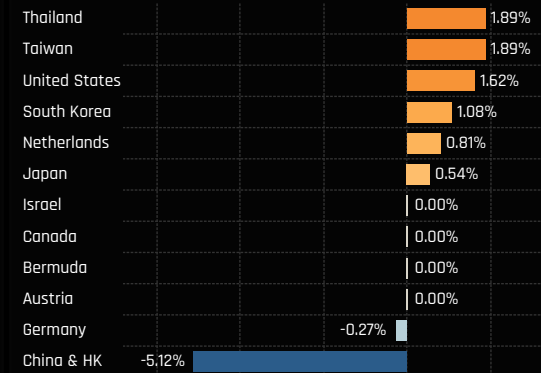
### Ch 8. Funds Invested % by Country Change



### Ch 7. Average Country Weight vs EEM Change



### Ch 9. Funds O/W % by Country Change



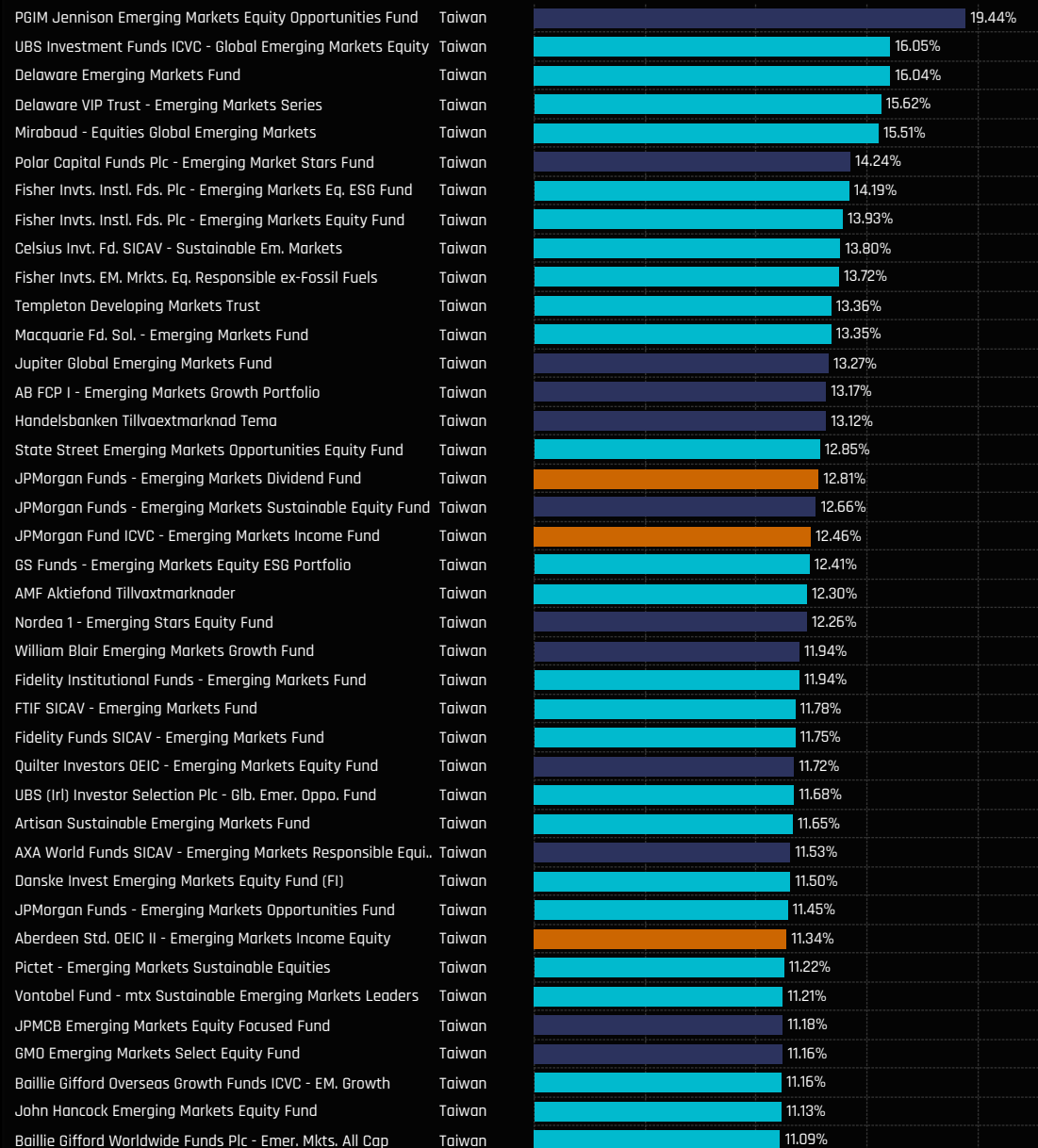
### Ch 10. Combined Fund Flows \$ by Country





Chart 1. Semiconductors: The largest individual fund level Country holdings by fund weight, coloured by fund Style.

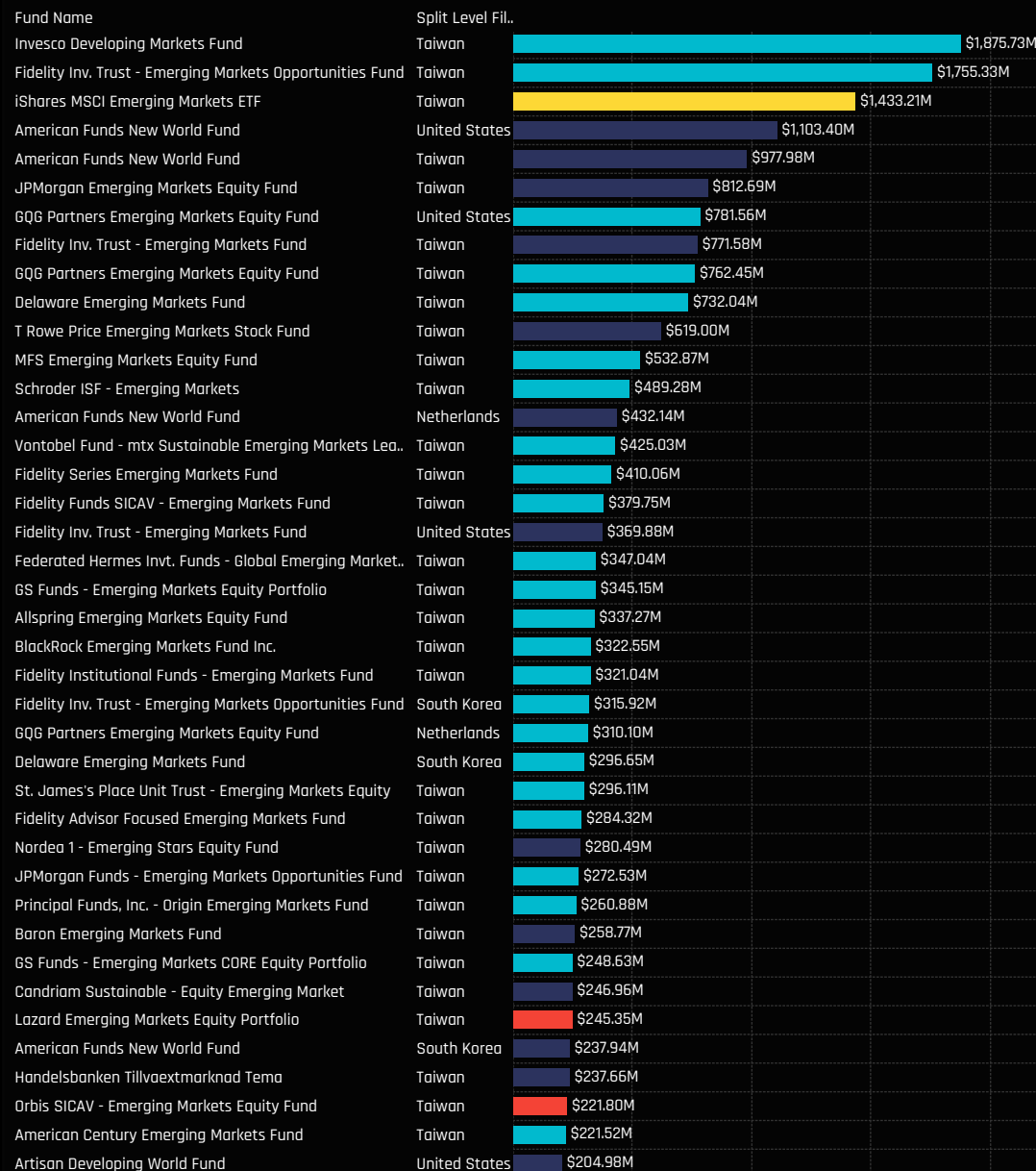
### Ch 1. Semiconductors: Top Fund level Country Holdings, %



Fund Style Aggressive Growth Growth Yield

Chart 2. Semiconductors: The largest individual fund level Country holdings by \$ AUM, coloured by fund Style.

### Ch 4. Semiconductors: Top Fund level Country Holdings, \$



Fund Style Aggressive Growth Growth Yield

# Semiconductors

# Fund Level Country Changes

Chart 1. The largest Country level weight increases in Semiconductors between 3/31/2023 - 9/30/2023.  
 Chart 2. The largest Country level weight decreases in Semiconductors between 3/31/2023 - 9/30/2023.  
 Both charts show the current weight and whether the weight change represented a new or closed position.

### Ch 1. Semiconductors: Largest Increases in Country Position, %

Fund Name	Country	Latest Weight	Weight Change
TCW Developing Markets Equity Fund	Taiwan	10.59%	8.31%
GQG Partners Emerging Markets Equity Fund	United States	6.02%	3.94%
Invesco Funds - Emerging Markets Select Equity ..	Taiwan	6.79%	3.18%
BlackRock Defensive Advantage Emerging Marke..	Taiwan	2.73%	2.73%
Danske Invest Emerging Markets Equity Fund (FI)	Taiwan	11.50%	2.63%
TCW Developing Markets Equity Fund	Japan	2.58%	2.58%
Dunham Emerging Markets Stock Fund	South Korea	2.42%	2.42%
Amana Developing World Fund	Netherlands	2.33%	2.33%
abrdn Emerging Markets Sustainable Leaders Fu..	Taiwan	10.50%	2.30%
abrdn Emerging Markets Fund	Taiwan	10.03%	2.29%
Thornburg Developing World Fund	South Korea	2.21%	2.21%
Macquarie Fd. Sol. - Emerging Markets Fund	South Korea	9.16%	2.07%
PBIM Jennison Emerging Markets Equity Opportu..	Taiwan	19.44%	2.01%
AB FCP II - Emerging Market Value Portfolio	South Korea	3.65%	1.90%
Danske Invest Emerging Markets Equity Fund (FI)	China & HK	3.29%	1.80%
River & Mercantile Investment Funds - EM ILC Eq..	South Korea	1.69%	1.69%
DNB Fund - Brighter Future	South Korea	3.45%	1.68%
JOHCM Emerging Markets Opportunities Fund	Taiwan	6.02%	1.60%
Delaware Emerging Markets Fund	South Korea	6.50%	1.59%
Amonis Equity Emerging Markets	South Korea	4.62%	1.55%

### Ch 2. Semiconductors: Largest Decreases in Country Position, %

Fund Name	Country	Latest Weight	Weight Change
Optimix Emerging Markets Fund	Taiwan	2.36%	-8.08%
Amundi Funds - New Silk Road	Taiwan	7.75%	-5.94%
AB SICAV I - Emerging Markets Low Volatility Equ..	Taiwan	5.67%	-4.22%
Virtus Emerging Markets Opportunities Fund	South Korea	0.00%	-3.63%
Virtus Emerging Markets Opportunities Fund	Taiwan	7.84%	-3.55%
Driehaus Mutual Funds - Emerging Markets Grow..	Taiwan	5.92%	-3.27%
Heptagon Fd. Plc - Driehaus Emerging Mrkts. Su..	Taiwan	5.01%	-3.17%
Allianz Intl. Invnt. Fds. - Emerging Markets Equity ..	Taiwan	5.82%	-3.10%
CT (Lux) III - Responsible Global Emerging Market..	Taiwan	8.00%	-2.95%
Pictet Global Selection Fund - Global High Yield E..	Taiwan	8.89%	-2.94%
Fidelity Series Emerging Markets Fund	Taiwan	9.52%	-2.58%
Wasatch Emerging Markets Select Fund	Taiwan	5.07%	-2.54%
FTIF SICAV - Emerging Markets Fund	Taiwan	11.78%	-2.42%
Oaktree (Lux.) Funds - Emerging Markets Equity	Taiwan	7.30%	-2.42%
Ashmore Emerging Markets Active Equity Fund	Taiwan	10.78%	-2.36%
Wasatch Emerging Markets Small Cap Fund	Taiwan	5.77%	-2.34%
Ninety One Glb. Strat. Fd. - Emerging Markets Eq..	Taiwan	9.03%	-2.32%
DWS Invest - ESG Emerging Markets Top Dividend	Taiwan	7.97%	-2.32%
TT International Funds Plc - Emerging Markets U..	Taiwan	8.29%	-2.31%
Baillie Gifford Overseas Growth Funds ICVC - EM. ..	Taiwan	11.16%	-2.27%

Chart 3. The largest Country level fund inflows in Semiconductors between 3/31/2023 - 9/30/2023.  
 Chart 4. The largest Country level fund outflows in Semiconductors between 3/31/2023 - 9/30/2023.  
 Both charts show the current AUM and whether the fund flow represented a new or closed position.

### Ch 3. Semiconductors: Largest Country Fund Inflows, \$

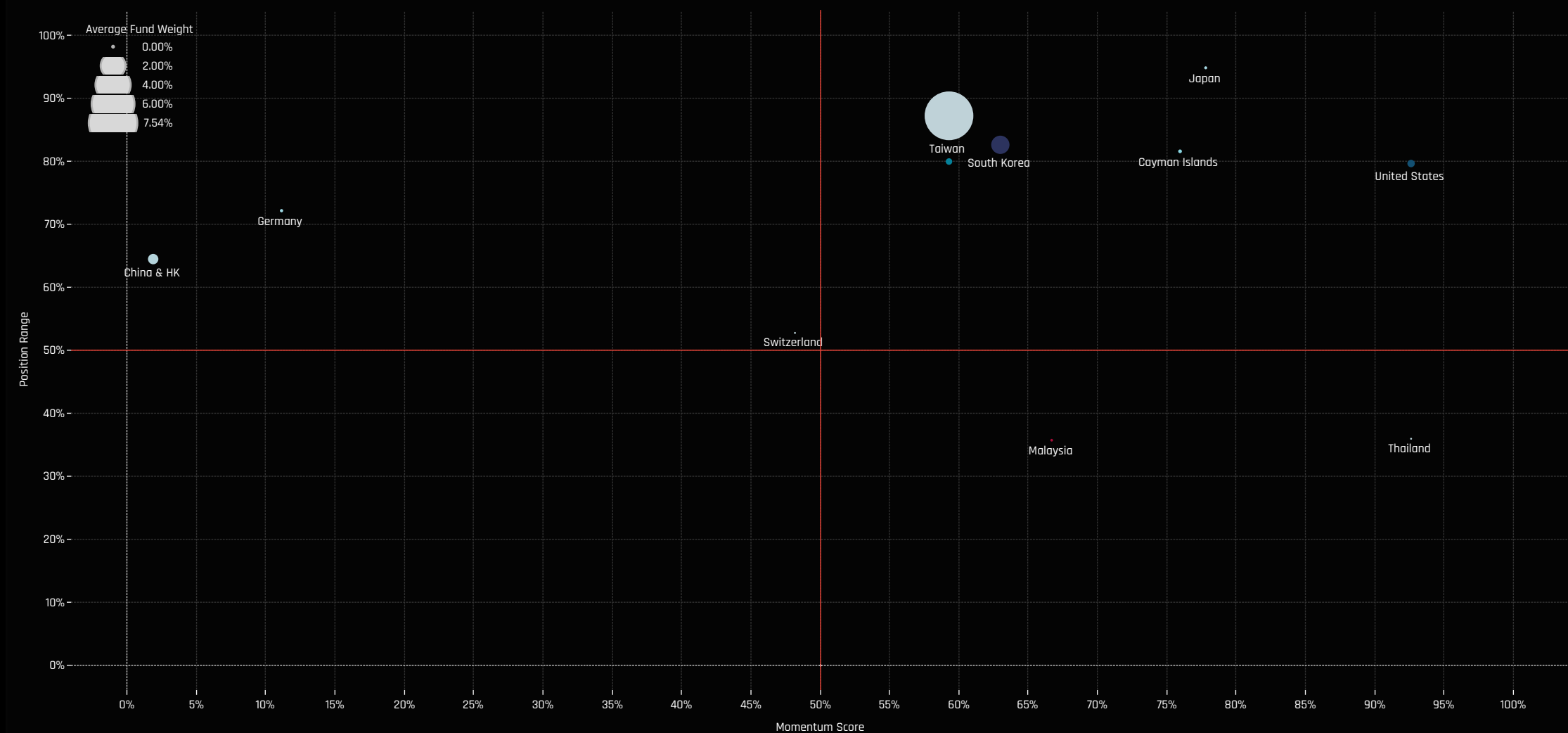
Fund Name	Country	Latest AUM, \$	Fund Flows, \$
GQG Partners Emerging Markets Equity Fund	United States	\$782M	\$408M
GQG Partners Emerging Markets Equity Fund	Taiwan	\$762M	\$257M
American Funds New World Fund	South Korea	\$238M	\$191M
Fidelity Inv. Trust - Emerging Markets Opportunities..	South Korea	\$316M	\$111M
Fidelity Series Emerging Markets Fund	Taiwan	\$410M	\$67M
JPMorgan Emerging Markets Equity Fund	South Korea	\$69M	\$66M
GQG Partners Emerging Markets Equity Fund	Netherlands	\$310M	\$66M
Fidelity Advisor Focused Emerging Markets Fund	Taiwan	\$284M	\$60M
American Funds New World Fund	Switzerland	\$48M	\$54M
T Rowe Price Emerging Markets Stock Fund	Taiwan	\$619M	\$51M
JPMorgan Emerging Markets Equity Fund	United States	\$46M	\$49M
T Rowe Price Emerging Markets Stock Fund	South Korea	\$44M	\$45M
Seafarer Overseas Growth & Income Fund	Taiwan	\$33M	\$35M
Fidelity Inv. Trust - Emerging Markets Opportunities..	China & HK	\$25M	\$33M
Goldman Sachs Emerging Markets Equity Insights F..	Taiwan	\$169M	\$32M
abrdn Emerging Markets Fund	Taiwan	\$192M	\$32M
Lazard Emerging Markets Equity Portfolio	Taiwan	\$245M	\$27M
Celsius Invnt. Fd. SICAV - Sustainable Em. Markets	Taiwan	\$194M	\$26M
Harding Laevner Institutional Emerging Markets Pa..	China & HK	\$46M	\$24M
Swedbank Robur Access Edge Emerging Markets	Taiwan	\$142M	\$23M

### Ch 4. Semiconductors: Largest Country Fund Outflows, \$

Fund Name	Country	Latest AUM, \$	Fund Flows, \$
iShares MSCI Emerging Markets ETF	Taiwan	\$1,433M	(\$449M)
American Funds New World Fund	United States	\$1,103M	(\$393M)
Fidelity Inv. Trust - Emerging Markets Opportunities ..	Taiwan	\$1,755M	(\$284M)
Artisan Developing World Fund	United States	\$205M	(\$126M)
JPMorgan Emerging Markets Equity Fund	Taiwan	\$813M	(\$103M)
JPMorgan Trust IV - Emerging Markets Research En..	Taiwan	\$148M	(\$97M)
Vontobel Fund - mtX Sustainable Emerging Markets..	Taiwan	\$425M	(\$78M)
Baron Emerging Markets Fund	Taiwan	\$259M	(\$70M)
JPMorgan Funds - Emerging Markets Opportunities ..	Taiwan	\$273M	(\$66M)
Fidelity Funds SICAV - Emerging Markets Fund	South Korea	\$69M	(\$61M)
Federated Hermes Invnt. Funds - Global Emerging Ma..	Taiwan	\$347M	(\$58M)
Lazard Emerging Markets Equity Portfolio	South Korea	\$32M	(\$55M)
Transamerica Emerging Markets Opportunities	Taiwan	\$32M	(\$51M)
BlackRock Emerging Markets Fund Inc.	South Korea	\$32M	(\$49M)
iShares MSCI Emerging Markets ETF	South Korea	\$158M	(\$49M)
Fidelity Inv. Trust - Emerging Markets Fund	United States	\$370M	(\$49M)
Driehaus Mutual Funds - Emerging Markets Growth ..	Taiwan	\$144M	(\$49M)
American Funds New World Fund	Taiwan	\$978M	(\$47M)
Fidelity Funds SICAV - Emerging Markets Fund	Taiwan	\$380M	(\$47M)
BlackRock Emerging Markets Fund Inc.	Taiwan	\$323M	(\$45M)

Sentiment Grid: Semiconductors. We combine the latest Country positioning, long-term positioning and short-term fund activity in the 'Sentiment Grid', below. The Y-Axis measures where today's ownership levels in each Country sit relative to the long-term range. We calculate the Z-Score of today's average weight, funds invested % and funds o/w % relative to all monthly observations in our fund history (going back to 1/31/2008). A figure close to 100% would indicate today's positioning is close to its maximum ever level, a figure close to zero, the lowest. The X-axis provides a measure of short-term fund activity, or 'Momentum', by looking at the changes in average weight, funds invested % and funds o/w % between 3/31/2023 and 9/30/2023, relative to each Country. A figure above 50% means a Country has seen relative increases in ownership, a figure below 50% indicates a relative decrease in positioning. The size of the bubble represents the average weight of each Country. The colour represents if the Country is held overweight (blue) or underweight (red) on average.

Semiconductors: Country Sentiment Grid. GEM Active Funds  
Momentum Measure between 3/31/2023 - 9/30/2023



Position Range: Average of:  
Z-Score Average Weight vs history  
Z-Score Funds Invested % vs history  
Z-Score Funds O/W % vs history

Momentum Score: Average of:  
Change in Average Weight (Percentile vs Peers)  
Change in Funds Invested % (Percentile vs Peers)  
Change in Funds O/W % (Percentile vs Peers)

Chart 1. The largest 10 stock holdings in Semiconductors, by Average Weight. The chart also shows the average weight as a percentage of the total Semiconductors weight, and the cumulative total.  
 Chart 2. Shows aggregate stock holdings data for Semiconductors stocks, ranked by Funds Invested % (most widely held).

Chart 3. Top 5 overweight and underweight Semiconductors stock positions / as a percentage of the total Semiconductors weight relative to benchmark.  
 Charts 4&5. The largest overweight and underweight stock holdings, plus associated aggregate holdings data.

## Ch 1. Semiconductors.

### Top 10 Stock Weights, Percentage of Semiconductors Total, Cumulative Percentage Total.

Ticker	Stock Name	Average Weight	Percentage of Total	Cumulative Percentage Total
2330-TW	Taiwan Semiconductor Manufacturing Co., L.	5.76%	62.10%	62.10%
000660-KR	SK hynix Inc.	0.94%	10.14%	72.23%
2454-TW	MediaTek Inc	0.61%	6.62%	78.85%
3711-TW	ASE Technology Holding Co., Ltd.	0.17%	1.86%	80.71%
2303-TW	United Microelectronics Corp.	0.14%	1.52%	82.23%
3034-TW	Novatek Microelectronics Corp.	0.14%	1.50%	83.73%
ASML-NL	ASML Holding NV	0.12%	1.28%	85.01%
5274-TW	ASPEED Technology, Inc.	0.10%	1.10%	86.11%
300274-CN	Sungrow Power Supply Co., Ltd. Class A	0.09%	1.02%	87.13%
601012-CN	LONGi Green Energy Technology Co., Ltd. Cla..	0.09%	0.99%	88.13%

## Ch 3. Semiconductors.

### Top 5 overweight and underweight positions in Semiconductors, percentage of total.

Ticker	Stock Name	Average Weight vs EEM	Percentage of Total
000660-KR	SK hynix Inc.	0.23%	40.63%
ASML-NL	ASML Holding NV	0.12%	20.87%
5274-TW	ASPEED Technology, Inc.	0.10%	18.06%
3661-TW	Alchip Technologies Ltd.	0.09%	15.62%
2454-TW	MediaTek Inc	0.08%	14.86%
0166-MY	Inari Amertron Berhad	-0.02%	-3.85%
2344-TW	Winbond Electronics Corp.	-0.03%	-5.81%
009150-KR	Samsung Electro-Mechanics..	-0.05%	-8.18%
2303-TW	United Microelectronics Corp.	-0.10%	-17.35%
2330-TW	Taiwan Semiconductor Man..	-0.34%	-59.07%

## Ch 2. Semiconductors: Aggregate Stock Holdings Data, Ranked by Most Widely Held.

Ticker	Stock Name	Funds Invested %	Average Weight	Vs Benchmark	Fund AUM, \$
2330-TW	Taiwan Semiconductor Manufacturing Co., L.	88.68%	5.76%	-0.34%	\$24,222.02M
000660-KR	SK hynix Inc.	47.44%	0.94%	0.23%	\$3,457.30M
2454-TW	MediaTek Inc	47.17%	0.61%	0.08%	\$2,166.33M
2303-TW	United Microelectronics Corp.	21.29%	0.14%	-0.10%	\$325.77M
3711-TW	ASE Technology Holding Co., Ltd.	19.95%	0.17%	0.01%	\$558.51M
3034-TW	Novatek Microelectronics Corp.	18.87%	0.14%	0.02%	\$398.03M
6415-TW	Silergy Corp.	16.17%	0.07%	0.02%	\$318.33M
601012-CN	LONGi Green Energy Technology Co., Ltd. Cla..	14.02%	0.09%	0.06%	\$177.66M
300274-CN	Sungrow Power Supply Co., Ltd. Class A	14.02%	0.09%	0.08%	\$280.60M
2379-TW	Realtek Semiconductor Corp	12.94%	0.07%	-0.02%	\$233.43M
968-HK	Xinyi Solar Holdings Ltd.	12.67%	0.07%	0.01%	\$164.53M
3529-TW	eMemory Technology, Inc.	12.67%	0.08%	0.01%	\$355.50M
5274-TW	ASPEED Technology, Inc.	10.78%	0.10%	0.10%	\$301.53M
009150-KR	Samsung Electro-Mechanics Co., Ltd	9.70%	0.04%	-0.05%	\$151.29M
ASML-NL	ASML Holding NV	8.36%	0.12%	0.12%	\$1,168.05M
3443-TW	Global Unichip Corp.	8.36%	0.04%	-0.02%	\$156.90M
4966-TW	Parade Technologies, Ltd.	7.55%	0.07%	0.03%	\$61.03M
3661-TW	Alchip Technologies Ltd.	7.55%	0.09%	0.09%	\$324.74M
2408-TW	Nanya Technology Corporation	6.74%	0.04%	0.00%	\$111.77M
5347-TW	Vanguard International Semiconductor Corp	5.93%	0.02%	-0.01%	\$79.09M
6239-TW	Powertech Technology Inc.	4.58%	0.01%	0.01%	\$13.46M
000990-KR	DB HiTek Co. LTD	4.31%	0.01%	0.01%	\$9.12M
1347-HK	Hua Hong Semiconductor Ltd.	3.77%	0.01%	-0.01%	\$35.03M
300751-CN	Suzhou Maxwell Technologies Co., Ltd. Class..	3.23%	0.01%	0.00%	\$43.65M
8016-TW	Sitronix Technology Corp.	2.96%	0.01%	0.01%	\$10.69M

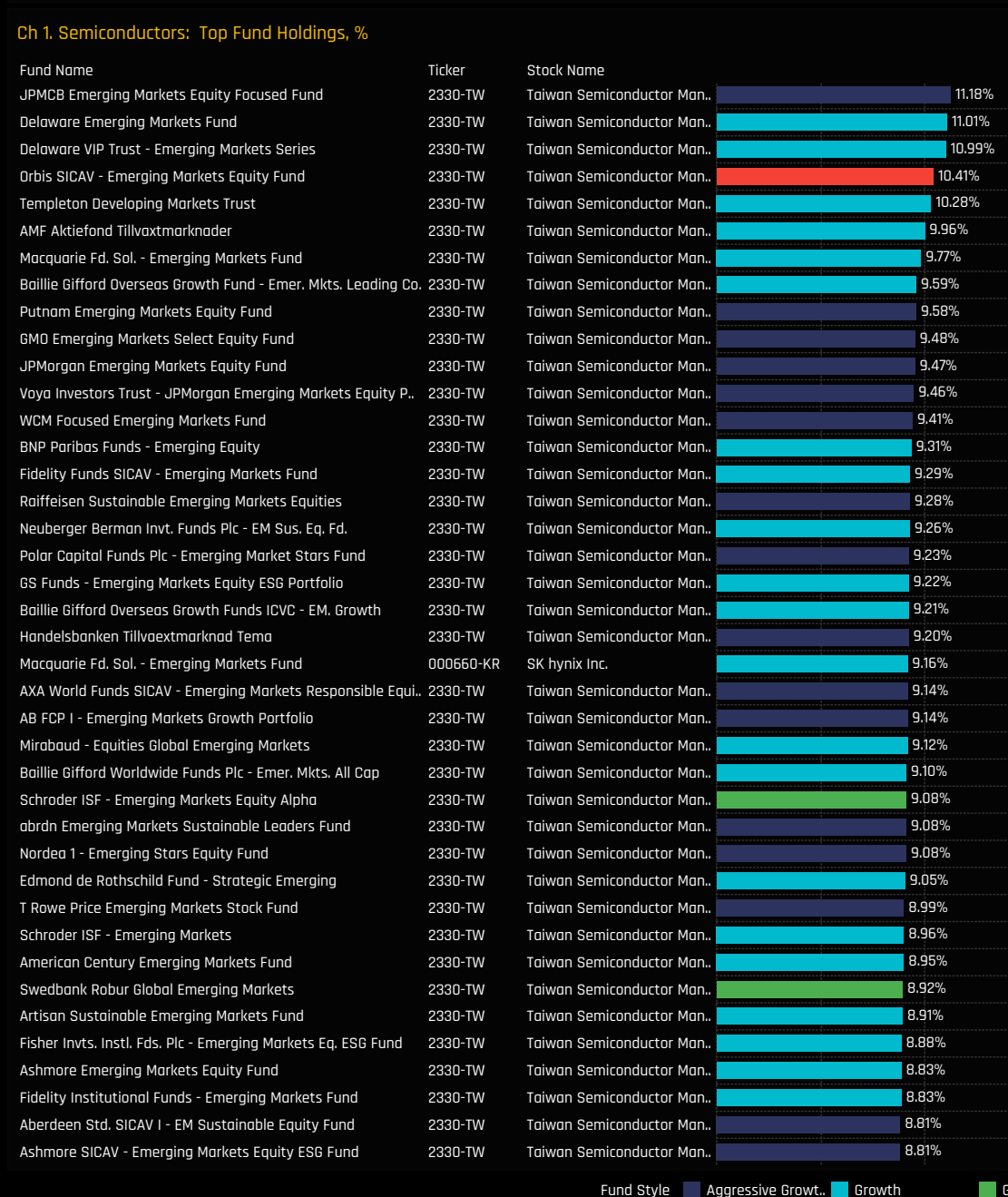
## Ch 4. Semiconductors: Aggregate Stock Holdings Data, Largest Overweight Holdings

Ticker	Stock Name	Vs Benchmark	Average Weight	Funds Invested %	Fund AUM, \$
000660-KR	SK hynix Inc.	0.23%	0.94%	47.44%	\$3,457.30M
ASML-NL	ASML Holding NV	0.12%	0.12%	8.36%	\$1,168.05M
5274-TW	ASPEED Technology, Inc.	0.10%	0.10%	10.78%	\$301.53M
3661-TW	Alchip Technologies Ltd.	0.09%	0.09%	7.55%	\$324.74M
2454-TW	MediaTek Inc	0.08%	0.61%	47.17%	\$2,166.33M
300274-CN	Sungrow Power Supply Co., Ltd. Class A	0.08%	0.09%	14.02%	\$280.60M
NVDA-US	NVIDIA Corporation	0.07%	0.07%	2.70%	\$1,389.87M
601012-CN	LONGi Green Energy Technology Co., Ltd. Cla..	0.06%	0.09%	14.02%	\$177.66M
FN-US	Fabrinet	0.03%	0.03%	2.16%	\$68.93M
4966-TW	Parade Technologies, Ltd.	0.03%	0.07%	7.55%	\$61.03M

## Ch 5. Semiconductors: Aggregate Stock Holdings Data, Largest Underweight Holdings

Ticker	Stock Name	Vs Benchmark	Average Weight	Funds Invested %	Fund AUM, \$
2330-TW	Taiwan Semiconductor Manufacturing Co., L.	-0.34%	5.76%	88.68%	\$24,222.02M
2303-TW	United Microelectronics Corp.	-0.10%	0.14%	21.29%	\$325.77M
009150-KR	Samsung Electro-Mechanics Co., Ltd	-0.05%	0.04%	9.70%	\$151.29M
2344-TW	Winbond Electronics Corp.	-0.03%	0.00%	2.96%	\$13.36M
0166-MY	Inari Amertron Berhad	-0.02%	0.00%	1.62%	\$8.05M
009830-KR	HANWHA SOLUTIONS CORPORATION	-0.02%	0.02%	2.43%	\$41.40M
2379-TW	Realtek Semiconductor Corp	-0.02%	0.07%	12.94%	\$233.43M
3443-TW	Global Unichip Corp.	-0.02%	0.04%	8.36%	\$156.90M
300308-CN	Zhongji Innalight Co., Ltd. Class A	-0.01%	0.00%	1.08%	\$3.52M
688396-CN	China Resources Microelectronics Ltd. Class A	-0.01%	0.00%	0.81%	\$2.67M

Chart 1. Semiconductors: The largest individual fund level stock holdings by fund weight, coloured by fund Style.



Fund Style Aggressive Growth Growth GARP Value

Chart 2. Semiconductors: The largest individual fund level stock holdings by \$ AUM, coloured by fund Style.

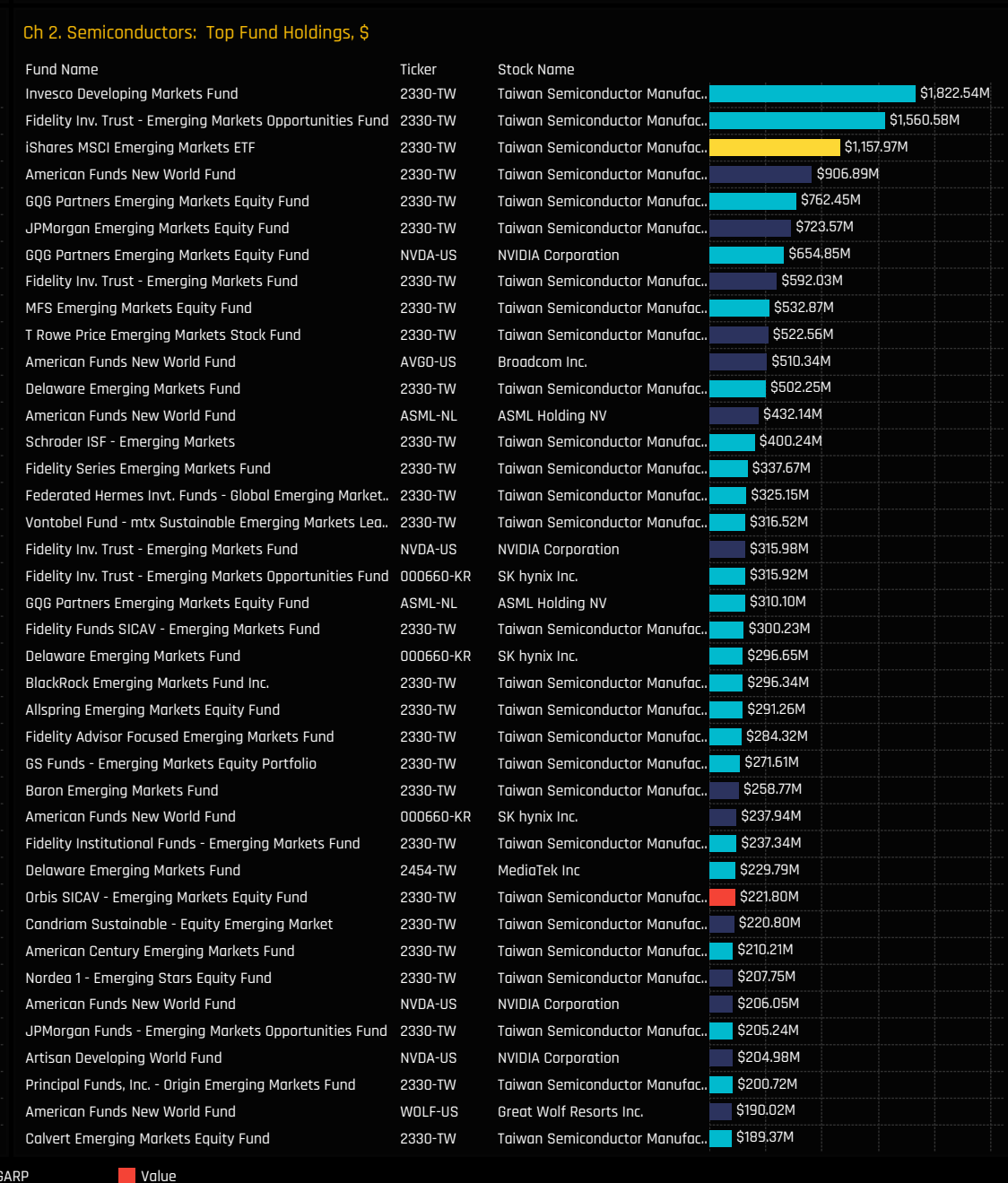


Chart 1. The 10 Semiconductors stocks seeing the largest changes in funds invested % between 3/31/2023 - 9/30/2023. A positive figure shows more funds buying in to the stock, a negative figure funds closing out.

Chart 2. The largest increases in funds invested %, together with average weight changes, relative to benchmark changes and combined fund flows.

### Ch 1. Semiconductors: Largest Changes in Funds Invested %



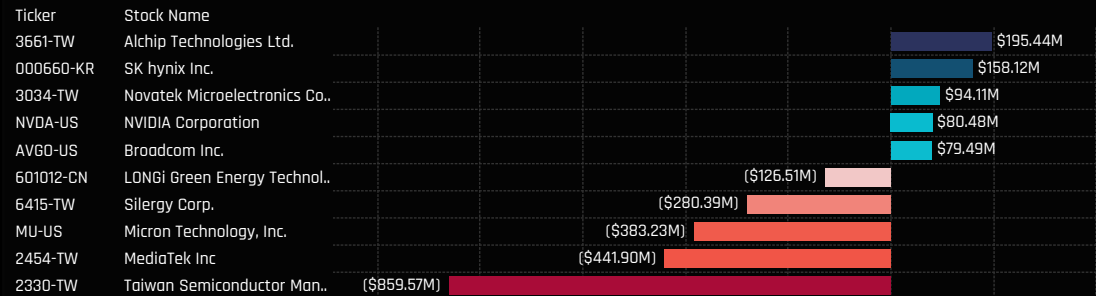
### Ch 2. Semiconductors: Aggregate Stock Holdings Changes - Largest Increases in Funds Invested %.

Ticker	Stock Name	Funds Invested % Δ	Average Weight Δ	Average Wgt vs Benchmark Δ	Fund Flows, \$
3661-TW	Alchip Technologies Ltd.	3.50%	0.07%	0.07%	\$195.44M
3529-TW	eMemory Technology, Inc.	3.50%	0.02%	0.01%	\$35.42M
3443-TW	Global Unichip Corp.	2.43%	0.01%	-0.05%	\$31.98M
HANA-TH	Hana Microelectronics Public Co., Ltd.	1.89%	0.01%	0.01%	\$6.92M
2303-TW	United Microelectronics Corp.	1.89%	0.00%	0.08%	\$51.99M
300274-CN	Sungrow Power Supply Co., Ltd. Class A	1.35%	0.01%	0.01%	\$31.00M
009150-KR	Samsung Electro-Mechanics Co., Ltd	1.35%	-0.01%	-0.01%	(\$26.67M)
6239-TW	Powertech Technology Inc.	1.08%	0.00%	0.00%	(\$1.28M)
2458-TW	ELAN Microelectronics Corp.	1.08%	0.01%	0.01%	\$2.56M
5269-TW	Asmedia Technology Inc.	1.08%	0.00%	0.00%	(\$1.89M)
NVDA-US	NVIDIA Corporation	0.81%	0.02%	0.02%	\$80.48M
ASML-NL	ASML Holding NV	0.81%	-0.01%	-0.01%	\$14.79M
8081-TW	Global Mixed-Mode Technology, Inc.	0.81%	0.00%	0.00%	\$0.48M
3014-TW	ITE Tech, Inc.	0.81%	0.00%	0.00%	\$1.63M
046890-KR	Seoul Semiconductor Co., Ltd	0.81%	0.00%	0.00%	\$3.41M
000660-KR	SK hynix Inc.	0.81%	0.21%	0.08%	\$158.12M
3711-TW	ASE Technology Holding Co., Ltd.	0.54%	-0.01%	0.02%	\$10.29M
LRCX-US	Lam Research Corporation	0.54%	0.01%	0.01%	\$8.10M
6643-TW	M31 Technology Corp.	0.54%	0.00%	0.00%	\$6.69M
600732-CN	Shanghai Aiko Solar Energy Co., Ltd. Class A	0.54%	0.00%	0.00%	(\$2.54M)
3583-TW	Sciencetech Corporation	0.54%	0.00%	0.00%	\$5.04M
2393-TW	Everlight Electronics Co., Ltd.	0.54%	0.00%	0.00%	\$0.62M
2344-TW	Winbond Electronics Corp.	0.54%	0.00%	0.00%	(\$2.86M)
2330-TW	Taiwan Semiconductor Manufacturing Co., L..	0.54%	-0.37%	0.12%	(\$859.57M)
FN-US	Fabrinet	0.27%	0.01%	0.01%	(\$0.88M)

Chart 3. The 10 Semiconductors stocks seeing the largest USD fund flows between 3/31/2023 - 9/30/2023.

Chart 4. The largest decreases in funds invested %, together with average weight changes, relative to benchmark changes and combined fund flows.

### Ch 3 Semiconductors: Largest Combined Fund Flows in USD.



### Ch 4. Semiconductors: Aggregate Stock Holdings Changes - Largest Decreases in Funds Invested %.

Ticker	Stock Name	Funds Invested % Δ	Average Weight Δ	Average Wgt vs Benchmark Δ	Fund Flows, \$
601012-CN	LONGi Green Energy Technology Co., Ltd. Cla..	-8.63%	-0.09%	-0.07%	(\$126.51M)
6415-TW	Silergy Corp.	-3.50%	-0.07%	-0.04%	(\$280.39M)
4966-TW	Parade Technologies, Ltd.	-1.89%	-0.01%	0.00%	(\$56.79M)
009830-KR	HANWHA SOLUTIONS CORPORATION	-1.89%	-0.01%	0.02%	(\$19.54M)
300751-CN	Suzhou Maxwell Technologies Co., Ltd. Class..	-1.89%	-0.01%	-0.01%	\$11.31M
2454-TW	MediaTek Inc	-1.35%	-0.12%	-0.05%	(\$441.90M)
3105-TW	Win Semiconductors Corp.	-1.35%	-0.02%	0.01%	(\$17.53M)
968-HK	Xinyi Solar Holdings Ltd.	-1.08%	-0.04%	0.00%	\$23.79M
1347-HK	Hua Hong Semiconductor Ltd.	-1.08%	-0.01%	0.01%	\$12.82M
1385-HK	Shanghai Fudan Microelectronics Group Co., ..	-1.08%	0.00%	0.01%	(\$4.44M)
5483-TW	Sino-American Silicon Products Inc.	-1.08%	-0.01%	-0.01%	(\$2.38M)
2379-TW	Realtek Semiconductor Corp	-0.81%	0.00%	-0.01%	(\$9.39M)
009835-KR	HANWHA SOLUTIONS CORPORATION Pfd Regi..	-0.81%	0.00%	0.00%	(\$0.02M)
3374-TW	Xintec Inc.	-0.81%	0.00%	0.00%	(\$1.08M)
603290-CN	StarPower Semiconductor Ltd. Class A	-0.81%	0.00%	0.00%	\$31.97M
3081-TW	LandMark Optoelectronics Corp.	-0.54%	0.00%	0.00%	(\$9.76M)
3222-TW	Himax Techns Twd10	-0.54%	0.00%	0.00%	(\$0.85M)
8112-TW	Supreme Electronics Co., Ltd.	-0.54%	0.00%	0.00%	(\$1.24M)
AMD-US	Advanced Micro Devices, Inc.	-0.54%	-0.01%	-0.01%	(\$6.01M)
JKS-US	JinkoSolar Holding Co., Ltd. Sponsored ADR	-0.54%	0.00%	0.00%	(\$0.06M)
SIM0-US	Silicon Motion Technology Corporation Spon..	-0.54%	0.00%	0.00%	(\$1.91M)
300661-CN	S6 Micro Corp. Class A	-0.54%	0.00%	0.00%	(\$0.73M)
300724-CN	Shenzhen S.C New Energy Technology Corp. ..	-0.54%	0.00%	0.00%	(\$0.09M)
000990-KR	DB HiTek Co. LTD	-0.54%	-0.01%	-0.01%	(\$28.00M)
002049-CN	Unigroup Guoxin Microelectronics Co., Ltd. Cl..	-0.27%	0.00%	0.00%	(\$0.40M)

# Semiconductors

# Fund Level Stock Holding Changes

Chart 1. The largest fund weight increases in Semiconductors stocks between 3/31/2023 - 9/30/2023.

Chart 2. The largest fund weight decreases in Semiconductors stocks between 3/31/2023 - 9/30/2023

Both charts show the current weight and whether the weight change represented a new or closed position.

## Ch 1. Semiconductors: Largest Increases in Position, %

Fund Name	Ticker	Stock Name	New or Close..	Latest Weight	Weight Change
TCW Developing Markets Equity Fund	2330-TW	Taiwan Semiconductor Man..	New	5.17%	5.17%
Invesco Funds - Emerging Markets Select Equity ..	2330-TW	Taiwan Semiconductor Man..		6.79%	3.18%
TCW Developing Markets Equity Fund	3661-TW	Alchip Technologies Ltd.	New	3.10%	3.10%
GQG Partners Emerging Markets Equity Fund	NVDA-US	NVIDIA Corporation		5.05%	2.95%
Redwheel Global Emerging Markets Fund	3661-TW	Alchip Technologies Ltd.	New	2.88%	2.88%
DNB Fund - Brighter Future	000660-KR	SK hynix Inc.	New	2.60%	2.60%
PGIM Jennison Emerging Markets Equity Opportu..	3661-TW	Alchip Technologies Ltd.	New	2.60%	2.60%
Danske Invest Emerging Markets Equity Fund (FI)	2454-TW	MediaTek Inc		3.84%	2.59%
TCW Developing Markets Equity Fund	6526-JP	Socionext Inc.	New	2.58%	2.58%
DNB Global Emerging Markets	000660-KR	SK hynix Inc.	New	2.58%	2.58%
Dunham Emerging Markets Stock Fund	000660-KR	SK hynix Inc.	New	2.42%	2.42%
DNB Fund - Brighter Future	3661-TW	Alchip Technologies Ltd.	New	2.33%	2.33%
Amana Developing World Fund	ASML-NL	ASML Holding NV	New	2.33%	2.33%
TCW Developing Markets Equity Fund	3529-TW	eMemory Technology, Inc.	New	2.32%	2.32%
DNB Global Emerging Markets	3661-TW	Alchip Technologies Ltd.	New	2.27%	2.27%
PGIM Jennison Emerging Markets Equity Opportu..	3443-TW	Global Unichip Corp.	New	2.25%	2.25%
Thornburg Developing World Fund	000660-KR	SK hynix Inc.	New	2.21%	2.21%
Magna Umbrella Fund Plc - Emerging Markets Fu..	000660-KR	SK hynix Inc.	New	2.20%	2.20%
Macquarie Fd. Sol. - Emerging Markets Fund	000660-KR	SK hynix Inc.		9.16%	2.07%
AB FCP II - Emerging Market Value Portfolio	000660-KR	SK hynix Inc.		3.65%	1.90%

## Ch 2. Semiconductors: Largest Decreases in Position, %

Fund Name	Ticker	Stock Name	New or Close..	Latest Weight	Weight Change
Optimix Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		2.36%	-6.19%
Amundi Funds - New Silk Road	2330-TW	Taiwan Semiconductor Man..		5.94%	-5.64%
Redwheel Global Emerging Markets Fund	2454-TW	MediaTek Inc		1.12%	-3.68%
Mobius SICAV - Emerging Markets Fund	3105-TW	Win Semiconductors Corp.	Close	0.00%	-3.19%
AB SICAV I - Emerging Markets Low Volatility Equ..	2330-TW	Taiwan Semiconductor Man..		4.70%	-3.11%
Allianz Intl. Inv. Fds. - Emerging Markets Equity ..	2330-TW	Taiwan Semiconductor Man..		4.17%	-3.05%
PGIM Jennison Emerging Markets Equity Opportu..	5274-TW	ASPEED Technology, Inc.		2.97%	-3.05%
Virtus Emerging Markets Opportunities Fund	000990-KR	DB HiTek Co. LTD	Close	0.00%	-2.62%
DNB Global Emerging Markets	2454-TW	MediaTek Inc	Close	0.00%	-2.60%
DNB Fund - Brighter Future	2454-TW	MediaTek Inc	Close	0.00%	-2.52%
TCW Developing Markets Equity Fund	3034-TW	Novatek Microelectronics Co..	Close	0.00%	-2.28%
DWS Invest - ESG Emerging Markets Top Dividend	2330-TW	Taiwan Semiconductor Man..		6.74%	-2.18%
Ninety One Glb. Strat. Fd. - Emerging Markets Eq..	2454-TW	MediaTek Inc	Close	0.00%	-2.17%
Virtus NFJ Emerging Markets Value Fund	ASML-NL	ASML Holding NV		2.22%	-2.17%
WCM Developing World Equity Fund	2330-TW	Taiwan Semiconductor Man..		3.25%	-2.16%
Goldman Sachs Emerging Markets Equity Insight..	2330-TW	Taiwan Semiconductor Man..		5.38%	-1.97%
FTIF SICAV - Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		8.80%	-1.95%
Redwheel Global Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		2.87%	-1.87%
Alger Funds II - Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		4.30%	-1.87%
Virtus Emerging Markets Opportunities Fund	2330-TW	Taiwan Semiconductor Man..		5.65%	-1.86%

Chart 3. The largest buyers in US dollar terms in Semiconductors stocks between 3/31/2023 - 9/30/2023.

Chart 4. The largest sellers in US dollar terms in Semiconductors stocks between 3/31/2023 - 9/30/2023

Both charts show the current AUM and whether the fund flow represented a new or closed position.

## Ch 3. Semiconductors: Largest Fund Inflows, \$

Fund Name	Ticker	Stock Name	New or Close..	Latest AUM, \$	Fund Flows, \$
GQG Partners Emerging Markets Equity Fund	NVDA-US	NVIDIA Corporation		\$655M	\$275M
GQG Partners Emerging Markets Equity Fund	2330-TW	Taiwan Semiconductor Man..		\$762M	\$257M
American Funds New World Fund	000660-KR	SK hynix Inc.		\$238M	\$191M
GQG Partners Emerging Markets Equity Fund	AV60-US	Broadcom Inc.	New	\$127M	\$132M
Fidelity Inv. Trust - Emerging Markets Opportunities..	000660-KR	SK hynix Inc.		\$316M	\$111M
Invesco Developing Markets Fund	2330-TW	Taiwan Semiconductor Man..		\$1,823M	\$106M
Fidelity Inv. Trust - Emerging Markets Opportunities..	3661-TW	Alchip Technologies Ltd.	New	\$119M	\$98M
Fidelity Series Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		\$338M	\$97M
JPMorgan Emerging Markets Equity Fund	000660-KR	SK hynix Inc.	New	\$69M	\$66M
GQG Partners Emerging Markets Equity Fund	ASML-NL	ASML Holding NV		\$310M	\$66M
Fidelity Advisor Focused Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		\$284M	\$60M
American Funds New World Fund	TEL-US	TE Connectivity Ltd.	New	\$48M	\$54M
JPMorgan Emerging Markets Equity Fund	MPWR-US	Monolithic Power Systems, L.	New	\$45M	\$49M
T Rowe Price Emerging Markets Stock Fund	2454-TW	MediaTek Inc	New	\$43M	\$46M
T Rowe Price Emerging Markets Stock Fund	000660-KR	SK hynix Inc.	New	\$44M	\$45M
Fidelity Inv. Trust - Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		\$592M	\$43M
Fidelity Inv. Trust - Emerging Markets Opportunities..	968-HK	Xinyi Solar Holdings Ltd.	New	\$25M	\$39M
Seafarer Overseas Growth & Income Fund	3034-TW	Novatek Microelectronics Co..	New	\$33M	\$35M
Fidelity Series Emerging Markets Fund	3661-TW	Alchip Technologies Ltd.	New	\$32M	\$30M
Candriam Sustainable - Equity Emerging Market	2454-TW	MediaTek Inc	New	\$25M	\$29M

## Ch 4. Semiconductors: Largest Fund Outflows, \$

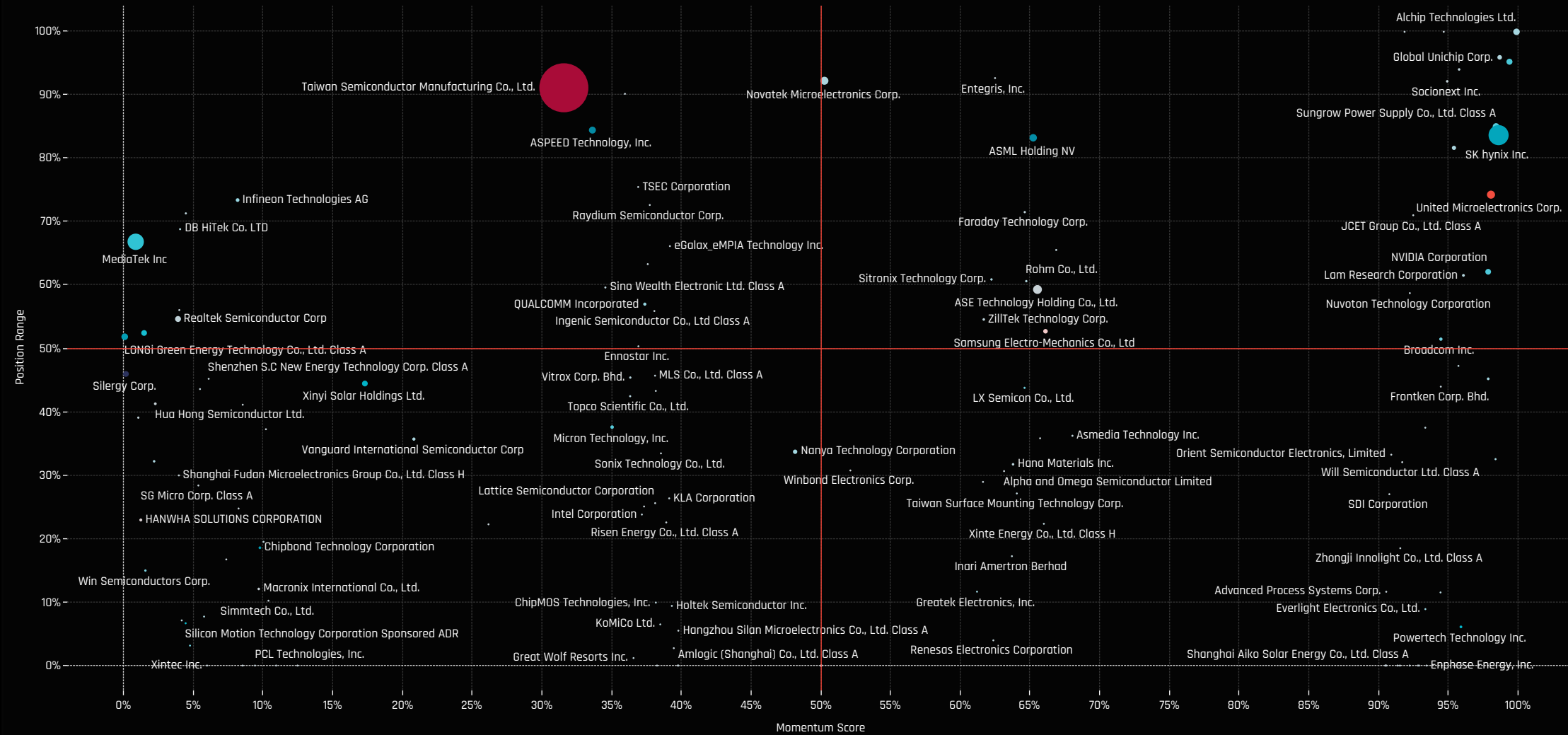
Fund Name	Ticker	Stock Name	New or Close..	Latest AUM, \$	Fund Flows, \$
iShares MSCI Emerging Markets ETF	2330-TW	Taiwan Semiconductor Man..		\$1,158M	(\$371M)
American Funds New World Fund	MU-US	Micron Technology, Inc.		\$171M	(\$322M)
Fidelity Inv. Trust - Emerging Markets Opportunities..	2454-TW	MediaTek Inc	Close		(\$150M)
Fidelity Inv. Trust - Emerging Markets Opportunities..	2330-TW	Taiwan Semiconductor Man..		\$1,561M	(\$138M)
Artisan Developing World Fund	NVDA-US	NVIDIA Corporation		\$205M	(\$126M)
Invesco Developing Markets Fund	2454-TW	MediaTek Inc		\$22M	(\$107M)
JPMorgan Trust IV - Emerging Markets Research En..	2330-TW	Taiwan Semiconductor Man..		\$116M	(\$77M)
BlackRock Emerging Markets Fund Inc.	2330-TW	Taiwan Semiconductor Man..		\$295M	(\$72M)
JPMorgan Emerging Markets Equity Fund	2330-TW	Taiwan Semiconductor Man..		\$724M	(\$65M)
Federated Hermes Inv. Funds - Global Emerging M..	2330-TW	Taiwan Semiconductor Man..		\$325M	(\$63M)
JPMorgan Funds - Emerging Markets Opportunities..	2330-TW	Taiwan Semiconductor Man..		\$205M	(\$62M)
Fidelity Funds SICAV - Emerging Markets Fund	000660-KR	SK hynix Inc.		\$69M	(\$61M)
Fidelity Inv. Trust - Emerging Markets Opportunities..	6415-TW	Silergy Corp.	Close		(\$56M)
Lazard Emerging Markets Equity Portfolio	000660-KR	SK hynix Inc.		\$32M	(\$55M)
Fidelity Inv. Trust - Emerging Markets Fund	NVDA-US	NVIDIA Corporation		\$316M	(\$55M)
Baron Emerging Markets Fund	2330-TW	Taiwan Semiconductor Man..		\$259M	(\$54M)
Redwheel Global Emerging Markets Fund	2454-TW	MediaTek Inc		\$17M	(\$53M)
GS Funds - Emerging Markets CORE Equity Portfolio	2330-TW	Taiwan Semiconductor Man..		\$131M	(\$51M)
Fidelity Inv. Trust - Emerging Markets Fund	6415-TW	Silergy Corp.	Close		(\$45M)
Transamerica Emerging Markets Opportunities	2330-TW	Taiwan Semiconductor Man..		\$25M	(\$44M)

of today's average weight, funds invested % and funds o/w % relative to all monthly observations in our fund history (going back to 1/31/2008). A figure close to 100% would indicate today's positioning is close to its maximum ever level, a figure close to zero, the lowest. The X-axis provides a measure of short-term fund activity, or 'Momentum', by looking at the changes in average weight, funds invested % and funds o/w % between 3/31/2023 and 9/30/2023, relative to each stock. A figure above 50% means a stock has seen relative increases in ownership, a figure below 50% indicates a relative decrease in positioning. The size of the bubble represents the average weight of each stock. The colour represents if the stock is held overweight (blue) or underweight (red) on average.

Industry: Semiconductors

Stock Sentiment Grid. GEM Active Funds

Momentum Measure between 3/31/2023 - 9/30/2023



Position Range: Average of:  
 Z-Score Average Weight vs history  
 Z-Score Funds Invested % vs history  
 Z-Score Funds O/W % vs history

Momentum Score: Average of:  
 Change in Average Weight (Percentile vs Peers)  
 Change in Funds Invested % (Percentile vs Peers)  
 Change in Funds O/W % (Percentile vs Peers)

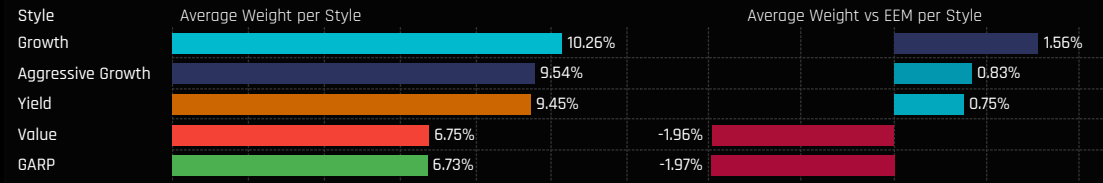


# Semiconductors

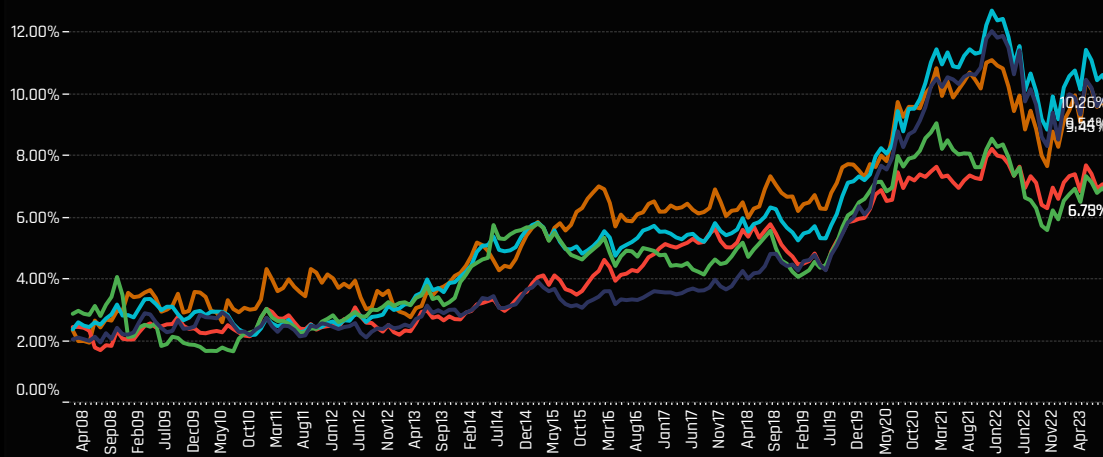
# Holdings by Fund Style

Chart 1. The average weights in Semiconductors stocks and the average weights vs the iShares MSCI Emerging Markets ETF, split by fund Style.  
 Charts 2&3. The time series of average fund weights in Semiconductors stocks and average weights vs iShares MSCI Emerging Mar..

Ch 1. Semiconductors: Average Fund Weight / Average Fund Weight vs EEM, per fund Style group.



Ch 2. Semiconductors: Average Fund Weights per Style Time-Series



Ch 3. Semiconductors: Average Fund Weight vs EEM per Style Time-Series

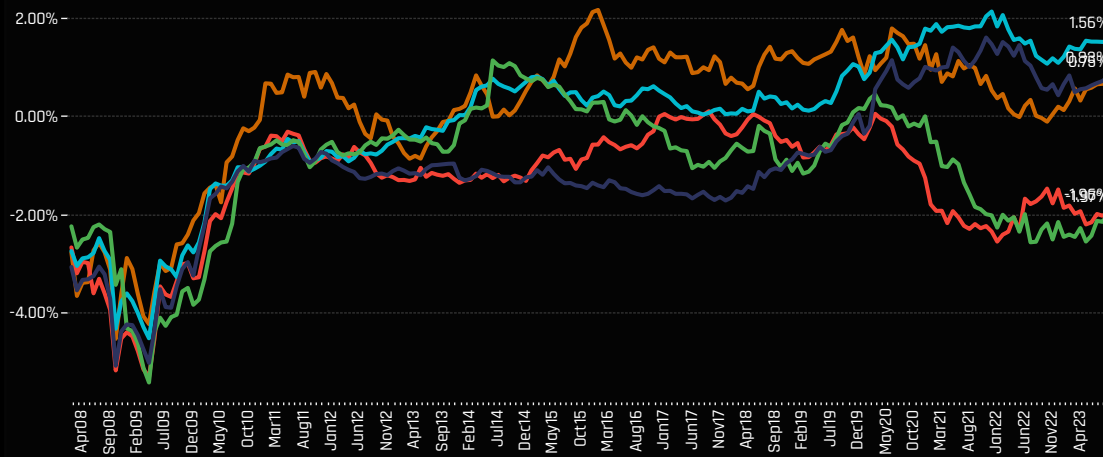
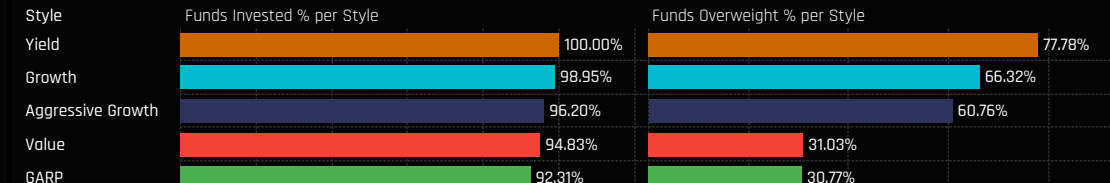
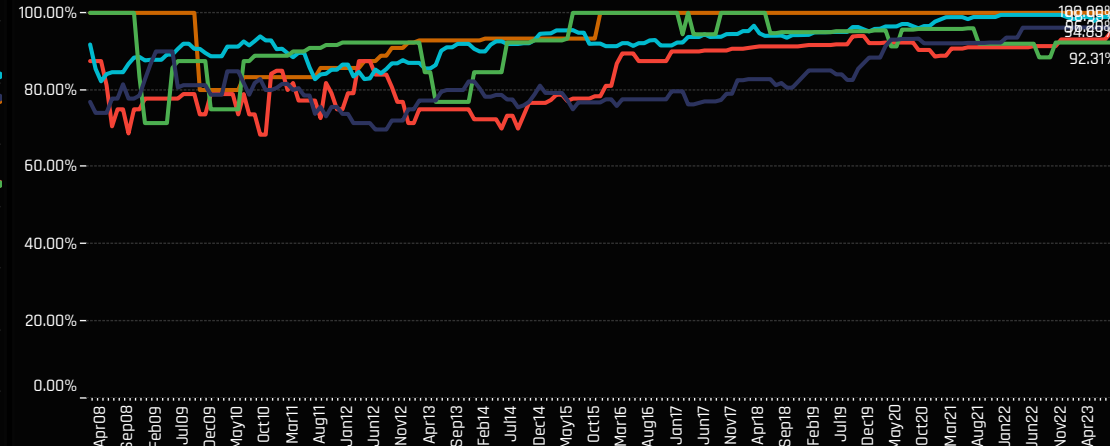


Chart 4. The percentage of funds invested in Semiconductors stocks and the percentage of funds overweight, split by fund Style.  
 Charts 5&6. The time series of the percentage of funds invested in Semiconductors stocks and the percentage of funds overweight, split by fund Style.

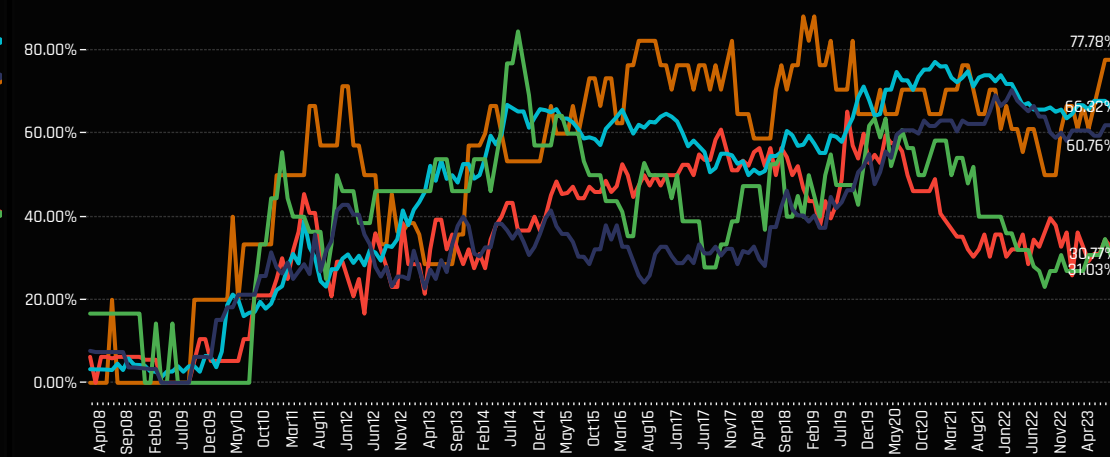
Ch 4. Semiconductors: Funds Invested % / Funds Overweight %, per fund Style group.



Ch 5. Semiconductors: Funds Invested % per Style Time-Series



Ch 6. Semiconductors: Funds Overweight % per Style Time-Series



# Semiconductors

# Holdings by Fund Style

Top Row: For each Style category, each chart shows the largest holders in the Semiconductors Industry group.

Middle Row: For each Style category, each chart shows the most widely held stocks and the corresponding average fund weights in the Semiconductors Industry group.

Bottom Row: For each Style category, each chart shows the largest stock overweights and underweights in the Semiconductors Industry group.

## Semiconductors Top Holders: Aggressive Growth

Fund Name	Weight
PBIM Jennison Emerging Marke..	20.43%
AB FCP I - Emerging Markets Gr..	19.65%
Fidelity Inv. Trust - Emerging Ma..	17.25%
Omnis Portfolio Investments ICV..	16.97%
Polar Capital Funds Plc - Emergi..	16.42%
Handelsbanken Tillvaextmarkna..	15.85%
Pear Tree Axiom Emerging Mark..	14.29%
Fidelity Funds SICAV - Sust. Em..	14.10%
Nordea 1 - Emerging Stars Equit..	13.71%
Nordea 1 - Emerging Wealth Equ..	13.55%
Jupiter Global Emerging Market..	13.27%

## Semiconductors Top Holders: Growth

Fund Name	Weight
Macquarie Fd. Sol. - Emerging M..	26.34%
Delaware Emerging Markets Fu..	23.98%
Delaware VIP Trust - Emerging ..	21.66%
Mirabaud - Equities Global Emer..	19.31%
Celsius Invt. Fd. SICAV - Sustain..	17.98%
UBS (Irl) Investor Selection Plc - ..	17.30%
Fisher Invts. EM. Mrlkts. Eq. Resp..	16.24%
Fidelity Institutional Funds - Em..	16.18%
UBS Investment Funds ICVC - Gl..	16.05%
Ashmore Emerging Markets Equ..	15.89%
Fisher Invts. Instl. Fds. Plc - Eme..	15.75%

## Semiconductors Top Holders: GARP

Fund Name	Weight
Robeco Institutional Emerging M..	11.13%
Robeco Capital Gr. Fds. - Sustain..	11.03%
Schroder ISF - Emerging Markets..	10.99%
VALIC Company I - Emerging Eco..	10.97%
Lazard Glb. Active Fds. Plc - Emer..	10.89%
Old Mut. MultiManager Tr.-Quil. In..	9.98%
Swedbank Robur Global Emergin..	9.68%
Omnis Portfolio Investments ICV..	9.39%
KBI Funds ICAV - Emerging Mark..	8.68%
Sabadell Bolsas Emergentes, FI	8.66%
Vanguard Emerging Markets Sel..	8.17%

## Semiconductors Top Holders: Value

Fund Name	Weight
Mandrian Emerging Markets Valu..	14.62%
Aviva Invs. - Global Emerging Mar..	12.04%
Amundi Funds Emerging Markets..	11.26%
Virtus NFJ Emerging Markets Val..	11.17%
Robeco Capital Gr. Fds. - Emergin..	11.04%
AB FCP II - Emerging Market Valu..	10.82%
Nordea Emerging Market Equities	10.82%
Lazard Emerging Markets Equity ..	10.78%
Orbis SICAV - Emerging Markets ..	10.41%
AXA IM Equity Trust - Global EM E..	10.08%
RBC Funds (Lux) - Emerging Mar..	9.78%

## Semiconductors Top Holders: Yield

Fund Name	Weight
JPMorgan Funds - Emerging Mar..	12.81%
JPMorgan Fund ICVC - Emerging ..	12.46%
Aberdeen Std. OEIC II - Emergin..	11.76%
Aviva Investors - Global Emergin..	11.07%
DWS Invest - ESG Emerging Mark..	10.85%
Allianz Global Investors Fund - E..	10.81%
Allianz Global Investors Fund - G..	10.22%
Magna Umbrella Fund Plc - Emer..	10.04%
Allspring (Lux) Ww. Fd. - EM Equi..	9.97%
WisdomTree Tr. - Emerging Mark..	9.74%
Goldman Sachs Funds III - Emerg..	9.30%

## Semiconductors Most Widely Held Stocks: Aggressive Growth

Stock Name	Ave. Wgt	Funds Inv. %
Taiwan Semiconductor Manufact..	5.97%	87.34%
SK hynix Inc.	0.75%	35.44%
MediaTek Inc	0.44%	32.91%
Silergy Corp.	0.18%	27.85%
ASPEED Technology, Inc.	0.32%	21.52%
ASML Holding NV	0.31%	18.99%
Parade Technologies, Ltd.	0.14%	12.66%
eMemory Technology, Inc.	0.15%	11.39%
Sungrow Power Supply Co., Ltd. ..	0.11%	10.13%
Alchip Technologies Ltd.	0.13%	7.59%

## Semiconductors Most Widely Held Stocks: Growth

Stock Name	Ave. Wgt	Funds Inv. %
Taiwan Semiconductor Manufact..	6.43%	94.21%
SK hynix Inc.	1.16%	58.42%
MediaTek Inc	0.77%	57.37%
United Microelectronics Corp.	0.14%	24.74%
LONGI Green Energy Technology ..	0.16%	23.68%
ASE Technology Holding Co., Ltd.	0.16%	22.63%
Novatek Microelectronics Corp.	0.11%	21.58%
Sungrow Power Supply Co., Ltd. ..	0.14%	21.05%
Silergy Corp.	0.06%	18.42%
eMemory Technology, Inc.	0.08%	16.84%

## Semiconductors Most Widely Held Stocks: GARP

Stock Name	Ave. Wgt	Funds Inv. %
Taiwan Semiconductor Manufact..	4.08%	69.23%
SK hynix Inc.	0.55%	42.31%
Novatek Microelectronics Corp.	0.42%	38.46%
United Microelectronics Corp.	0.19%	30.77%
MediaTek Inc	0.47%	30.77%
ASE Technology Holding Co., Ltd.	0.26%	26.92%
Xinyi Solar Holdings Ltd.	0.11%	19.23%
Realtek Semiconductor Corp	0.10%	15.38%
Topco Scientific Co., Ltd.	0.03%	11.54%
Nanya Technology Corporation	0.06%	11.54%

## Semiconductors Most Widely Held Stocks: Value

Stock Name	Ave. Wgt	Funds Inv. %
Taiwan Semiconductor Manufact..	4.00%	79.31%
MediaTek Inc	0.34%	36.21%
SK hynix Inc.	0.83%	34.48%
United Microelectronics Corp.	0.29%	32.76%
ASE Technology Holding Co., Ltd.	0.33%	27.59%
Novatek Microelectronics Corp.	0.22%	22.41%
Powertech Technology Inc.	0.02%	13.79%
Sitronix Technology Corp.	0.02%	8.62%
Realtek Semiconductor Corp	0.05%	8.62%
JinkaSolar Holding Co., Ltd. Spon..	0.01%	8.62%

## Semiconductors Most Widely Held Stocks: Yield

Stock Name	Ave. Wgt	Funds Inv. %
Taiwan Semiconductor Manufact..	5.86%	94.44%
MediaTek Inc	0.82%	61.11%
Vanguard International Semicon..	0.22%	44.44%
ASE Technology Holding Co., Ltd.	0.45%	44.44%
SK hynix Inc.	0.42%	33.33%
Novatek Microelectronics Corp.	0.28%	27.78%
Xinyi Solar Holdings Ltd.	0.09%	22.22%
Realtek Semiconductor Corp	0.23%	22.22%
United Microelectronics Corp.	0.07%	16.67%
Inari Amertron Berhad	0.04%	16.67%

## Semiconductors Top Over/Underweights: Aggressive Growth

Stock Name	Over/Underweight
ASPEED Technology, Inc.	0.32%
ASML Holding NV	0.31%
NVIDIA Corporation	0.17%
Silergy Corp.	0.13%
Alchip Technologies Ltd.	0.13%
MediaTek Inc	-0.09%
Novatek Microelectronics Corp.	-0.10%
Taiwan Semiconductor Manufact..	-0.13%
ASE Technology Holding Co., Ltd.	-0.16%
United Microelectronics Corp.	-0.21%

## Semiconductors Top Over/Underweights: Growth

Stock Name	Over/Underweight
SK hynix Inc.	0.45%
Taiwan Semiconductor Manufact..	0.33%
MediaTek Inc	0.24%
LONGI Green Energy Technology ..	0.13%
Sungrow Power Supply Co., Ltd. ..	0.12%
Inari Amertron Berhad	-0.02%
Vanguard International Semicon..	-0.02%
Samsung Electro-Mechanics Co., ..	-0.03%
Winbond Electronics Corp.	-0.03%
United Microelectronics Corp.	-0.10%

## Semiconductors Top Over/Underweights: GARP

Stock Name	Over/Underweight
Novatek Microelectronics Corp.	0.30%
ASE Technology Holding Co., Ltd.	0.10%
Macronix International Co., Ltd.	0.08%
Sitronix Technology Corp.	0.05%
Xinyi Solar Holdings Ltd.	0.05%
MediaTek Inc	-0.06%
eMemory Technology, Inc.	-0.06%
Samsung Electro-Mechanics Co., ..	-0.07%
SK hynix Inc.	-0.16%
Taiwan Semiconductor Manufact..	-2.01%

## Semiconductors Top Over/Underweights: Value

Stock Name	Over/Underweight
ASE Technology Holding Co., Ltd.	0.17%
SK hynix Inc.	0.12%
Novatek Microelectronics Corp.	0.10%
ASML Holding NV	0.06%
United Microelectronics Corp.	0.05%
eMemory Technology, Inc.	-0.05%
Global Unichip Corp.	-0.06%
Samsung Electro-Mechanics Co., ..	-0.08%
MediaTek Inc	-0.19%
Taiwan Semiconductor Manufact..	-2.09%

## Semiconductors Top Over/Underweights: Yield

Stock Name	Over/Underweight
ASE Technology Holding Co., Ltd.	0.29%
MediaTek Inc	0.29%
Vanguard International Semicon..	0.19%
Rohm Co., Ltd.	0.17%
Chipbond Technology Corporation	0.16%
Global Unichip Corp.	-0.05%
Samsung Electro-Mechanics Co., ..	-0.07%
United Microelectronics Corp.	-0.17%
Taiwan Semiconductor Manufact..	-0.23%
SK hynix Inc.	-0.29%

# Semiconductors

# Aggregate Gap Analysis

Ch1. The blue line shows the total number of funds (out of 371) who have ever owned Semiconductors stocks. The green area shows the number of funds invested at any one time and the red line the difference. A downward sloping red line means existing investors are closing out positions, a rising red line means previous investors are buying back in.

Ch. 1. Semiconductors: Current Number of Funds Invested, Total Number of Funds Invested, Gap

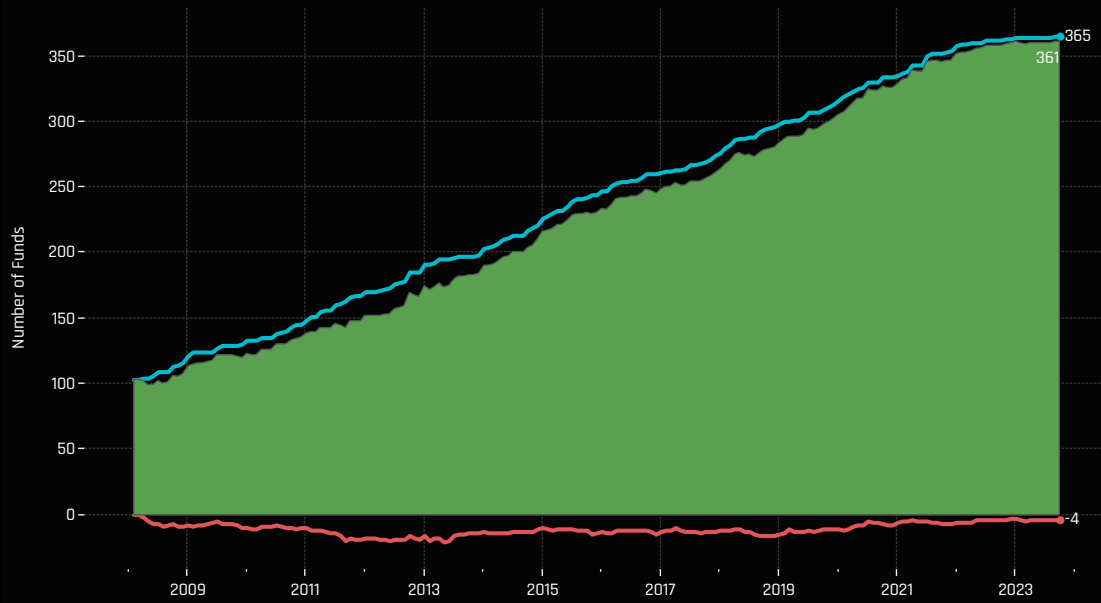


Chart 2: The orange lines show the current AUM in Semiconductors stocks for each fund. The red lines show the gap between today's weight and the maximum weight for each fund.

Ch2. Semiconductors: Current AUM \$ vs Gap to Max \$

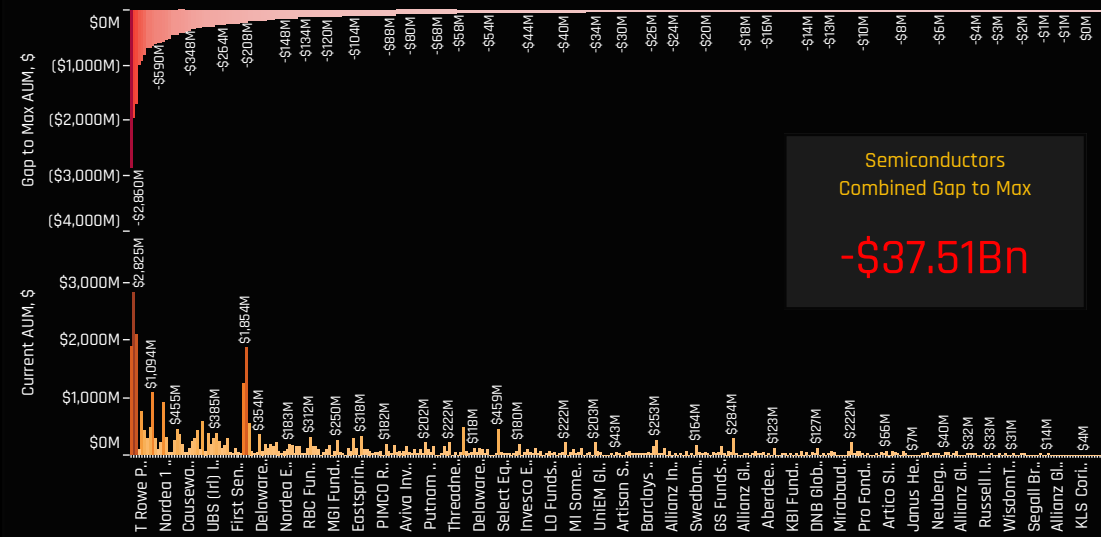


Chart 3: The Z-Score of current weights versus history for all current and previous holders of Semiconductors stocks. A value of 100% means today's weight is the highest on record for that fund, zero the lowest.

Ch. 3. Semiconductors: Portfolio Weight Z-Score

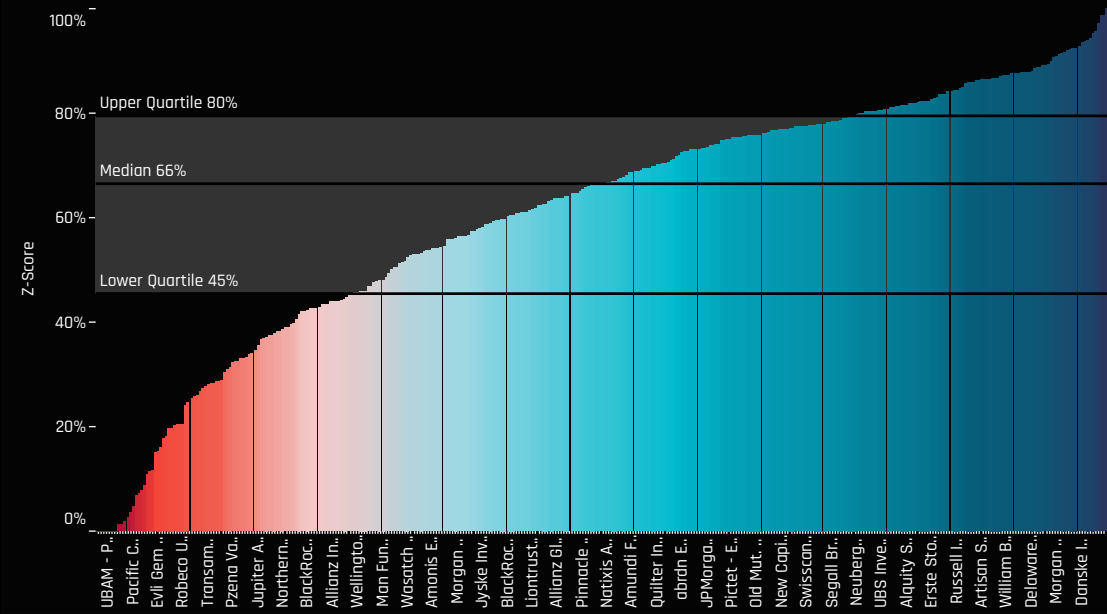


Chart 4: Blue lines show the current weight in Semiconductors stocks for each fund. The red lines show the gap between today's weight and the maximum weight for each fund.

Ch4. Semiconductors: Current Weights % vs Gap to Max %

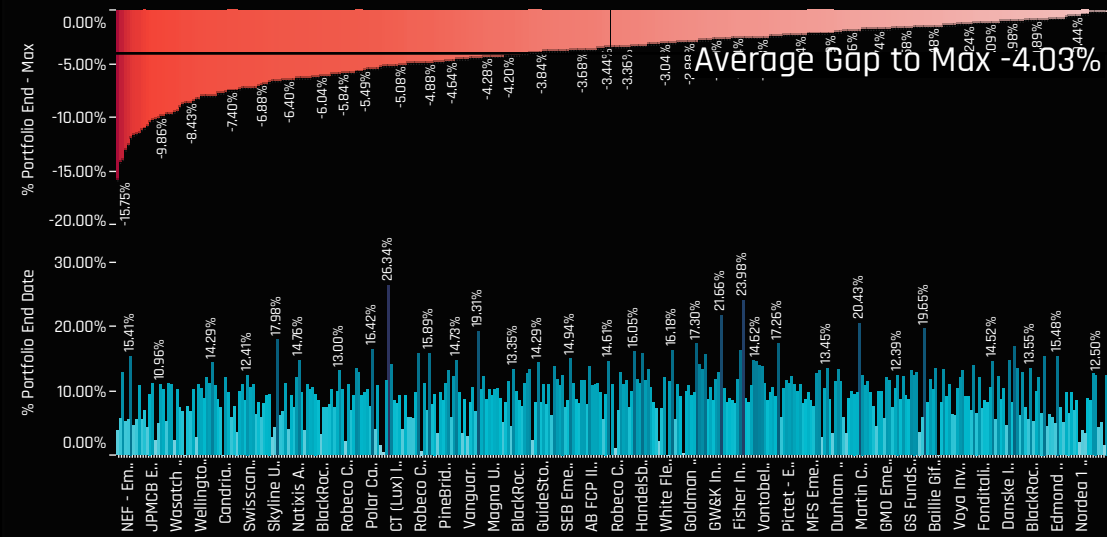


Chart 1: Current fund weight, maximum fund weight and difference for Semiconductors stocks.

Chart 2: Current fund AUM, maximum fund AUM and \$ difference for Semiconductors stocks

Chart 3: Current fund weight, maximum fund weight and Z-Score for Semiconductors stocks, ranked by Z-Score

Chart 4: Current fund AUM, maximum AUM and Z-Score for Semiconductors stocks, ranked by Z-Score.

### Ch. 1: Semiconductors: Largest Gap to Max (%)

Fund Name	Latest Weight	Max Weight	Difference
UBAM - Positive Impact Emerging Equity Fund	3.74%	19.49%	-15.75%
Morgan Stanley Inv. Fds. - Emerging Leaders Equity Fund	5.64%	19.74%	-14.11%
East Capital - Global Emerging Markets Sustainable	12.81%	26.75%	-13.94%
Boston Partners Emerging Markets Fund	5.20%	18.18%	-12.98%
NEF - Emerging Market Equity	5.49%	18.03%	-12.54%
UBS (Lux) Equity Fund - Emerging Markets Sust. Leaders (USD)	15.41%	27.31%	-11.91%
Evli Gem Fund	4.59%	16.21%	-11.62%
Vontobel Fund - Emerging Markets Equity	5.52%	17.00%	-11.47%
Amana Developing World Fund	10.75%	22.17%	-11.42%
Virtus Vontobel Emerging Markets Opportunities Fund	5.54%	16.67%	-11.12%
AB SICAV I - Emerging Markets Low Volatility Equity Portfolio	6.99%	17.95%	-10.97%
Alger Funds II - Emerging Markets Fund	4.30%	15.00%	-10.70%
BlackRock Sustainable Emerging Markets Equity Fund	9.60%	19.92%	-10.32%
JPMCB Emerging Markets Equity Focused Fund	11.18%	21.37%	-10.18%
Polunin Funds - Developing Countries	2.25%	12.33%	-10.08%
Matthews Emerging Markets Small Companies Fund	4.87%	14.80%	-9.93%
Putnam Emerging Markets Equity Fund	10.96%	20.83%	-9.87%
Mobius SICAV - Emerging Markets Fund	10.11%	19.97%	-9.86%
Jupiter Asset Mgmt. Series Plc - Global EM Focus Fd.	5.30%	14.91%	-9.62%
Virtus NFJ Emerging Markets Value Fund	11.17%	20.74%	-9.57%

### Ch. 3: Semiconductors: Highest Ownership Z-Score (%)

Fund Name	Latest Weight	Max Weight	Z-Score
Essor Emerging Markets	12.50%	12.50%	100.00%
DNB Fund - Brighter Future	12.56%	12.71%	98.82%
DNB Global Emerging Markets	12.57%	12.74%	98.65%
T Rowe Price Emerging Markets Discovery Stock Fund	5.15%	5.28%	97.01%
Brandes Emerging Markets Value Fund	8.80%	9.20%	95.70%
BL - Equities Emerging Markets	8.36%	8.54%	95.30%
Sparinvest Value Emerging Markets	8.50%	8.98%	94.21%
Edmond de Rothschild Fund - Strategic Emerging	15.48%	16.22%	94.12%
Sparinvest SICAV - Ethical Emerging Markets Value	9.67%	10.21%	93.85%
Danske Invest Emerging Markets Equity Fund (FI)	14.79%	15.80%	93.52%
AB FCP I - Emerging Markets Growth Portfolio	19.65%	21.16%	92.85%
T Rowe Price Emerging Markets Stock Fund	12.91%	13.87%	92.56%
Nordea 1 - Emerging Wealth Equity Fund	13.55%	14.47%	92.52%
JPMorgan Funds - Emerging Markets Opportunities Fund	14.52%	15.62%	92.14%
Neuberger Berman Inv. Funds Plc - EM Sus. Eq. Fd.	15.35%	16.18%	91.84%
PGIM Jennison Emerging Markets Equity Opportunities Fund	20.43%	22.27%	91.76%
LO Funds - Emerging High Conviction	12.33%	13.42%	91.41%
RBC Funds (Lux) - Emerging Markets Value Equity Fund	9.78%	10.41%	91.11%
Morgan Stanley Pathway Emerging Markets Equity Fund	10.01%	10.92%	90.99%
Orbis SICAV - Emerging Markets Equity Fund	10.41%	11.47%	90.77%

### Ch. 2: Semiconductors: Largest Gap to Max (\$)

Fund Name	Latest AUM, \$	Max AUM, \$	Difference
Invesco Developing Markets Fund	\$1,876M	\$4,735M	-\$2,860M
American Funds New World Fund	\$2,825M	\$4,772M	-\$1,947M
Fidelity Inv. Trust - Emerging Markets Opportunities Fund	\$2,097M	\$3,795M	-\$1,698M
Virtus Vontobel Emerging Markets Opportunities Fund	\$83M	\$1,070M	-\$987M
T Rowe Price Emerging Markets Stock Fund	\$751M	\$1,665M	-\$914M
Vontobel Fund - mtx Sustainable Emerging Markets Leaders	\$425M	\$1,248M	-\$823M
Lazard Emerging Markets Equity Portfolio	\$277M	\$972M	-\$694M
Fidelity Funds SICAV - Emerging Markets Fund	\$476M	\$1,160M	-\$684M
Delaware Emerging Markets Fund	\$1,094M	\$1,740M	-\$646M
Artisan Developing World Fund	\$286M	\$896M	-\$611M
Emerging Markets Growth Fund Inc.	\$88M	\$683M	-\$595M
abrdn Emerging Markets Fund	\$209M	\$799M	-\$590M
JPMorgan Emerging Markets Equity Fund	\$927M	\$1,497M	-\$570M
Nordea 1 - Emerging Stars Equity Fund	\$314M	\$864M	-\$551M
Vontobel Fund - Emerging Markets Equity	\$52M	\$560M	-\$507M
Magellan	\$57M	\$509M	-\$451M
Principal Funds, Inc. - Origin Emerging Markets Fund	\$261M	\$703M	-\$442M
Federated Hermes Inv. Funds - Global Emerging Markets Equit.	\$455M	\$894M	-\$439M
JPMorgan Funds - Emerging Markets Opportunities Fund	\$346M	\$775M	-\$430M
JPMCB Emerging Markets Equity Focused Fund	\$188M	\$602M	-\$414M

### Ch. 4: Semiconductors: Highest Ownership Z-Score (\$)

Fund Name	Latest AUM, \$	Max AUM, \$	Z-Score
T Rowe Price Emerging Markets Discovery Stock Fund	\$222M	\$234M	95.01%
Fidelity Advisor Focused Emerging Markets Fund	\$284M	\$303M	93.94%
Fidelity Inv. Trust - Emerging Markets Discovery Fund	\$31M	\$33M	93.43%
Barrow Hanley Concentrated Emerging Markets ESG Opps. Fund	\$2M	\$2M	92.80%
Lazard Glob. Active Fds. Plc - Emerging Markets Eq. Adv. Fd.	\$62M	\$68M	92.07%
Aviva Invs. - Global Emerging Markets Equity Unconstrained Fd.	\$21M	\$23M	91.73%
JPMorgan Funds - Emerging Markets Dividend Fund	\$79M	\$87M	91.23%
Celsius Inv. Fd. SICAV - Sustainable Em. Markets	\$253M	\$279M	90.66%
Artemis Investment Funds ICVC - Global Emerging Markets	\$33M	\$36M	90.58%
DNB Global Emerging Markets	\$127M	\$141M	90.28%
LSV Emerging Markets Equity Fund	\$1M	\$2M	90.25%
Sanlam Universal Fds. Plc - Global Emerging Markets Fd.	\$11M	\$12M	89.38%
GQG Partners Emerging Markets Equity Fund	\$1,854M	\$2,077M	89.26%
St. James's Place Unit Trust - Emerging Markets Equity	\$459M	\$511M	89.09%
Alquity SICAV - Future World Fund	\$5M	\$6M	89.03%
PGIM Jennison Emerging Markets Equity Opportunities Fund	\$123M	\$139M	88.51%
Martin Currie SMASH Series EM Fund	\$66M	\$76M	87.95%
Swedbank Robur Access Edge Emerging Markets	\$164M	\$185M	87.87%
River & Mercantile Investment Funds - EM ILC Equity Fund	\$14M	\$16M	87.77%
GS Funds - Emerging Markets Equity ESG Portfolio	\$138M	\$157M	87.64%

# Semiconductors

Chart 1: Current fund weight, maximum fund weight and the difference for Semiconductors stocks. Filtered for funds that have bought in to Semiconductors between 3/31/2023 - 9/30/2023

Chart 2: Current fund AUM, maximum fund AUM and the USD difference for Semiconductors stocks. Filtered for funds that have bought in to Semiconductors between 3/31/2023 - 9/30/2023

## Ch. 1: Semiconductors: Largest Gap to Max (%) and Buying between 3/31/2023 - 9/30/2023

Fund Name	Latest Weight	Max Weight	Difference	Fund Flows, \$
UBAM - Positive Impact Emerging Equity Fund	3.74%	19.49%	-15.75%	\$6M
Morgan Stanley Inv. Fds. - Emerging Leaders Equity Fund	5.64%	19.74%	-14.11%	\$5M
Boston Partners Emerging Markets Fund	5.20%	18.18%	-12.98%	\$0M
NEF - Emerging Market Equity	5.49%	18.03%	-12.54%	\$0M
Amana Developing World Fund	10.75%	22.17%	-11.42%	\$4M
Matthews Emerging Markets Small Companies Fund	4.87%	14.80%	-9.93%	\$2M
Wasatch Emerging Markets Small Cap Fund	10.23%	19.52%	-9.29%	\$1M
Brown Advisory Emerging Markets Select Fund	6.76%	15.42%	-8.66%	\$12M
Principal Funds, Inc. - Origin Emerging Markets Fund	10.20%	18.62%	-8.43%	\$4M
William Blair Emerging Markets Growth Fund	11.94%	19.90%	-7.96%	\$3M
GQG Partners Emerging Markets Equity Fund	14.29%	22.24%	-7.95%	\$730M
Allianz Global Investors Fund - Emerging Markets Equity SRI	5.81%	13.24%	-7.43%	\$0M
Allianz Global Investors Fund - Emerging Mkts Eq. Oppo.	7.64%	15.04%	-7.40%	\$0M
Templeton Emerging Markets Small Cap Fund	3.63%	11.02%	-7.39%	\$3M
Morgan Stanley Inv. Fds. - Sustainable EM Eq. Fds.	12.41%	19.60%	-7.19%	\$24M
Swisscanto (LU) - Equity Fund Sustainable Emerging Markets	10.58%	17.74%	-7.16%	\$4M
Celsius Inv. Fd. SICAV - Sustainable Em. Markets	17.98%	24.51%	-6.53%	\$26M
Invesco Funds - Emerging Markets Select Equity Fund	6.79%	13.25%	-6.46%	\$1M
Jyske Invest Nye Aktiemarkedet	9.79%	16.13%	-6.34%	\$4M
VALIC Company I - Emerging Economies Fund	10.97%	17.30%	-6.33%	\$22M

## Ch. 2: Semiconductors: Largest Gap to Max (\$) and Buying between 3/31/2023 - 9/30/2023

Fund Name	Latest AUM, \$	Max AUM, \$	Difference	Fund Flows, \$
T Rowe Price Emerging Markets Stock Fund	\$751M	\$1,665M	-\$914M	\$95M
abrdn Emerging Markets Fund	\$209M	\$799M	-\$590M	\$8M
JPMorgan Emerging Markets Equity Fund	\$927M	\$1,497M	-\$570M	\$12M
Magellan	\$57M	\$509M	-\$451M	\$7M
Principal Funds, Inc. - Origin Emerging Markets Fund	\$261M	\$703M	-\$442M	\$4M
GMO Emerging Markets Fund	\$40M	\$446M	-\$406M	\$4M
Causeway Emerging Markets Fund	\$115M	\$484M	-\$369M	\$7M
American Century Emerging Markets Fund	\$286M	\$543M	-\$257M	\$12M
Morgan Stanley Inv. Fds. - Emerging Leaders Equity Fund	\$54M	\$303M	-\$250M	\$5M
Robeco Capital Gr. Fds. - QI Emerging Conservative Equities	\$14M	\$257M	-\$243M	\$2M
First Sentier Investors ICVC - Stewart Inv. Glob. EM Leaders	\$43M	\$282M	-\$238M	\$3M
CIF - Emerging Markets Growth Fund (LUX)	\$25M	\$259M	-\$234M	\$2M
GQG Partners Emerging Markets Equity Fund	\$1,854M	\$2,077M	-\$223M	\$730M
Candriam Equities L - Emerging Markets	\$147M	\$313M	-\$166M	\$8M
Fisher Invts. Instl. Fds. Plc - Emerging Markets Eq. ESG Fund	\$31M	\$186M	-\$155M	\$1M
William Blair Emerging Markets Growth Fund	\$82M	\$231M	-\$149M	\$3M
Principal Funds, Inc. - Global Emerging Markets Fund	\$25M	\$166M	-\$140M	\$2M
RBC Funds Trust - Emerging Markets Equity Fund	\$312M	\$443M	-\$132M	\$24M
Robeco QI Inst. Emerging Markets Enhanced Index Eq. Fd.	\$87M	\$211M	-\$125M	\$3M
Morgan Stanley Inv. Fds. - Sustainable EM Eq. Fds.	\$61M	\$166M	-\$105M	\$24M

# Flow Potential

Chart 3: Current fund weight, maximum fund weight and Z-Score for Semiconductors stocks, ranked by Z-Score. Filtered for funds that have sold Semiconductors between 3/31/2023 - 9/30/2023 and have a % Z-Score of above 50%.

Chart 4: Current fund AUM, maximum AUM and Z-Score for Semiconductors stocks, ranked by Z-Score. Filtered for funds that have sold Semiconductors between 3/31/2023 - 9/30/2023 and have a \$ Z-Score of above 50%.

## Ch. 3: Semiconductors: Z-Score (%) > 50% and selling between 3/31/2023 - 9/30/2023

Fund Name	Latest Weight	Max Weight	Z-Score	Fund Flows, \$
Essor Emerging Markets	12.50%	12.50%	100.00%	\$0M
DNB Global Emerging Markets	12.57%	12.74%	98.65%	(\$3M)
Sparinvest SICAV - Ethical Emerging Markets Value	9.67%	10.21%	93.85%	\$0M
Danske Invest Emerging Markets Equity Fund (FI)	14.79%	15.80%	93.52%	(\$2M)
AB FCP I - Emerging Markets Growth Portfolio	19.65%	21.16%	92.85%	(\$2M)
Nordea 1 - Emerging Wealth Equity Fund	13.55%	14.47%	92.52%	(\$1M)
JPMorgan Funds - Emerging Markets Opportunities Fund	14.52%	15.62%	92.14%	(\$73M)
PGIM Jennison Emerging Markets Equity Opportunities Fund	20.43%	22.27%	91.76%	(\$2M)
LO Funds - Emerging High Conviction	12.33%	13.42%	91.41%	(\$6M)
RBC Funds (Lux) - Emerging Markets Value Equity Fund	9.78%	10.41%	91.11%	(\$1M)
Morgan Stanley Pathway Emerging Markets Equity Fund	10.01%	10.92%	90.99%	(\$3M)
Delaware Emerging Markets Fund	23.98%	26.52%	89.87%	(\$32M)
Baillie Gifford Overseas Growth Funds ICVC - EM. Growth	13.57%	15.05%	87.80%	(\$29M)
Fidelity Inv. Trust - Emerging Markets Fund	17.26%	19.64%	87.48%	(\$73M)
GMO Emerging Markets Select Equity Fund	11.97%	13.70%	87.39%	(\$8M)
William Blair Emerging Markets Small Cap Growth Fund	10.15%	11.63%	87.23%	(\$5M)
Dunham Emerging Markets Stock Fund	13.21%	15.20%	86.95%	\$0M
WCM Focused Emerging Markets Fund	12.10%	13.24%	86.59%	(\$22M)
Baron Emerging Markets Fund	6.07%	7.02%	86.39%	(\$49M)
Harding Loevner Institutional Emerging Markets Portfolio	8.16%	9.17%	86.10%	(\$1M)

## Ch. 4: Semiconductors: Z-Score (\$) > 50% and selling between 3/31/2023 - 9/30/2023

Fund Name	Latest AUM, \$	Max AUM, \$	Z-Score	Fund Flows, \$
DNB Global Emerging Markets	\$127M	\$141M	90.28%	(\$3M)
LSV Emerging Markets Equity Fund	\$1M	\$2M	90.25%	\$0M
PGIM Jennison Emerging Markets Equity Opportunities Fund	\$123M	\$139M	88.51%	(\$2M)
Martin Currie SMASH Series EM Fund	\$66M	\$76M	87.95%	(\$4M)
Brookfield Inv. Funds - Oaktree Emerging Markets Equity Fund	\$22M	\$25M	87.34%	(\$1M)
Cullen Emerging Markets High Dividend Fund	\$32M	\$36M	87.27%	(\$1M)
DWS Invest - ESG Global Emerging Markets Equities	\$72M	\$83M	86.58%	(\$1M)
Martin Currie Emerging Markets Fund	\$80M	\$95M	84.93%	(\$7M)
Fidelity Funds SICAV - Sust. Emerging Markets Equity Fund	\$222M	\$262M	84.89%	(\$11M)
Victory Emerging Markets Fund	\$73M	\$85M	84.71%	(\$6M)
Fidelity Inv. Trust - Emerging Markets Fund	\$1,243M	\$1,469M	84.47%	(\$73M)
Morgan Stanley Pathway Emerging Markets Equity Fund	\$48M	\$57M	83.14%	(\$3M)
Allianz Global Investors Fund - GEM Equity High Dividend	\$14M	\$17M	82.01%	\$0M
RBC Funds (Lux) - Emerging Markets Value Equity Fund	\$16M	\$20M	81.62%	(\$1M)
First Sentier Invts ICVC - FSSA Global Emerging Markets Focus	\$4M	\$5M	78.13%	\$0M
UBS Investment Funds ICVC - Global Emerging Markets Equity	\$180M	\$227M	77.41%	(\$15M)
Raiffeisen Sustainable Emerging Markets Equities	\$41M	\$54M	76.21%	(\$6M)
Essor Emerging Markets	\$16M	\$20M	75.61%	\$0M
Candriam Sustainable - Equity Emerging Market	\$318M	\$419M	74.93%	(\$57M)
Handelsbanken Tillvaextmarknad Tema	\$287M	\$391M	73.08%	(\$39M)

## Style Classifications

Each fund is split into a Style category based on the P/E and P/B ratios of their portfolio compared to the benchmark

**Aggressive Growth:** At least 70% of the portfolio in stocks with a higher P/E than the iShares MSCI Emerging Markets ETF average, and at least 70% with a higher P/B ratio.

**Growth:** At least 50% of the portfolio in stocks with a higher P/E than the iShares MSCI Emerging Markets ETF average, and at least 50% with a higher P/B ratio.

**Value:** Either by the fund description, or at least 50% of the portfolio in stocks with a lower P/E ratio than the iShares MSCI Emerging Markets ETF average, and at least 50% with a lower P/B ratio

**Yield:** As per the fund description only (i.e Yield, Dividend, Income funds).

**GARP:** All other iterations that do not fit under the above classifications.

## Ownership Calculations

We track GEM Fund ownership across sectors, industries and stocks using a variety of calculations. They are listed below:

**Average Weight:** The sum of all fund weights in any measure (region, country, sector, industry, stock) divided by the total number of funds (371) in the analysis.

**Average Weight vs EEM:** The average weight minus the weight in the iShares MSCI Emerging Markets ETF (cash removed and weights adjusted).

**Funds Invested %:** The total number of funds with any exposure to a measure divided by the total number of funds (371) in the analysis.

**Funds O/W:** The total number of funds overweight a measure versus the EEM, divided by the total number of funds (371) in the analysis.

**AUM, \$:** The combined AUM allocated to a particular measure across the 371 active GEM funds in our analysis, in US Dollars



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