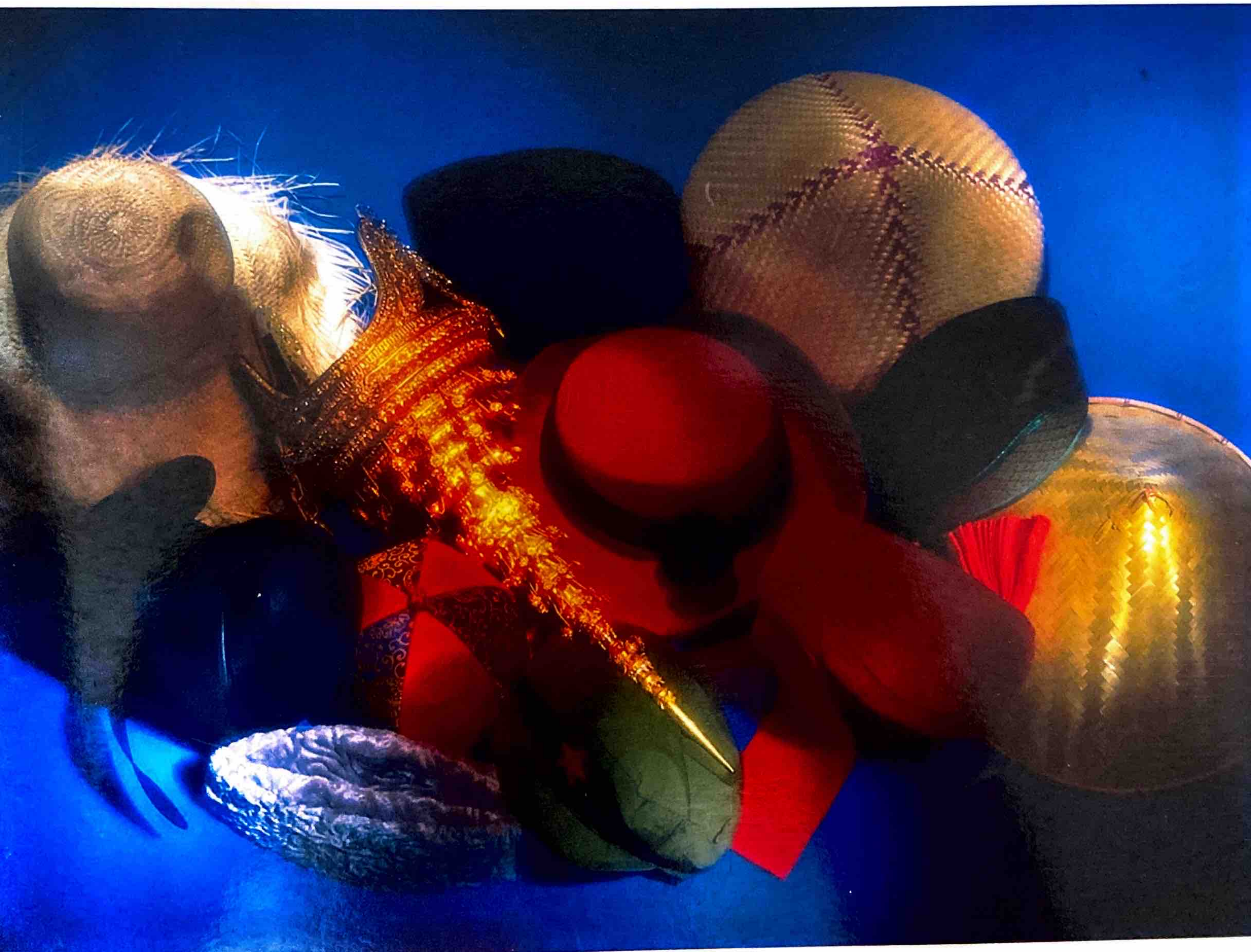
Jardine Fleming Research ASIA
SMALL CAPS
February 1997

Small Cap Index
Historical overview



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Summary

Asia Small Cap Index

- By investing in small caps in Asia, even sophisticated investors are operating with one hand tied behind their back. The reason for this is simply the lack of reliable data.

- Nobody knows whether the famous small-cap effect takes place in Asia — many suspect it does, but nobody really knows. Nobody knows whether investors make money out of small-cap IPOs, nobody knows what the key sectors are in small caps in each country, nobody knows about the risk-adjusted return on small caps as an asset class. Nobody knows because the work has yet to be done.

- The best kept secret of all time can now be revealed: in defiance of the sceptics, small caps in Asia have outperformed the MSCI.

- Since 1988, on a capital value basis, small caps have outperformed the MSCI by 50%; on a total return basis, they have outperformed the MSCI Capital Index by 150%.

- In 1996, Asian small caps outperformed the MSCI by 8%.

- We will soon have a battery of macro indicators which will help untie that hand behind the back. We will be introducing a sub-continent small caps index and an Asia (ex the sub-continent) small cap index to complement the subject of this booklet: the JF-Asia-Small Cap Index.

P.J. King
Pradeep Chokani

Preamble

The historical performance of small caps as an asset class has been well documented in the more advanced economies. The theory of small cap investment has been derived in these stock markets, and has been tried and tested. The general consensus is that, in the longer term, small caps will give you a bigger return than blue chips but the price you pay is higher volatility. This conclusion has been reached based on data which goes back more than 30 years.

What if one wants to invest in Asia? Should one be investing in small companies? Do the same rules hold for developing economies? Where does one look for the data? Having gathered the data, what is the conclusion?

The fundamentals of investing in small caps in Asia
Intuitively it would appear that, in an emerging economy, one should really focus at least part of one's attention on small caps. After all, these small companies are (1) growing fast; (2) quick on their feet; (3) unlikely to meet too much international competition; and (4) fuelled by that famed Asian entrepreneurial ability.

The first problem one faces is definition—what is a small company? How should it be defined? When does a small company become a big company?

The next problem is which country one should choose. Should one look at small caps in a country where the main stock market index is rising or falling? What about GDP growth; is there a link? What about IPOs — should one buy them?

Having answered these questions, one can go on to look at stocks. But, again, which stocks should one look at? How many frogs does one need to kiss before finding a prince? What are the key attributes of a successful small company in Asia?

Having identified the correct companies, who should you ask for an opinion about the stock? Who should you ask to arrange visits for you to the company? Who knows these companies?

The JF solution

In an attempt to clear a pathway for investors, we at JF have taken upon ourselves the problem of trying to answer the above questions. It is hoped that our analysis and approach, while far from perfect, will shed some light on what, until now, has been a very murky situation. Our approach has not 'sprung fully formed'. Rather, it is a foundation upon which we can build and improve over the years.

Definition
We think that what investors want when they talk about investing in small caps is companies which have the ability to double or treble their market capitalisation over a period of 3–5 years. It is obvious that the biggest companies in the stock market will not meet this requirement. It is far more likely that these companies will come from the great sediment layer at the bottom of the market. As a rule of thumb, the top 80% of a stock market, by market cap, has around 10% of the number of stocks in the market. The bottom 10% by market cap contains 80% of the number of stocks in the stock market. This bottom 10%, the overlooked sediment layer, is where the stocks which can double and treble in value will be found. Hence, rather than taking an arbitrary monetary value as a cut-off, e.g. US$2bn as the definition of small caps (in many countries, this would cover big caps!), we have taken a value which is pertinent to all countries, i.e. a small cap is a company which is in the bottom 10% of its particular stock market (by market cap).

It may be that this is not a suitable definition for some fund managers as they cannot get sufficient funds into these stocks without affecting the price or liquidity. However, we feel that the key attributes of a true small cap are entrepreneurial drive and the ability to increase wealth at a faster pace than big companies. Hence, we have adopted the bottom 10% of the market as our definition of what constitutes a small cap. We define mid-caps as the next 15% by market cap, and big caps are defined as the top 75% of each stock market.

Liquidity

Having established our definition of small caps, we set out to discover how this asset class has performed in Asia since 1988. For each country, we have established a small cap index based on the bottom liquid 10% of the stock market. By 'liquid' (again there are many different definitions), we mean those stocks which have traded at more than a certain percentage of their issued capital in a calendar year (Figures 1 and 2). We have introduced the liquidity criteria as we do not want to load up our indices with stocks which are infrequently traded. These illiquid stocks can have a large distorting effect on the index.

Macro picture

Having established small cap indices for each country as far back as the data goes (sorting out the data problems was a major project in its own right), we are now in a position to gauge the small-cap effect (or so the theory goes). In many cases, the data goes back five years and in some instances, it goes back to 1988. One of the biggest problems in tackling a study of small caps in Asia is both the short history of the data and the accuracy of that data. To be able to establish the validity or existence of the small-cap effect, we would need about 15 years of data, so any conclusion we might draw has to be based on a very incomplete set of data. The next big problem for the study is the accuracy of the data: we have worked long and hard at establishing the validity of the data but we still feel it is well below the standard one would expect in a developed market. However, we can, in good faith, say that while it is not 100% accurate, it is the best available at present and that its quality will improve over the years.

SMALL CAP INDICES

For each country in Asia (excluding Japan), we have produced a small cap booklet which gives, in great detail, the performance of the small cap indices against the main market index. We have combined these indices into the JF-Asia Small Cap Index and the examination of its performance against the MSCI (ex-Japan, US$) is the main topic of this report.

Our initial observations, based on the study of the various markets, are probably a little on the contentious side, namely, that the dividend is more important in Asian companies (as a whole) than is appreciated by folk wisdom. Furthermore, contrary to investment theory, earnings growth is not such a key driver of the small cap index (nor of the main index). Also, the best way to play small caps in Asia is to trade the cycle since most markets exhibit a small-cap sentiment cycle. We can also observe, in some markets, the birth of the small cap portion of the market. In the more immature markets, the correlation coefficient of the small caps and the main index tends to be very high, and it is only after a number of years that the coefficient falls and the small caps deposit to the bottom and establish their own habitat.

Sentiment cycle

We contend that there is real value to be had from investing in small caps in Asia but that one needs to be aware of the sentiment cycle. As small caps fall out of favour, positive sentiment dries up: prices plunge and buying interest vanishes in the haze. This is facilitated by the nature of the small cap market in Asia. It has a far

Figure 1 Small caps are found at bottom of market

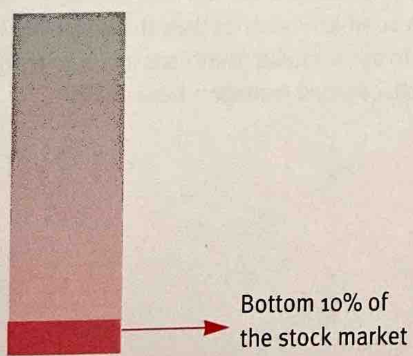
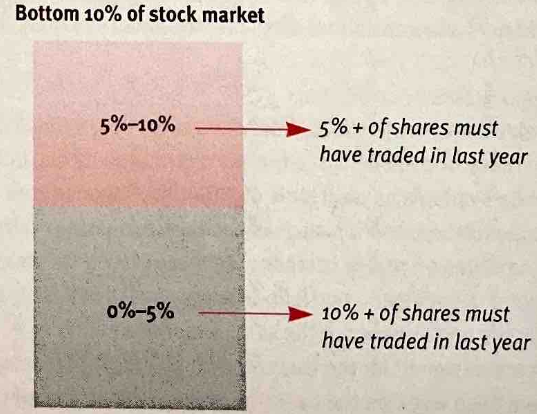


Figure 2 Screening out illiquid stocks



higher participation rate of retail investors than one would find in western countries. Hence, the balance of power lies with the controlling family or individual, rather than with professional investors. In western economies, professional investors dominate the small-cap sector. They are able to change management or to facilitate the takeovers of underperforming assets — this is not the case in Asia. Exasperating this unhealthy situation is the fact that usually only 25% of a small caps' shares are freely available. This allows the controlling family or other interested parties to corner the market in a stock and, thus (to some extent), control the price. This, in turn, leads to greater volatility in the share price and, as such, the investor will demand a higher return for his investment when a cash call is made. Thus, the cost of capital for small companies will be higher than it need be. How this affects their ability to compete over the longer term remains to be seen.

GDP growth and small caps

The link between small caps and GDP growth has yet to be explored in Asia. One of the projects currently on the blocks for our quantitative analysts is to determine if such a link exists. A study of the performance of small cap IPOs in Asia has just been completed. It answers the question of who makes money out of small cap IPOs. Until now, this type of information was unavailable and one had to rely on hunches rather than on facts.

Our quantitative analyst is working on the sectorisation of the small cap indices, i.e. breaking the small cap index into its component sectors to see which sectors are growing or falling over time, and what this can tell us about the country's economy as a whole. So much for the top-down side of things: what about the bottom up?

Small cap storm troopers

At JF, we have dedicated small caps analysts in virtually all the countries in Asia. By and large, these are local people with close ties to their communities and who have their fingers on the pulse of the rumours and gossip that often fuel the small cap market.

▸ The weekly *Small Cap Monitor*

On a weekly basis, we produce, from most countries, a *Small Cap Monitor*. These documents are currently distributed by fax, but, will soon be available by electronic distribution. The monitors contain valuable information such as rumours and gossip in the markets, updates on recent company visits, our favourite picks for each country, a suggested portfolio of small caps, a DIY pick, an update on the performance of the small cap index etc. The monitors are designed for the dedicated small cap fund manager and appear each week on the desks of many of the key small cap fund managers worldwide. We believe that these are the only dedicated small cap weeklies being produced in Asia.

▸ The *JiFi Note*

The mission of our small cap analysts this year (1997) is to cut big swathes through the undergrowth and bring to light many interesting companies from the vast hoard of unresearched stocks which inhabit the small cap arena. To help them achieve this, we have designed a new small cap research format, the *JiFi Note*, which gives an in-depth business analysis of the company (rather than a heavy, and often deeply flawed, financial analysis). We believe that understanding the business, the key success factors, and the ability of management are the most important features when deciding to invest in small companies. The small cap business environment can be likened to chaos theory, i.e. where small changes in inputs can have very large consequences for outputs; hence, understanding the forces at work, rather than the finances, is the first priority.

In the interests of quality control, we feel that analysts should only take on the burden of maintenance research for companies they fully understand, and where they have a good and proven relationship with the management and are confident that their forecasts are achievable. This will not happen overnight as time is required to understand, and to build and develop relationships. In the meantime, lest investors lose an opportunity, our analysts will write JiFi notes on such companies and investors will then be in a position to make informed investment decisions.

▸ The Quarterly Small Cap Industry Report

On a quarterly basis, we will be producing a small-cap industry report which will cover small companies across Asia. Our first report is actually a theme piece that deals with companies which will win or lose out in the face of the advance of the big international brands moving into Asia. Other reports will deal with the electronics sector etc.

We are, therefore, convinced that we are well positioned to meet all the needs of the specialist small cap fund manager — from giving an opinion on which countries they should be looking at, to organising visits to our favourite small caps in a country (few, if any, of which small cap fund managers have visited).

ASIA SMALL CAP INDEX

The main feature of this report is the JF-ASIA-SCI, which is constructed from the indices of the various countries. We started the index in 1988 to coincide with the MSCI. In 1988, there were five countries in the Index. As other small cap indices came on-stream, they were added at the start of each calendar year. We hope to establish two other regional indices soon: a sub-continent small cap index and an Asia ex-sub-continent small cap index.

The constituents of the JF-ASIA-SCI are the individual country indices. In the 1997 ASIA-SCI, almost 2,500 companies will be represented.

As we rebalance our country small cap indices at the start of each year to reflect the bottom 10% of the market, it is apparent that there is a difference between the two.

Figure 4 Weightings

Country	Wt (%)
China	4.41
Hong Kong	21.46
India	2.65
Indonesia	6.91
Korea	7.97
Malaysia	21.67
Pakistan	0.11
Philippines	3.8
Singapore	12.87
Sri Lanka	0.07
Taiwan	13.29
Thailand	4.81

Figure 3 JF-ASIA-SCI constituents

	1988	1989	1990	1991	1992	1993	1994	1995	1996
China							X	X	X
Hong Kong		X	X	X	X	X	X	X	X
India				X	X	X	X	X	X
Indonesia					X	X	X	X	X
Korea	X	X	X	X	X	X	X	X	X
Malaysia	X	X	X	X	X	X	X	X	X
Pakistan							X	X	X
Philippines				X	X	X	X	X	X
Singapore	X	X	X	X	X	X	X	X	X
Sri Lanka	X	X	X	X	X	X	X	X	X
Taiwan			X	X	X	X	X	X	X
Thailand	X	X	X	X	X	X	X	X	X

Performance

1988–96

	Change (%)
JF-ASIA-SCI capital return	278.95
JF-ASIA-SCI total return	380.70
MSCI capital return	226.88
JF-ASIA-SCI EPS growth	418.57
JF-ASIA-SCI DPS Growth	157.24

The basic conclusion is that small caps have outperformed the MSCI by around 50% over 1988–96. This is a pretty stunning performance by what is reckoned to be a volatile and risky sector of the market.

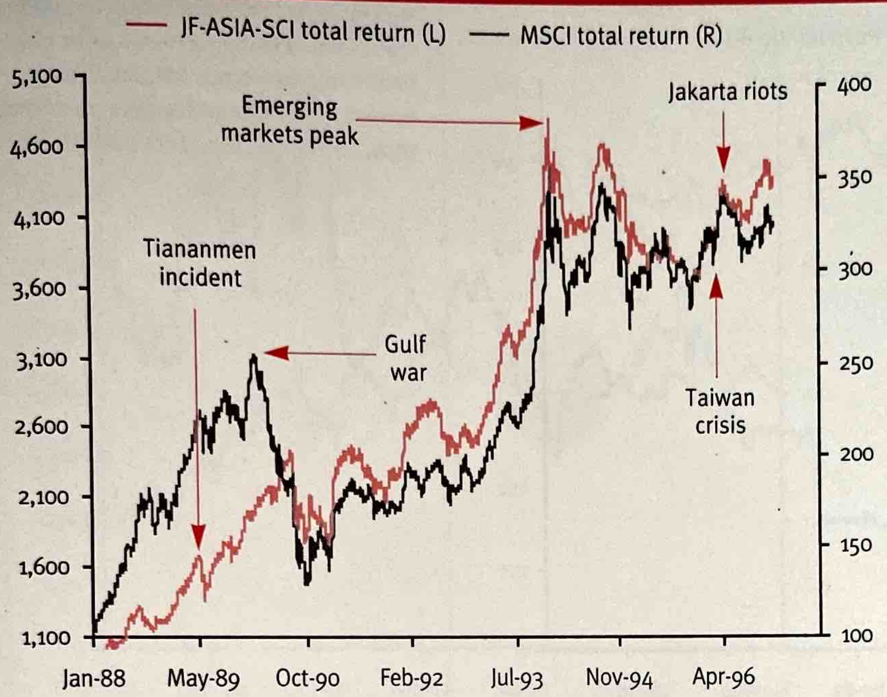
MSCI and JF-ASIA-SCI capital return

	MSCI Change (%)	JF-ASIA-SCI Change (%)	Difference
1988	63.24	32.57	−30.67
1989	38.31	52.44	14.13
1990	−31.87	−7.21	24.66
1991	13.11	19.45	6.34
1992	6.19	6.21	0.02
1993	86.01	81.35	−4.67
1994	−8.90	−9.74	−0.83
1995	−3.53	−16.51	−12.98
1996	8.23	16.55	8.32

This table shows (without any heavy statistical analysis — this will follow in a report from our quantitative team) that at best, small caps outperform the MSCI by a substantial amount. The risk appears to be quite limited as, at worst, they perform in line with the MSCI.

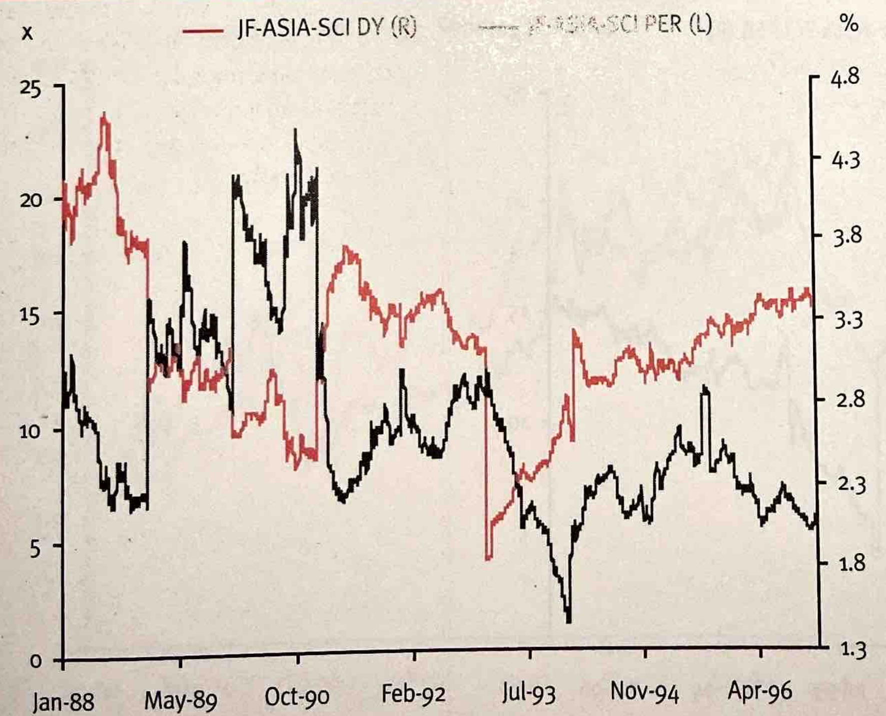
1988–1996 performance

Performance



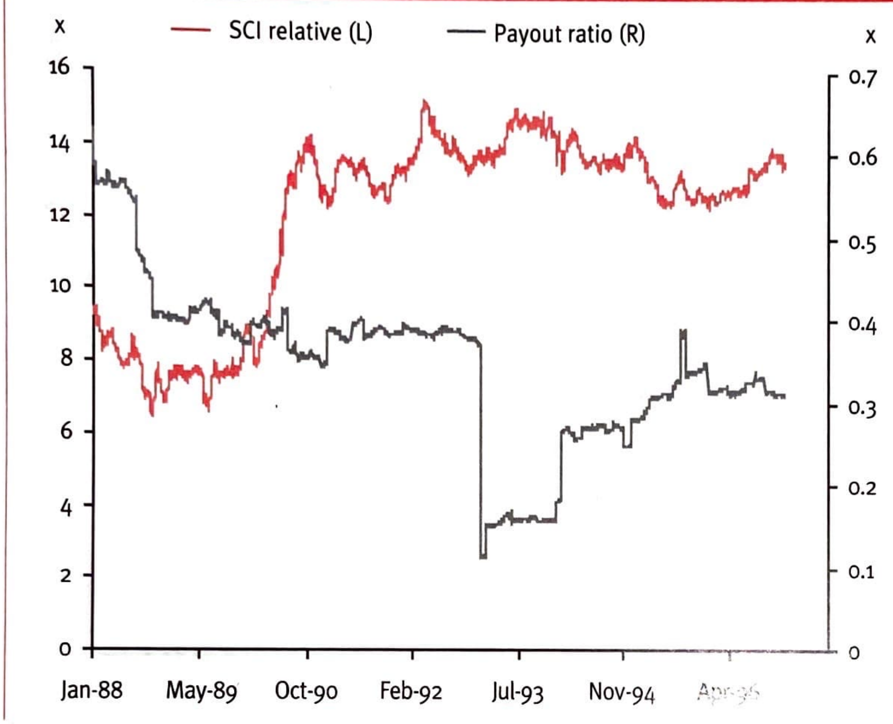
The major political and economic features of the past 10 years or so have had a worse effect on the MSCI than on the JF-ASIA-SCI. The cynics, no doubt, would be quick to say this is because small caps are more illiquid and it is therefore difficult to instantly react to news. While there may be some element of truth in that, this is by no means the whole story. It is clear from the graph that when the SCI goes into a nose dive, it can fall a long way quite quickly — the falls in 4Q94 are evidence of this. A more reasonable hypothesis is that small caps, being more influenced by their respective domestic economies than by the international economic environment, are not hit as badly in a major regional or international crisis. Indeed, the correlation coefficient between the SCI and the MSCI (daily basis) is quite low at 0.63.

SCI PER and SCI DY



Currently, with a PER of around 15x and a DY of just over 2%, small caps seem to be quite expensive. Both are some distance away from their long-run averages.

SCI relative performance and payout ratio (1988–1996)

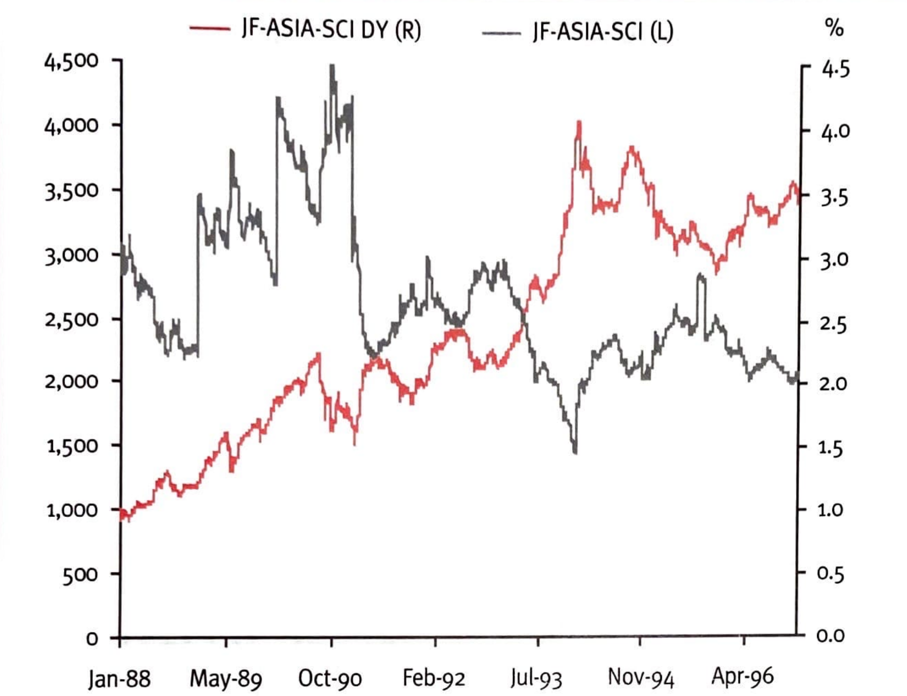


SCI and PER

The payout ratio rule seems to hold quite well for many individual markets, although it does not seem to be such a great pointer for the regional index. Certainly, the current position would suggest that small caps, as a whole, are of fair value.

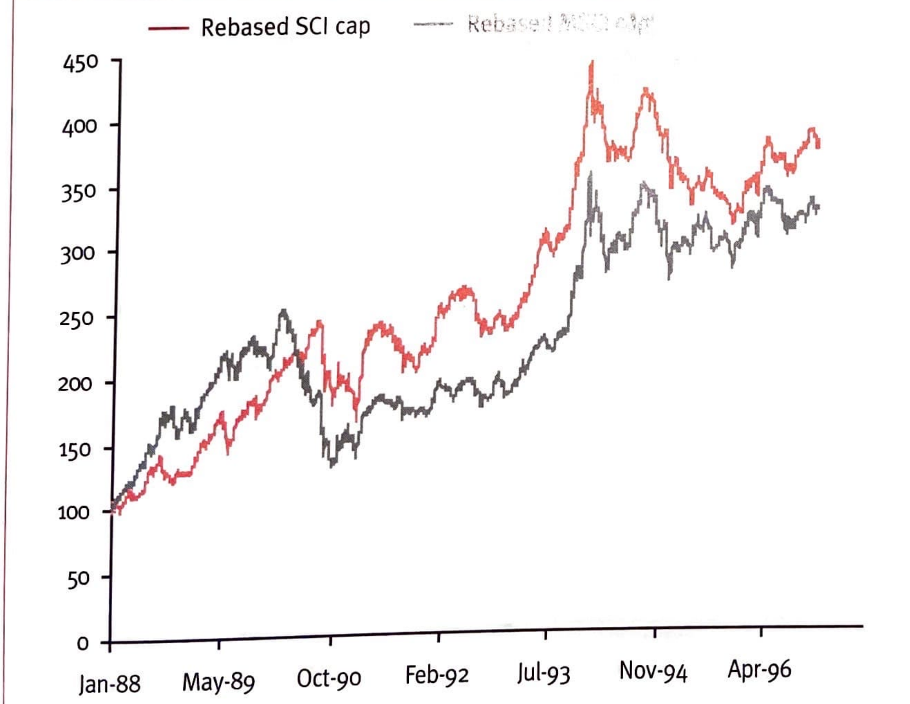
1988–1996 performance

SCI and DY



This graph suggests that sharp falls in the PER value are normally good buying opportunities for small caps. As we do not have the PER and DY for the MSCI, we cannot test the validity of the relative DYs, which seem to hold quite well at the country level. However, it seems that yields of 2.5% equate with good buying opportunities, while yields of 1.5% equate with good selling opportunities. Currently, fair value seems to be the barometric reading.

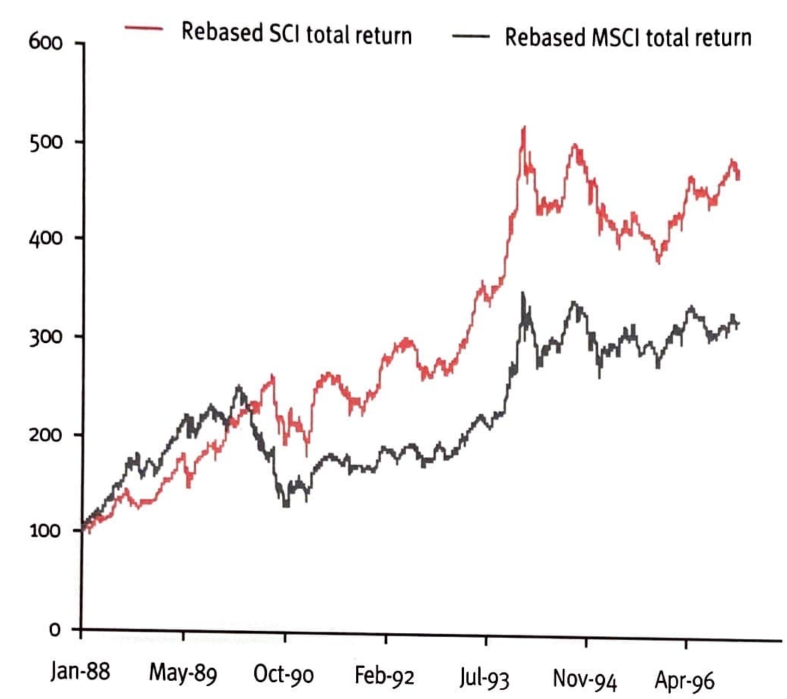
SCI and MSCI rebased at 100 (capital return)



Faster than a speeding bullet, more impressive than a Bob Zielinski tome (or even tomb), small caps reach for the sky and score an impressive 50% hit over the MSCI over the period — on a capital basis.

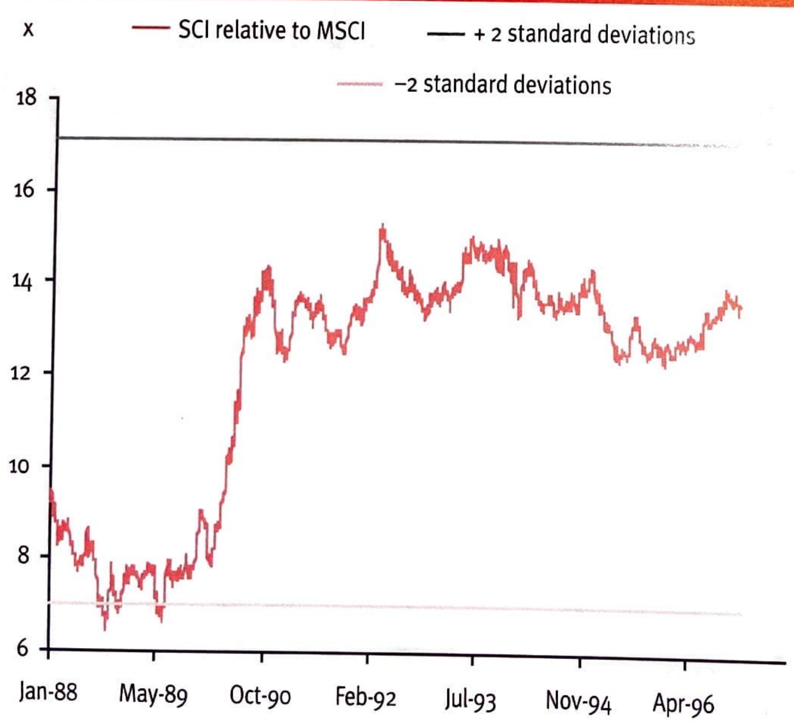
1988–1996 performance

Total return rebased at 100



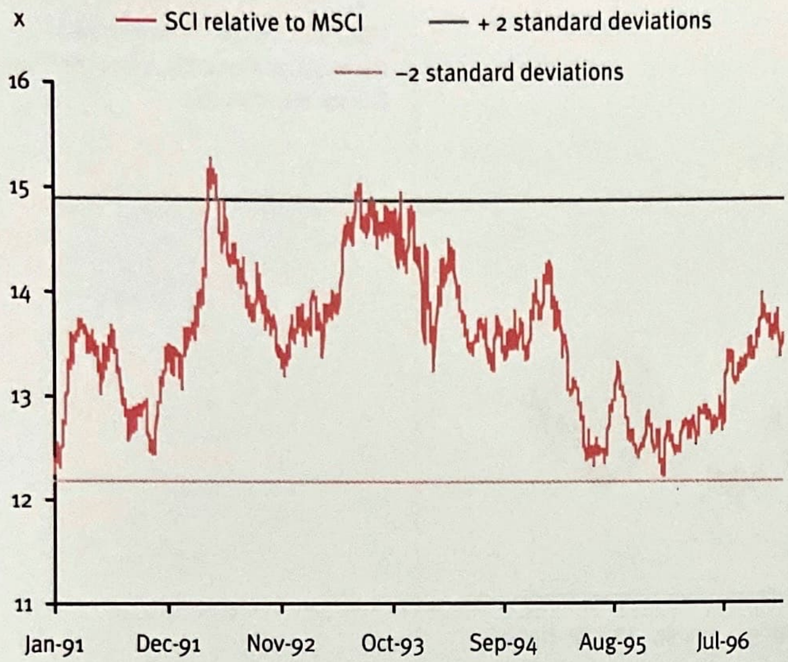
On a total return basis (an unfair comparison as we do not have the total return figures for MSCI), the SCI outperforms by 150% — look with awe and ponder deep within.

SCI relative performance and 2 standard deviations



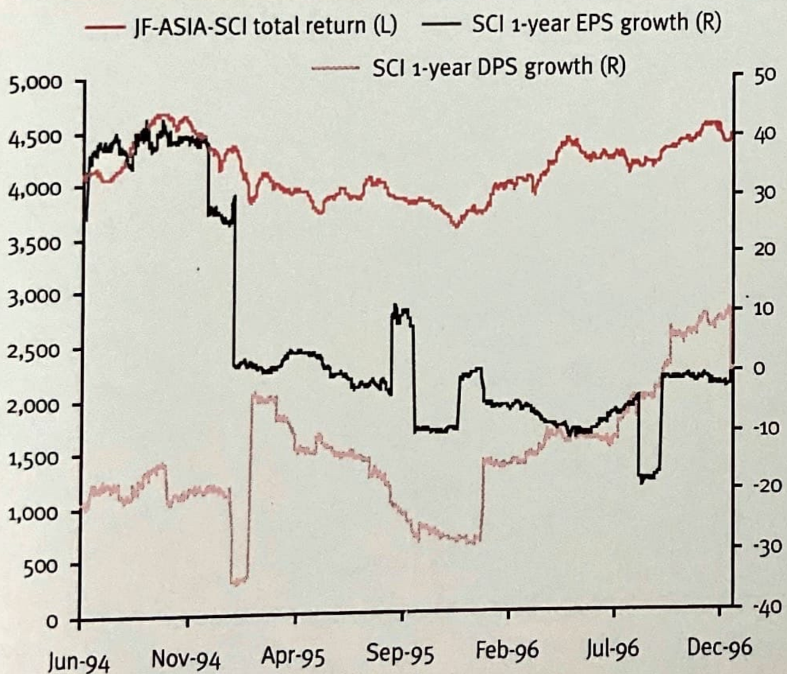
Taking the relative performance line since 1988 with the two standard deviation lines suggests that, once again, small caps are around fair value.

Relative performance and 2 standard deviations (1991–1996)



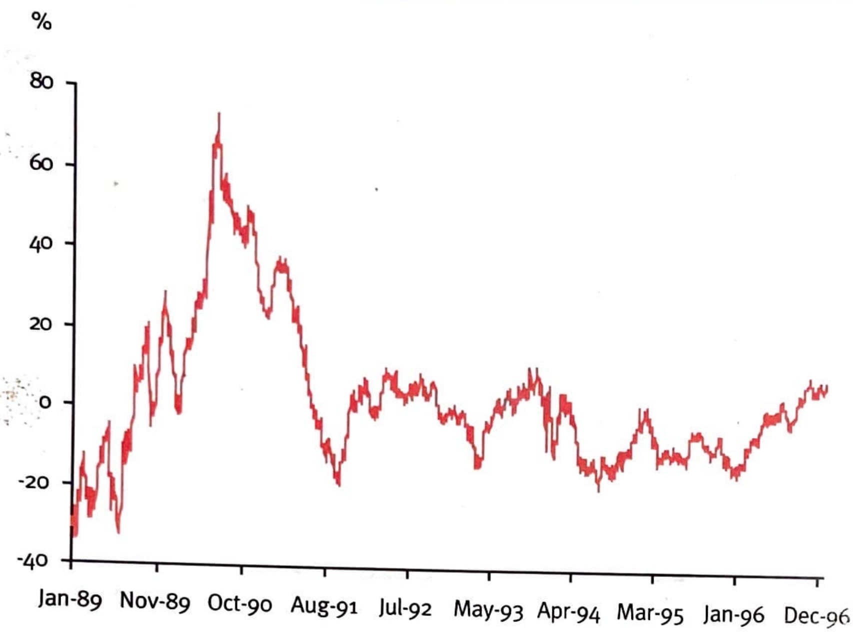
This is probably a more interesting graph than the previous one. It covers the time period from 1991 to 1996 for the relative performance and so cuts out the big jump in 1990. From this, we can get a better feel of when they should move into and out of small caps. It catches the May 1995 buy signal quite well but would have caused you to sell too soon in 1993.

SCI since 1994 and 1-year rolling growth



There seems to be a link between the one-year rolling growth in EPS and the performance of the SCI — this is often not the case at the country level. The current bull run in small caps appears to be well fuelled by the one-year rolling growth in EPS. We have excluded the prior years as the data appears erratic.

Outperformance by JF-ASIA-SCI of MSCI — 1-year rolling



The picture painted here appears to show that there is a close coupling between the MSCI and the SCI. Performance in line with the MSCI, presumably, gives the downside line for the ASIA-SCI.