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Is it worth investing in Australian Small Caps?

Wang Chun Wei and David Walsh, Realindex Investments

For Institutional investors only

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Domestic small cap equities have underperformed in recent years, leading to questions on its validity as a separate allocation in asset owner's portfolios. We try to answer these questions, by revisiting and re-examining some of the key reasons why it *still* makes sense to invest in this asset class.

Firstly, we acknowledge that the performance of the small cap index (S&P/ASX Small Ordinaries) has lagged far behind large cap stocks (S&P/ASX 100) in Australia over the last 10 years, to the point that traditional mean-variance (weighing risk against rewards) portfolio construction would have advised against a separate allocation altogether (see Figure 1). With small cap annualized returns and volatility at 5.2% pa and 17.0% pa respectively versus 9.2% and 13.5% for large caps (footnote 1), and with an average correlation of 0.85 between Small and Large cap, even adjusting for diversification effects it is hard to make the case for Australian small caps.

Empirically it seems that small caps have yielded lower returns for higher risk. Even at a 20 year horizon, this still remains true (8.1% pa return in Small Caps vs 9.3% pa for Large Caps for 17.6% risk in Small Caps vs 13.3% risk for Large Caps, footnote 1).

Why do we consider small caps in the first place? We believe it often boils down to two underlying beliefs for investors:

- The size premium i.e. the historical tendency for firms with smaller market caps to outperform firms with large caps
- Small caps are inefficient and present opportunities

First, let's look at the size premium. Whilst the size premium exists in the US context, there is little evidence of the size premium in Australia (or at least using data from the last 20 years).

Note that if you believe in the size premium for Australia, sorting and weighting stocks based on their market cap *within small caps* (after an arbitrary cut off - for ASX Smalls it is 100) is in precisely the opposite direction to your belief. But this is exactly what small cap indices do. So it can be argued that *using a market cap weighted index is an unrepresentative measurement tool for capturing a size premium.*

The other belief is regarding market inefficiency in the small cap universe, presenting more opportunities for active managers to outperform. And, if you believe the domestic small caps universe to be highly inefficient (which we will show in this research note), then surely the performance of the passive index concerns you less.

[1] Using monthly index returns for ASX Smalls (ASX 300 - ASX 100 constituents) and the ASX 100 from 2011-04-29 to 2023-06-30, and 2003-07-01 to 2023-06-30 for the 20 year period

The focus of the conversation should not be on whether small cap *indices* are outperforming or underperforming large cap, but rather whether small cap *managers* are still capable in adding value to your portfolio.

To further this point, we include in our analysis the Realindex Value strategy as applied to the Australian Small Caps universe. Our strategy has outperformed both small and large cap benchmarks, as illustrated in Figure 1. Panels A and B show the cumulative and rolling 12 month returns and in panel C, we show a simple two-asset risk-return frontier for two scenarios:

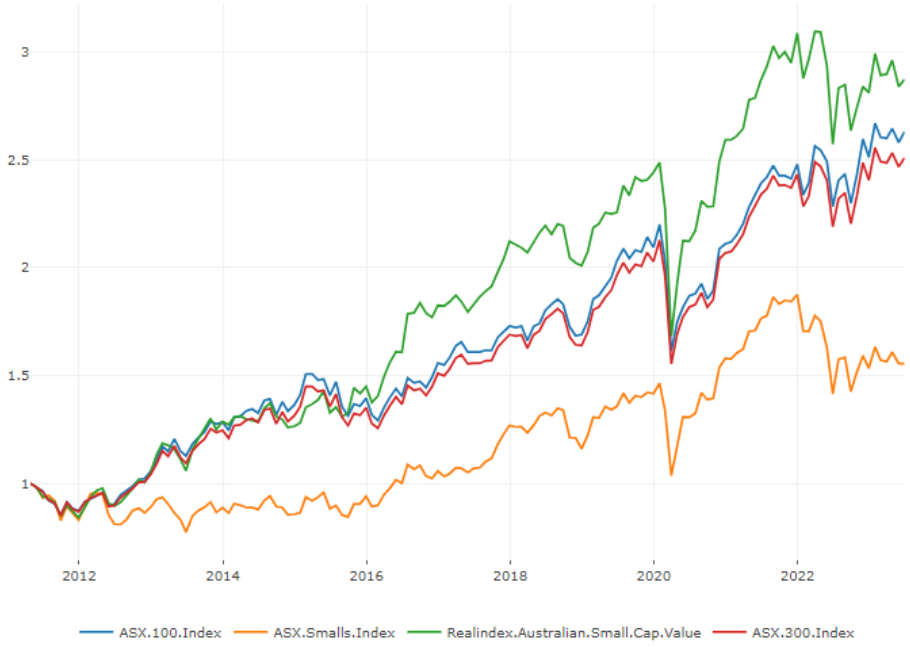
In scenario 1, where we combine the large cap index with the generic ASX Small Ordinaries Index

In scenario 2, where we combine the large cap index with Realindex Australian Small Cap Value portfolio.

Clearly, scenario 1 is best with *zero* allocation to ASX Small Caps. However, scenario 2 is best with a blend. In other words, with the right manager, an allocation to Australian small caps makes sense from a risk-return perspective. While this is a toy example, it illustrates that a good small caps portfolio manager has potential to add value in the context of a broader Australian equities portfolio.

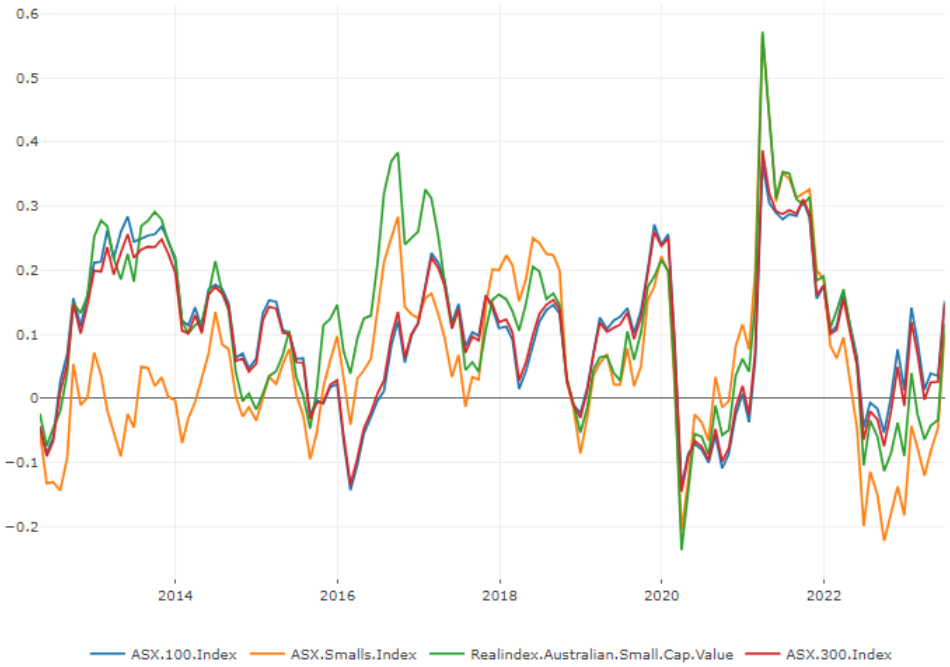
Figure 1. Whilst the small cap index has underperformed large caps, the Realindex Small Cap Value has outperformed both its own, large and broad cap benchmarks

Panel A. Culumative Returns



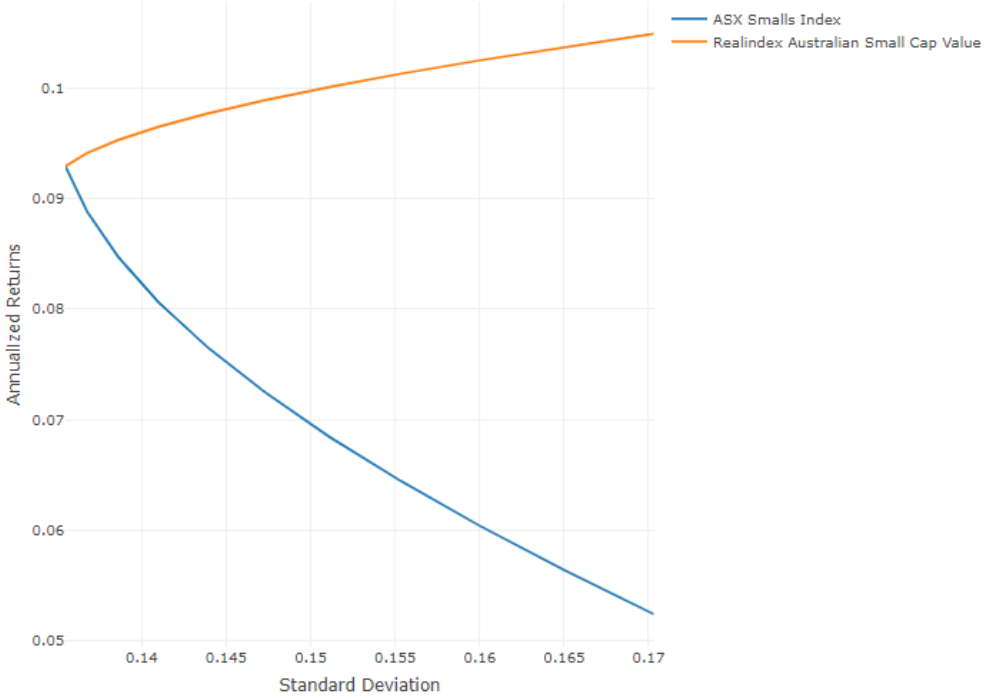
Source: Realindex, Factset. Data as at 30 June 2023

Panel B. Rolling 12m Returns



Source: Realindex, Factset. Data as at 30 June 2023

Panel C. Two-asset frontier



Source: Realindex, Factset. Data as at 30 June 2023

The Australian Small Cap Critique

On the one hand, we all know of the empirically robust and persistent size effect – also known as the small cap premium. Perhaps it is known most famously through the classical Fama-French three-factor model (footnote 2) where stock return variations are explained by three factors: size (small caps minus large caps), value (high book-to-price minus low book-to-price) and the market risk premium. However, our local experience (see Figure 1 Panel A) presents a different set of facts. It seems that global - or more precisely American - empirical studies often do not necessarily translate well into the Australian context.

Further to this, it is often highlighted that Australian small cap companies are significantly smaller in size than their global counterparts. From a company life-cycle perspective, this means Australian small cap firms are more likely to be in an earlier stage than global peers. For example, they may be in a launch or introduction stage rather than in a growth stage. What this means is that Australian small caps are potentially more likely to be unprofitable firms, firms with no free cash flows, or firms that do not pay dividends. In other words, they may be riskier firms that underperform the broad market.

There have also been concerns about the high concentration of mining stocks and the lack of sector diversity that can drive portfolio return characteristics. Later in this note, we show this is a generalisation, and is not always the case.

To address these concerns, we conduct a deeper dive on performance and differences in portfolio characteristics between large and small cap universe. We will also show statistics for our Realindex Australian Small Cap Value strategy to illustrate how different (or similar) this can be relative to a market cap weighted index. Finally, we show that many traditional "vanilla" return factors work better in the small cap space than large caps. This demonstrates market efficiency in small caps is less than in large caps, and can be exploited for generating risk adjusted excess returns. To further validate this point, we show the median manager outperformance from Mercer for Australian small caps is significantly higher than that of the Australian large caps.

Performance and Characteristics

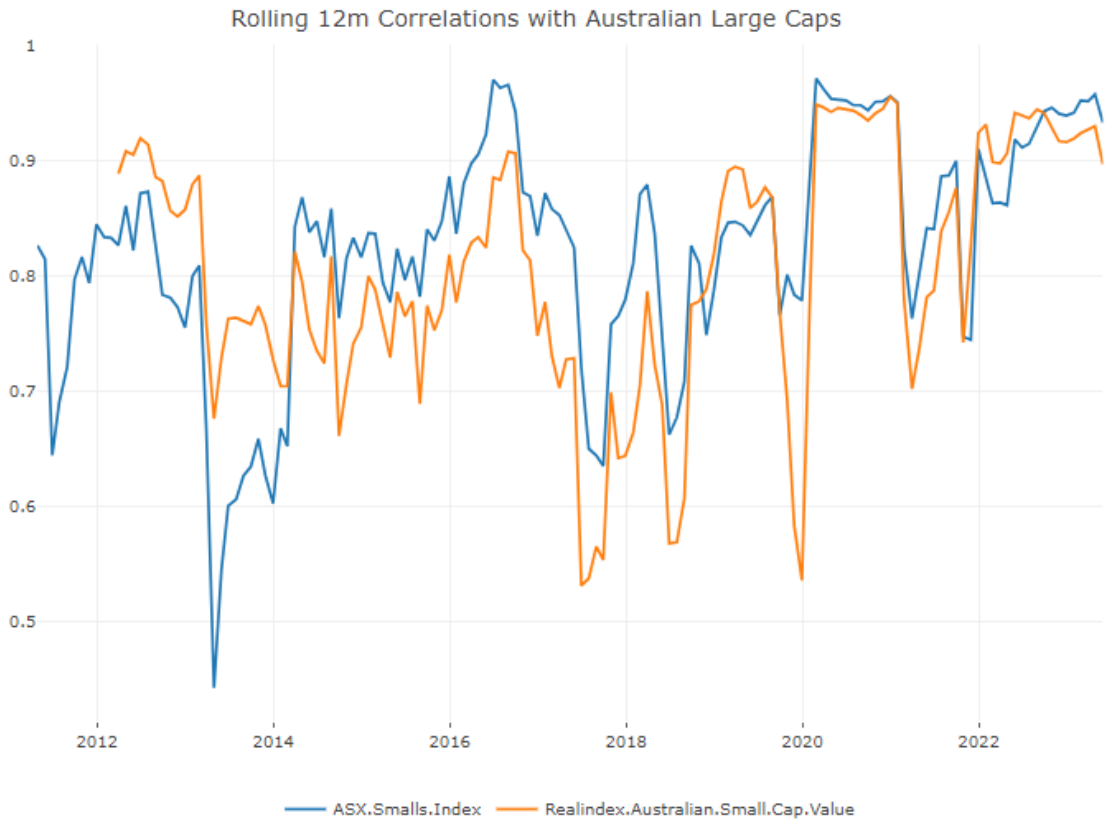
Diversification Benefits

First, let us examine the diversification benefits of Australian small caps. Whilst the correlations can fluctuate across time, in general, this is around 0.85. This number might appear quite high, but in the context of equity correlations it is reasonable and expected. For instance, during the same period, the average correlation in US equities between S&P 500 and S&P Small Caps is 0.87 and the correlation between MSCI EAFE and MSCI EAFE Small Caps is much higher at 0.96. For additional context, the average correlation between US equities (S&P 500) and Emerging Market (MSCI EM) equities was 0.7. Thus, investing in Australian small caps potentially provide value-add from a portfolio diversification perspective.

[2] Fama, E.F. and K.R. French (1992) The cross-section of expected stock returns, Journal of Finance, 47 (2) and Fama, E.F. and K.R. French (1993) Common risk factors in the returns on stocks and bonds, Journal of Financial Economics, 33, 3-56

We also note the correlation for the Small Ordinaries Index and for the Realindex Australian Small Cap Value strategy is also very similar, showing that the latter indeed behaves as an Australian Small Cap product, and for the following analysis it is an 'apples for apples' comparison.

Figure 2. Rolling 12 month correlations show on average a correlation of 0.85 between small and large caps



Source: Realindex, Factset. Data as at 30 June 2023

Size and skew

A claim often levelled against Australian small caps when compared with their global peers is that of size and skew. In Table 1, we show statistical measures of market capitalisation in USD for both small and large caps in both Australian and global contexts. The average size of an Australian small cap company is $1.6bn compared to $3.2bn for global small caps; i.e. roughly half the size. Whilst Australian small caps are smaller, it is not as stark as is perhaps imagined. The ratio of mean market cap between large and small cap in Australia is 6.75, while for global it is much higher at 8.7, due to the size of global large caps. Australian small caps are also considerably less skewed than global peers – that is, global small caps have an especially

long tail of small companies. From a long only active perspective, skew is not favourable as it reduces the ability for active managers to express their underweights.

Table 1. Size (Market Capitalisation in USD as at June 30th, 2023)

	MSCI World Index	MSCI World Smalls Index	ASX 100 Index	ASX Smalls Index
Mean	27.8 bn	3.2 bn	10.8 bn	1.6 bn
Median	8.9 bn	1.1 bn	4.7 bn	0.6 bn
Std Dev	102.5 bn	17.6 bn	19.6 bn	3.5 bn
Skew	18.5	45.7	4.4	7.1

Source: Realindex, Factset. Data as at 30 June 2023

A more granular look at GICS sector tilts

Next we look at the GICS sector weights and performance between Australian small caps and large caps. We find a larger allocation to financials in large cap, driven by the oversized presence of the big 4 banks in Australia. In early 2000s, Telstra also contributed to the large allocation in Communication Services. As discussed earlier, the allocation differences between Small and Large caps in Energy, Materials and Industrials have closed in recent years.

The generally accepted view is that Australian small caps are heavily skewed towards resource companies (GICS materials and energy). Whilst historically this may have been the case (for example 2012), we observe that in the last 5 years the sectoral differences between large caps (ASX 100) and small caps (ASX Smalls) have closed significantly.

We also find stark differences in performance between small and large caps for Health Care, which has been driven by the performance of CSL. This has had a material difference in terms of contributing to small cap underperformance. Our research finds the lack of a size effect within the other GICS sectors for Australia in the last 20 years.

Profitability and Valuations

One critique against Australian Small Caps is that they have lower earnings or are less profitable than i) their global small cap counterparts and ii) large cap stocks. In Table 2, we examine some basic financial metrics (weighted averages) as at the 30th of June, 2023.

Whilst small cap forecast price/earnings (PE) multiples (inverse FY1 earning yields) are about double that of the ASX 100, they also appears in line with the MSCI World and are actually lower than for MSCI World Small Caps. In terms of profitability, we look at the weighted average return on equity (ROE) of the respective

indices. Australian small caps are indeed less profitable than Australian large caps, but they are actually more profitable than their global peers. A similar picture is painted with return on assets (ROA). Since the post-covid recovery, there appears to be no evidence to suggest that Australian small caps are in worse financial shape than their global peers.

The key takeways here are:

- Australian small caps are more expensive and less profitable than Australian large cap stocks
- Australian small caps are largely in line with global small cap peers

Table 2. Yields and Financial Ratios as at June, 2023

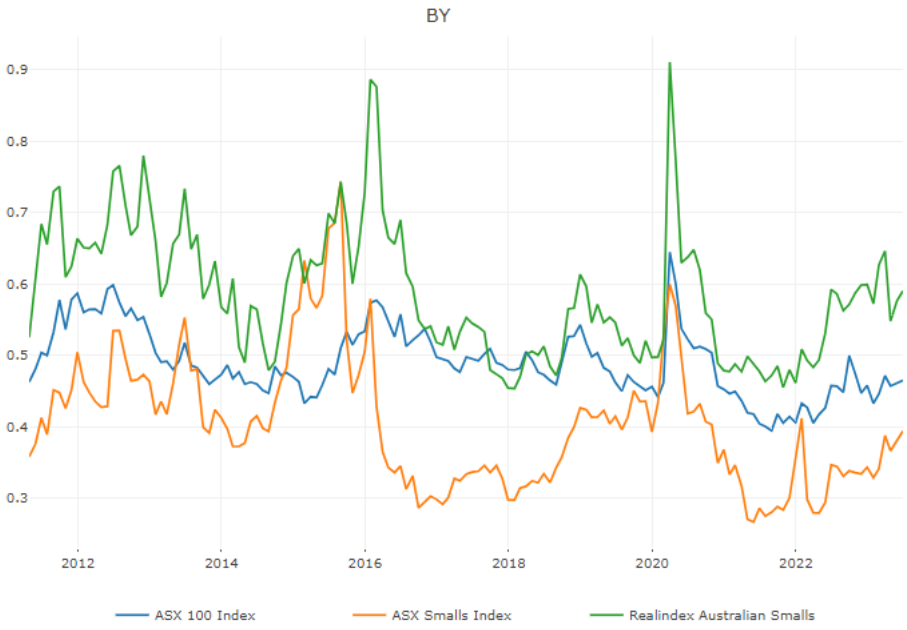
	MSCI World Index	MSCI World Smalls Index	ASX 100 Index	ASX Smalls Index
Book Yield	0.505	0.352	0.465	0.394
FY1 Earnings Yield	0.031	0.011	0.067	0.029
FY1 Dividend Yield	0.019	0.010	0.042	0.023
FY1 Free Cash Flow Yield	0.024	0.006	0.040	0.009
ROE	0.071	0.020	0.177	0.030
ROA	0.023	0.007	0.082	0.017
Debt / Assets	0.181	0.134	0.252	0.095

Source: Realindex, Factset. Data as at 30 June 2023

We also briefly document Australian stock valuations across time. These vary across time, but in general small caps have been more expensive than large caps, especially when examining through dividends or earnings yields. We also include the Realindex Small Cap Value strategy for comparison.

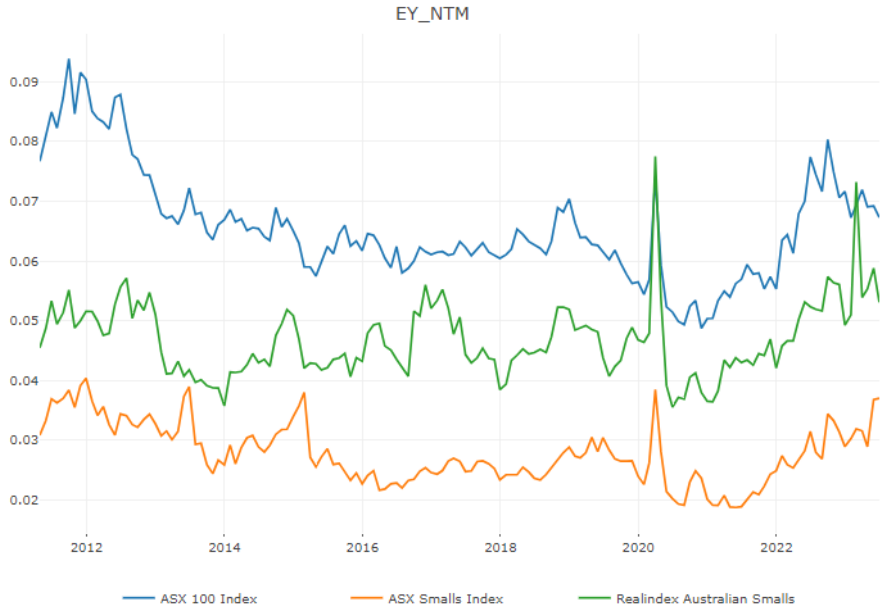
Figure 3. Valuations in Australia across Time

Panel A. Book Yield across Time



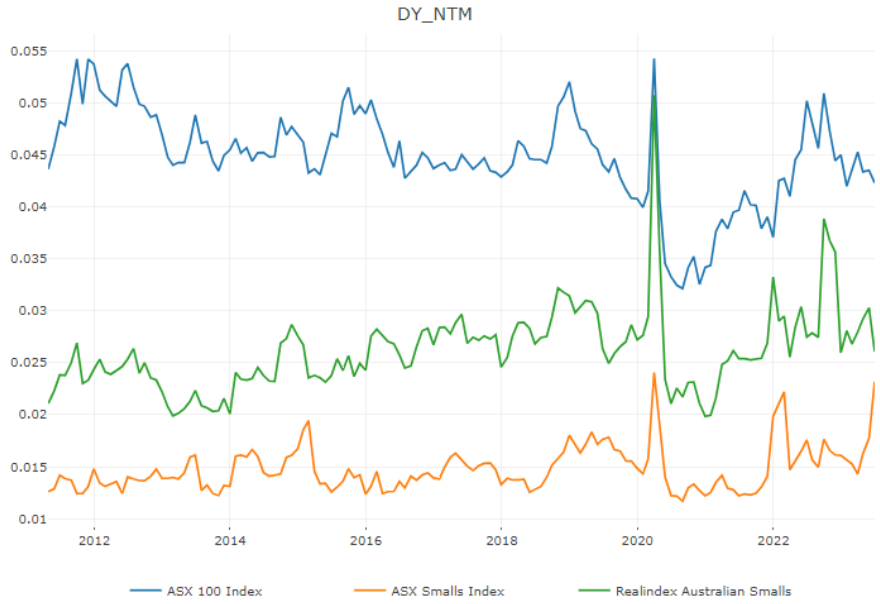
Source: Realindex, Factset. Data as at 30 June 2023

Panel B. FY1 Earnings Yield across Time



Source: Realindex, Factset. Data as at 30 June 2023

Pabel C. FY1 Dividend Yield across Time



Source: Realindex, Factset. Data as at 30 June 2023

Evidence of Market Inefficiencies

As we discussed earlier, a fundamental reason as to why investors allocate to Australian small caps is the belief that there exists a degree of market inefficiency, and thus a manager with a sound investment process can stand to make gains. This investment process can be either qualitative (more depth) or quantitative (more breadth) so long as it is repeatable.

We constructed a very simple method of testing market efficiency by examining the performance of basic market anomalies. We calculated:

- information coefficient (IC), which is correlation between the measure and next period's returns,
- mean return and volatility (we want return to be positive),
- information ratio (IR), which is the ratio of return and volatility, and
- t-statistic, which measures the signficance of the difference between realised return and no return at all. A t-stat above 2 is very good, about 1.5 is good.

We ran equally-weighted long short portfolios (that is, long quintile 5 and short quintile 1) for both ASX 100 and ASX Smalls universe of stocks over the last 5 years ending in 30th of June, 2023. We found that simple factors such as those in the Value family (e.g., Dividend Yield) and Quality family (e.g., ROE and ROA) have

no efficacy in the large cap space. Contrary to this, those same factors works significantly better in the small cap space.

The aim here is not to focus on the individual signals and their long short performance, but to observe that a bundle of basic factors works better in small caps than large caps. Our study showed that the small cap universe is indeed more inefficient.

Please refer to Appendix A for detailed analysis.

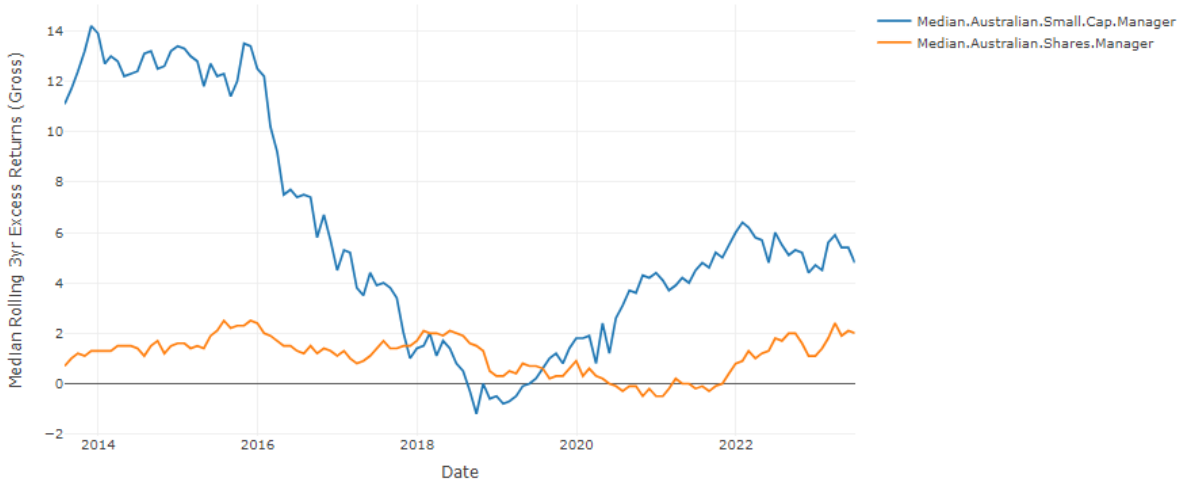
Finally, to further confirm our empirical study that the small cap universe is less efficient, we examine the median fund manager performance and their interquartile range. In Table 3, we show that small cap managers have higher excess returns than broad cap managers, although the variability of alpha also increases. This highlights the importance of manager selection in small caps. In Figure 4, we show that the median small cap manager has often outperformed their broad cap peers. The magnitude of this outperformance is also quite large between large and small caps.

Table 3. Annualised 3yr Gross Excess Returns as at 30th June, 2023

	Broad Cap Managers (ASX 300 benchmark)	Small Cap Managers (ASX Smalls benchmark)
Upper Quartile	4.4%	8.2%
Median	2.0%	4.8%
Lower Quartile	-0.1%	2.8%

Source: Mercer Insights, Data as at 30 June 2023

Figure 4. Rolling 3yr Gross Excess Returns for the Median Manager



Source: Mercer Insights, Data as at 30 June 2023

More specifically in the case of Realindex, our quantitative strategies have consistently outperformed the small cap index since inception (see Table 4). Our performance holds up to its own among more concentrated fundamental small cap managers. Given quantitative managers, such as Realindex, generally charge lower fees compared to fundamental managers, we are pleased not only with our performance but also with the value proposition our strategy presents.

Table 4. Realindex Small Cap Value Gross Performance (pa)

	3 Months	6 Months	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception
Realindex Australian Small Companies Value	-0.96	2.16	10.99	9.94	5.08	8.27	10.00	10.80
S&P / ASX Small Ordinaries Accumulation Index	-0.54	1.32	8.45	5.16	2.25	5.83	6.81	6.37
Relative Performance	-0.41	0.84	2.55	4.78	2.82	2.45	3.19	4.42

Source: FSI. Data as at 30 June 2023. Past performance is not indicative of future performance.

Concluding Remarks

When examining Australian small caps, it is important to distinguish between *alpha* and *beta*. We show that whilst beta returns have been lacklustre over the last decade, the asset class is still worth investing in provided the manager is able to generate active returns above and beyond the index.

The key takeaways are:

- Market cap weighted indices in small caps universes are ineffective in expressing the true potential of the asset class due to (i) running contrary to the size effect and (ii) inherent market inefficiencies in the underlying market. Although the size effect is not clear for Australia, we see clear evidence of market inefficiencies.
- Small cap resources and industrials have underperformed large cap peers over the last decade. This - compounded with the fact that the small cap index has historically been overweight resources and industrials to the large cap index - has contributed to its underperformance. However, the sector bias, such as the overweight in resources, in small caps has in fact reduced in the last 5 years.
- Australian small cap stocks provide a good degree of diversification with an average correlation of 0.85 to large cap stocks across time.
- Australian small cap stocks on average are not in worse financial shape than their global peers. This is also true in terms of their size (market capitalization).
- The small cap universe is less efficient than the large cap universe, and thus active managers are more likely to generate alpha in this space.
- Therefore, a good manager with a repeatable and consistent investment process can deliver excess returns and provide diversification in the context of an Australian equity portfolio.

Appendix A

Table 3. Factor Efficacy for ASX 100 (Large Caps) in descending IR order over the last 5 years

Factor	Mean IC	Median IC	Mean	Vol	IR	t.stat
BETA 52W	0.003	-0.016	6.41%	21.69%	0.3	0.66
LEV	0.011	0	0.35%	10.60%	0.03	0.07
FCFY FY1	0.005	-0.006	0.10%	15.55%	0.01	0.01
ROA	-0.003	-0.018	-0.06%	14.84%	0	-0.01
SY FY1	0.009	0.009	-0.16%	12.66%	-0.01	-0.03
EY FY1	0.002	-0.037	-0.83%	19.11%	-0.04	-0.1
MOM 12M minus 1M	0	0.023	-1.76%	20.15%	-0.09	-0.2
FCFY	-0.004	-0.033	-1.67%	13.86%	-0.12	-0.27
DY	-0.009	-0.004	-2.16%	15.18%	-0.14	-0.32
ROE	0.001	0.007	-2.77%	14.62%	-0.19	-0.42
SIZE	0	-0.007	-3.29%	11.93%	-0.28	-0.62
DY FY1	-0.008	-0.013	-4.81%	13.73%	-0.35	-0.78
SY	-0.006	-0.004	-6.65%	15.32%	-0.43	-0.97
EY	-0.018	-0.029	-5.82%	11.04%	-0.53	-1.18

Table 4. Factor Efficiacy for ASX Smalls (Small Caps) in descending IR order over the last 5 years

Factor	Mean IC	Median IC	Mean	Vol	IR	t.stat
ROA	0.048	0.047	11.65%	16.74%	0.7	1.56
DY FY1	0.061	0.057	10.62%	15.43%	0.69	1.54
DY	0.058	0.064	9.59%	14.06%	0.68	1.53
ROE	0.041	0.035	10.15%	15.51%	0.65	1.46
EY	0.042	0.044	8.97%	14.32%	0.63	1.4
FCFY	0.027	0.028	5.16%	12.11%	0.43	0.95
MOM 12M minus 1M	0.023	0.037	7.99%	20.94%	0.38	0.85
SIZE	0.04	0.043	7.07%	18.88%	0.37	0.84
LEV	0.036	0.035	4.39%	13.31%	0.33	0.74
FCFY FY1	0.019	0.032	4.07%	17.86%	0.23	0.51
EY FY1	0.029	0.015	1.30%	20.66%	0.06	0.14
SY	0.014	0.018	0.40%	13.28%	0.03	0.07
BETA 52W	-0.025	-0.037	-2.29%	26.13%	-0.09	-0.2
SY FY1	-0.009	-0.002	-2.38%	13.12%	-0.18	-0.41

Source: Realindex. Data as at 30 June 2023

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