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Overview

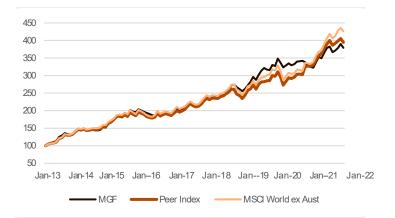
A lot has been said and written about Magellan lately but I have not seen a 'post mortem' conducted on a peer and benchmark relativity basis. We see the potential value of the analysis below as fourfold: 1) Highlighting where investment management may need to change; 2) if nothing is changing at Magellan (as seems to have been the message from last Friday's briefing), then what are the potential risks; 3) for investors considering redeeming, pointing to comparable investment strategies in the peer group tables, and; 4) potentially giving investors a more informed basis in which to make a decision (the data does not lie).

One very important point to make at the outset: **Time Weighted Performance is not Money Weighted Performance.** By Dec 2012, MGF's retail investor FUM was slightly over \$2bn. By 30 June 2020, it had grown to \$26.8bn. Over this period, MGF underperformed both the Peer Index and the MSCI World (see chart below). That is, most investors (the Money Weighted performance) have experienced relative underperformance by being invested in MGF. It is all well and good to say that "Magellan has created billions for its investors" but the real question is whether the bulk of the dollars invested (bulk of the investors enjoyed relative outperformance.

Performance - In a Nutshell

This is what we view to be the key drivers of underperformance over the last 2-year period:

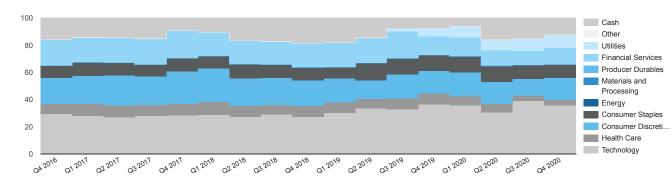
Cash Exposure. In Q12020, MGF was at its lowest cash ٠ allocation since at least 2016 (see chart below). It was, in practical terms, fully invested. In March 2020 and over Q22020, it had moved heavily to a cash allocation (an average circa 20% over Q22020). This high cash allocation persisted until October 2020. This increased allocation to cash was overwhelmingly generated by reducing its weighting in the Technology sector, and vice versa as MGF slowly reduced its cash exposure. Of course, we all remember how hard the equities markets and the technology sector rallied after the harsh March 2020 sell down. The Cash allocation and being FX unhedged led to a relatively insignificant drawdown in March 2020 – 7.55% (but a 16% drawdown in the fully hedged version of MGF - i.e., much of the buffering was from FX moves).



Cummulative Total Returns - 2013 - 2022

Reflecting the importance of the experience of the bulk of investors in MGF (i.e., money weighted performance), a number of charts below where relevant will be presented by two different time frames – from inception and from December 2013.

- Tactical Asset Allocation (TAA) Cash / Tech & What the Bond Markets were Saying. The material move out of cash to being closely fully invested (in practical terms) occurred in October 2020. It was precisely in this month that the bond markets began earnestly discussing re-inflation (with the bond markets selling off) and the great Growth to Value style switch in equities kicked off. High growth / Technology stocks (long dated cash flows, high P/E risk) was hit hard. If memory serves me right, the Magellan High Conviction Trust (which, remember, is based on Magellan's highest conviction investment ideas) lost 12% in October and November 2020 alone.
- Alibaba Weighting. By November 2020, MGF the weighting in Alibaba had increased beyond 8% in advance of the listing of Ant Financial, Alibaba's financial arm. This listing was pulled in November 2020 after regulatory concerns and the share price fell in response. In early 2021, Douglass said he



Historical Exposure



Risk & Return Return - Peer Group

Fund	Last Month	3M Return	1 Yr Return	3 Yrs Ave. Return	1 Yr Std. Dev.	3 Yrs Std. Dev.	1 Yr Max Drawdown	3 Yrs Max Drawdown
Int'l Equity Large Fundamental Index (Peer Index)	-2.8%	0.7%	20.9%	17.4%	8.1%	11.0%	-3.4%	-12.2%
Ironbark Royal London ConcentratedGlbShr [MGL0004AU]	-0.8%	5.4%	33.5%	20.2%	8.8%	10.8%	-4.1%	-10.7%
Alphinity Global Equity [HOW0164AU]	-5.5%	0.6%	32.6%	21.2%	13.2%	11.6%	-5.5%	-8.4%
Invesco WS Global Opportunities-Unhedged [GTU0102AU]	-2.1%	4.9%	31.4%	15.6%	9.1%	14.5%	-3.6%	-17.1%
AMP Capital Global Coms On-platform A [AMP7497AU]	2.8%	1.6%	30.5%	N/A	10.9%	N/A	-3.6%	N/A
Pendal Concentrated Global Share [BTA0503AU]	3.5%	6.2%	30.5%	13.3%	7.5%	15.1%	-0.9%	-19.5%
Pendal Concentrated Global Share No.2 [RFA0821AU]	3.5%	6.2%	30.5%	15.0%	7.5%	14.9%	-0.9%	-19.3%
Pendal Concentrated Global Share No.3 [BTA0056AU]	3.5%	6.2%	30.4%	14.8%	7.5%	14.9%	-0.9%	-19.3%
Lazard Global Equity Franchise [LAZ0025AU]	1.3%	9.1%	30.0%	12.0%	9.5%	17.7%	-3.1%	-24.3%
Bell Global Equities [BPF0014AU]	-4.2%	2.0%	28.5%	17.9%	12.2%	11.8%	-4.4%	-10.7%
IFP Global Franchise [MAQ0404AU]	1.5%	6.6%	28.1%	17.3%	7.0%	10.0%	-2.5%	-9.8%
UBS International Share Fund [SBC0822AU]	-1.1%	2.5%	27.6%	17.8%	6.3%	12.9%	-1.1%	-16.3%
JPMorgan Glb Rsrch Enhncd Idx Eq Fd [PER0719AU]	-3.5%	2.8%	26.1%	18.3%	8.9%	12.2%	-3.5%	-13.6%
AB Global Equities [ACM0009AU]	0.0%	3.6%	25.5%	15.5%	8.1%	11.0%	-3.8%	-11.8%
IFP Global Franchise Fund II [MAQ3060AU]	-0.7%	4.2%	24.9%	N/A	6.4%	N/A	-2.0%	N/A
Loomis Sayles Global Equity [IML0341AU]	-6.9%	-2.0%	22.3%	19.4%	13.1%	12.8%	-6.9%	-11.6%
Intermede Global Equities Fund [PPL0036AU]	-3.5%	0.9%	21.4%	22.3%	9.5%	10.5%	-3.5%	-8.8%
OnePath OA FR IP-OP Global Share [MMF1511AU]	-2.7%	1.6%	20.3%	16.8%	9.7%	10.6%	-4.5%	-10.2%
Cooper Investors Global Eqs Fd (Unhdg [CIP0003AU]	-7.3%	-3.9%	20.2%	17.2%	12.5%	13.1%	-7.3%	-13.5%
Stewart W Worldwide Leaders Sust [FSF0047AU]	-8.1%	-2.4%	19.6%	15.5%	14.6%	10.8%	-8.1%	-8.1%
Capital Group Global Equity [WHT0044AU]	-2.7%	1.8%	18.6%	16.0%	7.8%	11.4%	-3.6%	-13.4%
Nikko AM Global Share [SUN0031AU]	-5.1%	-1.1%	17.4%	19.9%	10.6%	10.4%	-5.1%	-9.1%
SPW Global High Quality - Retail [ETL8834AU]	2.5%	6.2%	17.1%	11.0%	8.6%	11.4%	-5.2%	-13.3%
Magellan Global Open Class [MGE0001AU]	-2.9%	2.1%	16.8%	13.1%	10.0%	10.1%	-4.2%	-7.6%
Capital Group New Perspective [CIM0006AU]	-5.5%	-2.8%	16.8%	20.9%	10.0%	12.0%	-5.5%	-11.3%
Orbis Global Equity Fund Retail Class [ETL0463AU]	0.7%	2.0%	16.1%	12.5%	7.5%	12.2%	-3.3%	-14.8%
Legg Mason Martin Currie Glbl LT Uncon A [SSB0066AU]	-8.5%	-6.1%	10.0%	17.1%	14.9%	12.2%	-9.3%	-9.3%
Ironbark Copper Rock Global All Cap Shr - MGL0018AU	4.8%	4.4%	-2.2%	6.9%	15.9%	14.4%	-16.9%	-16.9%
Nikko AM ARK Global Disruptive Innovt [NIK1854AU]	-17.9%	-34.1%	-40.6%	19.9%	31.7%	33.2%	-40.6%	-40.6%



Risk & Return - Peer Group Rankings

Fund	Last Month	3M Return	1 Yr Return	3 Yrs Ave. Return	1 Yr Std. Dev.	3 Yrs Std. Dev.	1 Yr Max Drawdown	3 Yrs Max Drawdown
Ironbark Royal London ConcentratedGlbShr [MGL0004AU]	12	7	1	N/A	11	N/A	15	N/A
Alphinity Global Equity [HOW0164AU]	22	21	2	N/A	24	N/A	21	N/A
Invesco WS Global Opportunities-Unhedged [GTU0102AU]	14	8	3	16	13	21	13	21
AMP Capital Global Coms On-platform A [AMP7497AU]	5	18	4	N/A	20	N/A	11	N/A
Pendal Concentrated Global Share [BTA0503AU]	2	3	5	N/A	7	N/A	3	N/A
Pendal Concentrated Global Share No.2 [RFA0821AU]	4	4	6	19	6	22	1	22
Pendal Concentrated Global Share No.3 [BTA0056AU]	2	4	7	20	5	22	1	23
Lazard Global Equity Franchise [LAZ0025AU]	8	1	8	24	14	25	7	25
Bell Global Equities [BPF0014AU]	20	15	9	9	21	12	17	10
IFP Global Franchise [MAQ0404AU]	7	2	10	11	3	1	6	7
UBS International Share Fund [SBC0822AU]	13	13	11	10	1	18	4	19
JPMorgan Glb Rsrch Enhncd Idx Eq Fd [PER0719AU]	19	12	12	8	12	16	9	17
AB Global Equities [ACM0009AU]	10	11	13	N/A	9	N/A	14	N/A
IFP Global Franchise Fund II [MAQ3060AU]	11	10	14	N/A	2	N/A	5	N/A
Loomis Sayles Global Equity [IML0341AU]	24	23	15	7	23	17	23	12
Intermede Global Equities Fund [PPL0036AU]	18	20	16	1	15	4	9	4
OnePath OA FR IP-OP Global Share [MMF1511AU]	16	19	17	14	16	5	18	8
Cooper Investors Global Eqs Fd (Unhdg [CIP0003AU]	25	26	18	12	22	19	24	16
Stewart W Worldwide Leaders Sust [FSF0047AU]	26	24	19	17	25	6	25	2
Capital Group Global Equity [WHT0044AU]	15	17	20	15	8	9	11	15
Nikko AM Global Share [SUN0031AU]	21	22	21	5	19	3	19	5
SPW Global High Quality - Retail [ETL8834AU]	6	4	22	25	10	10	20	14
Magellan Global Open Class [MGE0001AU]	17	14	23	22	17	2	16	1
Capital Group New Perspective [CIM0006AU]	22	25	24	3	18	13	21	11
Orbis Global Equity Fund Retail Class [ETL0463AU]	9	16	25	23	4	14	8	18
Legg Mason Martin Currie Glbl LT Uncon A [SSB0066AU]	27	27	26	13	26	15	26	6
Ironbark Copper Rock Global All Cap Shr - MGL0018AU	1	9	27	26	27	20	27	20
Nikko AM ARK Global Disruptive Innovt [NIK1854AU]	28	28	28	5	28	26	28	26

was "disappointed" (as Magellan had been poised to be the 12th largest shareholder in the newly-listed firm) but more importantly (and this is the real point) Douglass stated: "I made a risk management mistake in allowing our holding in Alibaba to grow via a higher share price to more than 8% of the portfolio. There are times when we hold such conviction in a position that such an allocation is entirely sensible but the main reason I didn't trim the Alibaba holding prior to the Ant initial public offering was because reducing our holding might have diminished the chance of securing a decent allocation in the listing."

 Regulatory & Country Risk. This was not the last time MGF performance was adversely impacted be regulatory risk, specifically the Chinese government's regulatory clamp down on the technology, property, education and financial sectors in, if memory serves me right, July 2021. One could also argue that Facebook (Meta) has also been adversely impacted by the risk of a regulatory crack down.

A Peer Group & Benchmark Performance Assessment

The tables overleaf detail key risk/return metrics of RRM's universe of Australian-domiciled broad, developed market global equities unlisted managed funds as well as the benchmark index, the MSCI World ex Australia index. Why are we using an unlisted managed fund universe and not an ETF universe? Because the ETMF and unlisted managed fund versions of MGF are identical and the unlisted managed fund sector provides a greater number of relevant mandates and that have sufficient track records – the Active ETF sector currently does not.

It might be stating the obvious, but peer relativity analysis (versus just comparing to a benchmark index) is useful in that it can reveal, in a relative sense, manager skill and draw attention to investment mandate alternatives, notwithstanding that different mandates may have key objective differences.

We table four key measures: returns, risk, capital preservation (drawdown) and efficiency (capture ratios). All of these measures would be clearly understood bar the efficiency ratios, a seriously utilised performance measure in RRM's view. Just ask Magellan – they publish a Downmarket Capture Ratio (but that is an incomplete measure without a corresponding Upmarket Capture Ratio). So, we explain these ratios at the end of this piece.

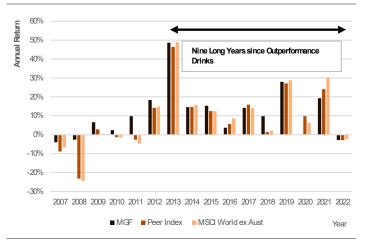
The key points:

It has been a Long Time between (Outperformance)

Drinks. Specifically, MGF has not outperformed or materially outperformed the peer group median on an annual returns basis since 2012, bar one year. Over this nine year period, MGF underperformed six of the nine years, two of years were marginal were outperformance while it was only in 2018 that MGF recorded material outperformance. The story of how MGF and Magellan 'made itself' during the GFC is well known. But again, we come back to the notion of money weighted investment performance – for the vast majority of investors, their investments were made well after this period of performance. However, what we would contend is that the experience of the GFC period did become very relevant to more recent investors in the way the portfolio was managed during 2020, as discussed further below.



Annual Returns

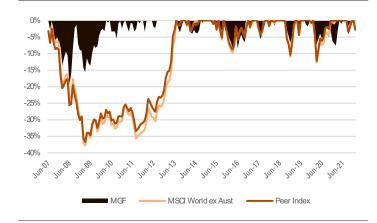


Capital Preservation - Solid but Not as Solid as it may First

Appear. The maximum drawdown of 7.55% for MGF topped the peer group (although much of the buffer was due to positive FX moves with the hedged version down 16%) and was recorded from January 2020 to March 2020. However, despite this low figure, it took until June 2021 (17 months) for the fund to get above water - that is a long time-to-recover. In contrast, the peer group median recorded a drawdown of 12.2% and was above water by November 2020 (8 months time-to-recover). Prior to January 2020, MGF had never underperformed the peer group median on a time-to-recover basis during a sustained drawdown period. To put it in layman terms, if you invest a \$100 in two funds at the same time and in a given month Fund 1 is at \$90 (i.e, still underwater) and Fund 2 is at \$100 (parity to initial investment) and both funds record a +5% return in that given month, guess which fund you are making a greater dollar return on?? (\$4.50 Fund 1 vs \$5.00 Fund 2).

That said, MGF's performance in terms of capital preservation has broadly been admirable.

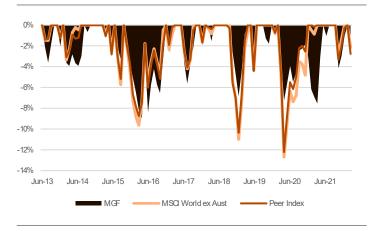
The two charts below present different timelines and further reasons discussed in the introduction section of this article.



Maximum Drawdown Profile - Jun 2007 - Jan 2022

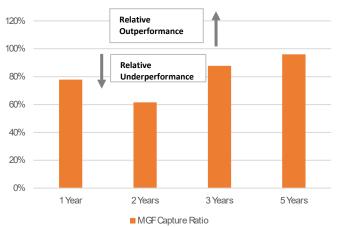


Maximum Drawdown Profile - Jul 2013 - Jan 2022



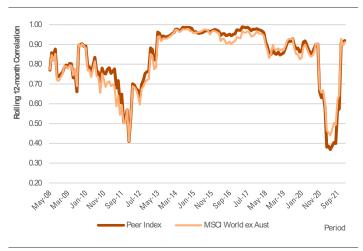
Manager Efficiency – Where the Rubber hits the Road. Refer to the table below. It is one thing to publish the Downmarket capture Ratio in monthly reports (as Magellan does), but it is an incomplete metric without the Upmarket Capture Ratio (refer to definitions at end of article). The critical metric is whether the Capture Ratio (Upmarket Capture Ratio / Downmarket Capture Ratio) exceeds 1.0 – this represents relative outperformance over the peer group median. And a fund does not have to exceed the peer group median in upmarkets to generate outperformance. Rather, simply record less downside than the peer group median in downmarkets.

Metric	1-year	2-years	3-years	5-years
Outperform Consistency	50.0%	37.5%	41.7%	48.3%
Up Market Capture	88.8%	50.6%	70.6%	82.7%
Down Marker Capture	113.9%	82.2%	80.4%	86.1%
Capture Ratio	77.9%	61.6%	87.8%	96.0%



It Could be a Long Way Back. The two charts below are based on rolling 12-month data, which means there is a lag between when the portfolio changes where implemented (relative to the average peer group fund) in terms of relative performance outcomes. You can see the massive drops in Beta and Correlation relative to the peer group average as a consequence of MGF's 2020 TAA positioning but it is now roughly back in line with the peer group / the benchmark index. In fact its rolling 12-month Beta vs the Peer Group average was 1.13 as at 31 January 2022. What we are saying is these two charts imply, on a relative performance basis, MGF is back in-line with the peer group median and the benchmark index.





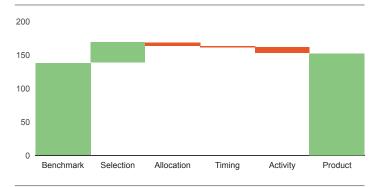
Rolling 12-month Beta - MGF vs Peer & Benchmark



Prior to 2020 and over the prior five year period, the vast majority of MGF returns were market returns – i.e., benchmark index beta returns. Stock selection was a material positive, but Allocation, Timing, and Activity were marginal negatives (refer to chart below for three year period to June 2021). The point here is, assuming manager skill past evidence is precedent (and bear in mind the "The global fund is superb. I have no issues with it at all. There are no orange or red flags" message that has come from the webinar last Friday) it may take many years to get annualised 3-, 5-, 7-year returns to match either the Peer Group Index or the Benchmark Index. And this matters for long term investors and for FUM flows as sustained underperformance on these longer term metrics does not present well.



Product Performance



Magellan's Positioning in 2020 was Unique. Referring above to the rolling 12-month correlation and beta charts, and with RRM having the peer group average separately broken down by all 27 constituent peers, what Magellan did in 2020 regarding its TAA positioning was unique. This was not a case of 'well, in hindsight we are all heroes'. Notwithstanding MGF's focus on capital preservation and ability to go materially into cash (not only strategies are the same), was this a case of something other than 'normal' investment process outcomes (with that being defined in this case as what every other manager had concluded)?? Was it the desire to replicate the outperformance during the GFC (let us call it 'the ghosts of the GFC)??? One can only speculate.

Efficiency Metrics

• The Upmarket Capture Ratio captures the percentage of return recorded by a fund in a particular period relative to the peer group average during that period in which the peer group average return is positive. For eg, if the peer group average return for a given month was +1.0% and the fund generated +0.8% in that month, then the Upmarket Capture Ratio for that month for the fund is 80%.

• The Downmarket Capture Ratio captures the converse, specifically the percentage of return recorded by a fund in a particular period relative to the peer group average during that period in which the peer group average return is negative. For eg, if the peer group average return for a given month was -1.0% and the fund generated -0.8% in that month, then the Downmarket Capture Ratio for that month for the fund is 80%;

• The critical ratio is the Capture Ratio, which is the Upmarket Capture Ratio divided by the Downmarket Capture Ratio. This needs to be >100% for a fund to be generating above peer group average returns for the given period.



About Risk Return Metrics

Risk Return Metrics Pty Ltd (ABN 98 642 969 819) was established by the company's principal Rodney Lay in June 2020 with the express intention to provide institutional grade absolute and relative performance analysis and ratings for retail and wholesale investors, IFAs and investment managers. The primary focus is on the managed investment sectors, both LICs/LITs and Active and Passive ETFs listed on the Australian market. A secondary focus is on the provision of select quantitative based profiles on select Australian domiciled unlisted managed funds. In total, RRM is expected to provide monthly updates on approximately 550 Australian domiciled investment strategies across the full asset class spectrum.

The investment product reports produced by RRM contain a number of differentiating factors to which have and are currently available in the Australian market, with the most notable being 1) HTML-based sub-reports for each strategy and 2) the emphasis on peer group benchmarking for comparative analysis as opposed to the industry standard of utilising industry benchmarks.

The former function enables the provision of detailed metrics regarding returns, risk/capital preservation, performance path, and efficiency, but does so by way of the sub-report feature without comprising the conciseness and readability of the primary report. Less is More, and More is More. The latter is viewed as a superior comparative basis in terms of facilitating investor choice regarding competing investment strategies in a particular (sub-)asset class.

Rodney Lay has 25 years' experience in investment analysis, first starting as an equities analyst at BZW / ABN Amro. Subsequently, he specialised in structured products in the lead up to the GFC and then moved to a dedicated focus on listed and unlisted managed investments. Rodney has had a long involvement in the listed space of the market, both LICs/LITs and ETFs.

Asset class experience is broad, including equities (long-only, long/short, market neutral, enhanced income), global listed infrastructure and property, alternative strategies (hedge funds, global macro, quantitative strategies), retirement solution products, private assets, and public and private debt. Public and private debt strategies have been a particular focus over the last three years, reflecting growing retail and wholesale client demand.

Rodney has a strong understanding of the nuances of different investment structures, including LICs/LITs, Active ETFs, SMAs/ IMAs and the recently launched dual listed/unlisted structure. Rodney has undertaken investment analysis on behalf of some of the most recognised global and domestic fund managers in both the listed and unlisted investment strategy sectors.

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