

## The Case for a Strategic Allocation to EMD in Australian Portfolios

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Nearly a year and a half out from the market bottom in March 2020, we find an investment landscape reminiscent of the one experienced pre-pandemic. Equity valuations are at all-time highs, fixed income yields are at or near historic lows and volatility is top of mind for investors. Against this backdrop, the emerging market debt (EMD) asset class may warrant a closer look for Australian investors as it offers attractive yields relative to other fixed income asset classes, and with lower volatility than equity assets.

Emerging market investing is familiar to Australian investors, of course, yet EMD is still underrepresented across portfolios. Much like emerging market equities, EMD allows investors to gain access to higher-growth and higher-productivity economies than developed market economies. Additionally, EMD has matured significantly as an asset class over the past 30 years. In the early 1990s, there were relatively few countries in the index, and several crises between the mid-1990s and early 2000s resulted in the asset class being perceived as a high-risk proposition. Today, many EMD issuers have robust debt profiles and better credit quality than in the past. Furthermore, the depth and breadth of liquidity has increased as the size of the overall market today has grown to approximately US\$4.3 trillion, or almost AU\$5.7 trillion.

EMD can be divided into two main subasset classes: hard currency and local currency. Hard currency EMD refers to debt issued in a foreign currency (primarily USD, but also euro and yen). Local currency EMD refers to debt issued in the issuer's domestic currency. For Australian investors, hard currency EMD could be hedged back into Australian dollars or left unhedged. For local currency EMD, hedging the currencies is an unattractive option because it is complex, costly and most important, as discussed below, the Australian dollar provides a natural hedge. ▲

For those investing within a super fund framework, the recent 'Your Future, Your Super' ('YFYS') regulations have added additional complexity to building portfolios. EMD can pose a challenge within this new regime, being an 'off-benchmark' allocation, but it can also benefit portfolios in potentially generating meaningful excess returns, which we explore further below.

## What are some of the key portfolio characteristics of EMD?

The first step to considering an allocation to EMD is to understand the volatility and correlation characteristics of the asset class.

A common perception among investors is that local currency EMD is more volatile than hard currency EMD. However, volatility depends on the home currency of the investor. As shown in Exhibit 1, local currency EMD has exhibited relatively high volatility over the past 10 years for US investors, averaging 11.9%, significantly higher than hard currency EMD volatility of 8.0% over the same period. For Australian investors, however, not only has the volatility of local currency EMD been much lower over the past 10 years, at 7.6% on average, but it has also exhibited lower volatility historically than hard currency EMD, which has averaged 8.9%. We also see that hedging the US dollar exposure from hard currency EMD has reduced the overall volatility for an Australian investor from 8.9% to 8.0%.

### Exhibit 1–10-year volatility and correlation for emerging market debt indices

Volatility	EMD local currency	EMD hard currency (unhedged)	EMD hard currency (AUD hedged)
In US dollar terms	11.90%	8.00%	N/A
In Australian dollar terms	7.60%	8.90%	8.10%

Source: FactSet SPAR. EMD hard currency = JPMorgan EMBI Global Diversified Index, EMD local currency = J.P. Morgan GBI-EM Global Diversified Index. Data for the period 31 July 2011 through 31 July 2021.

Exhibit 2 shows the correlations between the different EMD assets in both USD and AUD. The lower volatility of local currency EMD for Australian investors is due to the high positive correlation between local currency EMD and the Australian dollar, has been 0.78 over the past 10 years. So when local currency EMD has a positive (negative) return in USD, this tends to be partially matched by appreciation (depreciation) of the Australian dollar against the USD, which dampens the volatility of local currency EMD returns when they are measured in Australian dollars.

The correlation between local currency EMD and hard currency EMD is much lower for Australian investors. Exhibit 2 shows that the correlation between local currency and hard currency EMD returns is high at 0.81 when returns are in US dollars. In contrast, when returns are in Australian dollars, particularly when the hard currency EMD is hedged, this correlation is much lower, at 0.41.

### Exhibit 2: Historical 10-year correlation

#### Historical 10-Year Correlation of USD Returns

Correlation	Hard currency EMD	Local currency EMD	Australian dollar
Hard Currency EMD	1.00	0.81	0.61
Local Currency EMD	0.81	1.00	0.78
Australian dollar	0.61	0.78	1.00

#### Historical 10-Year Correlation of AUD Returns

Correlation	EMD local currency	EMD hard currency (unhedged)	EMD hard currency (AUD hedged)
EMD local currency	1.00	0.62	0.41
EMD hard currency (hedged)	0.41	0.18	1.00
EMD hard currency (unhedged)	0.62	1.00	0.18

Source: FactSet SPAR, Bloomberg. Australian dollar – Ice BofA Australia Deposit Offered Rate Constant Maturity (3M) index EMD hard currency = JPMorgan EMBI Global Diversified Index, EMD local currency = JPMorgan GBI-EM Global Diversified Index. Data for the period 31 July 2011 through 31 July 2021.

An important characteristic Australian investors should consider is the low correlation of EMD with other assets commonly held in Australian portfolios. Exhibit 3 below shows 10-year historical correlations of EMD with several of these asset classes. Those correlations are relatively low, ranging from 0.10 to 0.62 which indicates that EMD could potentially help to diversify broader portfolio risk.

### Exhibit 3: Historical correlations between EMD and other asset classes

	Global equities	Australian equities	Australian bonds	Global bonds (AUD hedged)
EMD local currency	0.30	0.21	0.29	0.37
EMD Hard Currency (AUD Hedged)	0.27	0.62	0.10	0.50
EMD Hard Currency (Unhedged)	0.37	0.08	0.52	0.41

Source: FactSet, SPAR. Correlations based on data for the period 31 July 2011 through 31 July 2021 for the following indices: Australian bonds – Bloomberg Barclays Australia 7-10 year Index, Global bonds – Bloomberg Barclays Global Aggregate Index (AUD hedged), Australian Equities – MSCI Australia, Global Equities – MSCI ACWI Index (net), EMD Local Currency – JPMorgan GBI-EM Diversified Index, EMD Hard Currency – JP Morgan EMBI Global Diversified (Index AUD hedged).

These three characteristics of EMD — the lower volatility of local currency EMD, the lower correlation between local currency and hard currency EMD, and the low correlation of EMD with other assets commonly held in Australian portfolios — suggest that Australian investors should consider taking a different approach to EMD than US investors. In fact, we believe the Australian investor could benefit more than the US-based investor from an allocation to local currency EMD and from blending local and hard currency EMD in their portfolios.

### Incorporating EMD into an Australian investor's portfolio

To assess the impact of EMD in a broader Australian portfolio, we first need to consider how returns could play out over the next several years. To do this, we estimated the potential returns that an Australian investor might experience from EMD over the next 10-years by starting with the current yield, and then adjusting for hedging costs, default rates and currency depreciation based on current market conditions.<sup>1</sup> We then made volatility estimates based on historical experience and calculated the resulting Sharpe ratios, as shown in Exhibit 4.

### Exhibit 4: Forecasted EMD returns, volatility and Sharpe ratios

Index	EMD local currency	EMD hard currency (unhedged)	EMD hard currency (AUD hedged)
Estimated annual return above projected AUD cash rate	4.40%	4.20%	4.00%
Estimated volatility	7.60%	8.90%	7.10%
Estimated Sharpe ratio	0.59	0.48	0.57

Source: Bloomberg, FactSet, S&P Global Ratings Research, S&P Global Market Intelligence. EMD hard currency = JPMorgan EMBI Global Diversified Index, EMD local currency = JPMorgan GBI-EM Global Diversified. Estimated hard currency returns are based on index yields as of 31/7/2021 adjusted by 17 basis points to reflect estimated cost of hedging hard currency index, and also adjusted by 70 basis points to reflect long term historical average of default and recovery. Estimated default rate based on weighted average sovereign net annual foreign currency credit rating default from 1975 to 2020. Estimated recovery rate based on Moody's Investors Services, "Sovereign Default and Recovery Rates, 1983-2017," as of 2018 July. Estimated local currency returns are based on index yield as of 31/7/2021 adjusted by 50 basis points to account for projected differential in inflation between Australia and countries in the JPMorgan GBI-EM Global Diversified Index, based on weights as of 31/3/2021. Estimated volatility for EMD local currency and hard currency unhedged is based on period 31 July 2011 through 31 July 2021. Estimated volatility for EMD hard currency AUD hedged is assumed to be 20% lower than EMD hard currency unhedged based on MFS analysis of historical relationship in volatility. AUD cash rate assumed to be 0% based on current cash rates. Returns shown are geometric returns.

Using these assumptions, we estimate similar and relatively attractive Sharpe ratios for all three EMD assets. For hard currency EMD, we see the Sharpe ratio is higher when returns are hedged back into Australian dollars as compared to unhedged. Under our scenario assumptions, the benefits of hedging, which reduces volatility by 1.8%, outweigh the cost of the hedge, which reduces the forecasted return by only 0.2%. We think for most reasonable forecasts, the benefits of hedging will outweigh the costs.

We looked at a range of return assumptions and found that the benefits to an EMD allocation were not impacted strongly by different assumptions on returns. We believe the reason for this is that the benefits are primarily driven by the low correlations of EMD with the other assets in the portfolios.

To analyse the potential benefits of a blended approach to EMD for Australian investors, we modelled varying combinations of local and hard currency EMD (hedged), as shown in Exhibit 5. We see that the highest Sharpe ratios occur within a range of 30%/70% and 70%/30% hard currency/local currency EMD. Moreover, the Sharpe ratio for the blended EMD portfolios is higher than either unblended EMD portfolio. This synergy is a result of the low correlation between hedged hard currency EMD and local currency EMD that we see in Exhibit 1. This leads us to conclude that a 50/50 blend of hard and local currency could potentially be an attractive way to implement the asset class for Australian investors.

#### Exhibit 5: Blending EMD hard and local currency

EMD hard currency AUD hedged weight	EMD local currency weight	Expected return	Expected risk	Expected Sharpe ratio
0	100	4.50%	7.60%	0.59
10	90	4.40%	7.10%	0.62
20	80	4.40%	6.80%	0.65
30	70	4.40%	6.50%	0.67
40	60	4.40%	6.30%	0.69
50	50	4.30%	6.20%	0.70
60	40	4.30%	6.20%	0.69
70	30	4.30%	6.30%	0.68
80	20	4.20%	6.50%	0.65
90	10	4.10%	6.80%	0.61
100	0	4.10%	7.10%	0.57

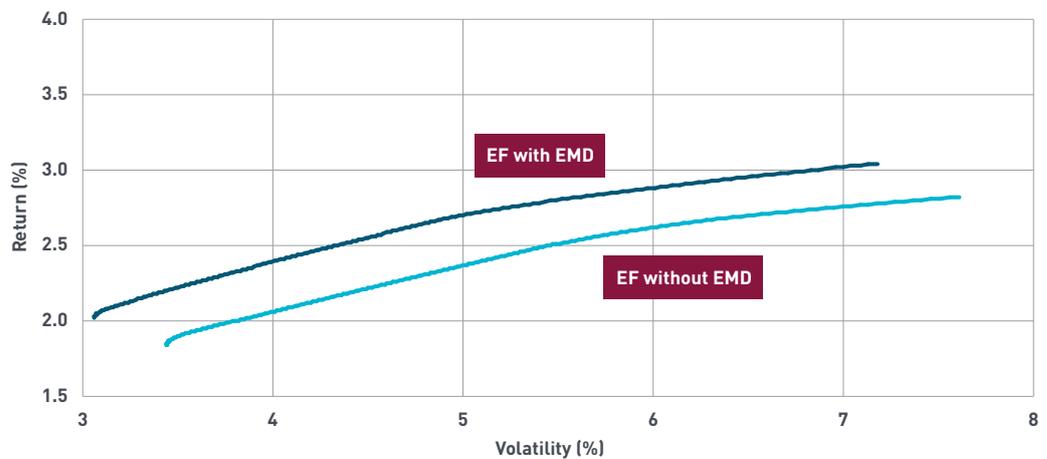
Note: EMD hard currency = JPMorgan EMBI Global Diversified Index, EMD local currency = JPMorgan GBI-EM Global Diversified. Estimated hard currency returns are based on index yields as of 7/31/2021 adjusted by 17 basis points to reflect estimated cost of hedging hard currency index, and also adjusted by 70 basis points to reflect long term historical average of default and recovery. Estimated default rate based on weighted average sovereign net annual foreign currency credit rating default from 1975 to 2020. Estimated recovery rate based on Moody's Investors Services, 'Sovereign Default and Recovery Rates, 1983-2017', as of July 2018. Estimated local currency returns are based on index yield as of 7/31/2021 adjusted by 50 basis points to account for projected differential in inflation between Australia and countries in the JPMorgan GBI-EM Global Diversified Index, based on weights as of 3/31/2021. Estimated volatility for EMD local currency and hard currency unhedged is based on the period 7/31/2011 to 7/31/2021. Estimated volatility for EMD hard currency AUD hedged is assumed to be 20% lower than EMD hard currency unhedged based on MFS analysis of historical relationship in volatility. AUD cash rate assumed to be 0% based on current cash rates. Returns shown are arithmetic returns.

To determine how EMD might fit within a typical Australian portfolio, we compared forward-looking efficient portfolio frontiers with and without EMD, as shown in Exhibit 6. The efficient frontier without EMD shows a set of different portfolios whose expected volatility ranges from 3.5% to 7.5%, which covers a wide range of portfolios typically used by Australian investors. The efficient frontier with EMD allows for up to a 10% allocation of the 50/50 EMD blend to the portfolios, although given the high Sharpe ratio of EMD and its low correlation with the other assets, the optimisation process always resulted in a full 10% allocation to the 50/50 blend in this efficient frontier.

There are three important things we can learn from this analysis. First, we can see the diversification benefits are significant, with a 10% allocation to EMD potentially providing an additional 20 to 30 basis points of total return for the same level of risk, or potentially reducing portfolio volatility by nearly 100 basis points for the same level of return. Second, much of the benefit comes from the reduction in portfolio volatility, which stems primarily from the low correlation of EMD and is therefore less dependent on the forward-looking return forecasts. Third, the two efficient frontier lines are almost parallel. This suggests that an allocation to EMD is beneficial to wide range of portfolios, from a very defensive low-volatility portfolio to an aggressive high-volatility portfolio.

**Exhibit 6: Forward-looking efficient frontiers with and without EMD**

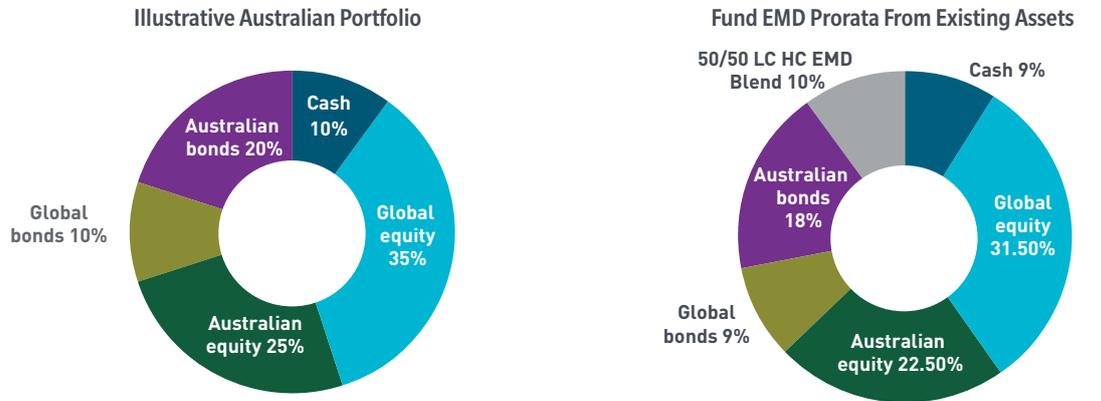
■ Efficient Frontier With EMD    ■ Efficient Frontier Without EMD



Source: MFS analysis. Forward looking efficient frontier based on MFS 2021 July *Long Term Capital Market Expectations* (Australian edition) for these same asset classes. See Assumptions and Methodologies for more detail on calculations. Projections are for illustrative purposes only and are not promises or estimates of actual returns.

As a final step, we analysed how a 50/50 blend of EMD might impact a hypothetical Australian portfolio. This portfolio is a simplified version of a moderate risk portfolio, with 10% cash, 30% fixed income and 60% equity. In this exercise we allocated 10% of the 50/50 EMD blend while reducing the other assets on a pro rata basis. Exhibit 7 shows that this allocation has both lower risk and higher return projections, resulting in a significant improvement to the portfolio's Sharpe ratio.

Exhibit 7: Impact of incorporating EMD scenario analysis



- EMD can potentially enhance portfolio returns or reduce risk in an Australian portfolio.
- In this example, we show the impact of introducing a 10% allocation to EMD into a portfolio by reducing the existing allocation on a prorata basis.
- This results in an overall improvement in expect risk adjusted returns.

	Illustrative Portfolio	Portfolio with EMD allocation
Expected Return	2.20%	2.40%
Expected Risk	6.20%	5.90%
Expected Sharpe Ratio	0.35	0.41

Source: MFS Analysis. Beginning asset allocation assumed to be 10% cash, 20% Australian fixed income, 10% global fixed income, 25% Australian equities, 35% global equities. EMD allocation assumed to be 50% hard currency AUD hedged /50% local currency. Historical risk and correlations based on data for the period 31 July 2011 through 31 July 2021 for the following indices: Cash – ICE BofA Australia Deposit Offered Rate Constant Maturity (3M) index, Australian Fixed Income – Bloomberg Barclays Australia 7-10 year, Global Fixed Income – Bloomberg Barclays Global Aggregate (AUD hedged), Australian Equities - MSCI Australia, Global equities- MSCI ACWI (net), EMD Local Currency – JPMorgan GBI-EM Diversified Index, EMD Hard Currency – JPMorgan EMBI Global Diversified (AUD hedged). Estimated volatility for EMD hard currency AUD hedged is assumed to be 20% lower than EMD hard currency unhedged based on MFS analysis of historical relationship in volatility. Projections are for illustrative purposes only and are not promises or estimates of actual returns.

Our analysis highlights the flexibility of EMD as an asset class for Australian investors, possessing potential benefits such as increased returns or reduced risk. Which benefits depends on what assets are reduced as EMD is added to the portfolio. For example, instead of reducing assets on a pro rata basis as we did in this example, a higher level of risk reduction could be attained by replacing only equity assets with EMD. Alternatively, a higher level of return could be attained by replacing only fixed income assets with EMD.

One final consideration for local superannuation fund investors, which is undoubtedly top of mind currently, is what impact a dedicated allocation to EMD would have on a YFYS performance test. As we know the benchmark that is used for global fixed income in the test is the Bloomberg Barclays Global Aggregate Index (hedged in AUD). Accordingly, a dedicated allocation to EMD will create tracking error relative to this benchmark. On that basis, the key question is, will that allocation be additive to overall performance, and will it therefore help a fund in passing the test? Based on the analysis we have done; we think the answer is yes.

## Conclusion

We believe there is a compelling case for Australian investors to consider a strategic allocation to EMD. EMD allows investors to gain access to relatively higher growth and higher productivity economies than developed market economies. The asset class has matured both in terms market size and market liquidity. Today, many EMD issuers have robust debt profiles and are of a higher credit quality than in the past. For Australian investors, the diversification benefits of an allocation to EMD are particularly compelling given the low correlation of EMD with other assets typically held in Australian portfolios. Moreover, the low correlation between of local currency EMD and hard currency EMD suggests that the Australian investor should be alert to the opportunity potentially presented by a blended EMD approach. ▲

## Assumptions and methodologies

## Risk, return and correlations used in Exhibit 6

	Cash	Global equities	Australian equities	Australia 7–10 year bonds	Global aggregate bonds	EMD local currency (Unhedged)	EMD hard currency (Hedged)	EMD hard currency (Unhedged)	
Risk/Return	Forward-looking return (%)	0.00%	1.80%	2.60%	2.30%	1.60%	4.50%	4.10%	4.30%
	Historical risk (%)	0.40%	10.20%	13.80%	5.30%	2.80%	7.60%	7.10%	8.90%
Correlation	Cash	1.0	-0.1	-0.04	0.22	0.27	-0.04	0.16	0.02
	Global equities	-0.1	1.0	0.49	-0.2	-0.23	0.24	0.01	0.3
	Australian equities	-0.04	0.49	1.0	-0.24	-0.03	0.02	0.4	-0.21
	Australia 7–10 year bonds	0.22	-0.2	-0.24	1.0	0.7	0.27	0.12	0.52
	Global aggregate bonds	0.27	-0.23	-0.03	0.7	1.0	0.31	0.49	0.32
	EMD local currency (Unhedged)	-0.04	0.24	0.02	0.27	0.31	1.0	0.29	0.6
	EMD hard currency (Hedged)	0.16	0.01	0.4	0.12	0.49	0.29	1.0	-0.12
	EMD hard currency (Unhedged)	0.02	0.3	-0.21	0.52	0.32	0.6	-0.12	1.0

## Efficient frontier constraints used in Exhibit 6

Asset Classes	Illustrative allocation	Min	Max
Cash	10%	0%	20%
Australian Fixed Income	20%	0%	30%
Global Fixed Income	10%	0%	20%
EMD-Hard Currency (Hedged)	0%	0%	5%
EMD-Local Currency (Unhedged)	0%	0%	5%
Australian Equities	25%	0%	40%
Global Equities	35%	0%	50%

## Endnotes

<sup>1</sup> For most bonds, current yields typically provide the best forecast for returns over long horizons such as the 10-year horizon we are using in this exercise.



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