



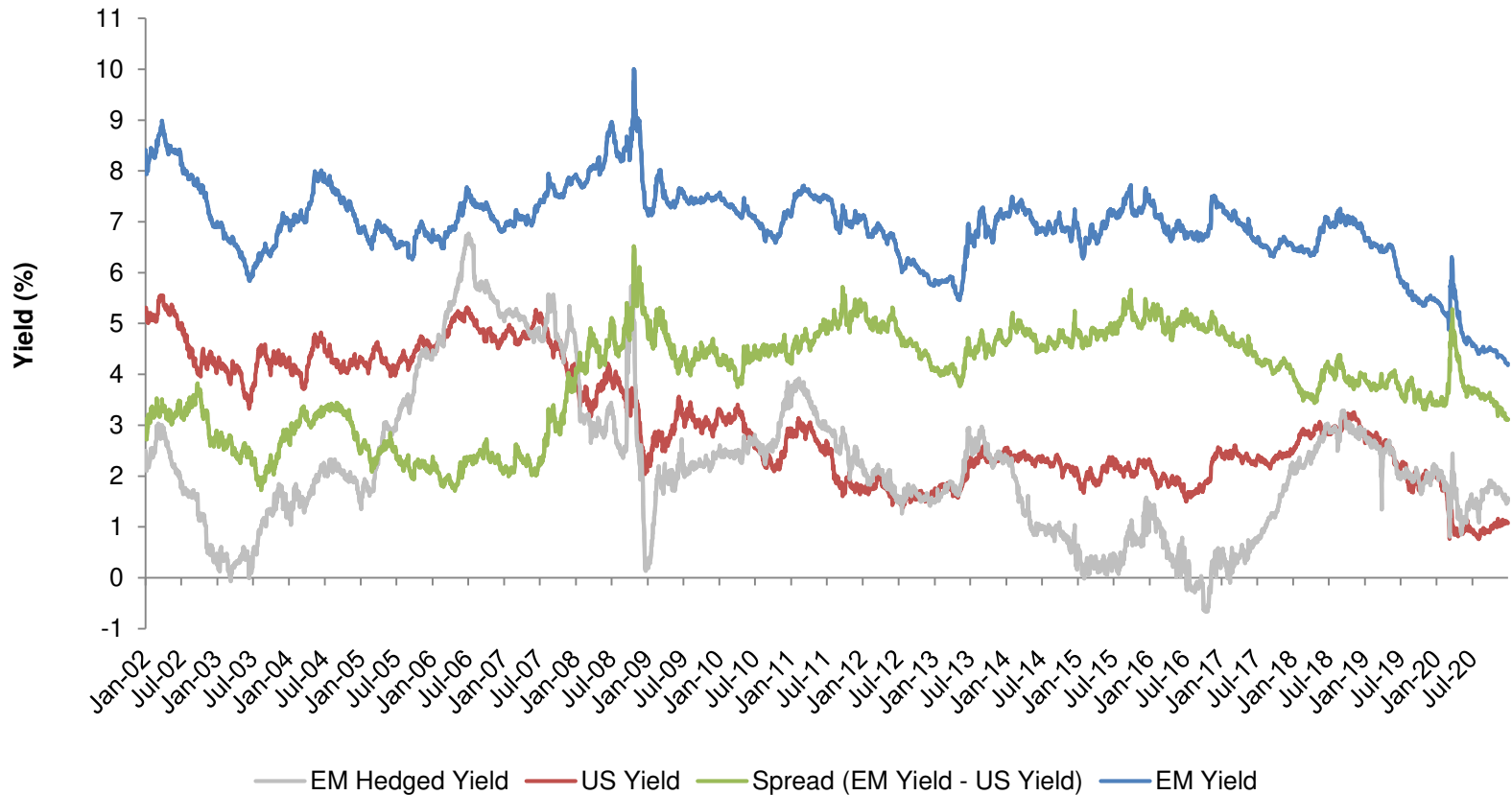
Emerging Market Currency

Emerging Markets Currency – Investment Characteristics

- Emerging markets economic growth is generally strong
- Emerging markets yields and inflation are higher than average
- Currency depreciation historically has not dominated the yield advantage
- Individual currencies historically have had higher than average volatility and have been subject to sharp devaluations
- A basket of currencies is significantly less volatile and appears to offer a systematic yield advantage
- Emerging market currency is correlated with equity markets and other risky assets
- Investors should separately manage their emerging market currency exposure to add return and manage risk

Emerging Market Yields are Higher Than Average

EM vs US Yield* (Jan 2002 - December 2020)



*Aggregate Yields;

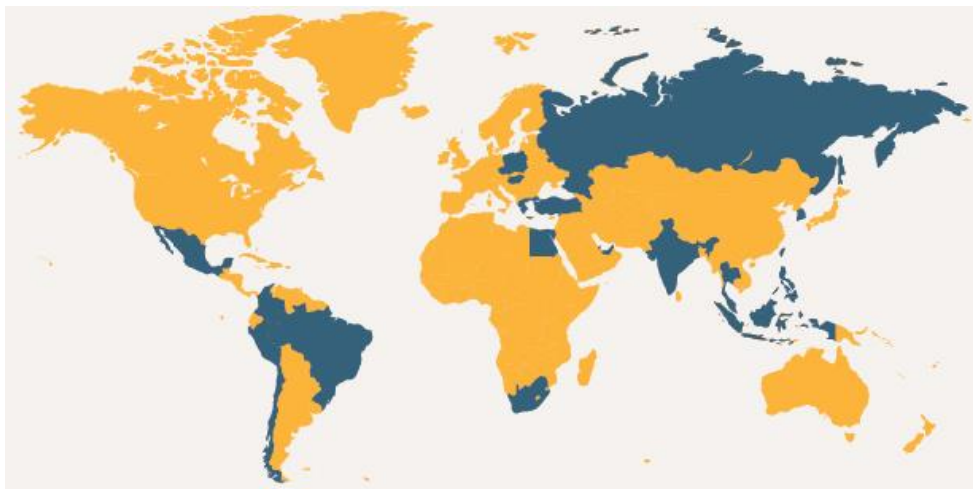
EM = JPM GBI-EM Global Bond Index

US = JPM GBI - US Bond Index

Source: JP Morgan, AL&P

Emerging Currency Exposure and Risk – an Illustration

Emerging Market Equity Portfolio



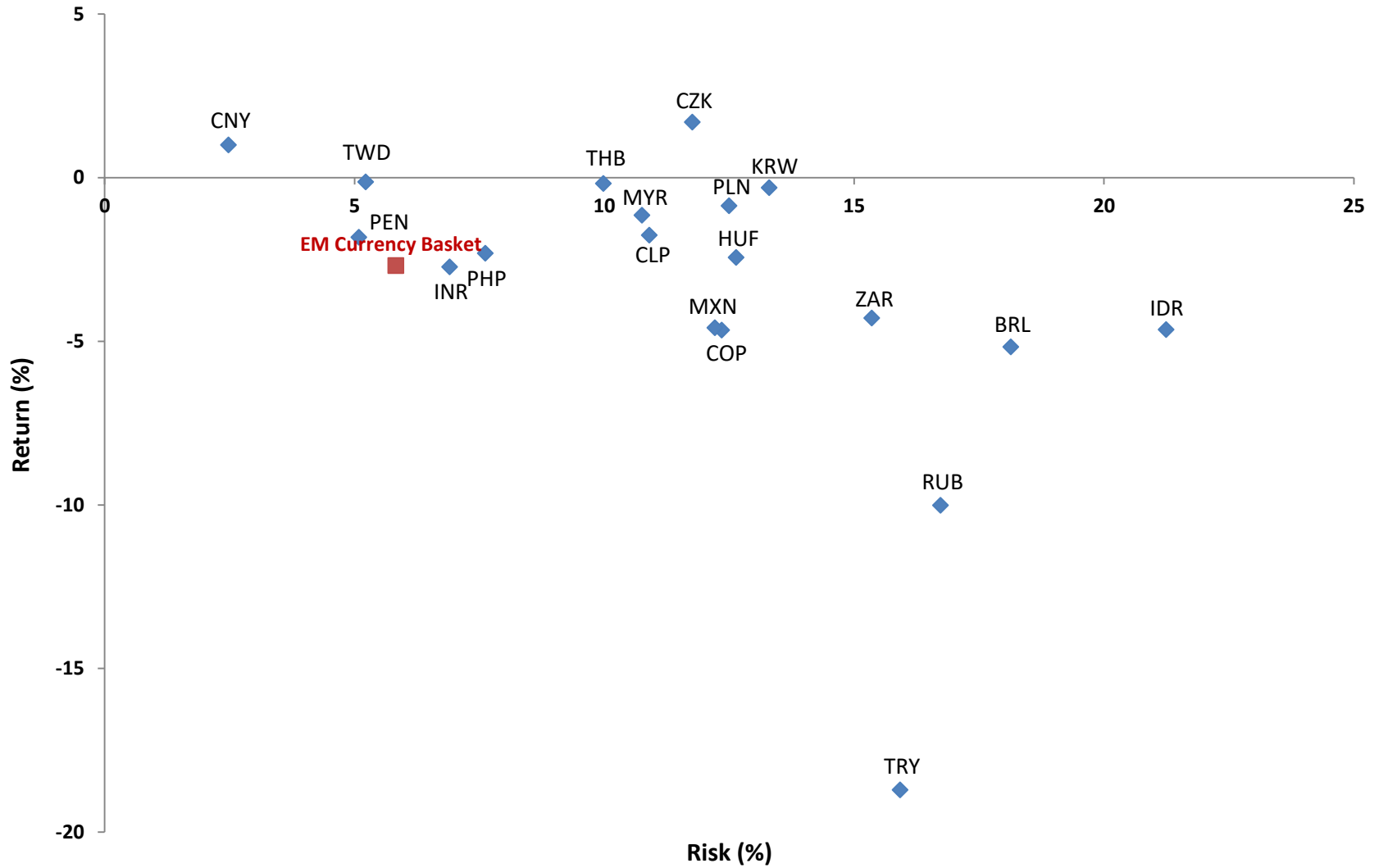
<u>Regional Currency Exposures</u>	
EMEA	10.1%
Emerging Asia	81.9%
LatAm	8.0%



	<u>Typical Exposures (%)</u>	<u>Currency Risk (%)</u>
CZK	0.1%	11.9%
HUF	0.2%	14.3%
PLN	0.7%	13.7%
RUB	3.0%	15.3%
ZAR	3.6%	16.2%
TRY	0.4%	15.1%
EGP	0.1%	13.3%
QAR	0.7%	1.2%
AED	0.6%	0.2%
SAR	0.6%	0.2%
CNY	41.6%	5.0%
IDR	1.4%	9.7%
INR	8.3%	8.3%
PKR	0.0%	5.3%
KRW	13.1%	8.9%
MYR	1.7%	7.4%
PHP	0.8%	5.8%
THB	2.0%	6.0%
TWD	13.0%	4.9%
ARS	0.1%	19.0%
BRL	5.1%	16.1%
CLP	0.5%	12.0%
COP	0.2%	14.2%
MXN	1.8%	11.7%
PEN	0.3%	5.6%
EUR	0.1%	9.6%
	100%	5.1%

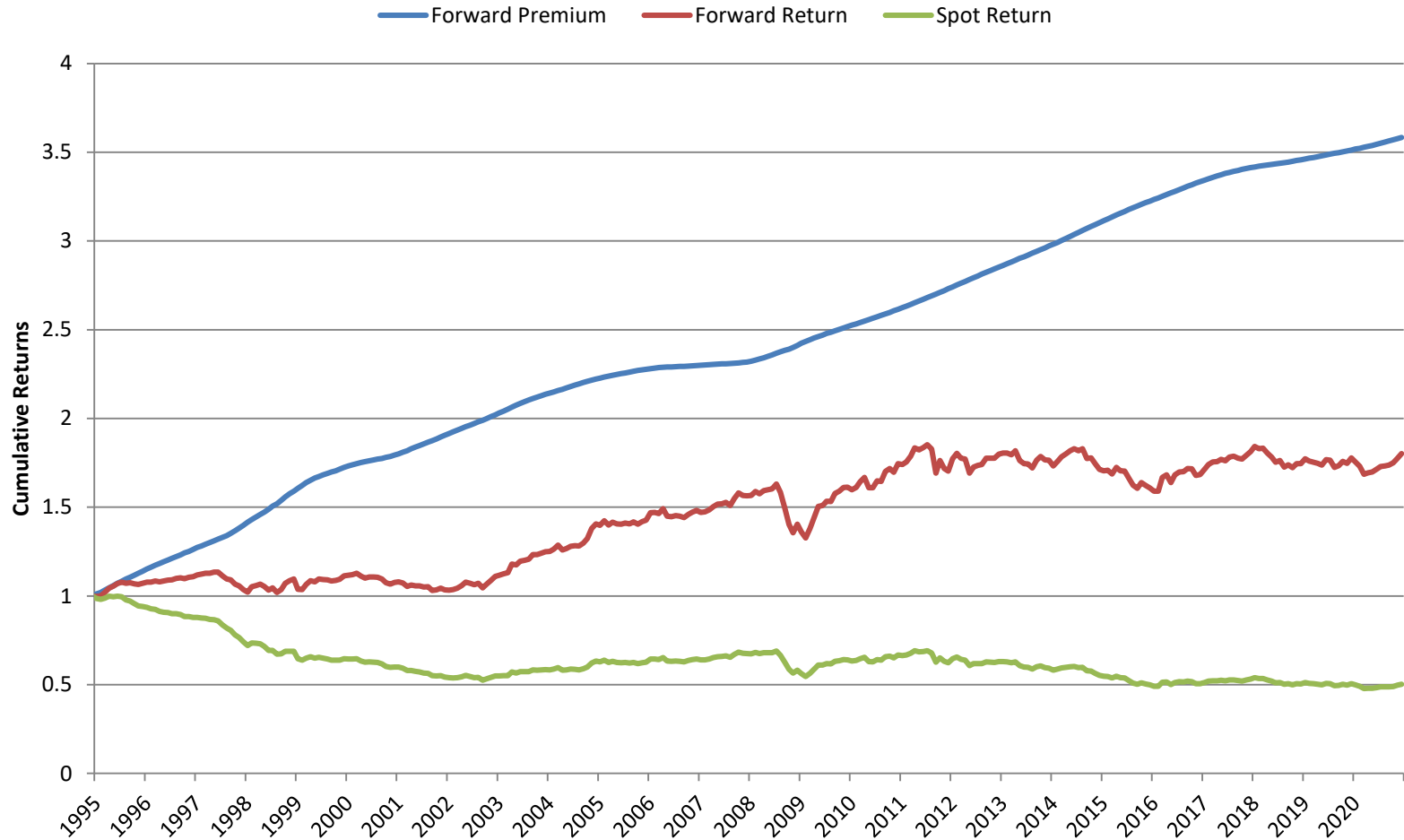
Source: MSCI EM as at Dec 2020, AL&P

Risk and Return to Emerging Currencies (1995 – 2020)



Source: Datastream, AL&P

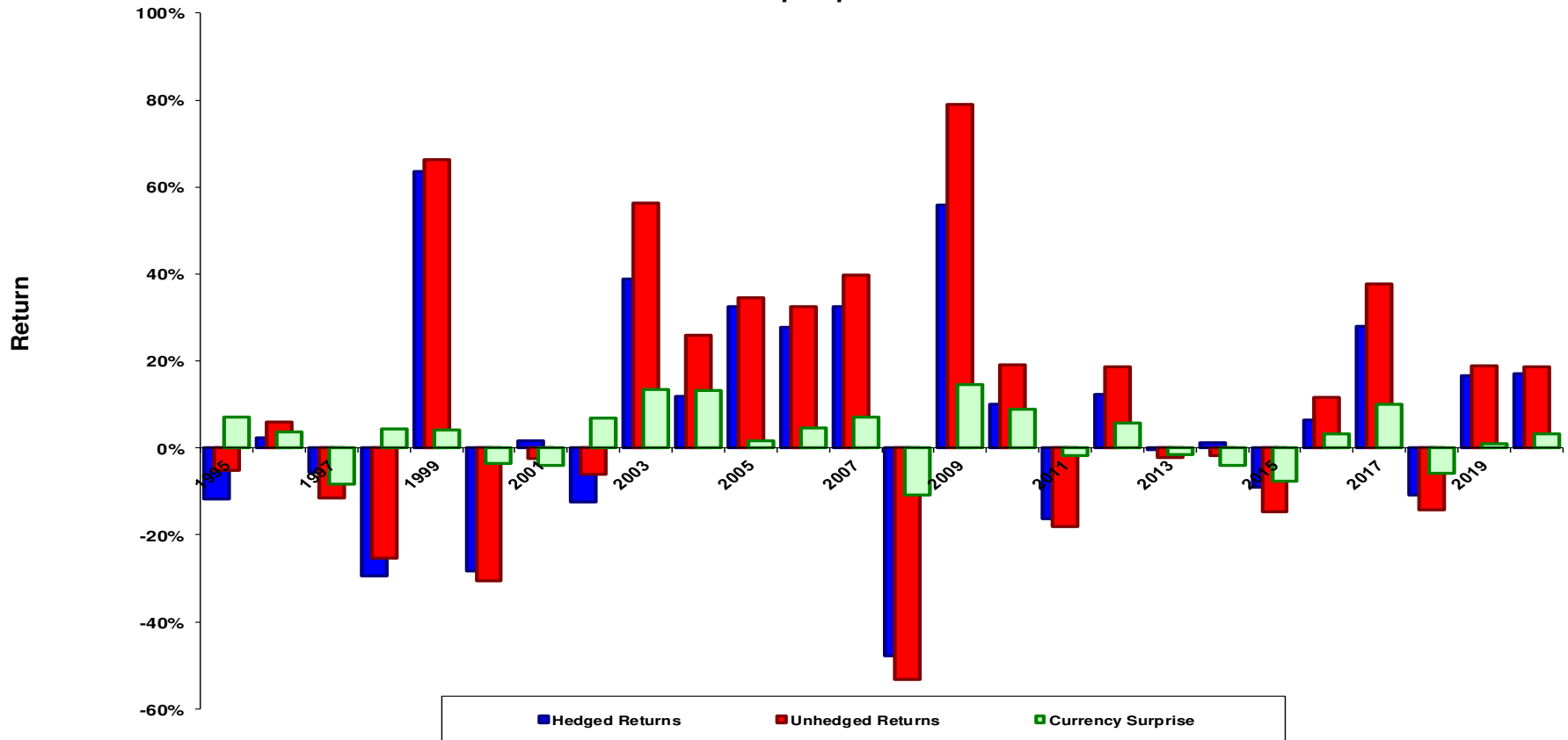
Emerging Market Currency Depreciation Historically Has Not Dominated the Yield Advantage



Source: Datastream, AL&P

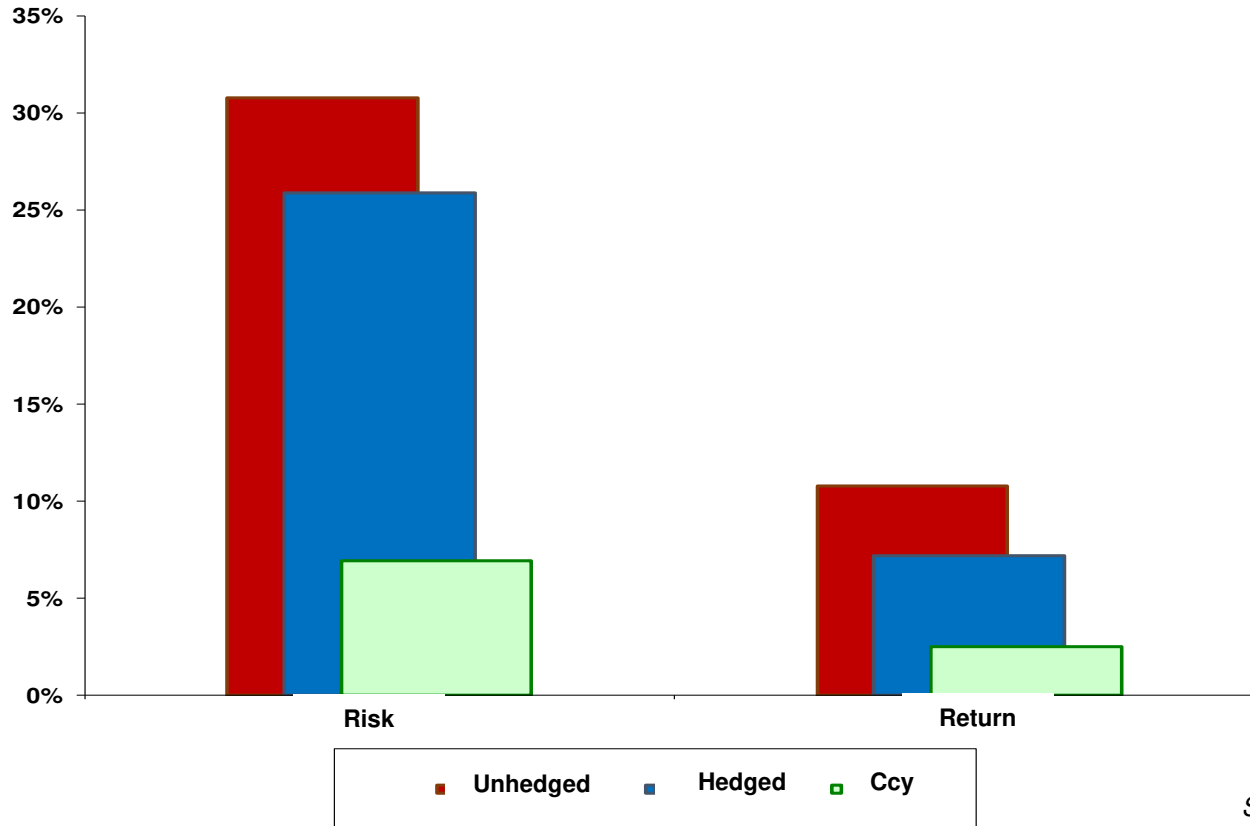
Emerging Market Equity Returns (1995-2020)

US perspective



Source: MSCI, AL&P

Emerging Market Equity Risk and Return (1995-2020)




Source: MSCI, AL&P

- Hedged equity and currency correlation: 0.66

Emerging Currency is Positively Correlated with Assets

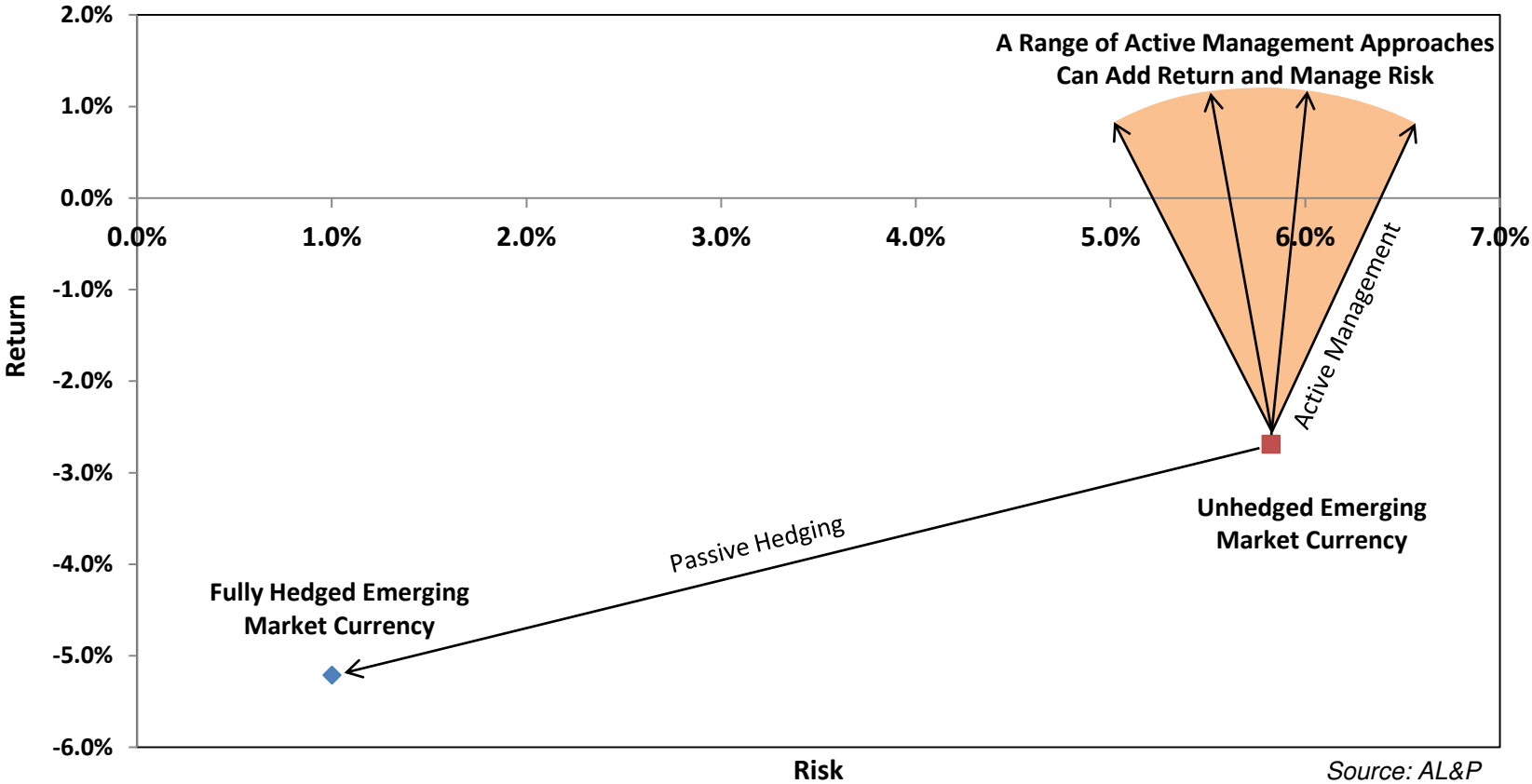
Correlation Between Equity Markets and Currency (2002 – 2020)

	CZK	HUF	ILS	PLN	RUB	ZAR	TRY	CNY	IDR	INR	KRW	MYR	PHP	THB	TWD	BRL	CLP	COP	MXN	PEN	
Czech Republic	0.27																				
Hungary	0.32	0.45																			
Israel	0.11	0.16	0.19																		
Poland	0.26	0.38	0.25	0.48																	
Russia	0.40	0.46	0.28	0.50	0.39																
South Africa	0.34	0.34	0.24	0.42	0.30	0.23															
Turkey	0.20	0.28	0.23	0.34	0.23	0.44	0.50														
China	0.40	0.45	0.30	0.51	0.40	0.48	0.35	0.24													
Indonesia	0.39	0.42	0.29	0.45	0.27	0.44	0.49	0.14	0.59												
India	0.28	0.35	0.30	0.38	0.24	0.39	0.36	0.09	0.45	0.53											
Korea	0.23	0.25	0.30	0.38	0.31	0.35	0.38	0.20	0.39	0.35	0.39										
Malaysia	0.24	0.35	0.23	0.38	0.27	0.36	0.36	0.11	0.36	0.37	0.34	0.37									
Philippines	0.16	0.24	0.21	0.29	0.24	0.29	0.30	0.13	0.36	0.36	0.25	0.30	0.35								
Thailand	0.37	0.43	0.34	0.42	0.35	0.49	0.41	0.13	0.49	0.39	0.39	0.38	0.38	0.52							
Taiwan	0.30	0.33	0.27	0.41	0.32	0.34	0.28	0.16	0.36	0.40	0.42	0.34	0.22	0.33	0.47						
Brazil	0.41	0.46	0.32	0.52	0.46	0.55	0.43	0.17	0.43	0.37	0.36	0.43	0.30	0.44	0.40	0.59					
Chile	0.26	0.32	0.27	0.35	0.31	0.36	0.35	0.15	0.35	0.37	0.28	0.32	0.23	0.34	0.30	0.48	0.33				
Colombia	0.33	0.38	0.22	0.35	0.29	0.41	0.39	0.12	0.39	0.27	0.27	0.30	0.25	0.33	0.27	0.31	0.34	0.43			
Mexico	0.32	0.39	0.32	0.46	0.34	0.43	0.44	0.12	0.43	0.33	0.39	0.34	0.28	0.36	0.37	0.44	0.42	0.50	0.45		
Peru	0.43	0.44	0.27	0.47	0.40	0.50	0.38	0.21	0.45	0.39	0.44	0.45	0.35	0.50	0.39	0.51	0.43	0.49	0.40	0.31	

 Correlation > 0.3

Correlation of monthly local returns of MSCI country indices and currency

Effect of Active and Passive Emerging Market Currency Management



Emerging Markets Spot and Forward Markets are Very Liquid

As at Q3 2020

Currencies	1-way Annual Transaction Cost (bp)		
	Daily Volume (\$bn)	\$20m trade	
	Spot/FWD/NDF	3Mth	6Mth
Indonesian Rupiah	0.7	11.8	11.8
Malaysian Ringgit	0.1	38.1	28.6
Philippine Peso	0.4	8.5	8.2
Chinese Renminbi	16	1.3	1.2
South Korean Won	2.5	3.0	2.5
Taiwan Dollar	1.75	11.2	6.0
Indian Rupee	2.5	3.4	2.7
Thai Baht	1.1	12.9	8.1
Czeck Koruna	1.5	9.3	8.4
Hungarian Forint	1.5	6.9	6.2
Polish New Zloty	3.5	5.5	5.0
Russian Rouble	5.5	2.8	2.8
South African Rand	3.5	5.6	5.6
Turkish Lira	4.5	22.3	14.2
Israeli Shekel	1.5	5.9	5.9
Brazilian Real	2.5	5.3	5.5
Chilean Peso	0.45	5.3	5.3
Mexican Neuvo Peso	15	5.5	5.5
Columbian Peso	0.35	13.5	12.8
Peruvian New Sol	0.175	12.7	11.3
Typical Annual EM Transaction Cost		9.7	8.0

Time Zones for trading (GMT)

22.30 ~ 08.30	07.30 ~ 16.30	13.00 ~ 22.00
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Source: BIS, AL&P

Emerging Markets Currency - Conclusions

- There is a weak yield advantage to holding emerging currency or using an unhedged benchmark
- Tactical active management significantly enhances return to emerging markets currency exposure and can protect against sharp devaluations