

# ***EMERGING MARKETS FX***

# Outline

- Reference of all EM Currencies
- Differences between EM currencies and G10 currencies
- Core/Periphery Theory — The tug of war between USD and EM
- Multi-factor framework for analyzing EM currencies

# Asia

Chinese renminbi (CNY)

Offshore Chinese renminbi (CNH)

Bangladeshi taka (BDT)

Brunei dollar (BND)

Hong Kong dollar (HKD)

Indonesian rupiah (IDR)

Indian rupee (INR)

Mauritian rupee (MUR)

Malaysian ringgit (MYR)

Philippine peso (PHP)

Singapore dollar (SGD)

South Korean won (KRW)

Sri Lankan rupee (LKR)

Taiwan dollar (TWD)

Thai baht (THB)

Vietnamese dong (VND)

# Europe/Middle East/Africa

Bahraini dinar (BHD)

Croatian kuna (HRK)

Czech koruna (CZK)

Egyptian pound (EGP)

Hungarian forint (HUF)

Israeli shekel (ILS)

Jordanian dinar (JOD)

Kazakh tenge (KZT)

Kuwaiti dinar (KWD)

Omani rial (OMR)

Polish zloty (PLN)

Qatari riyal (QAR)

Romanian leu (RON)

Russian rouble (RUB)

Saudi riyal (SAR)

South African rand (ZAR)

Turkish lira (TRY)

UAE dirham (AED)

# Latin America

Argentine peso (ARS)

Brazilian real (BRL)

Chilean peso (CLP)

Colombian peso (COP)

Mexican peso (MXN)

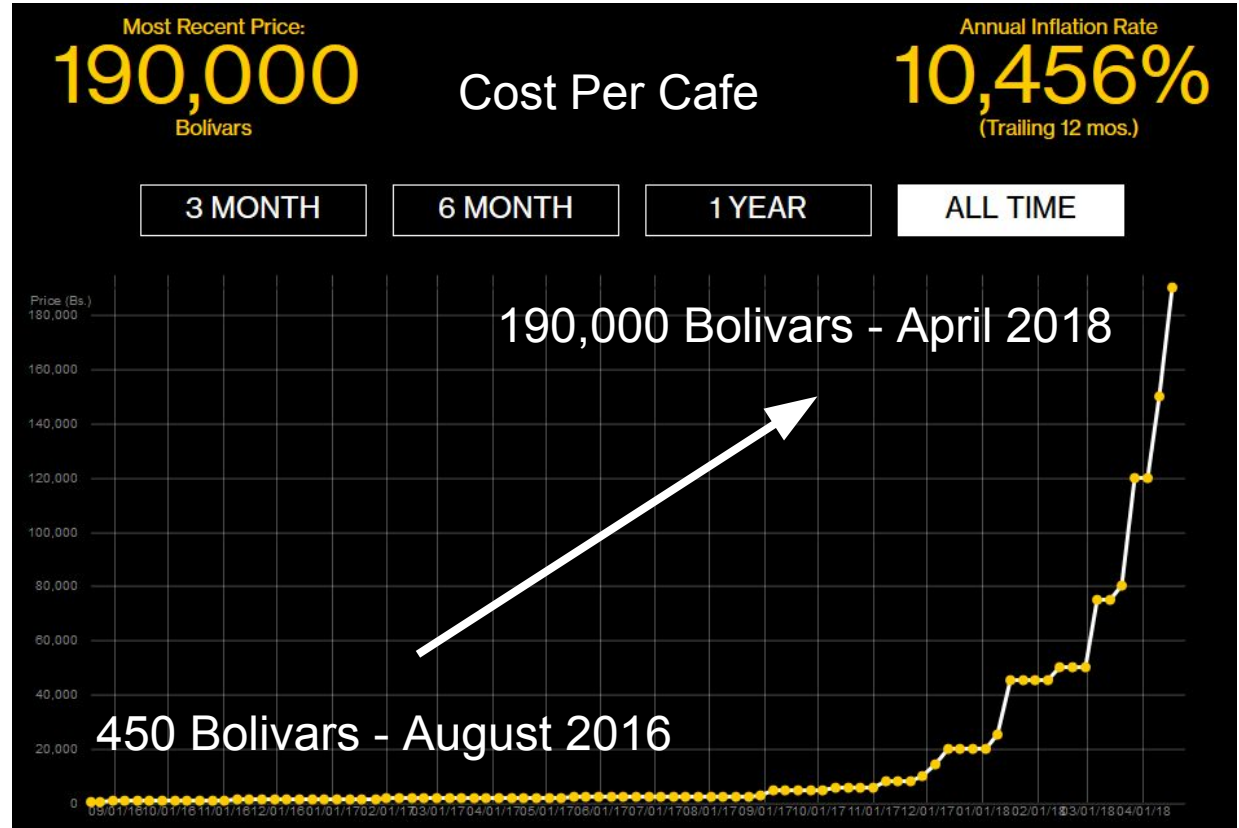
Peruvian sol (PEN)

Uruguayan peso (UYU)

RIP Venezuelan Bolivar



# Cafe Con Leche Index



# Most Popular & Interesting

- Rouble (Russia)
- Renminbi/Yuan (China)
- Real (Brazil)
- Rupee (India)
- Peso (Mexico)
- Lira (Turkey)

# Differences Between G10 and EM

- **Higher levels of inflation**
  - Rapid growth and more economic inefficiencies = more inflation
  - Higher probability of hyperinflation due to government mismanagement/corruption
- **Higher levels of interest rate volatility**
  - Capital inflows from G10 have a large effect on smaller emerging markets
  - Easy for these flows to move the market around (less liquidity)
- **Higher Political risk**
  - Military coups
  - Unpeaceful regime changes



# Core/Periphery Review

- If you want to understand EM FX you first need to understand USD theory because the dollar drives everything, it's the lynchpin macro asset
- Reserve currency is the US dollar
- Core = G10 (mostly USD)
- Periphery = Riskier Emerging Markets
- [Vault doc on Core/Periphery Theory](#)

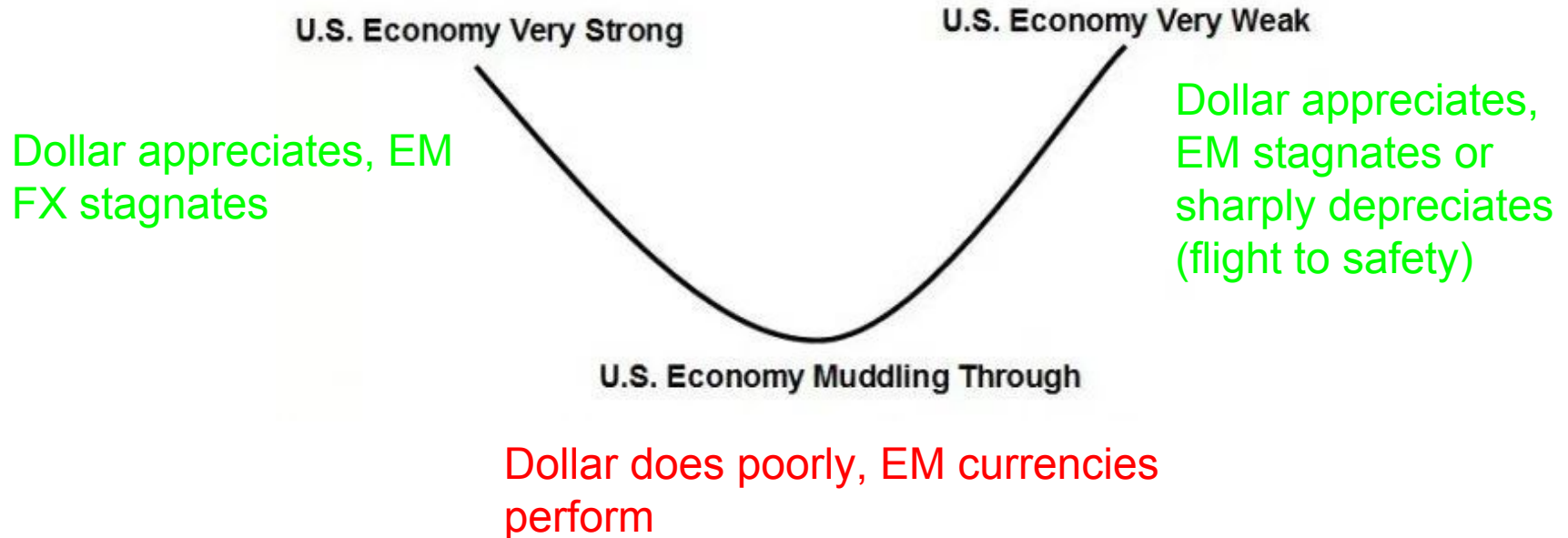
# Core/Periphery Review

- Capital is constantly sloshing around the world in search of the highest total return
- When investors feel confident they travel out to the periphery to earn higher returns, this is usually accompanied by a “risk-on” regime, core currencies go into bear markets because people are selling them to fund trades, EM currencies go higher
- When investors lose their risk appetite the opposite happens, money comes flowing back from the periphery and into the core, core currencies go into a bull market, EM currencies go lower

# Dollar Smile Theory

- Dollar smile theory is related to the core/periphery theory
- Dollar does best when US is crushing relative to ROW (Rest of world)
- Dollar also does well when the world is in “risk off” mode (safety bid in times of stress)
- In MOTR times (middle of the road) people are willing to branch out into EM to try and get more return and more yield

# Dollar Smile Concept



# Dollar history, 7-year cycles?



Source: Thomson Reuters Datastream, data to Aug 17

www.macro-ops.com



# An EM FX Multi-factor Framework

- 2 Parts
  - Long-Term drivers and
  - Short-Term drivers
- Long-term, EM currencies move on fundamentals
- But the time horizon is so long it's not as useful for trading, only good to develop context
- Short-term drivers better for executing trades

# Long-Term Drivers

- Use these to develop context
- **Valuation**
  - PPP
- **Growth**
  - GDP
- **Real Rates**
  - (Benchmark rate minus inflation)

# Valuation - PPP

- **PPP** stands for **P**urchasing **P**ower **P**arity
- The concept is founded on the law of one price; the idea that in absence of transaction costs, identical goods will have the same price in different markets
- A meal at McDonalds should cost about the same in Hungarian forint as it does in USD after accounting for the exchange rate



# Valuation - PPP

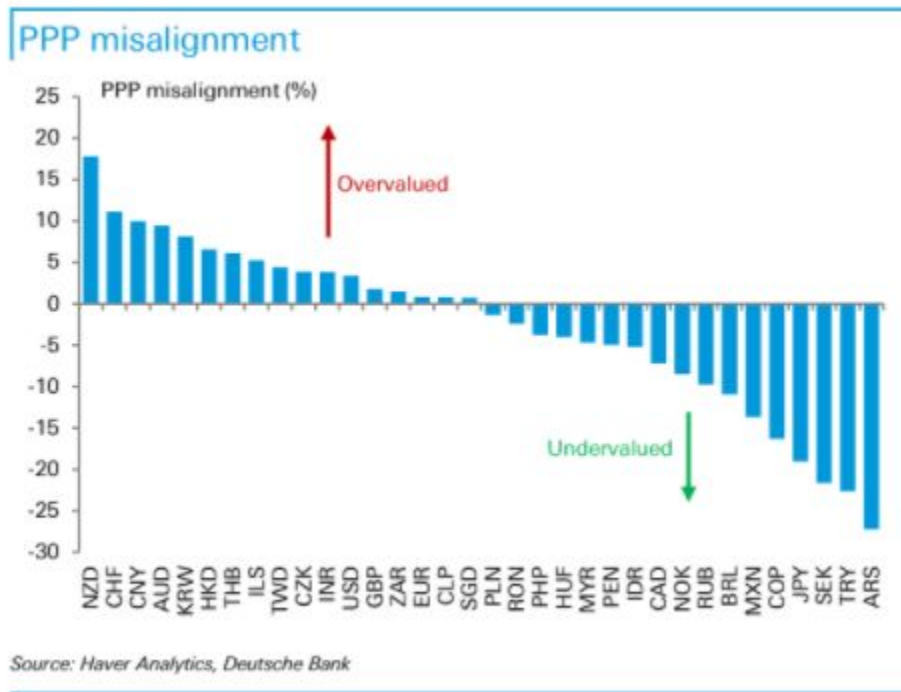
- **Example:** Burger cost 300 Forint in Hungary and 3 dollars in US,  $PPP = 100 (300/3)$ 
  - Therefore exchange rate should be 100 HUF per 1 USD
  - That way 3 dollars in the US could buy the same amount at McDonalds that it could in Hungary
- If there is a large divergence between spot rate and PPP implied rate then it suggests that currency is under/overvalued

# PPP Data

- The OECD (Organization for Economic Co-operation and Development) creates PPP Data
- [PPP information and FAQ page](#)
- [PPP data page](#)
- Compare the PPP data from the OECD with the current spot exchange rate to get an idea of overvalued or undervalued

# Bank PPP Calculations

- The big I-Banks also have their own ways of calculating PPP
- We throw these in the Comm Center upon request and whenever we find something interesting



# The Big Mac Index

- A play off of the PPP concept that is fun to keep track is the Economist's Big Mac Index
- The index compares the price of a Big Mac between countries around the world
- [Big Mac Index Link](#)



# The Big Mac index

Select base currency: US dollar

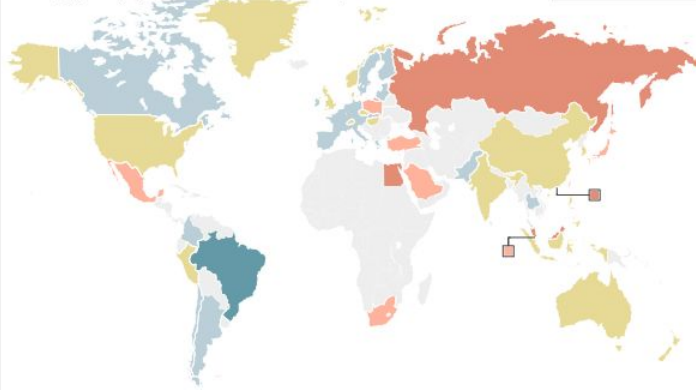
Raw index

**Adjusted index**

## Index adjusted for GDP per person

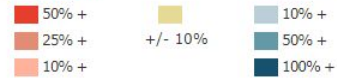
Under(-)/over(+) valuation against the dollar, %

Zoom to



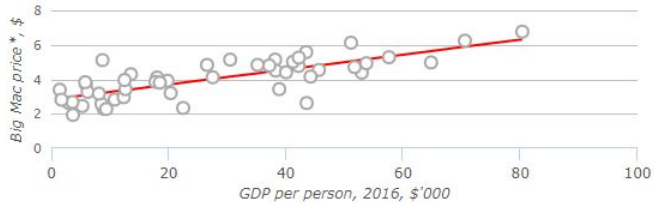
Undervalued by:

Overvalued by:



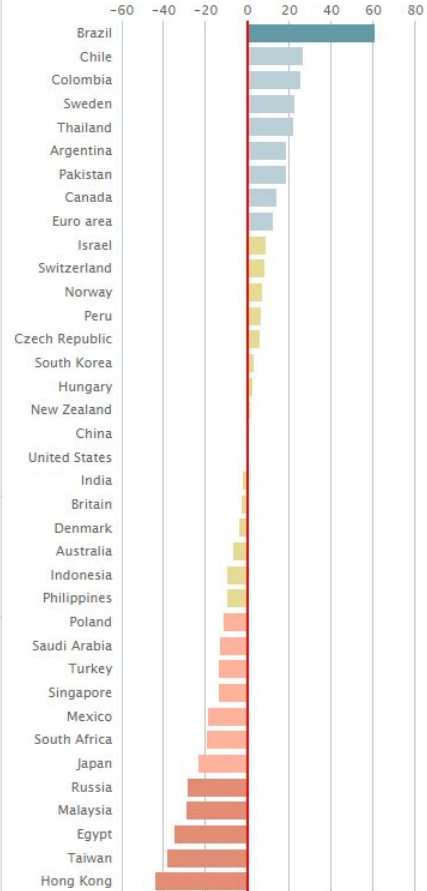
## Big Mac prices v GDP per person

Latest



Sources: McDonald's; Thomson Reuters; IMF; *The Economist*

January 2018

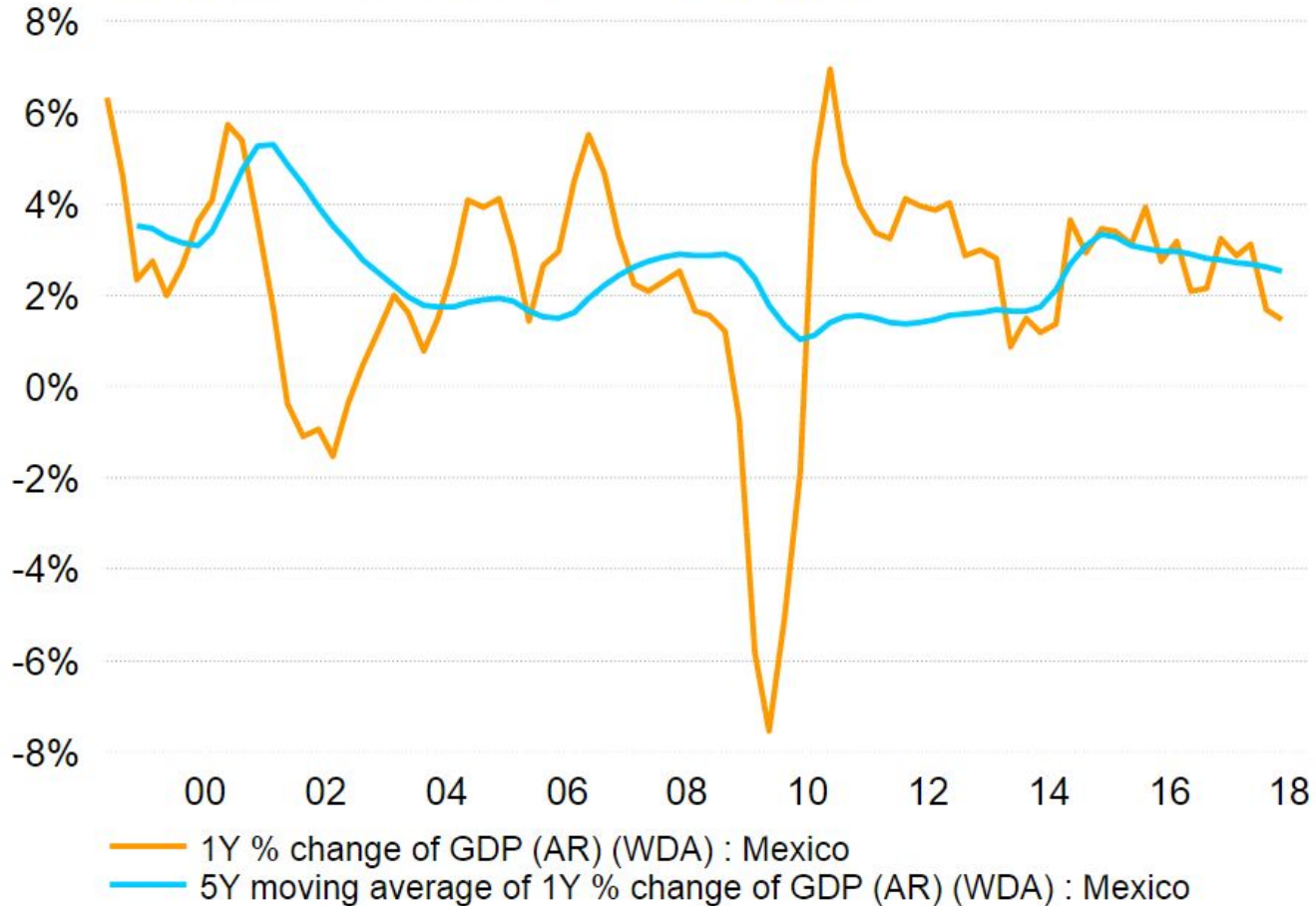


\*At market exchange rate

# Growth

- Look at relative momentum of GDP
- Take current YoY growth numbers and compare it to average value in the last 5 years
- Is it above or below the 5 year average?
- Rising = Good for EM currency
- Falling = Bad for EM currency
- Speculators want to push capital into places that have good growth, to do that they need to buy the local currency

# Mexico GDP YoY vs 5-Year MA



Source: Thomson Reuters Datastream / Macro Ops

# Real Rates

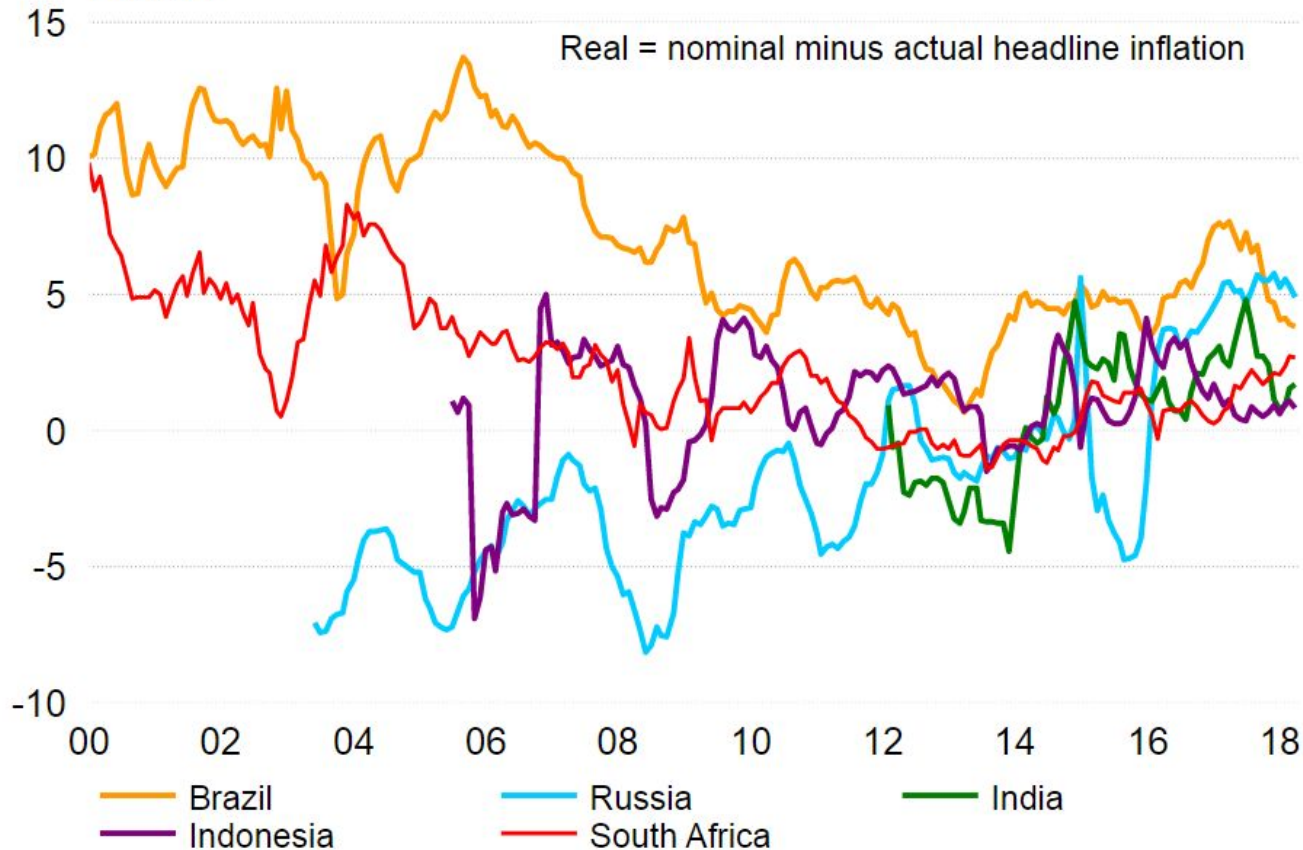
- Calculate this by taking the **policy rate set by the central bank minus the headline inflation rate**
- The higher the real rate the more attractive it is to speculators because they earn more on deposits
- Higher real rate = better for the currency



# Emerging market real central bank policy rates

Per cent

Real = nominal minus actual headline inflation



Source: Thomson Reuters Datastream / Macro Ops

# Short-Term Drivers

- Use these to make trades
- **Carry**
  - 3-month interest rate of EM minus 3-month rate of dollar (or other funding currency)
- **Momentum**
  - 12-month returns
- **Positioning**
  - Option risk reversals

# Carry

- Carry refers to the difference between 3-month rate of target currency and 3-month rate of USD
- The carry trade involves going long currencies with high rates and shorting those with low rates
- Popularized by [Jim Leitner](#)

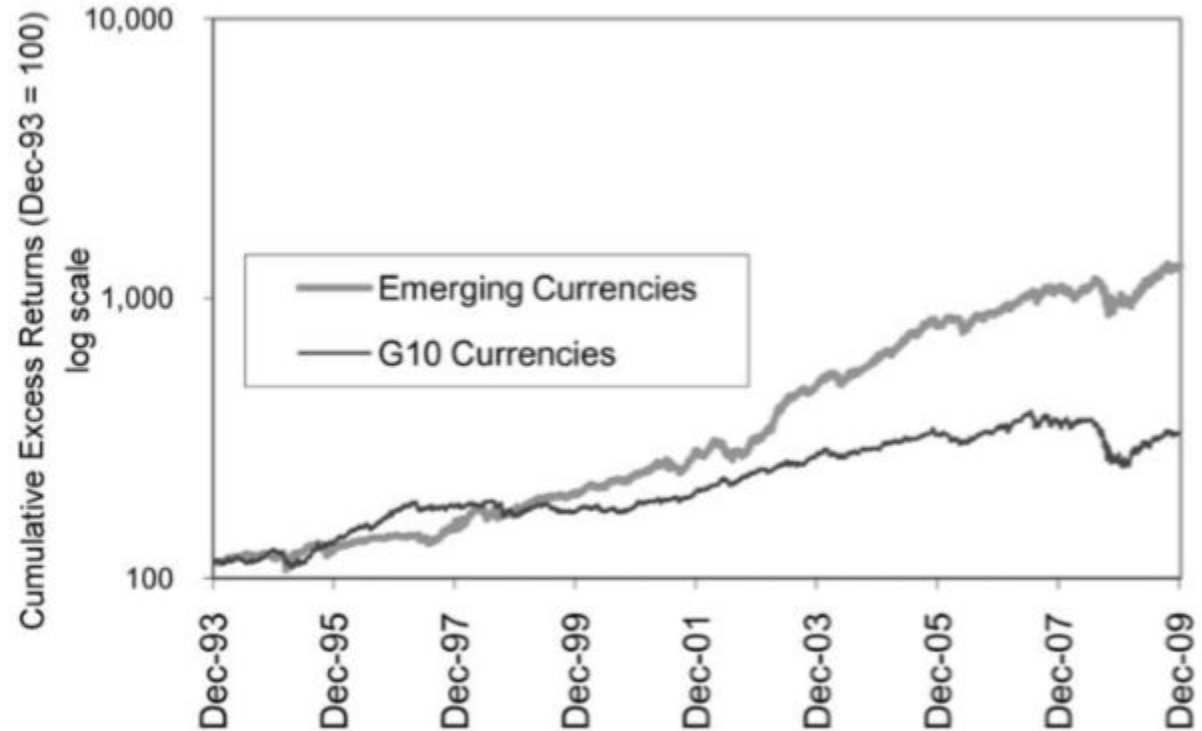
# Carry In Theory

- In theory carry trading should never work because of...
- **Uncovered Interest Rate Parity** - difference in interest rates between two countries is equal to the expected change in exchange rates between the countries' currencies
- So if EM currency yields 5% and dollar earns 1% then the EM currency should depreciate by 4% over the year

# Carry In Practice

- In practice, high interest rate currencies do not fall enough to offset yield difference between the low interest rate currencies
- This anomaly has confused academics and economists for decades
- The fact that carry trading works directly violates Uncovered Interest Rate Parity

Historical performance of simply buying high yield currencies and shorting low yielding currencies



**Figure 13.4.** Cumulative excess returns of emerging market and G10 carry strategies, 1994–2009.

Sources: Bloomberg, Citigroup, Haver Analytics, own calculations.

# Bloomberg Cumulative FX Carry Trade Index for 8 Emerging Markets

EM FX carry  
hasn't  
performed at all  
since  
2010...because  
of the dollar bull  
regime



## Interest Rate | G20

World	Europe	America	Asia	Africa	Australia	G20		
Country	Last		Previous	Highest	Lowest			
Turkey	8.00	Mar/18	8	500	4.5	%	Daily	
Mexico	7.50	Apr/18	7.5	9.25	3	%	Daily	
Russia	7.25	Mar/18	7.5	17	5	%	Daily	
Brazil	6.50	Mar/18	6.75	45	6.5	%	Daily	
India	6.00	Apr/18	6	14.5	4.25	%	Daily	
China	4.35	Mar/18	4.35	10.98	4.35	%	Daily	
Indonesia	4.25	Apr/18	4.25	12.75	4.25	%	Daily	
United States	1.75	Mar/18	1.5	20	0.25	%	Daily	
Australia	1.50	Apr/18	1.5	17.5	1.5	%	Daily	
South Korea	1.50	Apr/18	1.5	5.25	1.25	%	Daily	
Canada	1.25	Apr/18	1.25	16	0.25	%	Daily	
United Kingdom	0.50	Mar/18	0.5	17	0.25	%	Daily	
Euro Area	0.00	Mar/18	0	4.75	0	%	Daily	
France	0.00	Mar/18	0	4.75	0	%	Daily	
Germany	0.00	Mar/18	0	4.75	0	%	Daily	
Italy	0.00	Mar/18	0	4.75	0	%	Daily	
Netherlands	0.00	Mar/18	0	4.75	0	%	Daily	
Spain	0.00	Mar/18	0	4.75	0	%	Daily	
Japan	-0.10	Mar/18	-0.1	9	-0.1	%	Daily	
Switzerland	-0.75	Mar/18	-0.75	3.5	-0.75	%	Daily	



# Warning!

- Double check your fee schedule with your broker to see what cut of the spread they take!
- After they take their cut the trade might not be attractive
- As a retail customer it's tough to get good rates on carry

## IB Example — They only pay 3.087% on MXN deposits

MXN	0 - 190,000	0%
	190,000.01 +	3.087% (BM - 4%)

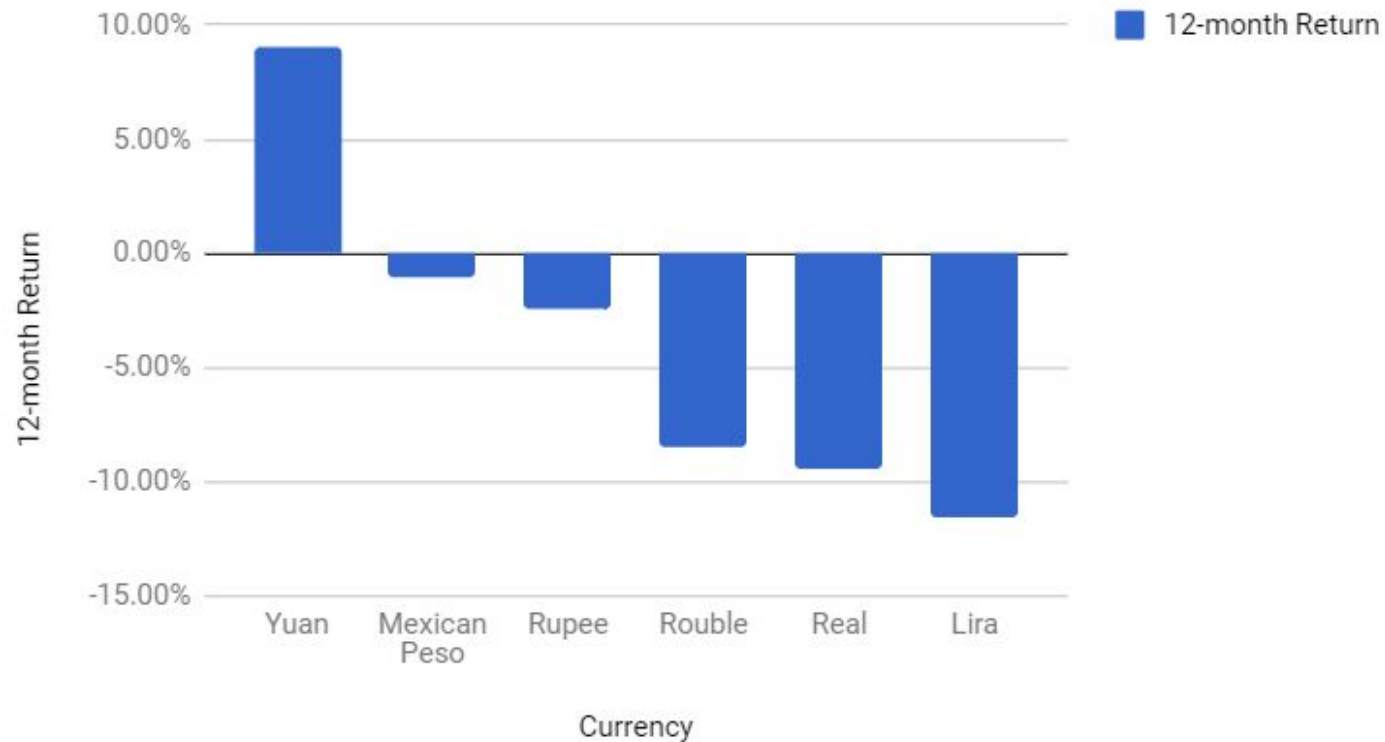
But they charge you 9% to borrow it....  
Wide Spread

MXN	0 - 1,900,000	10.087% (BM + 3%)
	1,900,000.01 - 19,000,000	9.087% (BM + 2%)
	19,000,000.01 - 190,000,000	8.587% (BM + 1.5%)
	1,900,000,000.01 +	8.587% (BM + 1.5%) <i>See note below</i>

# Momentum

- Look at past 12-month returns
- If positive lean long
- If negative lean short
- FX markets like to trend because they are speculative
- Also look at EM pairs on a relative basis
- Rank all EM currencies by their 12-month returns
- Buy best and forget the rest

## 12-Month Return Against USD



# Momentum + Carry

- Don't forget to factor in carry, just because an EM currency is depreciating massively doesn't mean it's profitable to hold short
- Borrow rate could be high and offset the gains from the trend
- **Example:** Russian Rouble down 8.5% against the dollar in last year but Interactive Brokers charges 11.242% to short it! A short position in Rouble would of lost money!
- **Ideal scenario to venture into EM FX is when both momentum and carry are positive**
  - This was the case during the 2000-2010 decade

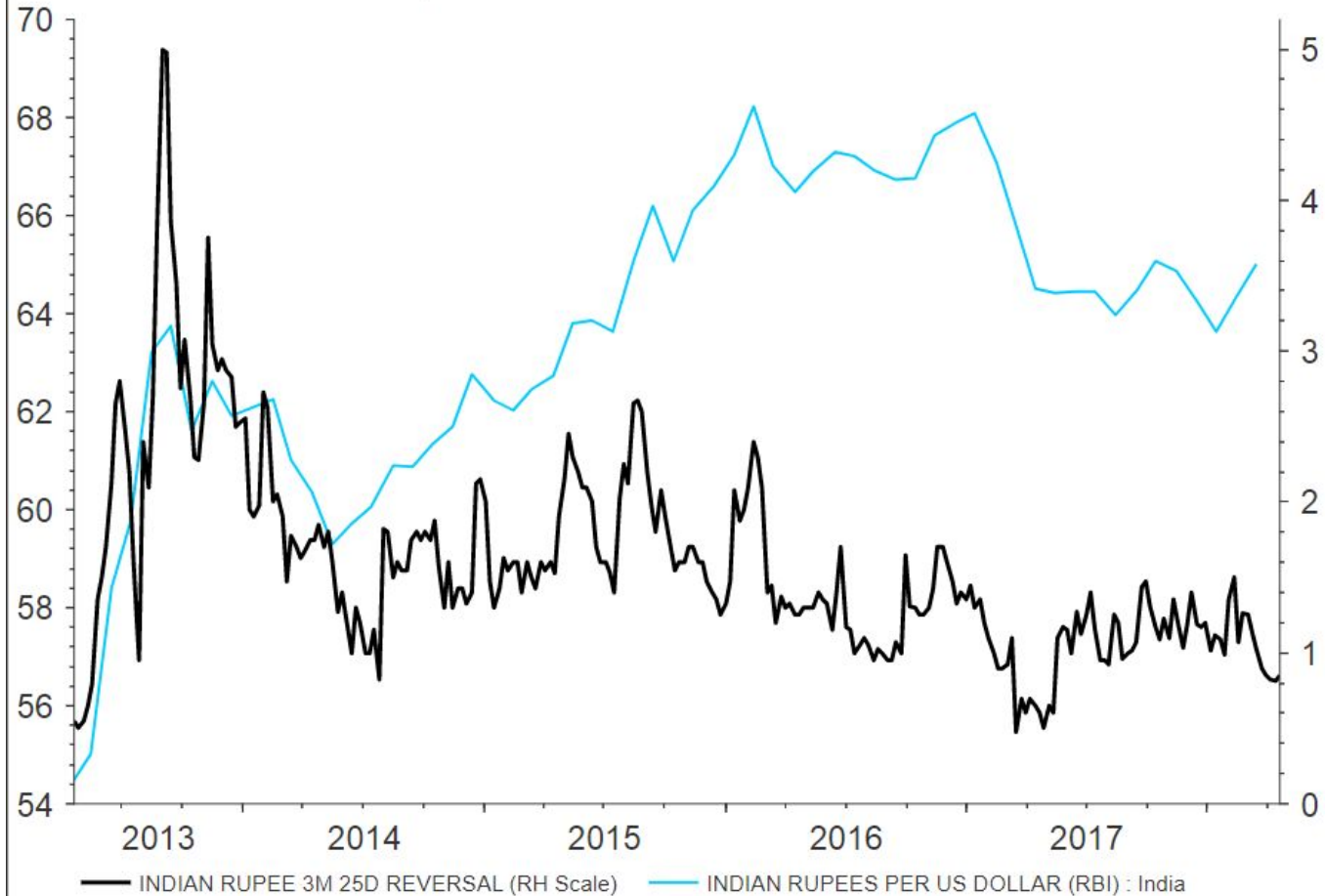
# Positioning

- Much harder to do in EM currencies
- We have COT data for the G10 but we don't have that convenience for EM
- What we do have is the OTC FX option market
- By looking at the price of a risk reversal over time we can gauge market sentiment
- Unfortunately that data is hard to get ahold of
  - Reuters or Bloomberg Needed

# Risk Reversal

- Risk reversal = Sell put and Buy call
- The 3m 25 delta risk reversal is the benchmark price that traders watch
- Higher risk reversal price implies stretched positioning to the upside of US/EM pair and indicates potential for unwind
- A move lower in a US/EM pair = EM currency is strengthening!
- Summary:
  - High R/R price = people are overly short the EM currency
  - Low R/R price = people are overly long the EM currency (under hedged)

# Indian Rupee 3M 25D Risk Reversal vs USDINR



Source: Thomson Reuters Datastream / Macro Ops

[www.macro-ops.com](http://www.macro-ops.com)





# Summary

- First determine what dollar regime we're in
  - Is it core friendly or periphery friendly
- Then drill down into the framework for each individual currency
- Start with the long-term drivers to find initial interest
- Then go to the short-term drivers to see if there is a trade there
- Be extremely mindful of carry costs if holding for longer periods!