Deutsche Bank

# CURRENCY EFFECTS ON INTERNATIONAL EQUITY INVESTMENTS

*A Look at Currency Hedged Indices*

Passion to Perform

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# Why Invest Internationally?

## ➢ Benefits of Investing Abroad

- Equities - Enhanced growth potential by investing in international companies that may be growing faster than U.S. counterparts
- Bonds - Higher yields
- Diversification
- Inflation / Deflation hedge

## ➢ Risks of Investing Abroad

- Political or economic instability, especially in emerging markets
- Financial information about specific companies in emerging markets can be difficult to obtain and tend to be less reliable
- **Fluctuating foreign exchange rates increase or decrease the US Dollar value of an investment even if the security's price remains unchanged**

# U.S. Investors are Already Investing Abroad

- **Many U.S. based investors are already exposed to currency fluctuations by:**
  - investing directly in foreign equities, bonds, real estate, ADRs
  - investing indirectly through mutual funds or ETPs holding international securities
- **Mutual Funds**[1]
  - $23.78 Trillion invested in mutual funds, of which $10.2 Trillion (43%) is invested outside of North America
  - Breakdown of U.S. Mutual Fund Assets: 57% in Americas (including Canada), 30% Europe, 13% Africa/ Asia/Pacific
- **U.S. Listed Exchange Traded Products**[2]
  - $1.2 Trillion invested in U.S. ETPs
  - Of that $880 Billion is invested in equities, of which $287 Billion (32.5%) is invested in abroad
  - Breakdown of Equity ETP Assets: is 67% US, 16.5% Emerging Markets,1.5% Europe, 2.5% Asia and 12% in Global strategies.

[1] Information as of March 2012, Investment Company Institute
[2] Blackrock ETF Landscape: Industry Review – Q1, 2012

# Simple Example of FX Impact

- **Currencies impact foreign investments**
- Simple hypothetical example – Imagine a U.S. investor investing in a Brazilian company:

PETROBRAS

- Stock appreciates ↑ 10% and Brazil Real +/- 0% = ↑ 10 %
- Stock appreciates ↑ 10% and Brazil Real ↓ 10% = +/- 0%
- Stock appreciates ↑ 10% and Brazil Real ↓ 20% = ↓ 10%

**When investors decided to buy Petrobas, did they want to be exposed to currency risk?**

# Slightly Less Simple Example

## Hypothetical  Example A:

- Investor A resides in Germany.  A purchases 1 share of Daimler AG (German auto manufacturer) in May 2009 at EUR 25.85.
- Investor A sells the shares in June 2010 for EUR 41.92, returning 62%.

## Hypothetical Example B:

- Investor B resides in the USA.  B purchases 1 share of Daimler in May 2009 at EUR 25.85.
- On that date, investor B must first buy EUR at the rate of 1.42 EUR/USD.  It costs B 25.85 * 1.42 = $36.60 to buy these shares.
- Investor B sells the shares in June 2010 for EUR 41.92.  B is also selling EUR at 1.22 EUR/USD to get back $51.30 (41.92 * 1.22 = $51.30).
- The final profit in USD is ($51.30-$36.60) = $14.70, a return of 40%.

## **Conclusion:**

- **Currency fluctuations alone reduced the return from 62% to 40%**

# FX 101

- Currency markets are the largest and most liquid of all markets
- Currencies are quoted and traded in pairs (the value of one currency relative to relative to another)
  - **Examples:** EUR/USD, USD/JPY, GBP/USD
- Varied participants having different objectives, investment horizons, investment styles
- 7 Main Categories of Forex Investors:
  - Corporations (hedgers)
  - Real Money Investors
  - Hedge Funds
  - Central Banks (Reserve Management)
  - Banks (Inter-Bank Market)
  - Regional Banks
  - Individuals (no longer limited to High Net Worth)

# FX 101

- Factors impacting currency values may differ from those impacting equities

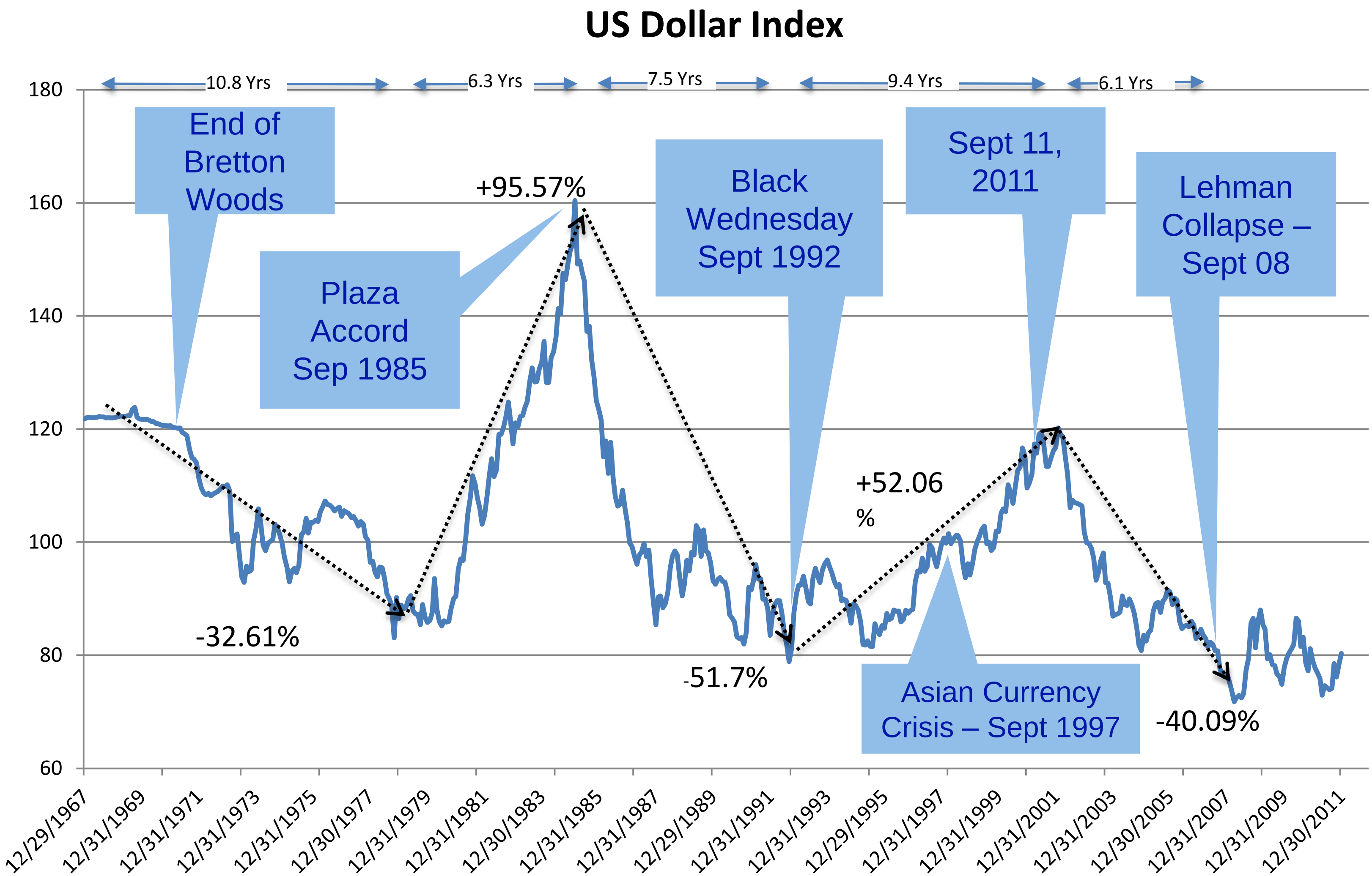
- FX Value are impacted by:

<u>Short Run</u>
- Risk Appetite
- Positioning/Sentiment
- FX Technicals
- Option Markets
- Surprise News Pulse
- Order Flow

<u>Medium Run</u>
- Shifts in Monetary/Fiscal Policies
- Capital Account Trends
- Real Interest Differentials
- Domestic/Global Growth Cycles

- Short-run dynamics drive the price action while medium-term cyclical swings occur around estimates of long-run equilibrium/fair value

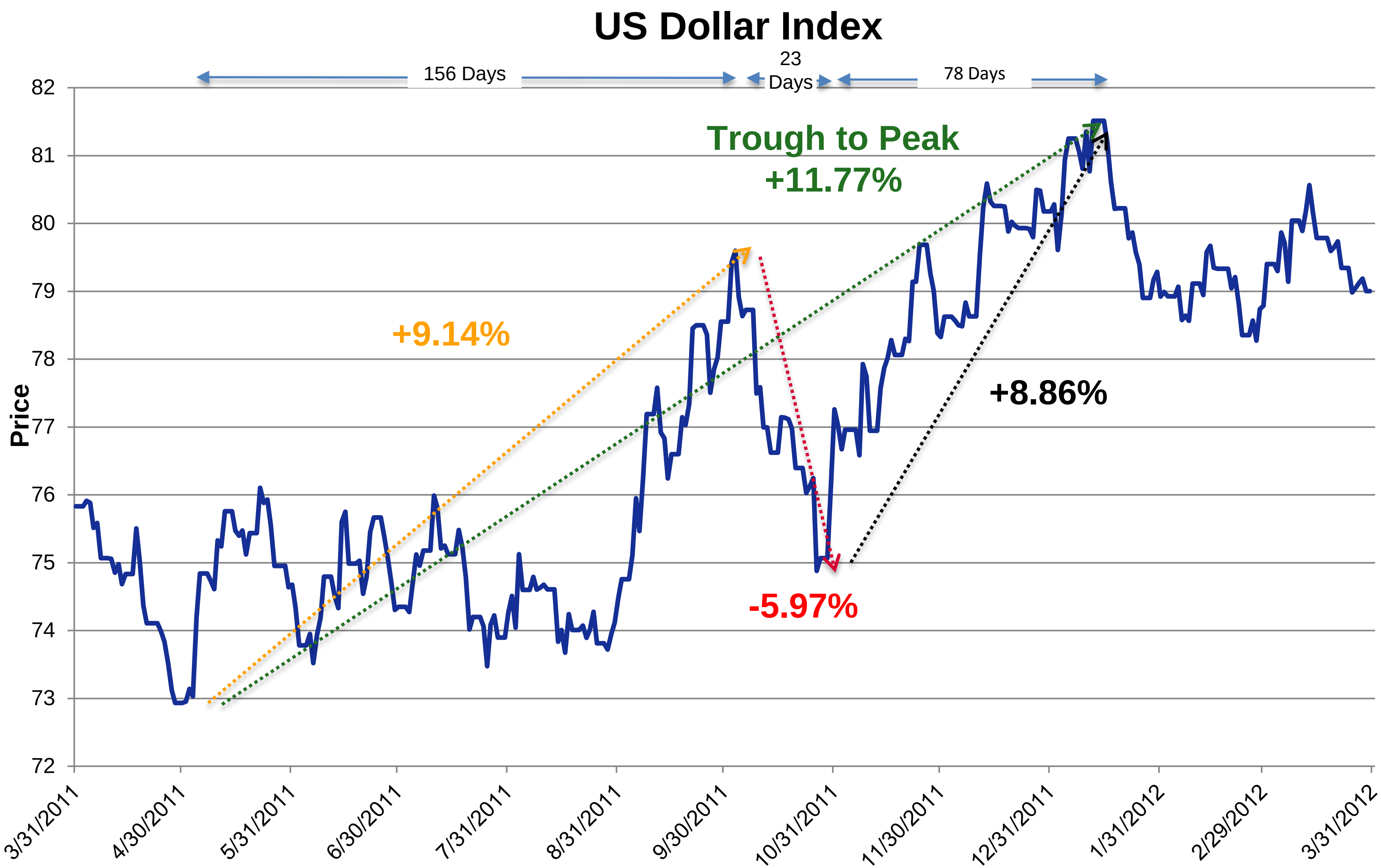
# US Dollar $ Trends 1967- 2011




Index returns are for illustrative purposes and do not represent actual fund performance. Index returns do not reflect any management fees, transactions costs or expenses. Indexes are unmanaged and one cannot invest in an index. Past performance does not guarantee future results.

Source: Deutsche Bank Bloomberg as of December 31, 2011

# US Dollar Trend – Most Recent 12 Months

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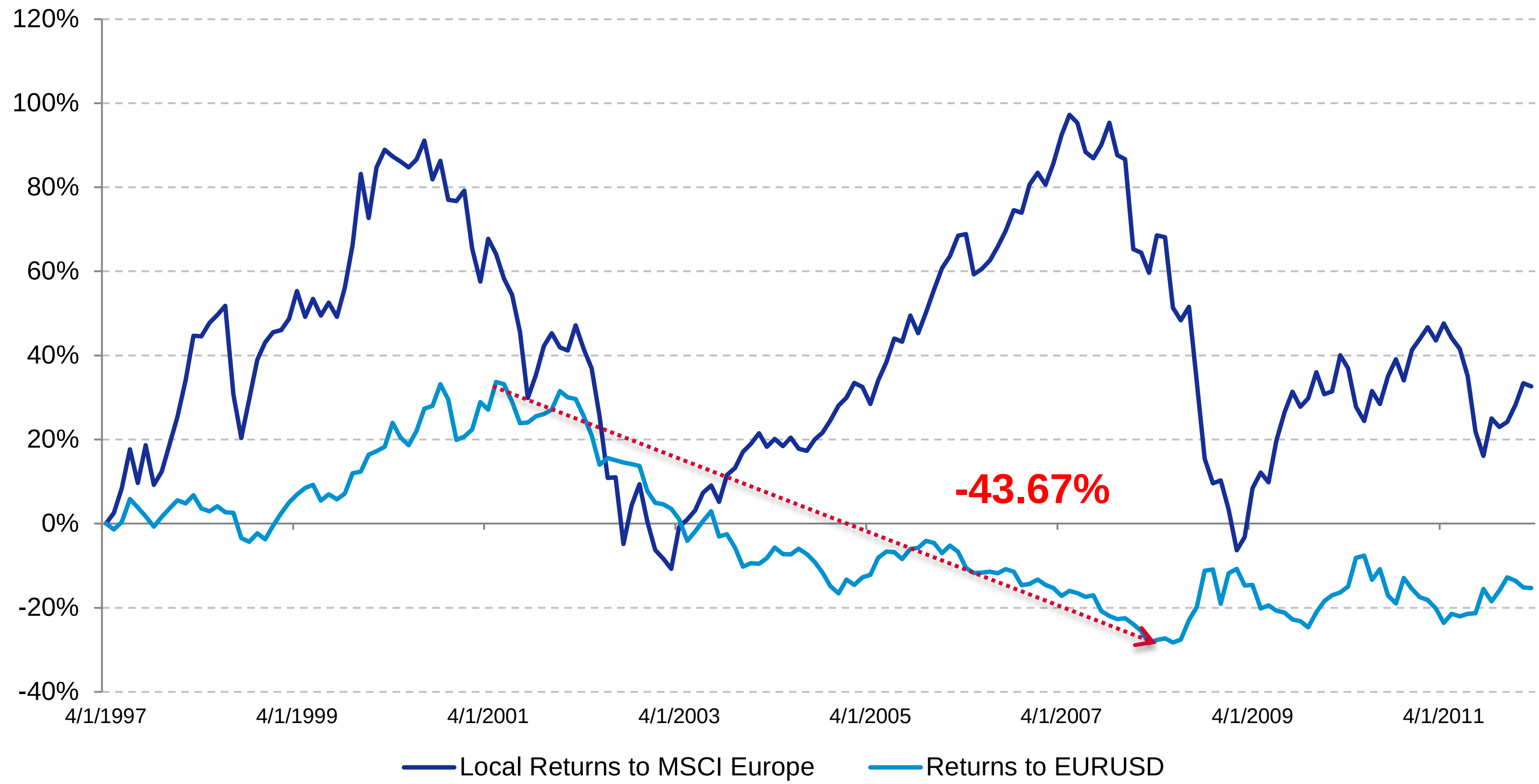
Source: Deutsche Bank Bloomberg as of April 20, 2012

# Currency Impact Can Be Significant

- Compare FX returns from the Euro versus the return to MSCI Europe in local returns
  - From peak (May ‘01) to trough (Nov ‘09) USD weakened 43.6% versus the Euro
  - Currency swings can have a considerable impact on a foreign investment portfolio




Source: Deutsche Bank, MSCI, Bloomberg April 20, 2012

# Popular FX Trading Strategies

- **Carry –** Investors seek to profit from mispricing in FX markets by borrowing low yielding currencies and investing in high yielding currencies
- **Value –** Often based on the theory of Purchasing Power Parity, which holds that a unit of currency should buy the same basket of goods in one country as the equivalent amount of foreign currency in a foreign country
- **Momentum / Trend Following –** Profit when currencies trend over short to medium term (varying signals, FX pairs, time horizons)

**Most investors in foreign securities are not pursuing a currency trading strategy or expressing a currency view, but rather are unintentionally taking currency risk.**

# Hedged Equity Indices
# v.
# Unhedged Equity Indices

# Most Popular International Benchmark Indices Tracked by ETFs

- **MSCI Emerging Markets Strategy – $94 Billion**
  - 21 Currencies
  - Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, South Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey
- **MSCI EAFE Strategy - $46 Billion**
  - 12 Currencies across 22 countries
  - Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the UK
- **Others Popular International Equity Strategies**
  - MSCI Brazil – $9 Billion
  - MSCI Japan – $6 Billion
  - MSCI Canada – $5 Billion
  - FTSE China – $6 Billion

Source: Deutsche Bank, MSCI, Bloomberg April 20, 2012

# Methodology of Equity Currency Hedged Indices

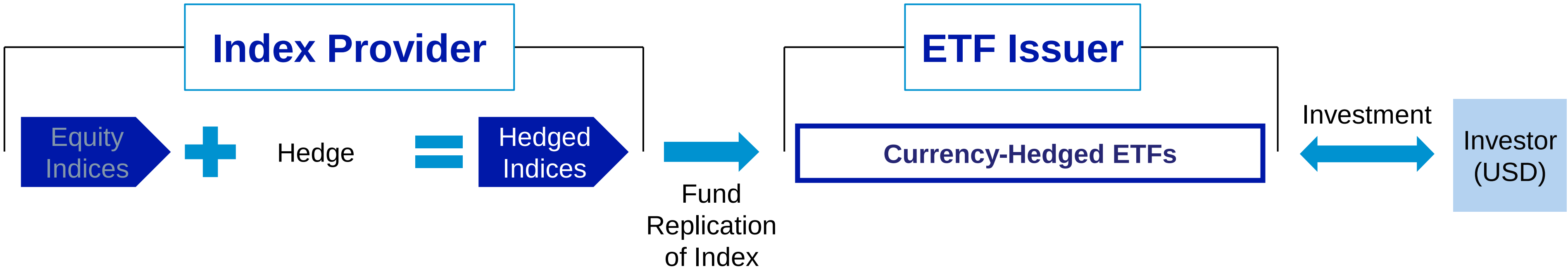
- Advent of International Equity Currency Hedged Indices:
  - Aim to represent a return resulting from hedging the currency exposure of an equity index using 1 month Forward currency transactions
  - Contain both an equity and a currency component
  - Designed to subtract currency moves by selling each foreign currency against the US Dollar
  - Represent a close estimation of the return that can be achieved by hedging the currency exposures of the index in the one-month forward market at each end of month.

# Currency Hedging Basics

- The most common instrument used to hedge currency exposure is a forward contract
  - −Forwards are over the counter (OTC) instruments with standardized expiry dates (1, 3, 6 months)
  - −Most currency hedged ETFs use 1 month forwards and rebalance their hedges monthly
  - −Example:
    - **- A fund that invests in Canadian equities would like to reduce its exposure to the Canadian Dollar (CAD).**
    - **- If the fund holds Canadian equities worth $10mm CAD then it could mitigate its inherent CAD exposure by investing in a 1 month currency forward that sells 10mm CAD and purchases an equivalent value of USD.  Each month the fund could “rebalance” its hedge to ensure the hedge matches the exposure to Canadian stocks.**

# Benefits of Currency-Hedged Equity Funds

## Structure:




## Key Benefits:

### Efficiency

- Simple and pre-defined construction rules of each index that provide an efficient currency hedge on foreign equity investments
- No need to manage currency exposure in the forward markets – rolling hedge built into the ETF index

### Transparency

- Equity and currency positions disclosed daily
- Daily valuations with full transparency on currency contributions

### Market Access

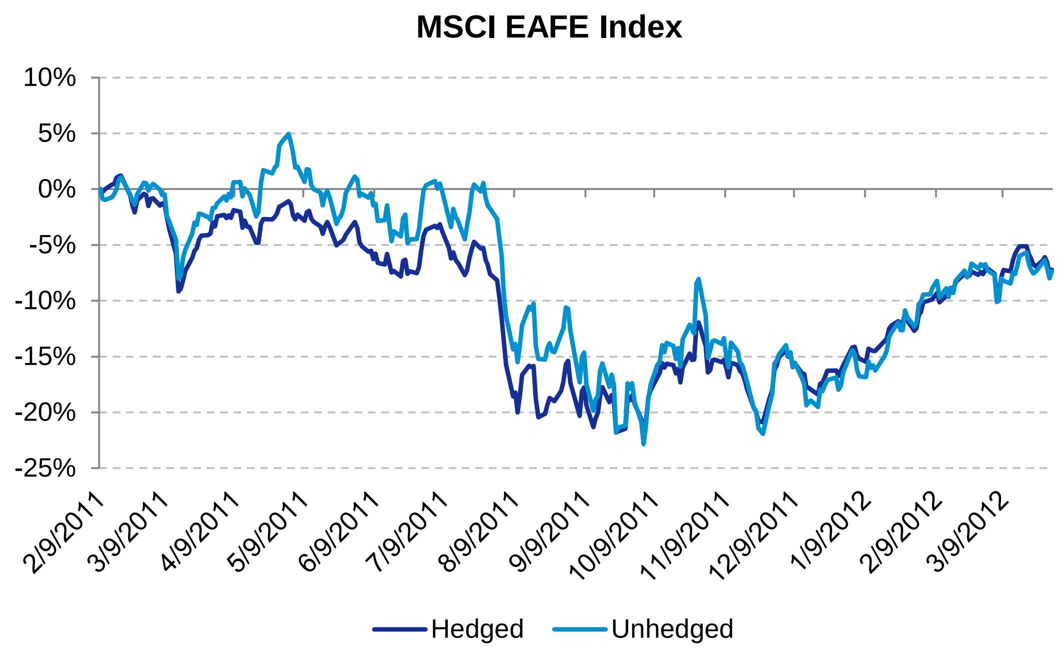
- NYSE Arca-listed ETFs provide international investment and currency hedging in a single security
- Hedge Ratios can be adjusted in one easy stock trade

# - Performance -
# Hedged v. Unhedged Indices

- Foreign currencies are hedged back to US dollars
- Returns from February 9, 2011 (index inception) to March 31, 2012 are shown below, as well as cumulative returns to hedged and unhedged versions of the MSCI EAFE Index (Europe, Australasia and the Far East)

**Index Returns (2/9/2011-3/31/2012)**

| | Unhedged | Hedged |
|---|---|---|
| EAFE | -7.35% | -7.20% |
| EM | -3.62% | -2.00% |
| Brazil | -4.65% | -2.46% |
| Canada | -9.49% | -8.87% |
| Japan | -7.62% | -8.05% |




Source: Deutsche Bank, MSCI, Bloomberg April 20, 2012

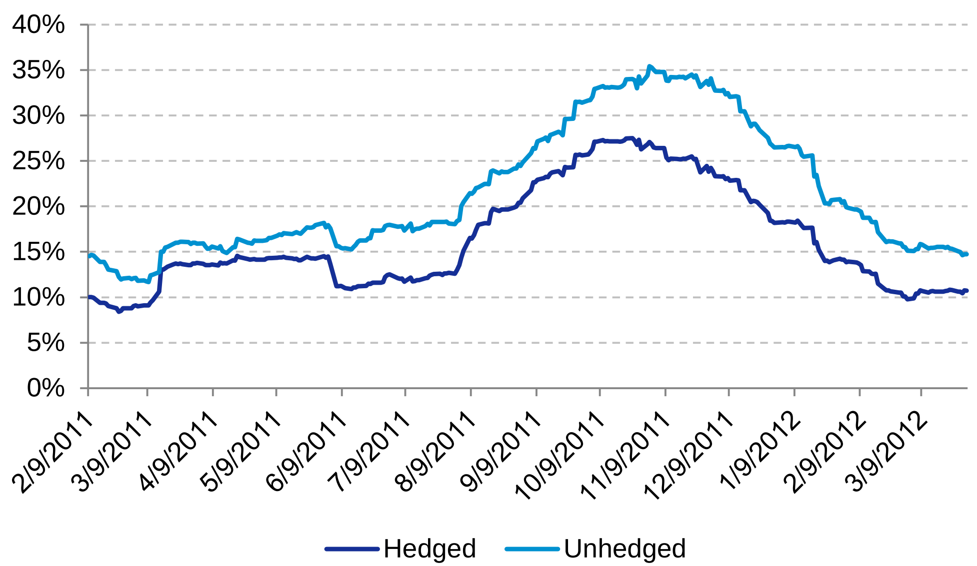
# - Volatility -
# Hedged v. Unhedged Indicies

- Currency fluctuations over time significantly impact the volatility of international equity investments
- Rolling 60-Day Volatility is shown in the chart below for the period February 2011 through March 2012
- Hedged indices tend to have lower volatility than unhedged indices

**60 Day Volatility as of March 31, 2012**

| | Unhedged | Hedged |
|---|---|---|
| EAFE | 14.75% | 10.73% |
| EM | 14.98% | 10.98% |
| Brazil | 22.68% | 16.19% |
| Canada | 14.70% | 10.48% |
| Japan | 13.32% | 13.85% |

**MSCI EAFE Index**




Source: Deutsche Bank, MSCI, Bloomberg April 20, 2012

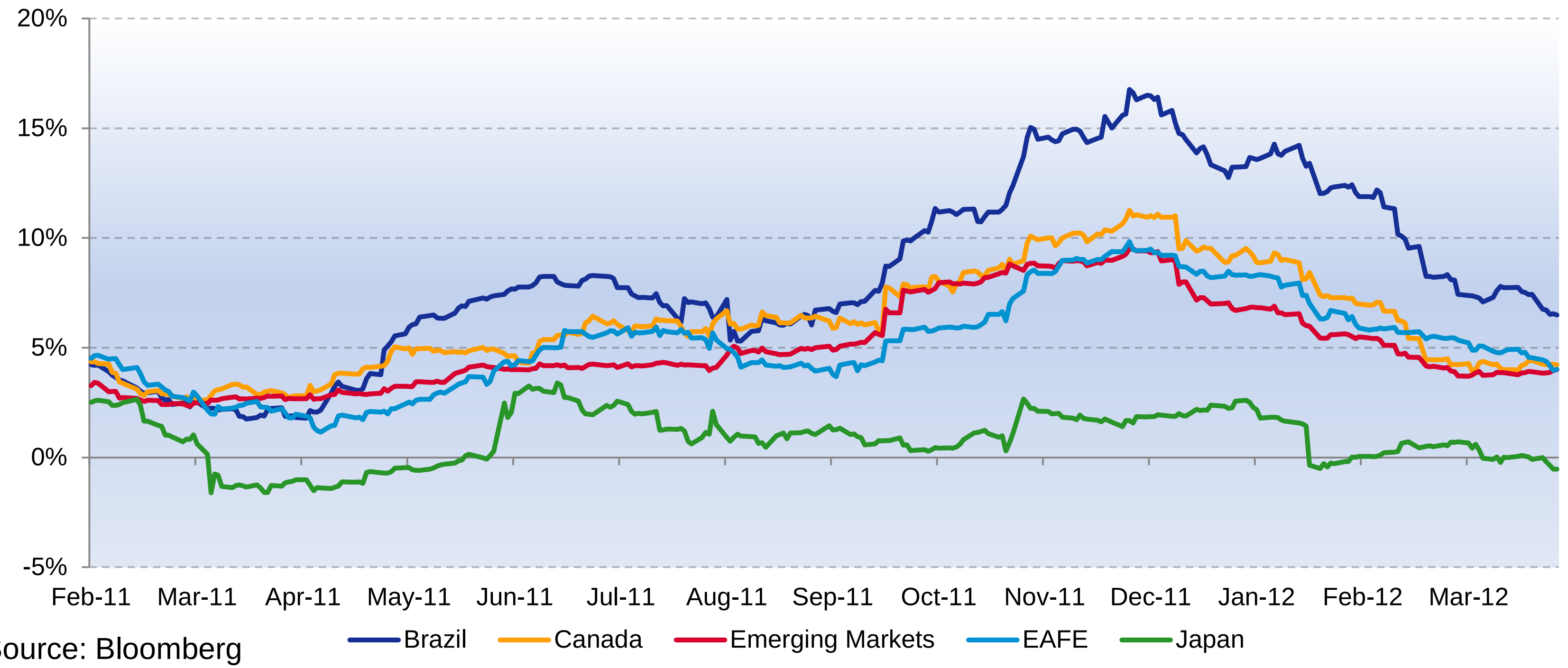
# MSCI Equity Currency Hedged Indices Designed to Eliminate Unwanted Risk

- The difference in rolling 60-day volatility between the unhedged and hedged versions of the indices rises during periods of high volatility
- The spread between the hedged and unhedged volatility in Brazil saw a +3 fold increase since index inception (February 2011)

**Volatility**

**(Unhedged Index Volatility - US Dollar-Hedged Index Volatility)**

**2/9/2011 - 3/31/2012**




Source: Bloomberg

# Recap

- U.S. investors are already investing internationally
- Currency returns and risks are extremely important for these investors
- Fluctuations is currency values can be quite substantial
- For investors in foreign equities who do not wish to take a view on currencies, the solution is to hedge currency exposure
- Hedging currency exposure allows investors to make a “direct” investment in foreign equities without worrying about currency risk
- Hedging currencies also aims to reduce the volatility of the investor’s international portfolio

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