CURRENCY HEDGING STRATEGY:
AN EMPIRICAL STUDY OF EMERGING MARKETS

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EXECUTIVE SUMMARY

The currency exposure arising from emerging market investments can substantially affect the underlying assets' overall risk-return profile once redenominated in the investors' home currency. Yet financial literature on global currency risk and foreign exchange (FX) hedging for emerging markets is understudied. This paper aims to fill that gap.

Operational Relief Measures

Large Canadian pension funds have doubled their asset allocation to emerging markets over the last decade. Should a global asset manager hedge currency risk? This paper examines the correlations of foreign exchange rates with stock and bond returns in both developed and emerging markets from a Canadian investor's perspective.

Scientific contribution

This study extends the seminal work of (Campbell, Serfaty-De Medeiros and Viceira 2010) in three ways:

1. We include emerging markets exposure into the investment portfolio;

2. We extend the time series horizon for empirical analysis to the end of 2021;

3. Our results are based on Canadian investors' perspectives.

Methodology

The objective of currency hedging is to reduce the effects of foreign exchange fluctuation. We adopt a standard global currency hedging framework that minimizes the variance of foreign investment portfolio returns with respect to currency demand. The emerging markets in our analysis include Brazil, China, and India. The selected developed markets include the USA, Germany, UK, Japan, and Australia. The time series data covers the period from 1975 to 2021. The optimal currency position is obtained through running a regression of portfolio excess return on a constant and the vector of currency excess return.

Overview of Findings and Recommendations

1. **Do not hedge USD**. Canadian investors should maintain close to an unhedged position in the US stock market, due to the strong negative correlation between their currency exchange rate with the US stock market returns.

2. **Long positions in CNY**. Canadian equity investors should not hedge but hold long positions in Chinese Yuan reflecting the significant negative correlation between Chinese stock excess returns and currency excess returns. However, in contrast, US equity investors are suggested to over hedge the Chinese Yuan.
   There are three reasons why a net short CAD position occurs when investing in China. First, the expected return on CNY currency exposure is positive from Canadian perspective. Second, there is a negative correlation between the CNY and the stock market. Third, unhedged Chinese stock returns are less

volatile than hedged equity returns. These unique features are likely driven by the currency pegging policy which prevents CNY from depreciating when the Chinese market falls.

3. **Net short AUD and BRL.** Canadian equity investors should short AUD and BRL in excess of the long equity position, as these currencies are positively correlated with their stock returns. Canadian and US investors' FX hedging strategies are remarkably different in equity markets. For US equity investors, the currency exposures of international equity portfolio should be at least fully hedged, and mostly overhedged.

4. **For Canadian fix-income investors,** the currency exposures of international bond portfolios should be at least fully hedged, and mostly overhedged, with the exception of the Australian Dollar which should be partially hedged.

Research Extension

Subsample periods and stress testing: The results are subjective to parameter uncertainty. A robustness check on subsample periods and stress testing on correlation variables is expected.

Cost of hedging: Trading volumes for emerging currencies are small relative to those for developed currencies resulting in higher hedging cost.

Strategic benchmark asset allocation: Rather than adopting an asset-by-asset or currency-by-currency approach, we look for an extension including the strategic benchmark asset allocation, and then determine the optimal hedge ratio across all asset classes.