FX Comovements: Disentangling the Role of Market Factors, Carry Trades and Idiosyncratic Components

Discussion by Ric Colacito

Contribution

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3. Long-run correlations increased after 2008
4. What macro variables can explain FX volatility?
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2. Other relevant trends?
3. Determinants of FX volatility?
Benefits for asset allocation: short-run
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FIG. 6 - Efficiency gains by portfolio size. Each bar reports the average efficiency gain for all the permutations of G-7 countries' stock market returns in a portfolio of the size displayed on the horizontal axis. The white bars refer to the efficiency gain from using the DCC-MIDAS model instead of a constant unconditional correlation measure. The dark bars are efficiency gains for the DCC-MIDAS over the standard DCC model.
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- Why focus only on carry-trade?
Asset Allocation: bottom line

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- Comparison of methodologies?
- Why focus only on carry-trade?
- What fraction of the results is driven by emerging markets?
Other trends?

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- International debt vs FX volatility?
- International debt vs consumption growth volatility?
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→ Provide richer set of restrictions for international finance models.
International Debt and FX Volatility
International Debt and Consumption Growth Volatility

Graph showing the % change in NFA/OUTPUT vs. % change in $\Delta c$ for various countries. The countries are plotted on the graph, with markers indicating their position on the axes. The graph suggests a relationship between international debt and consumption growth volatility.
Correlation of Stock Returns and FX Volatility

The graph illustrates the correlation of stock returns and foreign exchange (FX) volatility. It shows the percentage change in the correlation coefficient ($\rho_{US, foreign}$) against the percentage change in volatility ($\sigma(\Delta e)$) for various countries.

- **CAN**: Canada
- **JPN**: Japan
- **UK**: United Kingdom
- **ITA**: Italy
- **SWE**: Sweden
- **GER**: Germany
- **SUI**: Switzerland
- **FRA**: France
- **MEX**: Mexico
- **BRA**: Brazil

The graph indicates that countries like Canada, Japan, and Switzerland show a positive correlation between stock returns and FX volatility, while countries like Germany and France exhibit a more negative correlation.
Correlation of Stock Returns and FX Volatility: high frequency

Figure 13: Conditional second moments. This figure shows conditional correlations (horizontal axis) and volatilities of exchange rate movements (vertical axis) in nine countries from 1970 to 2007. Exchange rates are always computed against the US dollar.

Exchange rate's volatility and correlation of international returns. The model predicts a negative relationship between the volatility of exchange rate movements, and the international correlation of the returns on levered consumption claims.

This can be readily seen by decomposing returns as

\[ \frac{u_1}{u_2} + 1 = \frac{u_3}{u_4} + 1 + 1 \]

and noticing that the Euler equation restriction implies a constant price-consumption ratio. Hence the correlation of asset returns is driven by the cross-country correlation of consumption growth rates. As discussed in the previous section, the correlation of consumption growth and exchange rate's volatility are inversely related.
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- Better assessment of link between time-varying second moments and current accounts, net exports, ...
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- Useful for international finance modeling, practitioners, and policy makers.
Determinants of FX volatility

Gonzalo suggests that:

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Go for it!

- Literature is trying to provide conclusive evidence on the dynamics of common international risk factors
  - → Colacito and Croce (JPE, 2011)
  - → Lustig, Roussanov, and Verdelhan (RFS, 2011)
  - → Stathopoulos (2010)
  - → ...
Can a better measure of long-run correlation help us to better understand FX volatility?

Fig. 4.—Correlations of long-run risks and volatilities of exchange rate movements. The correlations of long-run risks are measured as the expected discounted sum of consumption growth rates obtained from the VAR against the volatility of the growth of the exchange rate between U.S. dollars and British pounds. The sample used in the estimation is 1971–2006.
Can long-run correlations predict FX volatility?
Determinants of FX volatility: bottom line

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- What about bilateral trade variables?
- How does this look in the cross-section of countries?
- What macro variables are responsible for the dynamics of international correlations?
A very interesting paper!

Suggestions:

1. benefits?
2. other trends?
3. what variables are responsible for FX fluctuations?