

STOCK MARKET UNCERTAINTY AND UNCOVERED EQUITY PARITY DEVIATION: EVIDENCE FROM ASIA

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INTRODUCTION

Uncovered Equity Parity (UEP) condition doesn't hold for the Asian countries.

- Recently, International Finance Literature take interest in the UEP, in view of potential solution for UIP-based FX research anomaly.

- Empirical finding among *Advanced countries* shows that the UEP condition is **Negative relationship** between relative Currency and Equity returns.

: "Stock Mkt Outperform \Leftrightarrow Currency Depreciation" (Conventional explanation for UEP condition is a *Portfolio Rebalancing Mechanism*.¹)

- However, we find that the UEP condition **Reverses** among Asian currencies, i.e. **Positive** relation.

\Rightarrow This result **Contradicts** the *Portfolio Rebalancing Mechanism*!¹

- For possible explanation for this deviation, we test a **monetary** effect and effect of **stock market uncertainty**, and the latter shows significant result.



CORRELATION

Pearson Correlation, $\rho(\Delta q_t, (R_t - R_t^{US}))$

	No. of obs	Nominal	No. of obs	Real
Bangladesh	83	0.049	83	-0.084
China	348	0.210***	323	0.231***
Hong Kong	477	0.356***	470	0.203***
India	477	0.192***	476	0.122***
Indonesia	356	0.646***	287	0.638***
Japan	477	0.430***	477	0.412***
Kazakhstan	233	0.245***	233	0.233***
Laos	96	0.096	96	-0.172*
Malaysia	455	0.382***	455	0.362***
Pakistan	307	0.216***	221	0.223***
Philippines	331	0.449***	331	0.402***
Singapore	244	0.406***	244	0.332***
South Korea	464	0.477***	464	0.477***
Sri Lanka	318	0.310***	118	0.174*
Taiwan	434	0.252***	434	0.148***
Thailand	455	0.343***	455	0.307***
Turkey	275	0.518***	274	0.507***
Viet Nam	233	0.208***	233	-0.001

Correlation is Monthly frequency and Regression is Quarterly frequency data, respectively.

REGRESSION

Panel with Fixed Effect & Pooled OLS

$$\Delta q_t = \alpha_i + \beta[R_t - R_t^{US}] + \varepsilon_t$$

	Daily		Monthly		Quarterly	
	Nominal	Real	Nominal	Real	Nominal	Real
FE	0.096***	0.111***	0.110***	0.128***	0.124***	0.124***
Pooled OLS	0.096***	0.111***	0.110***	0.128***	0.123***	0.123***

WITH UNCERTAINTY

Panel with Fixed Effect & Pooled OLS

$$\Delta q_t^R = \alpha_i + \beta[R_t^R - R_t^{R,US}] + \gamma[R_t^R - R_t^{R,US}]X_{j,t}^R + \varepsilon_t^R$$

When $X_{j,t}^R$ is:	Panel with FE		Pooled OLS	
	$\hat{\beta}$	$\hat{\gamma}$	$\hat{\beta}$	$\hat{\gamma}$
vol. etc	0.086***	0.001***	0.086***	0.001***
U.S vol. etc	0.240***	-0.005***	0.237***	-0.005***
net vol. etc	0.103***	0.002***	0.102***	0.002***
$\sigma_{R_t^R}$	0.010	0.493***	0.010	0.488***
$\sigma_{R_t^{R,US}}$	0.192***	-0.526***	0.190***	-0.515***
$\sigma_{R_t^R} - \sigma_{R_t^{R,US}}$	0.060***	0.627***	0.060***	0.620***

DATA & VARIABLES

Data

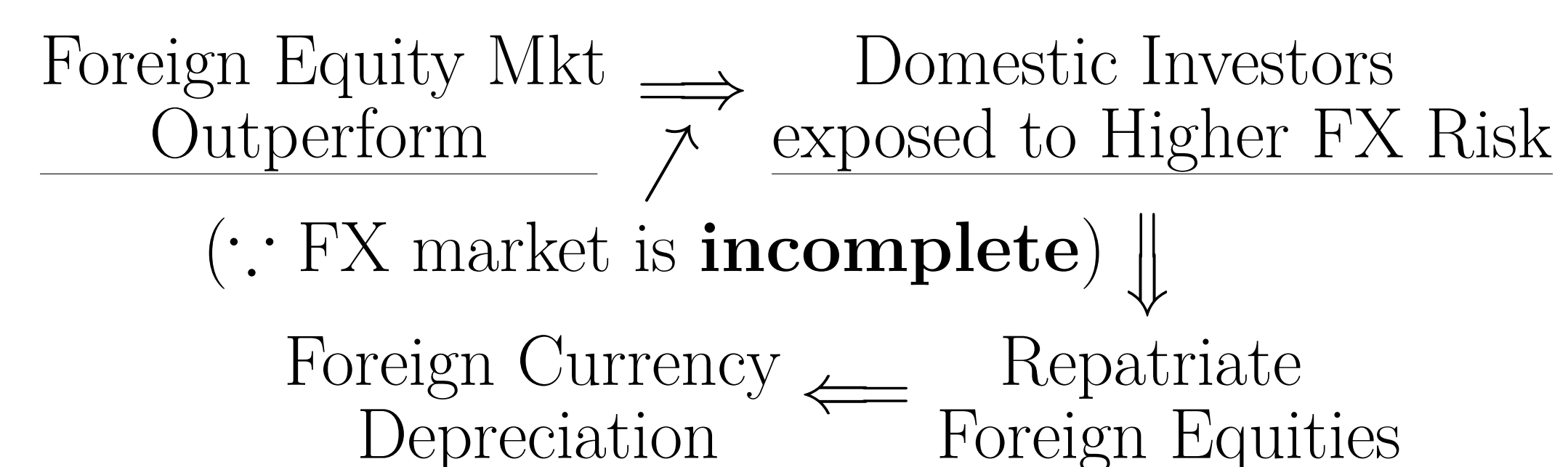
- 18 Asian countries.
- FX Rate (FX_t) & Stock Market Index (SI_t) (from *Datastream*).

Variables

- Stock Market Returns, in Nominal, $R_t^N = \ln(SI_{t+1}) - \ln(SI_t)$
Real, $R_t^R = R_t^N - \{\ln(CPI_{t+1}) - \ln(CPI_t)\}$
- Change in FX Rate, in Nominal, $\Delta q_t^N = \ln(FX_{t+1}) - \ln(FX_t)$
Real, $\Delta q_t^R = \Delta q_t^N + \{\ln(CPI_{t+1}) - \ln(CPI_t)\} - \{\ln(CPI_{t+1}^{US}) - \ln(CPI_t^{US})\}$

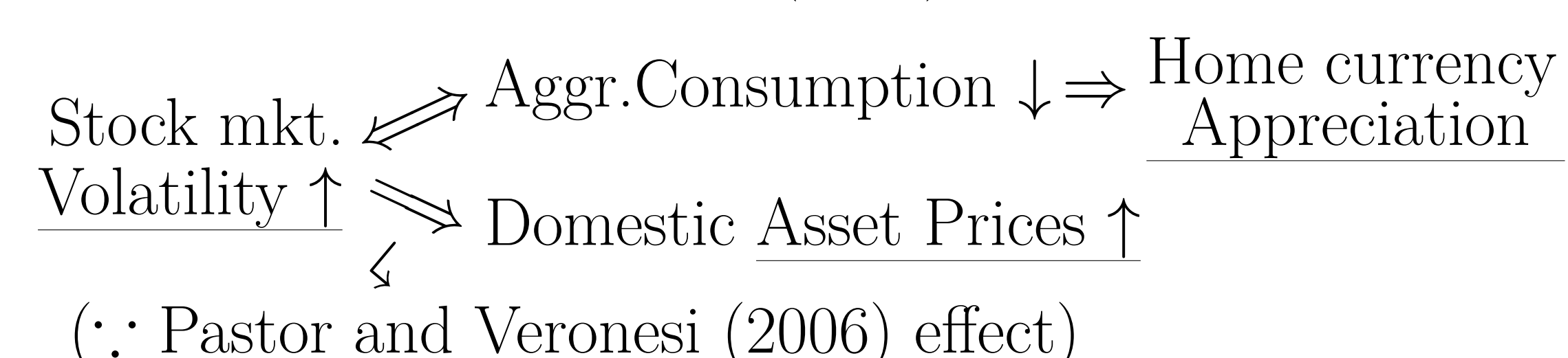
¹ CONVENTIONAL MECHANISM

Portfolio Rebalancing (Hau and Rey (2006))
Mechanism



STOCK MKT UNCERTAINTY?

Mechanism following Jung (2017)



EMPIRICAL RESULT

A major task in our study is to test whether excess stock return differential between Asian and US stock index returns exhibits a negative relationship with the FX returns.

- **Individual countries** mostly show **Positive** unconditional correlations.
- **Panel** (country-specific fixed effect) and **Pooled OLS regression** show consistent **Positive** values.
- Both **Nominal** and **Real** values show **Same** quantitative results.
- **Stock Market Uncertainty** variables **Intensify** the positive relation between FX rate and Stock market Excess returns.

CONCLUSION

Our new empirical evidence cast doubt on conventional UEP explanation, portfolio rebalancing mechanism with incomplete FX risk hedging. We show that the stock market uncertainty might work as the alternative explanation on this state-dependent UEP evidence.

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