

"Currency Risk in the Long Run"
by Della Corte, Gao, Preve, and Valente

Yu-chin Chen

University of Washington / ABFER

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Summary

- Derive and estimate the risk profile of a currency strategy
 - Short-term USD funding for long-term foreign bonds
- Risk \equiv predictive variance of returns
 - True variance, model & parameter uncertainties, observed + unobserved
- Decompose strategy return:
 - bond excess return, real interest diff, RER return
- (Closed-form) decomposition of risk/predictive covariance
 - Clear interpretations of $C_1 - C_5$
- Bayesian estimations with long horizon data
 - 200+ years of monthly data for 9 major countries vs. US
- Systematic assessment of the various components of uncertainties

Excellent work!

- Careful and clear executions of the various decompositions - well done!
 - Applicable to a wide range of additional analyses
- Well-motivated application
- Tight connection between theory and application
- Results are sensible and interesting

Comments mostly about choices vs. some possible alternatives

- Even though highlight is the 5 components of $\text{Cov}(r_{i,T}^k, r_{j,T}^k | D_T)$, discussion focus more on the first part

Risk Profile of a Strategy

- Extend single asset or aggregate market to look at a popular portfolio strategy
- Decompose strategy return into 3 components:

$$\begin{aligned} r_{X_{t+1}} &= y_{t+1}^* + \Delta s_{t+1} - i_{t+1} \\ &= r_{bond_rx^*} + r_{diff_r} + r_{dRER} \end{aligned}$$

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Q: Why this particular choice of decomposition? vs. e.g.

- the initial split
- 4 components: $dRER = dNER + \text{inflation differentials}$

Predictive System

- Extend Pastor & Stambaugh (2009) with observed x and unobserved π predictors
- For each $s = \{bond_rx^*, diff_r, dRER\}$:

$$r_{s,t+1} = a_s + b_s x_t + \pi_{s,t} + u_{s,t+1}$$

$$x_{t+1} = \theta_s + \gamma_s x_t + v_{s,t+1}$$

$$\pi_{s,t+1} = \delta_s \pi_{s,t} + \eta_{s,t+1}$$

- $x = \{y^{10yr} - y^{3m}, diff_y^{10yr}, diff_y^{3m}\}$
- π : "changes in monetary and exchange rate regimes"

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Question: same/sensible set of x for all s ?

The Choice of Observables

Related to return decomposition: $bond_rx^*$, $diff_r$, $dRER$

- output & inflation differentials? e.g. monetary policy, macro-finance literature on term structure
- Productivity differentials? (NT/T, aggregate)
Balassa-Samuelson or RW
- Trade or CA balance
- Commodity prices (AUS, CAN, NOR, NZ)
- Factors for x ? Ludvigson-Ng: macro, finance, int'l factors
 - need to construct panel, but GFD has a lot

Choices here affect subsequent decompositions

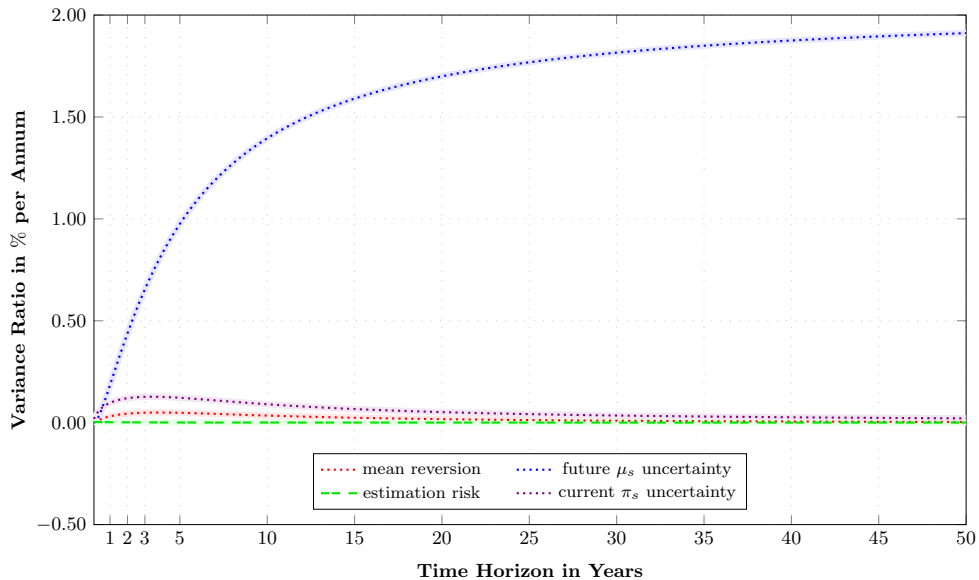


Figure 2: Decomposition of the Predictive Variance Ratio

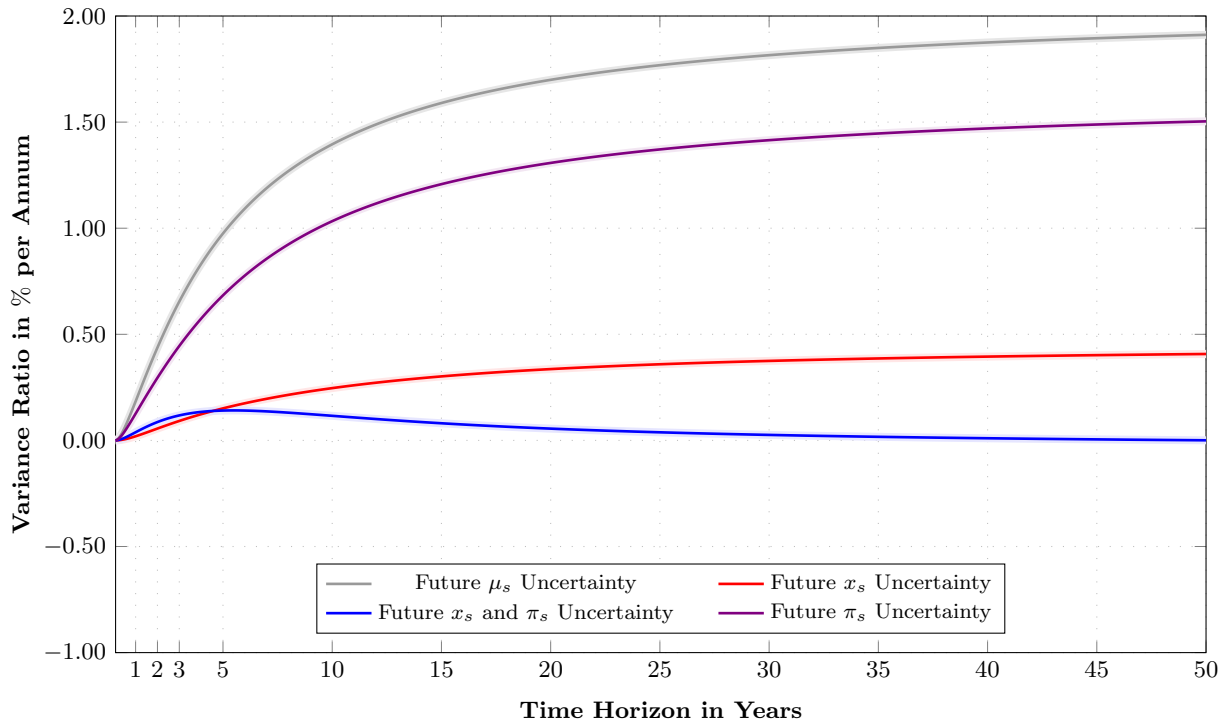


Figure 5: Future Uncertainty Components

Related Metric Questions

- 200 yrs of data \Rightarrow structural change
 - How do, e.g. crises & regulatory changes fit in?
- Pastor-Stambaugh emphasize $\rho_{v\eta}$, Corr(expected & unexpected returns)
 - How do they look here for each of the components?
- Plots of fitted $\hat{x}'_{s,t}$ and $\hat{\pi}_{s,t}$?
- Are some variables year-on-year? Overlapping data issue biasing R^2 ?

The So-What Test

- More than meets the bar! Excellent work!

Some angles to possibly push further:

- Cross-country differences may be informative
 - "with *very few exceptions*, the $(1/N)$ results are broadly comparable with the ones exhibited by investments in individual countries"
- Most actions happen within the first 10 – 15 years, with few crossings of risk components: interpretations/stories?
- Results all based on $y^{*,10yr}$: the term structure of risks as an extension?

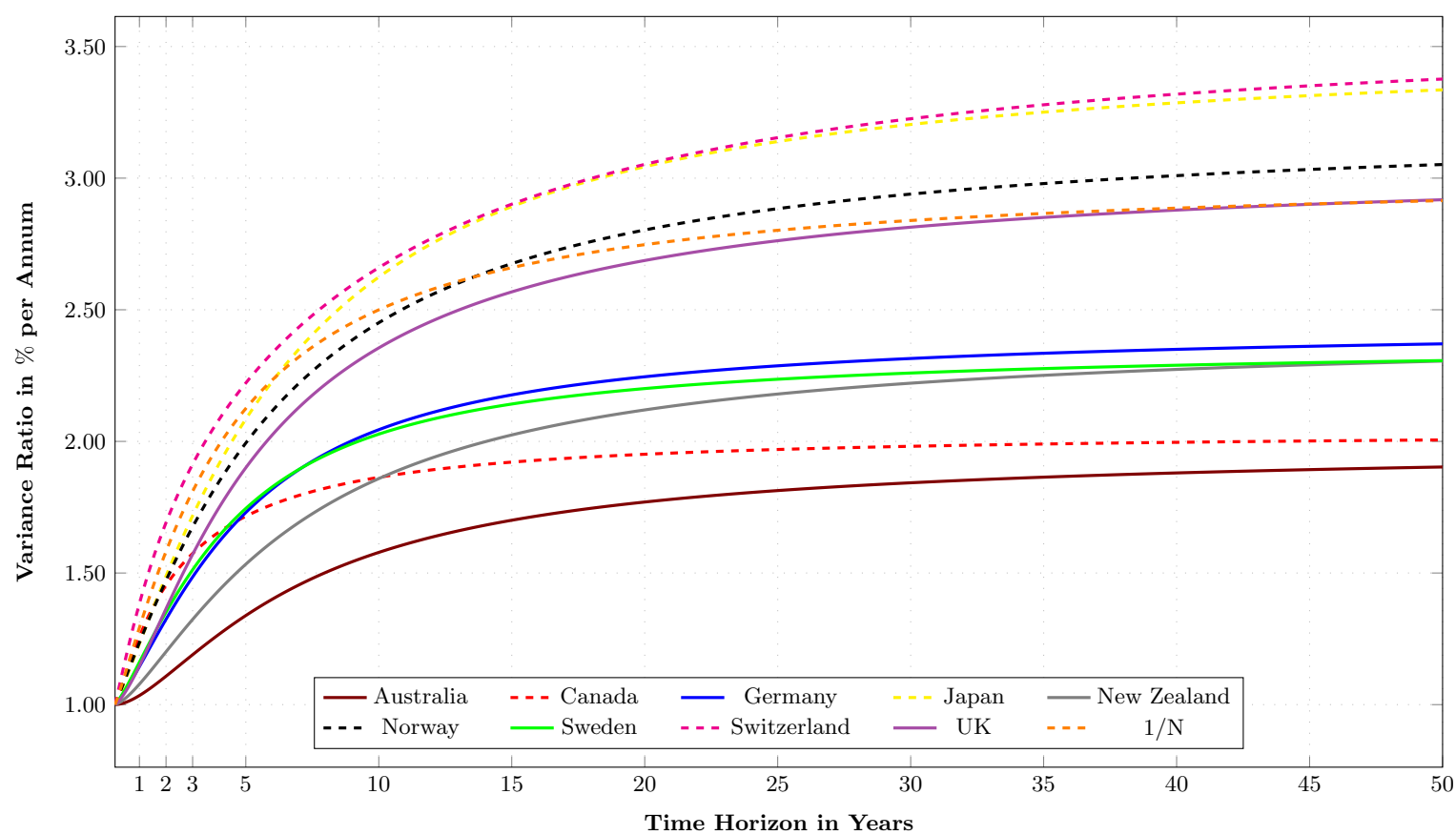


Figure 1: Predictive Variance Ratios