THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

Option-Implied Risk Premia with Intertemporal Hedging

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Discussant: **Andrei S. Gonçalves**

2025 Paris December Meeting

Outline

The Paper

My Comments

Final Remarks

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- Breeden, Litzenberger (1978): extract from option prices
- Extracting actual beliefs from risk neutral beliefs:
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- **Theoretical innovation**: $Max\ \mathbb{E}_t[u(W_T)]$ with trading at $T_1 < T$
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- **Theoretical innovation**: $Max\ \mathbb{E}_t[u(W_T)]$ with trading at $T_1 < T$

$$m_{T_1}^{-1} \approx 1 + \frac{a_{1,t}}{R_{f,T_1}} \cdot (R_{M,T_1} - R_{f,T_1}) + \frac{a_{2,t}}{R_{f,T_1}^2} \cdot (R_{M,T_1} - R_{f,T_1})^2 + \frac{a_{3,t}}{R_{f,T}^2} \cdot \mathbb{E}_{T_1}^{*}\left[(R_{M,T} - R_{f,T})^2\right]$$

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1) $\mathbb{LEV}_t^* = \mathbb{COV}_t^*\left[\mathbb{E}_{T_1}^*[(R_{M,T} - R_{f,T})^2],\ R_{M,T_1}\right]$

2) $\mathbb{E}_t^*\mathbb{M}_{T_1 \rightarrow T}^{*(2)} = \mathbb{E}_t^*\left[\mathbb{E}_{T_1}^*[(R_{M,T} - R_{f,T})^2]\right]$

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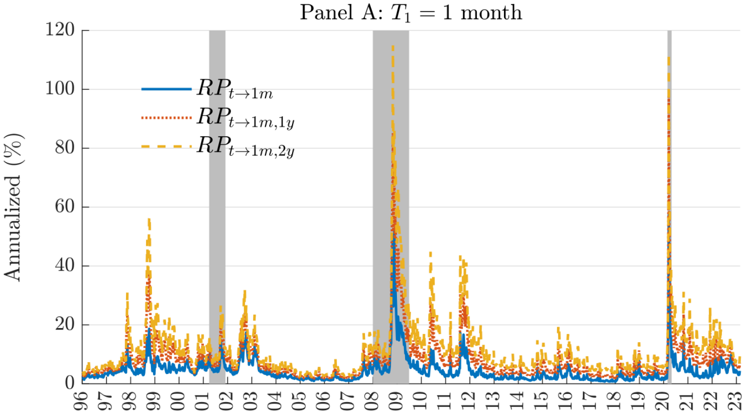

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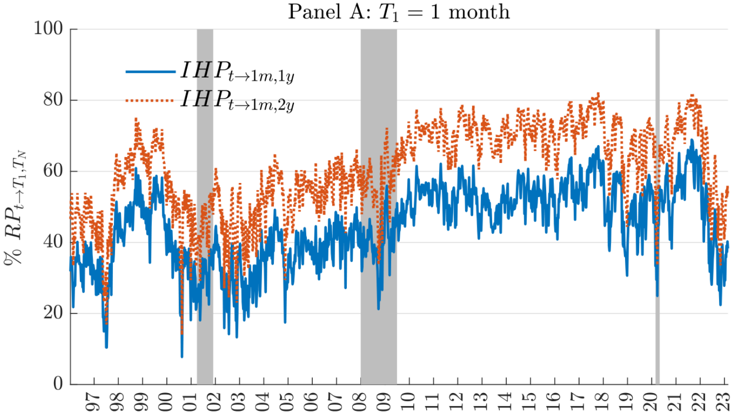

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Table 2: **Out-of-sample prediction and allocation performance**

Horizon T_1 (in months)	$RP^{Log}_{t\rightarrow T_1}$	$IERP_{t\rightarrow T_1}$	$RP_{t\rightarrow T_1}$	$RP_{t\rightarrow T_1,T_N}$ with $T_N =$ (in months) 6	9	12	18	24	Average across T_N
Panel A: Out-of-sample R^2									
1	0.92	1.39	1.08	1.71	1.84	1.84	1.62	1.00	1.80
2	1.51	2.18	1.96	2.90*	3.36*	3.66	4.00	3.89	3.44
3	1.43	2.73	2.23	3.15**	3.85*	4.39*	5.21*	5.57	4.22*
4	2.17	5.22	3.35	4.03**	4.88**	5.57**	6.65*	7.37*	5.62**
5	3.07	8.01	4.65	5.00***	5.92**	6.71**	7.98**	8.93**	7.12**
6	3.40	9.42	5.28	-	6.23***	7.05**	8.42**	9.54**	7.96**
12	2.67	10.38	5.58	-	-	-	6.90***	8.12***	7.53***

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  - You find that they do matter to extract $\mathbb{E}_t[R_M - R_f]$
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2) Avoid Measuring $\mathbb{E}_t^* \mathbb{M}^{*(2)}_{T_1 \to T}$

- The empirical performance comes from two terms:

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- Model implies:

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  - Doubt it captures investors changing their investment horizon
  - Just relative strength of market risk vs intertemporal hedging
  - Good Times: intertemporal hedging relatively more important
  - Gonçalves (2021, JF) provides a model with this feature
  - It explains the equity term structure cyclicality (Section III.B.3)

Outline

The Paper

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