

Discussion of
Sovereign Default and the Decline in Interest Rates
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What They Do

- Over the last decades, we have seen
 1. a large decline in interest rates
 2. only a modest increase in stock valuations (price-dividend ratios)
 3. a decrease in output growth and in investment rates
 - Potential theories for decrease in interest rates
 - increase in saving desire: contradicts low investment rates and modest stock valuations
 - increase in disaster risk: implies increase in equity premium (not in data)
- **This paper:** decrease in default/inflation risk can account for evidence
- Important contribution for understanding **macro-finance patterns!**

Endowment Model: Risk-Free Bonds Only

- Simple model to evaluate changes over two sample periods: 1984-2000 and 2001-2021
- First, model with risk-free bonds only
 - find disaster probability, p , and discount factor β
 - to match \downarrow growth, only moderate \uparrow in price-div, and \downarrow in interest rates

	Parameter	Values	
		1984–2000	2001–2016
Panel A: Moments in the data			
Price-dividend ratio	κ	42.34	50.11
Inflation-adjusted Treasury yield	y_b	0.0279	-0.0035
Panel B: $\gamma = 12.0$, EIS = 2.0, $\eta = 0.15$			
Average consumption growth	μ	0.0257	0.0157
Discount factor	β	0.969	0.982
Probability of disaster	p	0.0225	0.0464

- But it implies large increase in equity premium: $\log \mathbb{E}_t R_{W,t+1} - \log R_f \approx p\eta[(1 - \eta)^{-\gamma} - 1]$

Endowment Model: Add Inflation Risk

- In simplest version: when a disaster occurs bondholders lose fraction $\lambda\eta$ of face value
 - λ captures proportional exposure of bonds relative to dividends
- Adds a new risk term in the bond yield: $y_b \approx \log R_f + p\lambda\eta(1 - \eta)^{-\gamma}$
- Re-do exercise as before, but fix p and find β and λ

Parameter		1984–2000	2001–2021
Panel A: Moments in the data			
Price-dividend ratio	κ	42.34	50.86
Inflation-adjusted Treasury yield	y_b	0.0279	-0.0069
Panel B: $\gamma = 5$, EIS = 2, $\eta = 0.3$			
Average consumption growth	μ	0.0257	0.0157
Discount factor	β	0.973	0.981
Fraction of bond value lost	$\lambda\eta$	0.129	-0.044
Model-implied riskfree rate	r_f	0.012	-0.002

- Implies a large decrease in λ to match data

The Role of λ : Decrease in Inflation and Default Risk

- The parameter λ is the loss in bond value when disasters occur
 - during disasters, dividends cut by η and bondholders lose $\lambda\eta$ of face value
- Difficult to measure in data \rightarrow Indirect evidence
 - decline in excess real returns on nominal bonds over inflation-linked bonds
 - correlation between inflation and consumption growth turned positive
 - decline in inflation expectations
 - inflation forecasting errors

The Role of λ : Increasing Public Debt

- But, at the same time, public debt has increased over time
- If default decision is endogenous, $\downarrow \lambda$: after a disaster shock, gov is less likely to default?
 - hard to reconcile with increasing public debt in standard sovereign default models
 - higher debt imply larger defaults when *disasters* or bad shocks occur
- What about Europe?
 - is there evidence of a decline in default risk?
 - especially given sovereign debt crisis (although low inflation risk)

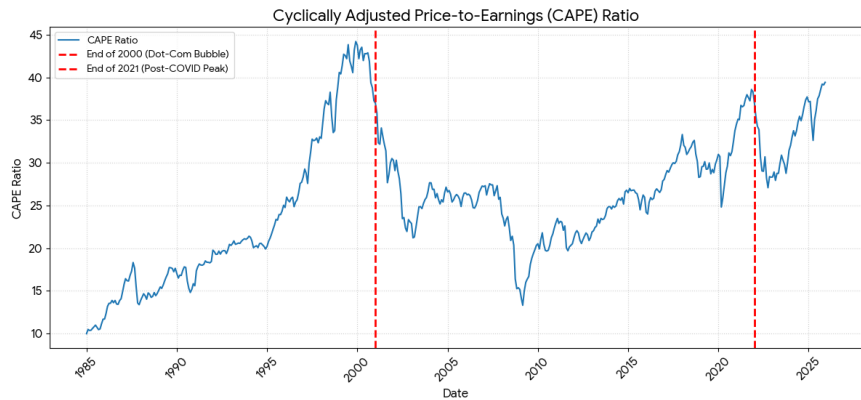
The Role of Monetary Policy

- Beyond the scope of the paper: why has λ declined?
- But it raises interesting questions about decline in sovereign/inflation risk
- What is the role of monetary policy for decline in λ ?
 - changes over the same time period that can affect perception of inflation risk
 - inflation targeting, credibility, independence, forward guidance

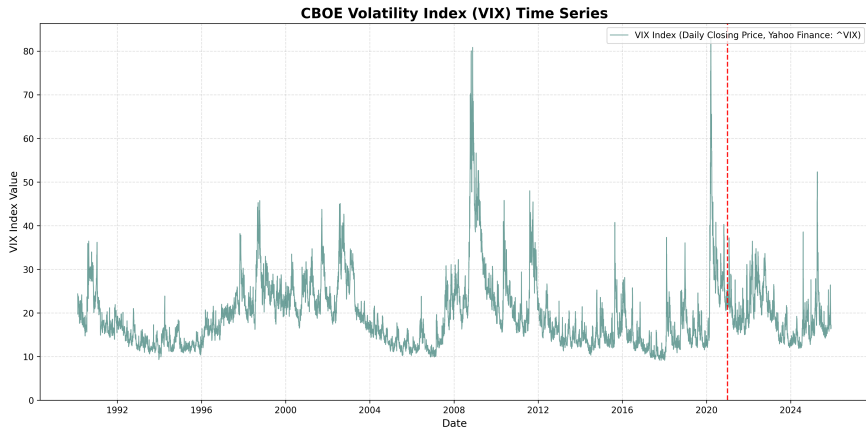
Post-2021: What Changed?

- This paper offers explanation for what happened in last decades
 - new insights into the role of sovereign/default risk
- How do we use it to understand recent patterns?
- After 2021:
 - increase in interest rates
 - and increase in valuation ratios
- Are we entering a new *regime* with high λ again?

Increasing Price to Earnings



Uncertainty?



Post-2021: What Changed?

- Endowment model augmented with consumption, expected and unexpected inflation shocks

		Values		
	Parameter	1984–2000	2001–2021	2022–2024
Panel A: Moments in the data				
Price-dividend ratio	κ	42.35	50.86	64.01
1-year Treasury yield	y_b	0.0593	0.0141	0.0446
Panel B: $\gamma = 5$, $EIS = 1$, $\eta = 0.3$				
Average consumption growth	μ	0.0257	0.0157	0.0157
Consumption-realized inflation correlation	$\text{Corr}(C, \pi)$	-0.205	0.742	0.742
Discount factor	β	0.977	0.981	0.981
Fraction of bond value lost	$\lambda\eta$	0.106	-0.030	0.193

- In recent period, relative to 2001-2021: to capture high rates and high price-div
- increase in default/inflation risk λ
- keeping same discount factor and disaster probability
- Are we entering a new *regime* with high λ again? or is it just a cyclical increase in risk?

Conclusion

- Very nice paper! I enjoyed reading it a lot
- It provides a unified explanation for decline in interest rates
 - that is consistent with other macro-finance patterns
- It shows how declining [inflation and default risk](#) can reconcile these trends
- [Open questions](#) about
 - role of monetary policy
 - increasing public debt and implications of recent post-Covid patterns