

DISCUSSION ON 'RISK PREMIUMS AND
MACROECONOMIC DYNAMICS IN A
HETEROGENEOUS AGENT MODEL' BY DE
GRAEVE, DOSSCHE, EMIRIS, SNEESSENS,
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AIM OF THE STUDY

WHAT MODEL FEATURES ARE NEEDED TO MATCH BOTH FINANCIAL MARKET AND REAL ECONOMY DATA?

A start of the research agenda aiming in estimating (nonlinear) DSGE model using both financial and real economy data.

GENERAL-TO-SPECIFIC APPROACH

Use wide variety of model and preference specifications to find empirically interesting special cases.

GUVENEN

- Builds on heterogeneity:
 - stockholders can participate stock markets (Type 1),
 - non-stockholders participate only bond market; more risk-averse (special case of Type 2)
- Non-stockholders smooth consumption only in bond markets
 - bid bond prices up → low risk-free rate.
 - stockholders (elastic) supply those bonds → increase their consumption volatility
 - stockholders can insure via management of the capital stock.
- **Labour supply is exogenous!** (recently endogenous)

DANTHINE – DONALDSON

- Builds on heterogeneity:
 - stockholders can participate financial markets (Type 1),
 - workers not (Type 3).
- An additional source of risk: distribution risk (risk to labour share; bargaining power of shareholders), that is uninsurable.
- Efficient bargaining: Stockholders insure workers (who cannot participate to financial markets) against extremes of competitive income determination in exchange of paying a lower wage on average. → Firm's wage bill vary less than output
 - firm's profits vary more
 - stockholders consumption vary more
 - higher equity premium.
- Leverage improve fit by increasing profit volatility
- Labour supply is exogenous!

UHLIG

- Aims in explaining both asset pricing and macroeconomic facts.
- **Labour supply is endogenous:** studies non-separable utility function in an otherwise standard framework.
- Reverse-engineering parameter values from US data
- Some results:
 - Non-separability does not help in explaining facts
 - Wage frictions help a lot
 - Guvenen does not help (first-order approximation, smaller shock variance)

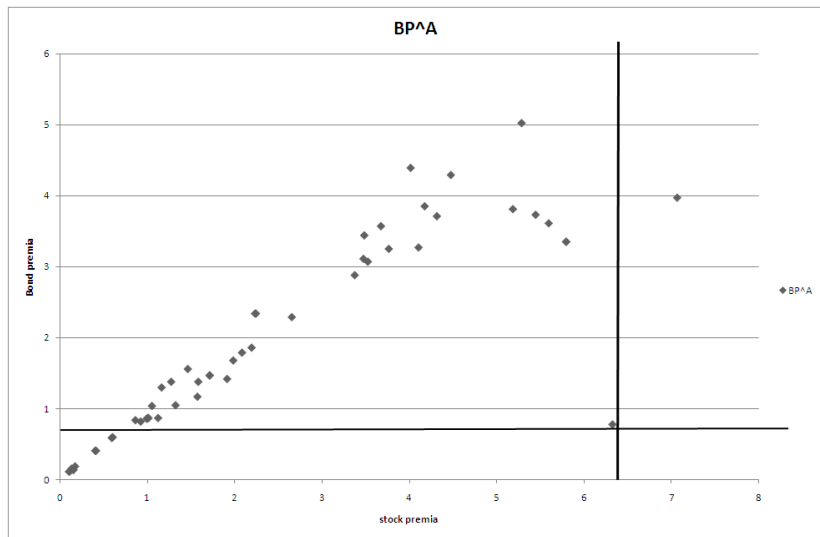
RAF'S PAPER

- Combines the above three papers into single framework.
- **Labour supply is endogenous**: various forms of separable and non-separable utility functions
- Features:
 - Combination helps in fitting asset price facts.
 - Capital adjustment costs: decrease the interest rate sensitivity of consumption, but increase investment and risk free rate volatility.
 - Price rigidity: reduces stock premium, but increase bond premium.
 - Habit formation: strengthens other responses but generate volatile risk-free rate
 - Correlated shocks: improve macroeconomic fit
 - Leverage: further increase in volatility of profits
 - 2nd order approximation (3rd order arriving yielding statistics related to temporal dependence)

RAF'S PAPER...

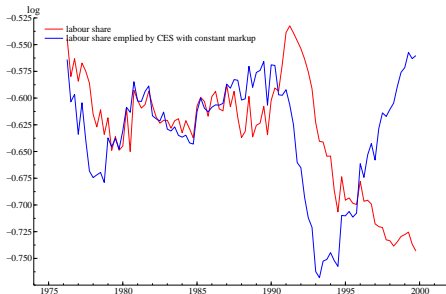
It seems that Raf is searching priors to the parameters to be estimated!

EQUITY PREMIUM AND BOND PREMIUM



VARIATION IN THE LABOUR SHARE

- Bargaining setup fits well with the heterogeneous agents story. Old tool from labour economics (static models).
- Distribution shock is a time-varying bargaining power of 'capitalists'.
- CES production function would lead to *endogenous* variation in the labour-share



EXOGENOUS WEIGHTS OF INVESTOR TYPES

- The weights of various investor types are exogenously given (fixed parameter).
- As Guvenen (2003) report, there has been significant increase in the share of 'capitalists':
 - 1950s: 5 %
 - 1982: 19 %
 - 1999: 50 %

participate stock markets!

- Hence, the share is not constant over time, but the parameter is!

Could we endogenize the shares by relating them to life-cycle: elder (retired) people, who have shorter investment horizon, would *endogenously* not participate stock market. Increase in longevity correlates with Guvenen's numbers.