

Time Varying Risk Premia, Labor Market Dynamics, and Income Risk

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Overview



- Empirical analysis:
 - Risk premia \uparrow : low-earning workers lose the most
 - These losses largely coincide with separations
 - Different from productivity \downarrow , where high earners lose the most
- Structural model:
 - Search and matching model + wage smoothing assumption
 - Endogenous separations when surplus goes negative
 - Able to match cross-sectional patterns without imposing heterogeneous impacts of shocks on productivity

This discussion



- My evaluation: great paper, interesting and intuitive mechanism
- Where does it fit in the literature?
 - Angeletos et al (2020): single shock that moves both risk premia and real activity seems to explain most business cycles
 - Hall (2017): risk premia can generate large and volatile unemployment in search models
 - This paper: how do risk premia affect the **cross section** of workers?
- This discussion:
 - Unpacking the mechanism
 - Quick comments on financial conditions and risk-free rates

Review: Cash Flow Duration



- Exposure of an asset's value to a change in the discount rate is summarized by duration
 - Average time until asset's cash flows received, weighted by value
- Consider asset with value P and discount rate r
- After a permanent change in rates Δr :

$$\frac{\Delta P}{P} \approx -\frac{D}{1+r} \times \Delta r$$

Application: Job Separations



- In this model, worker and firm split the surplus proportionally
 - Job separations occur (efficiently) when surplus is negative
- Let B denote benefits created by working, C denote the costs
 - B is value added from production
 - C is foregone payoffs in unemployment
 - Surplus is $S = B - C$
- Duration of the surplus is:

$$D_S = \left(\frac{B}{S}\right) D_B - \left(\frac{C}{S}\right) D_C$$

Duration of Surplus



- Can rewrite duration of surplus formula as

$$D_S = D_B + \left(\frac{C}{S}\right) (D_B - D_C)$$

- Surplus is sensitive to discount rates (high duration) when:
 1. Duration of benefits (D_B) is high
 2. Duration of benefits exceeds costs ($D_B - D_C$ is high)
 3. Assuming $D_B > D_C$, ratio of cost to surplus (C/S) is high
- Key to negative surplus is complementarity between 2 and 3

Duration of Surplus



- Can rewrite duration of surplus formula as

$$D_S = D_B + \left(\frac{C}{S}\right) (D_B - D_C)$$

- In this model:
 - Slope of costs are the same for everyone
 - Slope of benefits highest for less skilled (low z) workers
 - Ratio of costs to surplus is highest for less skilled workers
- Note: less skilled workers also more likely to separate, which pushes all durations downward

Comment 1: Using the Decomposition



- This could be a nice way to quantitatively decompose the paper's results (free disposal)
 - Separates effect of high C/S ratio from high B slope
 - My prior: C/S ratio doing more work than benefit duration
- Can we measure any components in the data?
 - Use characteristics to predict earnings growth. Are high expected earnings growth workers more likely to lose their job?
 - Variation in C/S is more tricky. Maybe workers close to the minimum wage, or part of highly unionized industries?
 - Note: neither of these actually correct in model

Comment 2: Firm Constraints



- Employment tends to drop a lot in recessions
 - E.g., manufacturing employment ↓ 2M (15%) in 2008 – 2009 crisis
- This paper's view: discount rates pushed surplus negative
- Alternative view: credit conditions/firm constraints/demand forced firms to shrink
 - Constrained optimization: lay off workers with lowest ratio of surplus to “footprint” (effect on constraint)
 - Very different story because it is about **level of surplus** in a changing firm rather than **change in surplus**

Comment 3: Risk-Free Rates



- Paper is focused empirically on shocks to risk premia
 - But mechanism is based on discount rates in general
 - Movements in real risk-free rates should have the same effect
- What would happen if you fed in the path of interest rates?
 - Seems like falling rates since the 1980s could have reduced separations and boosted employment
- Risk free rates less countercyclical than risk premia, would be nice evidence if the same cross-sectional patterns emerged

Conclusion



- Great paper with super interesting mechanism
- Sensitivity of surplus due to complementarity between:
 - High duration (slope) of production benefits relative to costs
 - High ratio of costs to surplus
 - Would be great to measure these objects more directly
- Future work should try to separate changes in surplus from constraints that force firms to lay off by level of surplus
- Same logic should apply to real risk-free rates