Discussion: "Feedback and Contagion through Distressed Competition" by Hui Chen, Winston Wei Dou, Hongye Guo and Yan Ji

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Model Overview

- Product Demand: $D\left(P_{1,t}, P_{2,t}, M_{1,t}\right)$, where $M_{1,t}$ is customers' taste
  - $\frac{dM_{1,t}}{M_{1,t}} = gdt + \varsigma dZ_t + \sigma_M dW_{1,t} - dJ_{1,t}$, Poisson $dJ_{1,t} = 1$ $(M_{1,t} \downarrow 0)$ exit

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- Firm 1 sets $P_{1,t}$ to maximizes shareholders' value
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- Stochastic discount rate: $\frac{d\Lambda_t}{\Lambda_t} = -r_f dt - \gamma_t dZ_t - \zeta dZ_{\gamma,t}$
  - The price of risk, γ_t, is mean-reverting and loads on $dZ_{\gamma,t}$

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New What are the implications of debt (and distress) on competition?

- Competition in turn affects Pr(distress), Corr.(firm profits, SDF), expected stock return, and credit spread

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  - The threat of entry weakens the amplification mechanism

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- Credit spread puzzle: the switch from collusive to non-collusive strengthens the link between SDF and default prob. (via profits/cash-flow reduction)

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- Price sensitivity to shocks adds to the amplification & spillover
  - Bad shocks $\rightarrow$ $PV\left(\text{future collusive profits}\right)\downarrow \rightarrow$ cut price so $\textit{profits}(P_{1,t}, P_{2,t})\uparrow \rightarrow$ competitors' profits $\downarrow \rightarrow$ competitor cuts price ...

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  - Equilibrium selection is an empirical question instead of following literature

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- Technically easy to implement since $M_{i,t}$ is already a state variable
  - Optimal investment strategy involves the derivative of continuation value w.r.t. $M_{i,t}$, which adds only one step in the numeric solution

Comment 3: Is Product Price a Static or Dynamic Choice?

- At t, two firms set prices given demand elasticities
  - The game repeats every $t + dt$ as γ_t, $M_{1,t}$, and $M_{2,t}$ evolve exogenously, driving the collusive and non-collusive continuation values

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- Amplification mechanism weakens:
  - Bad shocks $\rightarrow$ continuation value $\downarrow$ (impatience) $\rightarrow$ price cutting (competing aggressively) $\rightarrow$ continuation value $\uparrow$

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- Avoid growth by setting the $M_{i,t}$-disaster intensity high
  - But GBM growth is in line with existing theories and evidence

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- Industries with less frequent $M_{i,t}$ disaster tend to be collusive
  - $\rightarrow$ High profitability & higher corr. with SDF
  - $\rightarrow$ High expected stock return in equilibrium

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- Bring imperfect competition to *dynamic* finance
  - Read this and other papers by the authors – an exciting research agenda!