Discussion of "Dissecting Post Earnings Announcement Drift in the Corporate Bond Market" by Yoshio Nozawa, Yancheng Qiu and Yan Xiong (HKUST)

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Brief Summary

- Documents post earnings announcement drift (PEAD) for corporate bonds, and rationalizes the facts with a model with investors agree to disagree.

  1. Corporate Bond PEAD: highest earnings surprise quntile earn 18 bps higher returns than those in the lowest quintile
     - accompanying facts: stock PEAD is weak (2002-2019)
  2. Key Channel: investors act more on heterogeneous beliefs (disagreement for idiosyncratic signals) and less so on information from trades of others (limited learning from aggregate price)
     - follow-up empirical tests of the model implications
     - rules out other explanations based on liquidity, attention, disposition effects and equity-bond momentum spillover

Road Map of Discussions

very well executed and a very interesting paper with rich implications!

1. Empirics
   - Setting
   - Measurement
   - Interpretation

2. Model
   - Characteristic features for the bond markets
   - What type of evidence to explain

Empirical Setting: Recap

- transaction level data (TRACE) for corporate bonds in the U.S.
- three sets of key empirical tests/findings
  a. bond returns reacting to Earnings Surprise (ES):
     $R_{i,d-1\to d+1} - R_{MKT,d-1\to d+1} = a + b \cdot ES_{i,d} + c \cdot X_i + \epsilon_i$
     - d: day of earnings announcement for bond issuing firms
     - ES Measures: stock cumulative abnormal stock returns (CAR) from $d-1$ to $d+1$/ earning forecast error (CE)/ Fraction of Forecast Positive/Negative Misses (FOM)
  b. Portfolio sorts based on CAR/CE/FOM: High-Low (Excess Returns, factor adjusted alphas)
  c. Equity PEAD: weak in (2002-2019) vs. strong (1984-2001)

Comments: Part I

- Findings: stock CAR more correlated with bond CAR over $[d-1, d+1]$ compared to CE and FOM

  - equivalence/alternate?: stock CAR covers the critical information-sensitive duration day $d-1$ to d (Savor and Wilson, 2016; Hu et al., 2020), suggesting pre-earnings announcement premium among stocks

  - why not CE/FOM (so-called low frequency measure: unobserved variations over $[d-1, d]$ and driven by ex-post earnings)?

  - need more explorations on: Portfolio sorts, Table 3 results: H-L significant for 11 (stock+bond)-factor alphas based on CAR sorts; CE-sorts: significantly negative alphas with L group only; FOM: insignificant

  - bond PEAD, potentially related to the facts of (1) STRONG Pre-Anns Premium and (2) WEAK Post-Anns Premium among stocks?

  - some do-able 1: splitting the bond pre vs. post excess return component

  - some do-able 2: identify correlations of pre/post-premium linking stocks and bonds of same set of firms

Model Overview

- 3-period model ($t = 0, 1, 2$), 2 assets (risky and risk-free)
- a continuum of investors ($i \in [0, 1]$) with CARA utility (ARA γ)
- noisy demand for risky assets $\tilde{u} \in \mathbb{N}(0, \sigma_u^2)$
- payoff and information structure
  a. payoff $\tilde{v}$ realized at $t = 2$ with $\tilde{v} \sim \mathbb{N}(0, \tau_v^{-1})$
  b. earnings announcement occur at $t = 1$ in form of a public signal: $\tilde{y} = \tilde{v} + \tilde{\eta}$, public measurement error $\tilde{\eta} \sim \mathbb{N}(0, \tau_\eta^{-1})$
  c. idiosyncratic/investor-specific interpretation of payoff in form of a private signal: $\tilde{s}_i = \tilde{y} + \tilde{\epsilon}_i = \tilde{v} + \tilde{\eta} + \tilde{\epsilon}_i$, private noise $\tilde{\epsilon}_i \sim \mathbb{N}(0, \tau_\epsilon^{-1})$
- critical: presence of $\tilde{\epsilon}_i$ distribution, uncertainty and relative precision $\sigma_u^2, \tau_v, \tau_\eta, \tau_\epsilon$

Inspecting the Key Mechanism

- the disagreement channel has to dominate the noise trading channel to deliver the bond PEAD
  - theory account of PEAD: $\mathbb{E}(\Delta\tilde{p}_2|\Delta\tilde{p}_1) = k\tilde{p}_1 = k(\tilde{p}_2 - \tilde{p}_1)$
  - the degree of PEAD captured by $k < 0$: reversal vs. $k > 0$: drift with persistence/memory
  - where $k = w[\tau_\epsilon\tau_\eta^2 - \gamma^2\tau_v(\tau_\epsilon + \tau_\eta)^2\sigma_u^2]$, some weights $w > 0$
  - variance of noisy demand $\sigma_u^2 \downarrow$ (to downplay the noise trading channel, limit price reversal), public info quality $\tau_\eta \uparrow$ (to reinforce the dominance of disagreement, investors more rely on their own beliefs for trading)

Comments: Part II

- the framework is otherwise REE (currently, expectations assumed NOT taken on asset prices)

  - cross-learning mechanism: learning from asset prices of similar fundamentals? spillover effects from firms who announced earnings earlier than others? (Ben-Rephael et al. 2020)

- the model might miss ingredients from the bond markets (currently, risky assets are more general types, e.g. stocks or bonds)

  - generality concern: given the model is not bond-specific, these implications ($\sigma_u^2 \downarrow$ and $\tau_\eta \uparrow$ to generate PEAD) should also work for stocks, but not so much based on stock data since 2002

  - some do-able: enrich the model to JOINTLY explain the presence of bond PEAD and the absence of stock PEAD, push on identifying the market differences starting from this quasi-REE baseline?

Additional Comments

- Appendix A: quoted-price based PEAD similarly found, motivations in the introduction, anything in particular in need of using transaction price data? perhaps emphasize more on the quantity/volume of trades?
- stock PEAD: single firm matched with single security (1-to-1) / corporate bonds involves multiple issuances of bonds per firm issuer, more firm-level controls?
- to rule out the argument based on illiquidity: Amihud, turnover rate, or some principal components measures (Dick-Nielsen et al., 2012)
- measure of non-attention (Hirshleifer et al., 2009): announcement day with multiple news $\neq$ distractions (investors are rational and could have allocated the right amount of attention to different types of news)

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- great paper and truly learned a lot

Thank You Very Much