# Summary of *Cross-stock momentum and factor momentum*

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Summarized by Li Ziming

1. **What are the research questions?**
   - What key features of cross-stock momentum that distinguish it from factor momentum?
   - How do asymmetry and time-varying linkages contribute to cross-stock momentum and its predictability of future returns?
2. **Why are the research questions interesting?**
   - Distinguishing between factor and pure firm-specific momentum when analyzing factor momentum and own-stock momentum is difficult.
   - The exploration of asymmetry in linkages challenges and extends existing theories on momentum strategies.
3. **What is the paper's contribution?**
   - Contribute to literature on distinguish cross-stock momentum from factor momentum.
     - Prior literature: factor momentum subsumes industry momentum (Arnott, 2023).
     - Extend: more prominent role for asymmetry when specifying cross-stock linkages.
   - Contribute to the understanding of factor momentum.
     - Prior literature: attributed to positive cross-autocorrelations across securities (Lo and MacKinlay, 1990).
     - Extend: exploiting the asymmetry in cross-stock linkages.
   - Contribute to the cross-stock momentum literature.
     - Prior literature: linkages based on shared analysts (Ali and Hirshleifer, 2020); supply chain (Menzly and Ozbas, 2010); complicated firms (Cohen and Lou, 2012).
     - Extend: pinpoint time-varying feature of the cross-stock linkages responsible for return alphas.
   - Contribute to the asset pricing literature using machine learning.
     - Prior literature: symmetry and asymmetry of prediction matrix (Kelly et al., 2023).
     - Extend: the time-series properties of co-movements and the cross-sectional asymmetry are important features.
4. **What hypotheses are tested in the paper?**
   - H1: Cross-stock momentum can be separated from factor momentum using the asymmetry in stock linkages.
   - H2: Asymmetric linkages in cross-stock momentum generate significant alpha.
   - H3: Cross-stock momentum significantly influences factor momentum.

   **a) Do these hypotheses follow from and answer the research questions?**
   - Yes.

   **b) Do these hypotheses follow from theory? Explain logic of the hypotheses.**
   - Asymmetry distinguish between leader and laggard stocks, highlighting the directional nature of linkages.
   - Cross-stock momentum is posited to drive factor momentum through high cross-stock links, as factor returns aggregate individual stock dynamics.

5. **Sample: comment on the appropriateness of the sample selection procedures.**
    - The sample includes a broad dataset spanning 1931–2018, covering NYSE, AMEX, and NASDAQ stocks.
6. **Comment on the appropriateness of variable definition and measurement.**
    - The cross-stock linkages captured by the PP prediction matrix vary over time faster than the linkages.
7. **Comment on the appropriateness of the regress/predict model specification.**
    - The use of the Principal Portfolio method provides clear decomposition into symmetric and asymmetric components.
8. **What difficulties arise in drawing inferences from the empirical work?**
    - Time-varying linkages can be complex due to their ephemeral nature.
9. **Describe at least one publishable and feasible extension of this research.**
    - How cross-stock momentum varies across industries or sectors, using the same asymmetry framework.