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Summary of "Share Issuance and Factor Timing"[1]

Characteristic-based equity strategies generate positive *average* returns. Over time, these factor returns vary significantly. For example, the value strategy that longs high book-to-market stocks and shorts low book-to-market stocks (the "B/M factor") performs poorly during the dot-com bubble. In this paper, the authors find a way to time the factors using differences between the associated characteristics of recent stock issuers and repurchasers.

Firms are ranked into deciles by each characteristic.[2] "Issuers" ("repurchasers") are seasoned firms with net issuance larger than 10% (smaller than -0.5%). For any given characteristic, an "issuer-repurchaser spread" is defined as the average characteristic decile of issuers minus repurchasers.[3] A spread equal to one indicates that issuing firms' characteristic is on average one decile larger than repurchasing firms'. They find higher issuer-repurchaser spread for a characteristic predicts lower future returns to the characteristic-based factor, which is a portfolio strategy that buys firms ranked high and sells firms ranked low by the corresponding characteristic.[4]

For instance, when the issuer-repurchaser spread for book-to-market rises by one decile, returns to the value strategy fall by 71 bps per month in the following year. A one standard deviation increase in the spread is associated with a 41 bps decline in monthly returns to this B/M factor. This effect is remarkably large relative to the factor's average monthly return of 44 bps and its monthly standard deviation of 295 bps. Statistically and economically significant predictability of issuer-repurchaser spread is also found for size, bankruptcy hazard rate ("distress"), and payout policy.[5]

Next, authors reconstruct the characteristic-based long-short portfolios using only the subset of firms that exclude issuers and repurchases ("issuer-purged" portfolios). The predictability of issuer-repurchaser spread remains. Moreover, they find one standard deviation increase in industry-level net issuance lowers returns to the issuer-purged industry portfolio by 11 bps per month (i.e. 1.33% per year).[6] Firms' issuance decision contains information for the stock returns of *other firms* with similar characteristics or within the same industry. Thus, it is unlikely that their results are simply repackaging the known relationship between firm-level equity issuance and stock returns.[7]

Characteristic-based factors' expected returns may vary over time, perhaps stemming from time-varying investor enthusiasm for different themes. Firms with an overvalued characteristic can exploit this by selling shares, while firms with an undervalued characteristic buy back shares. "67% of the CFOs surveyed by Graham and Harvey (2001, p. 216) claim that 'the amount by which our stock is undervalued or overvalued by the market' influences whether the firm issues equity."[8]

This mispricing-based explanation is particularly appealing, given that the predictive power of issuer-repurchaser spread is most significant among the salient characteristics that investors use to categorize stocks. For these characteristics, investors' categorical thinking is more likely to impute time-varying sentiment into stock prices and the corresponding factor returns. Even if it seems unlikely that firms are more capable of market timing than the sophisticated buy-side represented by

institutional investors, firms do have comparative advantage in undertaking contrarian bets because they are not subject to fund managers' concern over short-term underperformance that limits arbitrage. Indeed, the return predictive power of issuer-repurchaser spread is more significant for characteristics whose expected factor returns tend to be somewhat persistent indicating slowly converging mispricing, such as book-to-market.

Alternatively, instead of arbitrage opportunities due to mispricing, returns to factor portfolios could simply be compensation for the associated risks, and thus, the correlations between stock return and factor returns, possibly proxied by firm characteristics, are rationally priced. When the price of risk associated with some factor declines, firms that have large exposure to this risk (proxied by high value of the corresponding characteristic) face lower cost of equity. These firms will rationally choose either to invest more or to deleverage through debt retirement financed by equity issuance. By the same logic, an increase in risk price could result in reduced investment or elevated leverage. This paper provides some evidence against the investment consequence of firms' factor timing. But we cannot dismiss the possibility that time-varying required return of rational investors results in firms' optimal adjustment of capital structure.

Based on the factor timing approach uncovered in this paper, we can dynamically allocate capital across the long-short equity strategies. Under the behavioral explanation, a dynamically managed factor portfolio improves arbitrage profit; in contrast, under the purely rational explanation, it aims to earn insurance premium wherever insurance is needed the most and risk prices highest.

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[1] Greenwood, Robin, and Samuel G. Hanson, 2012, *Journal of Finance* 67, 761-798.
[2] Please refer to the Appendix of the paper for definitions of characteristics.
[3] Equation (7) in section II.A of the paper defines the definition of issuer-repurchaser spread.
[4] Footnote (8) in section III.A of the paper discusses the construction of factor portfolios.
[5] Table IV of the paper shows details on the return predictability of issuer-repurchaser spread across characteristics.
[6] Table V and VI exhibit the predictive power of issuer-repurchaser spread when portfolios are formed on the subset of firms that are neither issuers nor repurchasers.
[7] For research on firm-level equity issuance and stock returns, please refer to: Fama, Eugene F., and Kenneth R. French, 2008, Dissecting anomalies, *Journal of Finance* 63, 1653-1678; Pontiff, Jeffrey, and ArtemizaWoodgate, 2008, Share issuance and cross-sectional returns, *Journal of Finance* 63, 921–945.
[8] Graham, John R., and Campbell R. Harvey, 2001, The theory and practice of corporate finance: Evidence from the field, *Journal of Financial Economics* 60, 187–243.