## PUBLICATIONS

1. Grinblatt, Mark, Gergana Jostova, and Alexander Philipov. "Analyst Bias and Anomalies". Critical Finance Review forthcoming (2025). eprint: https://cfr.ivo-welch.info/forthcoming/ papers/grinblatt2024analyst.pdf.

Predictable biases in analysts' earnings forecasts, whether correlated or uncorrelated with anomalies, signal abnormal next-month returns, but only for firms that are hard to value. This finding is consistent with the plausible hypothesis that stock prices are distorted by investors who rely on predictably inaccurate forecasts by analysts. Moreover, the profitability of most anomaly strategies largely disappears once we account for analyst bias. If discernible earnings forecast biases elicits valuation mistakes, the greater prevalence of optimistic forecasts among stocks that are hard to value emerges as a common thread linking anomaly-generating firm characteristics to subsequent negative alphas

2. Henderson, Brian Joseph, Gergana Jostova, and Alexander Philipov. "Strategic Behavior By Equity Lenders". *Management Science* forthcoming (2025).

We document that stock lenders are informed about market conditions and pursue revenue maximization by setting premiums or offering discounts on stock loan fees. Using a model of supply and demand in the equity lending market, we illustrate the effect of stock borrowers' private information on the elasticity of shorting demand. Strategic lenders respond to demand elasticity and increase their revenues through premiums or discounts on lending fees. Empirically, decomposing stock loan fees into. intrinsic fee and premium or discount, we confirm lenders' strategic behavior, showing that premiums and discounts among difficult-to-borrow stocks lead to increased lending revenues. This strategic lending behavior has new implications about informed shorting, short interest, and transaction costs in the equity lending market.

Avramov, Doron, Tarun Chordia, Gergana Jostova, and Alexander Philipov. "The Distress Anomaly is Deeper than You Think: Evidence from Stocks and Bonds\*". *Review of Finance* 26, no. 2 (Sept. 2021): 355-405. ISSN: 1572-3097. https://doi.org/10.1093/rof/rfab025.eprint: https://academic.oup.com/rof/article-pdf/26/2/355/42897417/rfab025.pdf. https://doi.org/10.1093/rof/rfab025.

The distress anomaly reflects the abnormally low returns of high credit risk stocks during financial distress. Evidence from stocks and corporate bonds reinforces the anomaly and challenges rationales based on shareholders' ability to extract value from bondholders, time-varying betas, lottery-type preferences, biased earnings expectations, and limits-to-arbitrage. Moreover, mispricing of distressed stocks and bonds is associated with excess investment and excess external financing. Potential real' distortions are materially understated when assessed based only on equity mispricing. We emphasize the important role of corporate bonds in dissecting the distress anomaly, and show that the anomaly is an unresolved puzzle.

4. Grinblatt, Mark, Gergana Jostova, Lubomir Petrasek, and Alexander Philipov. "Style and Skill: Hedge Funds, Mutual Funds, and Momentum". *Management Science* 66, no. 12 (Dec. 2020): 5505-5531. https://doi.org/10.1287/mnsc.2019.3433. eprint: https://doi.org/10.1287/ mnsc.2019.3433. https://doi.org/10.1287/mnsc.2019.3433.

Classifying mandatory 13F stockholding filings by manager type reveals that hedge fund strategies are mostly contrarian, and mutual fund strategies are largely trend following. The only institutional performers—the two thirds of hedge fund managers that are contrarian—earn alpha of 2.4% per year. Contrarian hedge fund managers tend to trade profitably with all other manager types, especially when purchasing stocks from momentum-oriented hedge and mutual fund managers. Superior contrarian hedge fund performance exhibits persistence and stems from stock-picking ability rather than liquidity provision. Aggregate short sales further support these conclusions about the style and skill of various fund manager types. This paper was accepted by Tyler Shumway, finance.

5. Avramov, Doron, Tarun Chordia, Gergana Jostova, and Alexander Philipov. "Anomalies and financial distress". Journal of Financial Economics 108, no. 1 (Apr. 2013): 139–159. ISSN: 0304-405X. https://doi.org/https://doi.org/10.1016/j.jfineco.2012.10.005. https: //www.sciencedirect.com/science/article/pii/S0304405X12002176.

This paper explores commonalities across asset pricing anomalies. In particular, we assess implications of financial distress for the profitability of anomaly-based trading strategies. Strategies based on price momentum, earnings momentum, credit risk, dispersion, idiosyncratic volatility, and capital investments derive their profitability from taking short positions in high credit risk firms that experience deteriorating credit conditions. In contrast, the value-based strategy derives most of its profitability from taking long positions in high credit risk firms that survive financial distress and subsequently realize high returns. The accruals anomaly is an exception. It is robust among high and low credit risk firms in all credit conditions.

6. Jostova, Gergana, Stanislava Nikolova, Alexander Philipov, and Christof W. Stahel. "Momentum in Corporate Bond Returns". *The Review of Financial Studies* 26, no. 7 (May 2013): 1649–1693. ISSN: 0893-9454. https://doi.org/10.1093/rfs/hht022. eprint: https://academic.oup.com/rfs/article-pdf/26/7/1649/24432114/hht022.pdf. https://doi.org/10.1093/rfs/hht022.

This paper documents significant momentum in a comprehensive sample of 81,491 U.S. corporate bonds with both transaction and dealer-quote data from 1973 to 2011. Momentum is driven by noninvestment grade (NIG) bonds. Momentum profits have increased over time, along with the growth of this segment. From 1991 to 2011, they average 59 basis points (bps) per month across all bonds. and 192 bps in NIG bonds. NIG bonds issued by private firms earn even higher profits (282 bps). Momentum profits do not appear to compensate for risk or persist as a result of trading frictions. Bond momentum is not just a manifestation of equity momentum.

7. Avramov, Doron, Tarun Chordia, Gergana Jostova, and Alexander Philipov. "The World Price of Credit Risk". The Review of Asset Pricing Studies 2, no. 2 (Nov. 2012): 112–152. ISSN: 2045-9920. https://doi.org/10.1093/rapstu/ras012. eprint: https://academic.oup.com/raps/ article-pdf/2/2/112/24404535/ras012.pdf. https://doi.org/10.1093/rapstu/ras012.

Global asset pricing models have failed to capture the cross-section of country equity returns. Emerging markets display robust positive pricing errors, and country-level characteristics play a role in pricing international equities. This paper offers a risk-based explanation for such asset pricing deviations. A world credit risk factor is significantly priced in the cross-section of country equity returns. In its. presence, the positive pricing errors in emerging markets disappear and country-level characteristics no longer play a role. The risk premium for exposure to the credit risk factor is 80 basis points per month and has increased in recent years. (JEL G12, G14, G15)

 Avramov, Doron, Tarun Chordia, Gergana Jostova, and Alexander Philipov. "Credit ratings and the cross-section of stock returns". *Journal of Financial Markets* 12, no. 3 (Aug. 2009): 469–499. ISSN: 1386-4181. https://doi.org/https://doi.org/10.1016/j.finmar.2009.01.005. https://www.sciencedirect.com/science/article/pii/S1386418109000159.

Low credit risk firms realize higher returns than high credit risk firms. This is puzzling because investors seem to pay a premium for bearing credit risk. The credit risk effect manifests itself due to the poor performance of low-rated stocks (which account for 4.2% of total market capitalization) during periods of financial distress. Around rating downgrades, low-rated firms experience considerable. negative returns amid strong institutional selling, whereas returns do not differ across credit risk groups in stable or improving credit conditions. The evidence for the credit risk effect points towards mispricing generated by retail investors and sustained by illiquidity and short sell constraints.

Avramov, Doron, Tarun Chordia, Gergana Jostova, and Alexander Philipov. "Dispersion in analysts' earnings forecasts and credit rating". *Journal of Financial Economics* 91, no. 1 (Jan. 2009): 83-101. ISSN: 0304-405X. https://doi.org/https://doi.org/10.1016/j.jfineco.2008.02.005. https://www.sciencedirect.com/science/article/pii/S0304405X08001840.

This paper shows that the puzzling negative cross-sectional relation between dispersion in analysts' earnings forecasts and future stock returns may be explained by financial distress, as proxied by credit rating downgrades. Focusing on a sample of firms rated by Standard & Poor's (S&P), we show that the profitability of dispersion-based trading strategies concentrates in a small number of the worst-rated firms and is significant only during periods of deteriorating credit conditions. In such periods, the negative dispersion–return relation emerges as low-rated firms experience substantial price drop along with considerable increase in forecast dispersion. Moreover, even for this small universe of worst-rated firms, the dispersion–return relation is non-existent when either the dispersion measure or return is adjusted by credit risk. The results are robust to previously proposed explanations for the dispersion effect such as short-sale constraints and leverage.

10. Avramov, Doron, Tarun Chordia, Gergana Jostova, and Alexander Philipov. "Momentum and Credit Rating". The Journal of Finance 62, no. 5 (Oct. 2007): 2503-2520. https://doi.org/ https://doi.org/10.1111/j.1540-6261.2007.01282.x. eprint: https://onlinelibrary. wiley.com/doi/pdf/10.1111/j.1540-6261.2007.01282.x. https://onlinelibrary.wiley. com/doi/abs/10.1111/j.1540-6261.2007.01282.x.

ABSTRACT This paper establishes a robust link between momentum and credit rating. Momentum profitability is large and significant among low-grade firms, but it is nonexistent among high-grade firms. The momentum payoffs documented in the literature are generated by low-grade firms that account for less than 4% of the overall market capitalization of rated firms. The momentum payoff differential across credit rating groups is unexplained by firm size, firm age, analyst forecast dispersion, leverage, return volatility, and cash flow volatility.

11. Avramov, Doron, Gergana Jostova, and Alexander Philipov. "Understanding Changes in Corporate Credit Spreads". *Financial Analysts Journal* 63, no. 2 (2007): 90–105. https://doi.org/10.2469/faj.v63.n2.4525. eprint: https://doi.org/10.2469/faj.v63.n2.4525.

New evidence is reported on the empirical success of structural models in explaining changes in corporate credit risk. A parsimonious set of common factors and company-level fundamentals, inspired by structural models, was found to explain more than 54 percent (67 percent) of the variation in credit-spread changes for medium-grade (low-grade) bonds. No dominant latent factor was present in the. unexplained variation. Although this set of factors had lower explanatory power among high-grade bonds, it did capture most of the systematic variation in credit-spread changes in that category. It also subsumed the explanatory power of the Fama and French factors among all grade classes.

 Philipov, Alexander, and Mark E. Glickman. "Factor Multivariate Stochastic Volatility via Wishart Processes". *Econometric Reviews* 25, numbers 2-3 (2006): 311-334. https://doi.org/10. 1080/07474930600713366. eprint: https://doi.org/10.1080/07474930600713366. https: //doi.org/10.1080/07474930600713366.

This paper proposes a high dimensional factor multivariate stochastic volatility (MSV) model in which factor covariance matrices are driven by Wishart random processes. The framework allows for unrestricted specification of intertemporal sensitivities, which can capture the persistence in volatilities, kurtosis in returns, and correlation breakdowns and contagion effects in volatilities. The factor structure allows addressing high dimensional setups used in portfolio analysis and risk management, as well as modeling conditional means and conditional variances within the model framework. Owing to the complexity of the model, we perform inference using Markov chain Monte Carlo simulation from the posterior distribution. A simulation study is carried out to demonstrate the efficiency of the estimation algorithm. We illustrate our model on a data set that includes 88 individual equity returns and the two Fama–French size and value factors. With this application, we demonstrate the ability of the model to address high dimensional applications suitable for asset allocation, risk management, and asset pricing.

Philipov, Alexander, and Mark E Glickman. "Multivariate Stochastic Volatility via Wishart Processes". Journal of Business & Economic Statistics 24, no. 3 (2006): 313-328. https://doi.org/10.1198/073500105000000306.

## https://doi.org/10.1198/07350010500000306.

Financial models for asset and derivatives pricing, risk management, portfolio optimization, and asset allocation rely on volatility forecasts. Time-varying volatility models, such as generalized autoregressive conditional heteroscedasticity and stochastic volatility (SVOL), have been successful in improving forecasts over constant volatility models. We develop a new multivariate SVOL framework for modeling financial data that assumes covariance matrices stochastically varying through a Wishart process. In our formulation, scalar variances naturally extend to covariance matrices rather than to vectors of variances as in traditional SVOL models. Model fitting is performed using Markov chain Monte Carlo. simulation from the posterior distribution. Because of the model's complexity, an efficiently designed Gibbs sampler is described that produces inferences with a manageable amount of computation. Our approach is illustrated on a multivariate time series of monthly industry portfolio returns. A test of the economic value of our model found that minimum-variance portfolios based on our SVOL covariance forecasts outperformed out-of-sample portfolios based on alternative covariance models, such as dynamic conditional correlations and factor-based covariances.

 Jostova, Gergana, and Alexander Philipov. "Bayesian Analysis of Stochastic Betas". Journal of Financial and Quantitative Analysis 40, no. 4 (Dec. 2005): 747–778. https://doi.org/10.1017/ S0022109000001964.

We propose a mean-reverting stochastic process for the market beta. In a simulation study, the proposed model generates significantly more precise beta estimates than GARCH betas, betas conditioned on aggregate or firm-level variables, and rolling regression betas, even when the true betas are generated based on these competing specifications. Our model significantly improves out-of-sample. hedging effectiveness. In asset pricing tests, our model provides substantially stronger support for the conditional CAPM relative to competing beta models and helps resolve asset pricing anomalies such as the size, book-to-market, and idiosyncratic volatility effects in the cross section of stock returns.