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Sentiment and Risk in Financial Markets
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Our research program is divided into five points:

1. Measuring Sentiment. We follow our behavioral extension (A Tale of Two Investors, SFI working paper 21-2012) of the method of Barone-Adesi, Engle and Mancini (RFS 2008) to achieve a separate identification of optimism and overconfidence, the first two moments of sentiment. In fact optimism and overconfidence cannot be observed separately in earlier models, such as De Long, Shleifer, Summers and Waldmann (JPE 1990, JB 1991).There are still several issues to be addressed in the validation of our approach. Sentiment is only one of several possible explanations. While the correspondence with survey results we found   is encouraging, further consideration of the implications of alternative explanations would be useful to build confidence in the application of our approach to earlier years, for which survey data are not available.

2. The evolution of sentiment. The modeling of sentiment through time is of paramount interest to investors and regulators. We provide estimates of optimism and overconfidence from market data directly, overcoming the reliance of earlier studies on investor surveys. Previously our principal aim was to validate our approach through a comparison with the results of studies based on regular investor surveys held monthly in the United States. Therefore we used only eight years of data for which survey results are available. However we require only index and option data, which are available from much earlier times. Extending our series over longer times will allow for a better understanding of the evolution of investor sentiment. It would be desirable to model sentiment over time. Optimism must go back to zero once in a while. Otherwise investors' expectations would drift further away from the objective return distribution over time.
Most likely the process describing sentiment will contain an unpredictable jump component. This jump component may be related to unexpected market crashes. Recently, Todorov (RFS 2010) showed that negative jumps carry a significant risk premium and investors' willingness to ensure against market crashes increase after such events. Modeling sentiment explicitly should allow disentangling the jump risk premium due to sentiment and fundamentals.
A thorough understanding of the dynamics of sentiment is fundamental for its consideration in the management of financial assets and markets. Among other institutions, the Bank of England monitors "market sentiment" by conducting a biannual survey called Systemic Risk Survey that asks market participants about perceived risks to the UK financial system.

3. Implications for asset management. Portfolio managers face a tricky problem when sentiment is strong among investors. In fact sentiment affects the trade-off between risk and expected return, leading even to a negative relationship when optimism and overconfidence are strong. If managers become aware of this bias, they may want to correct it. For example excessive optimism and overconfidence may induce investors to take excessive long positions, inflating asset prices. A straightforward trading strategy would be to take corresponding short positions, pushing prices to fundamentals. However the uncertainty on the persistence of sentiment over time makes portfolio decisions departing from market averages risky in the short run. This herding pressure, left unchecked, may lead to excessive risk taking over longer

horizons. What are the optimal decision policies of asset managers in the presence of significant sentiment? Is their expected utility enhanced by the introduction of state-contingent claims?

The decisions of corporate financial managers are even more subject than the ones of portfolio managers to the influence of sentiment, because divesting from real assets is more difficult. Misperceptions in the cost of capital may lead to over or underinvestment in real assets. The relationship between these misperceptions and the cyclical behavior of corporate acquisitions (Rhodes–Kropf, Robinson, Viswanathan, JFE 2005), may highlight the role of sentiment in the market for corporate control. Among other biases, CEO overconfidence (Malmendier and Tate, JF 2005, JFE 2008) may induce companies to invest more, obtain more patents, and achieve greater innovative success for given R&D expenditure (Hirshleifer et al., JF forthcoming).

4. Implication for regulation. Changes in sentiment may trigger systemic events that cannot be predicted by more traditional statistical methods. Current systemic risk measures (e.g., Acharya et al. 2010, Adrian and Brunnermeier 2011) are virtually all based on historical asset prices. In contrast, forward-looking information in option prices is naturally embedded in our sentiment measure. Regulators therefore are interested in monitoring sentiment. However there is no consensus yet on the use of sentiment indicators in setting policy. On one side, the limited number of policy instruments available to date is fully committed to the preservation of price stability and economic growth. Even if intervention to manage sentiment were possible, its benefits should be evaluated against the lack of flexibility it would impose on the more traditional policy targets. Moreover, the possibility of intervention may lead investors to change their behavior. In our setting, controlling sentiment may be a self-defeating exercise, as far as market stability is concerned, because investors may choose riskier portfolios in response to the reduced uncertainty. More generally, moral hazard considerations come into play. Therefore the relevance of sentiment in the regulation of financial markets should be carefully evaluated.

5. Implications for financial policy. Sentiment-based indicators may provide valuable input to macroeconomic policies. The possibility of computing them in real time from financial market data may allow for more timely policy decisions. Our research plans on this are limited to a preliminary assessment of the marginal information content that sentiment indicators provide beyond more traditional indicators.

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Fields of Research
Capital Markets
Experimental and Behavioral Finance