



Are the Fama-French factors really risk factors?

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Factor investing



Ang, Goetzmann & Schaefer (2009) study for Norwegian Reserve Fund GPF, the largest institutional investor in Europe

- Active management of GPF has added value
- This added value is not true skill (alpha) but can be attributed to implicit exposures to systematic factor premiums (betas), which arise from bottom-up manager selection
- Recommendation: top-down approach to harvest factor premiums intentionally and efficiently

Value and small-cap premium a reward for risk or mispricing?

The premiums reflects a reward for risk

- Many academics believe that any premium must be a compensation for risk
- Generic value strategies are indeed tilted towards stocks with high distress risk (see table)

The premiums are caused by mispricing

- Other academics propose non-risk based explanations for the value and size premium

Table 10. Largest by Capitalization and by Fundamental Composite, 31 December 2004

| 20 Largest by Reference Portfolio | Weight in Index | 20 Largest by Fundamental Composite | Weight in Index |
|-----------------------------------|-----------------|-------------------------------------|-----------------|
| General Electric | 3.19% | ExxonMobil | 2.763% |
| ExxonMobil | 2.75 | Citigroup | 2.482 |
| Citigroup | 2.05 | General Electric | 2.455 |
| Microsoft | 2.03 | Wal-Mart Stores | 1.610 |
| Pfizer | 1.70 | Fannie Mae ^a | 1.492 |
| Bank of America | 1.58 | Bank of America | 1.485 |
| Johnson & Johnson | 1.56 | SEB Communications | 1.468 |
| International Business Machines | 1.37 | ChevronTexaco | 1.377 |
| American International | 1.24 | General Motors | 1.335 |
| Intel | 1.24 | American International Group | 1.311 |
| Procter & Gamble | 1.18 | Microsoft | 1.310 |
| JPMorgan Chase & Co. | 1.15 | Ford Motor | 1.232 |
| Wal-Mart Stores | 1.12 | Verizon Communications | 1.220 |
| Cisco Systems | 1.08 | JP Morgan Chase & Co. | 1.189 |
| Altria Group | 1.03 | Altria Group | 1.140 |
| Verizon Communications | 0.93 | Pfizer | 1.003 |
| ChevronTexaco | 0.93 | Merck & Co. | 0.947 |
| Dell | 0.88 | Morgan Stanley | 0.935 |
| Wells Fargo & Co. | 0.87 | International Business Machines | 0.913 |
| Home Depot Inc. | 0.79 | Wells Fargo & Co. | 0.845 |

Source: Arnott, Hsu & Moore (2005)

Fama, E. and French, K. (Journal of Finance, 1992), The Cross-Section of Expected Stock Returns
 Lakonishok, Shleifer, and Vishny (Journal of Finance, 1994), Contrarian Investment, Extrapolation, and Risk
 Robert A. Haugen, The New Finance, 1993
 Arnott, R.D., Hsu, J., and Moore, P. (Financial Analyst Journal, 2005), Fundamental Indexation

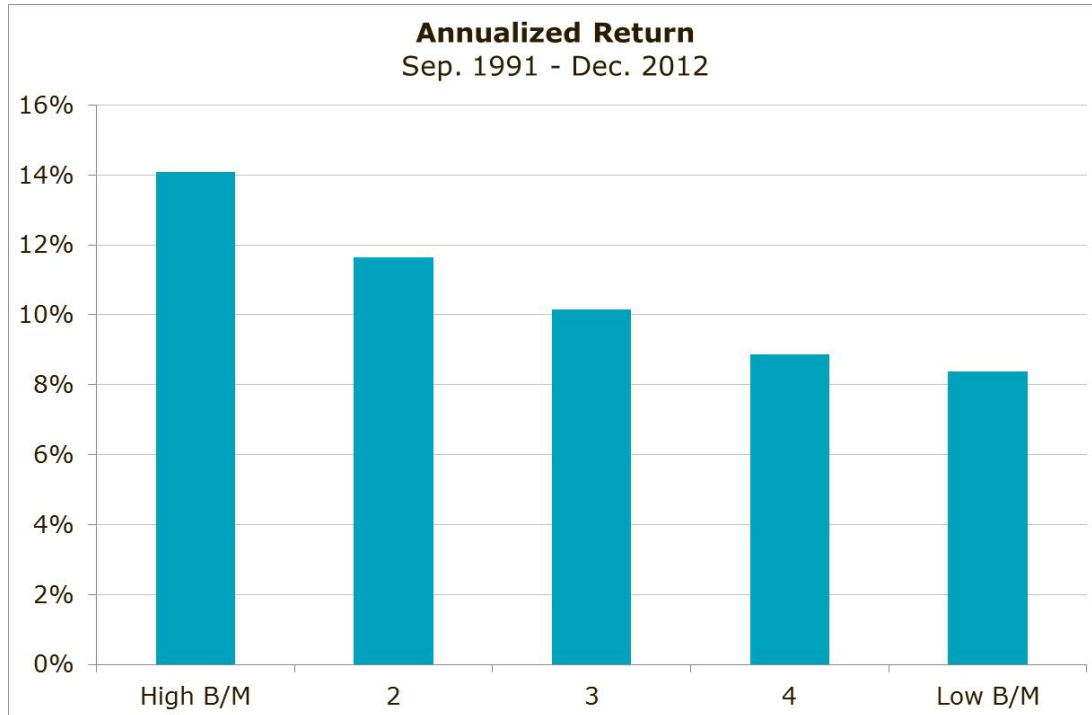
A closer look at the different findings in literature

- Vassalou and Xing (2004) use Merton's (1974) DtD to measure risk. Other approaches in the literature: accounting models [Altman (1968), Ohlson (1980)]. No comparison between these approaches. Also no consensus in literature.
- Idea is to see how sensitive results are to the definition of distress risk by double sorted rank portfolios.
- Alternative approach to investigate relation of value/small-caps and distress by Lakonishok, Shleifer, Vishny (1994): "... To be fundamentally riskier, value stocks must underperform glamour stocks with some frequency, and particularly in the bad states of the world when the marginal utility of wealth is high."
- We evaluate value/small-cap and distress risk profits conditional on the NBER classification of the business cycle.

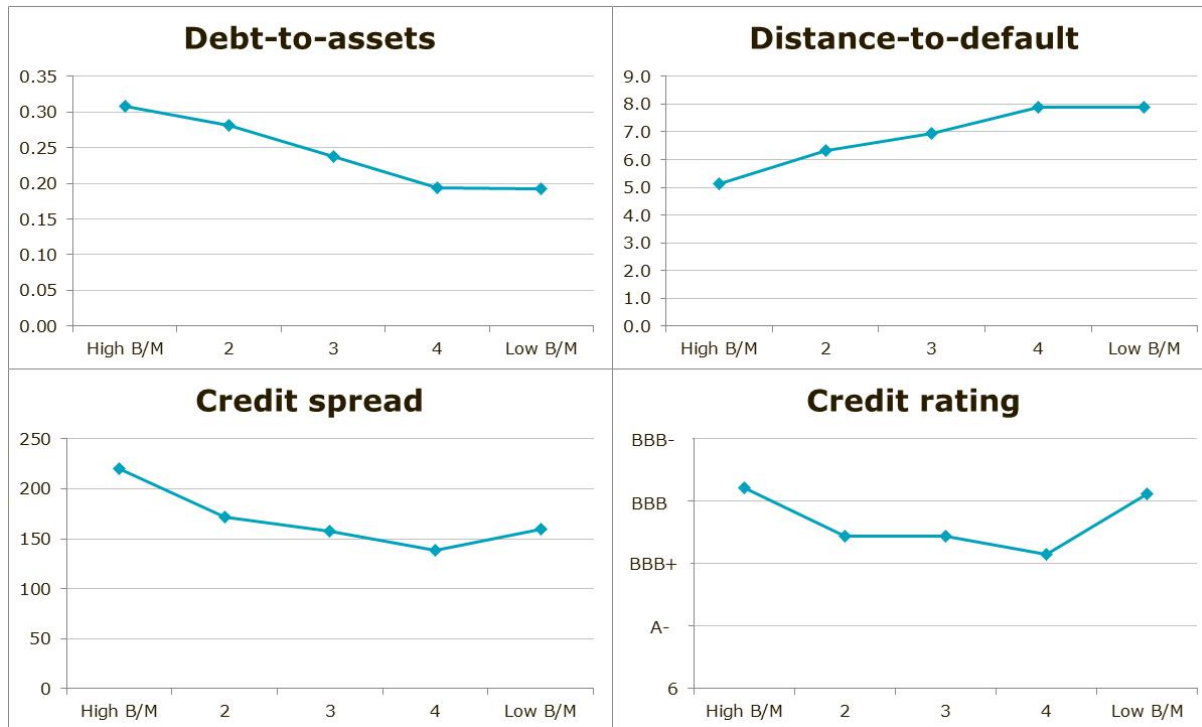
Main results and implications

- Naive value and small-cap strategies are tilted towards stocks with relatively higher D/A, distance-to-default, spreads, or credit ratings
- The return of value and small cap stocks, however, is not driven by distress risk.
 - We find not more than marginal extra returns as compensation for extreme risks.
 - The return of value and small-cap stocks is negatively related to distress risk.
- The results are inconsistent with the notion that value and small cap profits are a compensation for distress risk.

Returns of portfolios sorted on the book-to-market ratio

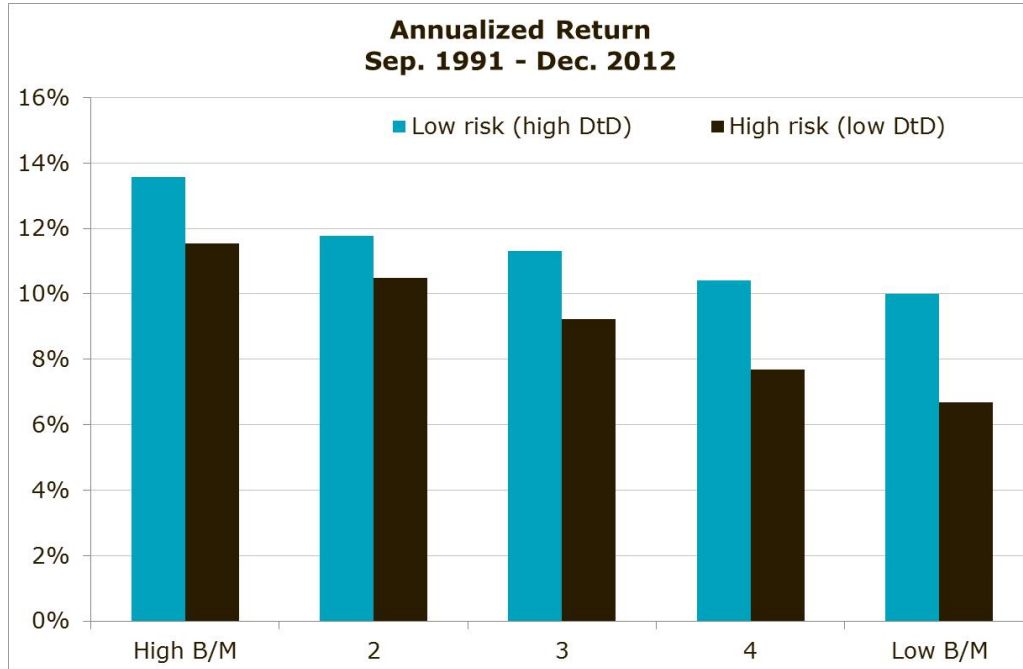


Risk characteristics of portfolios sorted on B/M



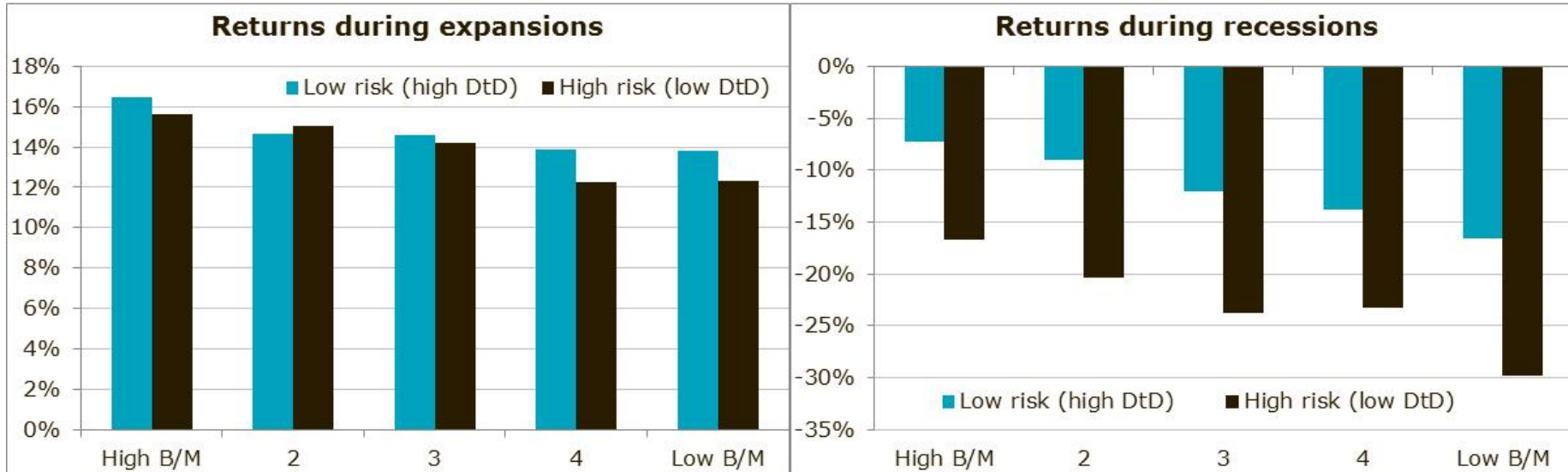
- Naïve value strategy is tilted towards stocks with higher default risk

Value effect controlled by distress risk



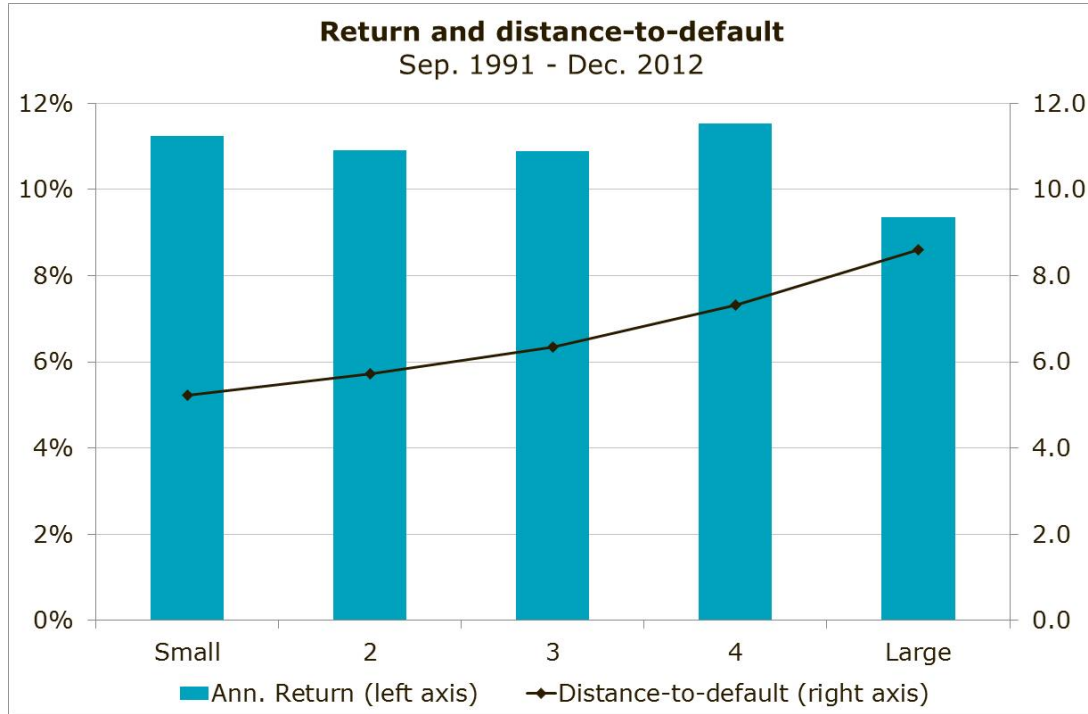
- No compensation for distress risk
- The return of value stocks is negatively related to distress risk

Value effect during different states of the business cycle



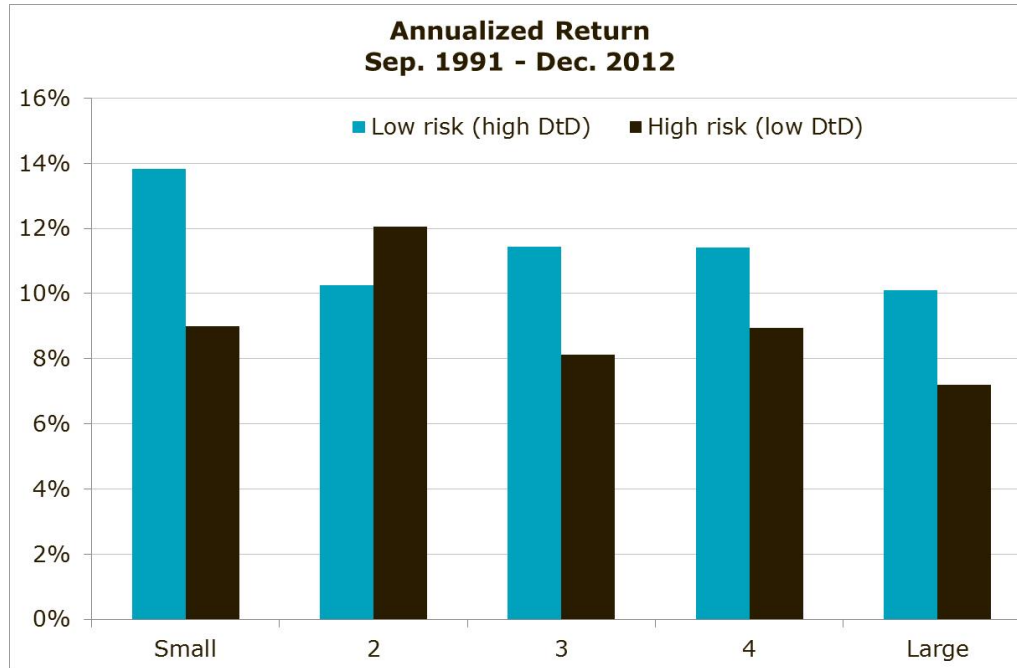
- If value stocks are fundamentally riskier, they must underperform growth stocks particularly in the bad states of the world when the marginal utility of wealth is high.
- The results, however, show that value profits are high during recessions.

Returns and risk of portfolios sorted on market cap



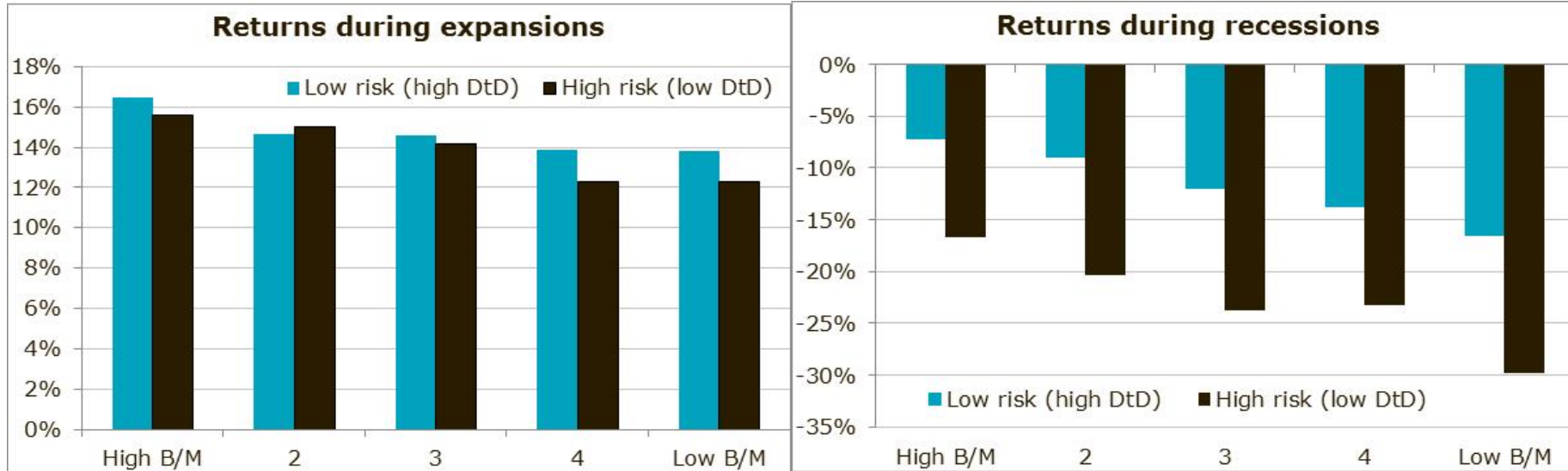
- Naïve small-cap strategy is tilted towards stocks with higher default risks

Size effect controlled by distress risk



- The return of small-cap stocks is negatively related to distress risk
- Once corrected for distress risk we observe a significant small-cap premium

Size effect during different states of the business cycle



- Small-cap profits are high during recessions.

Conclusions

- Naive small cap and value strategies are tilted towards stocks with relatively higher D/A, distance-to-default, spreads, or credit ratings. All these measures are capable in predicting distress risks.
- The return of small-cap and value stocks, however, is not driven by distress risk.
- We find a negative relation between risk and return. This result holds irrespective of which measure we use for distress risk.
- The results are inconsistent with the notion that small cap and value profits are a compensation for distress risk.

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