Are the Fama-French factors really risk factors?

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Nomura Global Quantitative Equity Conference, London

8 May 2014

Factor investing

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

- Active management of GPFG 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

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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	SBC 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	1.14 0
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

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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.

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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.

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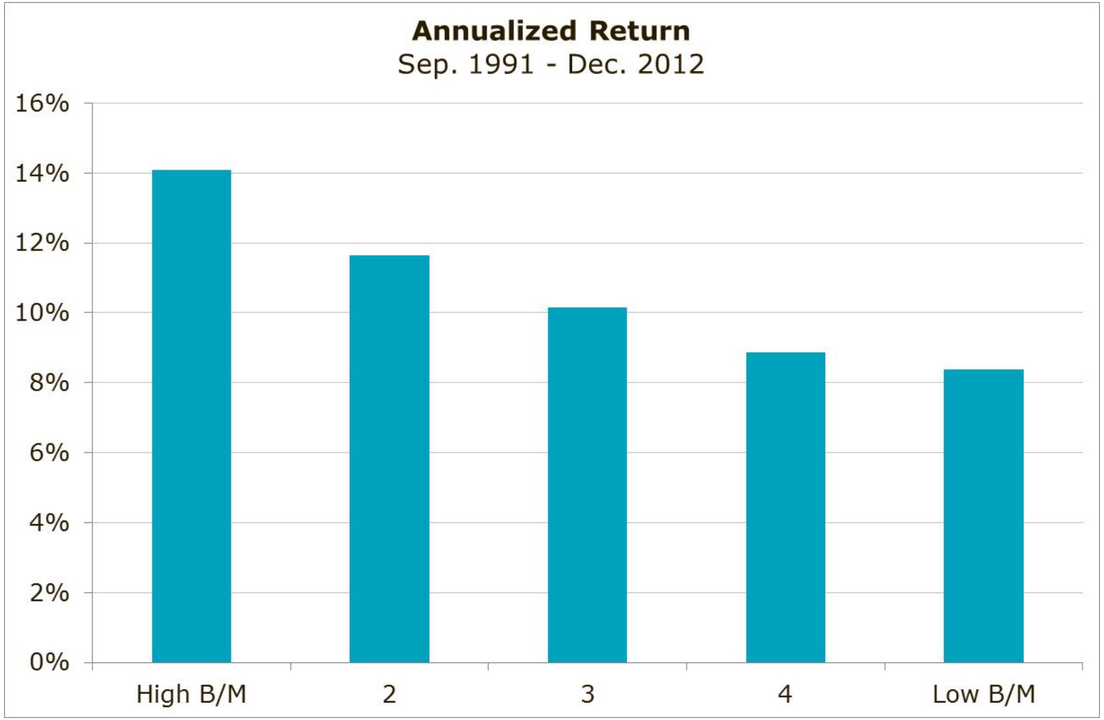
Returns of portfolios sorted on the book-to-market ratio



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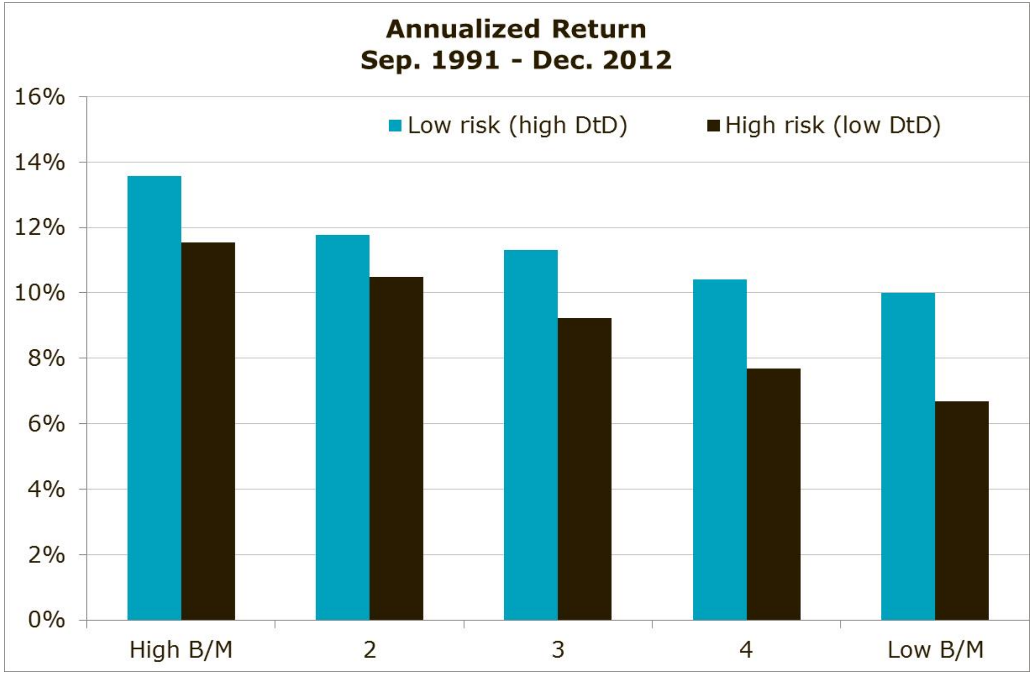
Risk characteristics of portfolios sorted on B/M

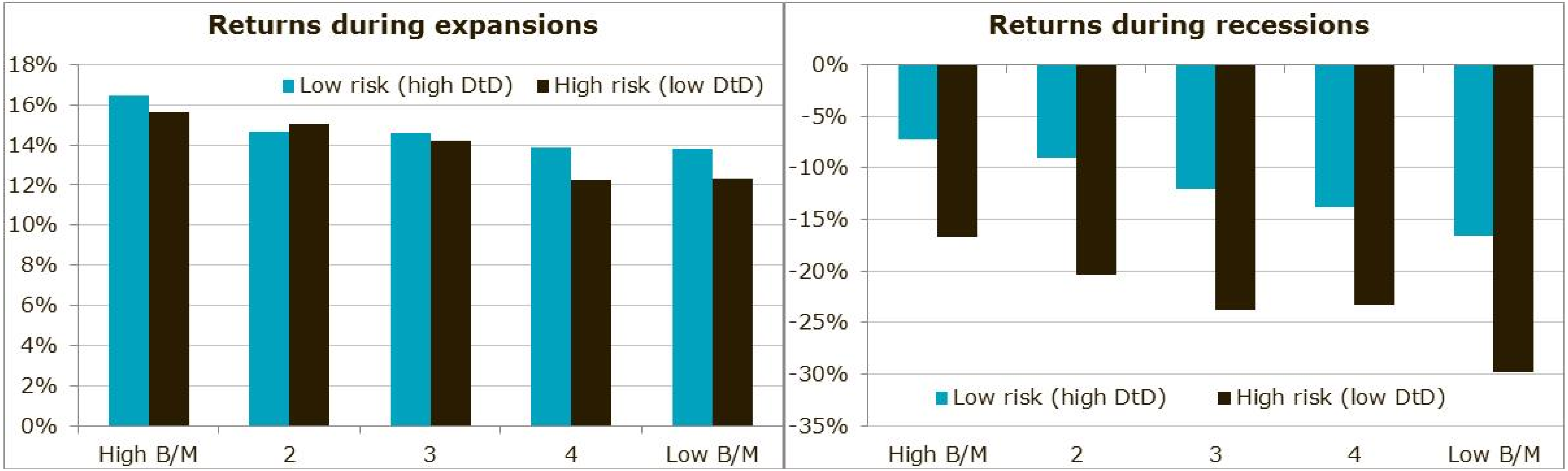
- Naïve value strategy is tilted towards stocks with higher default risk

Value effect controlled by distress risk



- No compensation for distress risk
- The return of value stocks is <u>negatively</u> 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 <u>high</u> during recessions.

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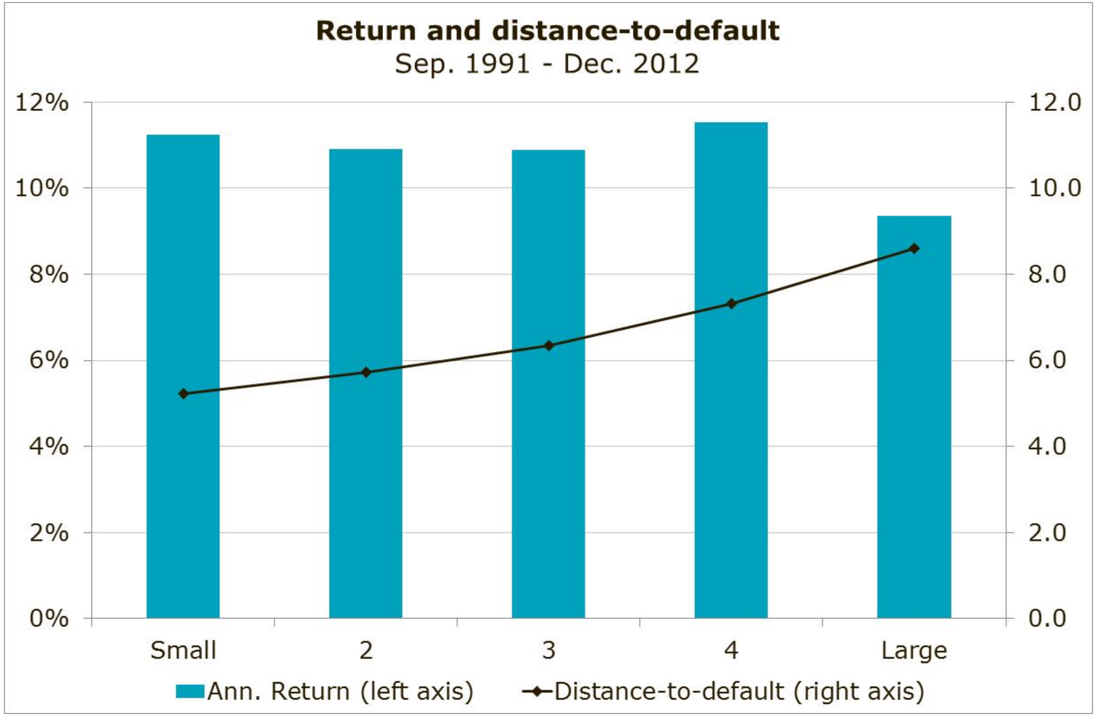
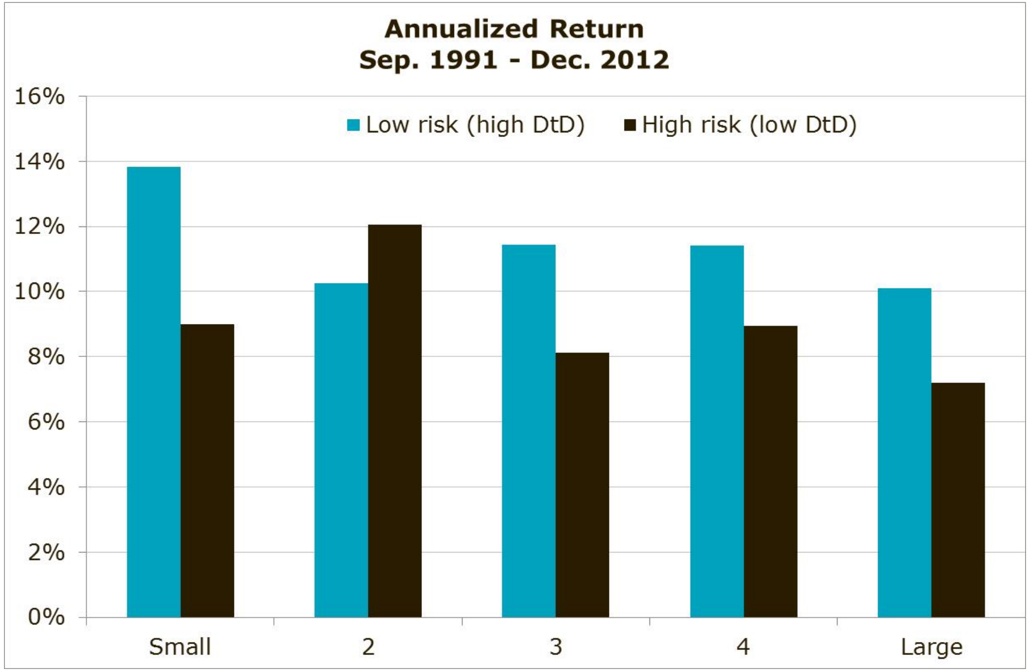
Returns and risk of portfolios sorted on market cap



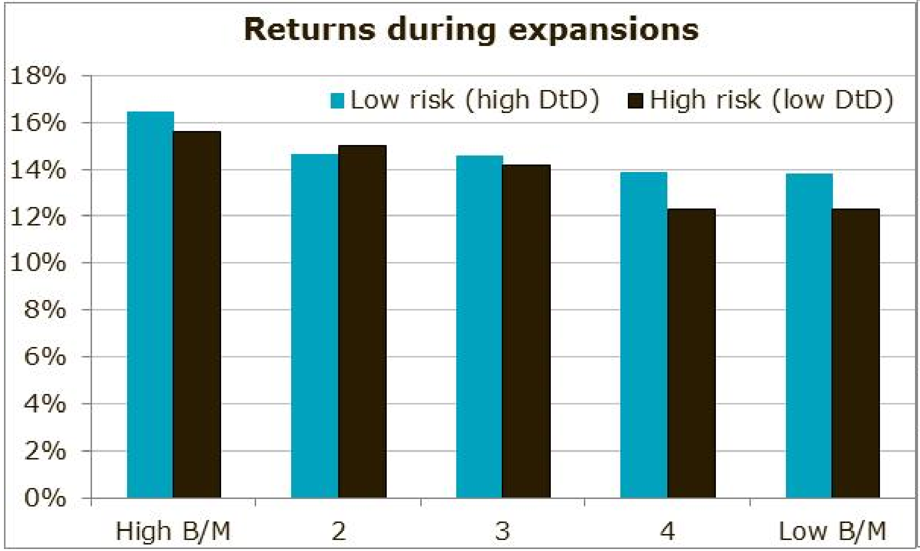
- Naïve small-cap strategy is tilted towards stocks with higher default risks

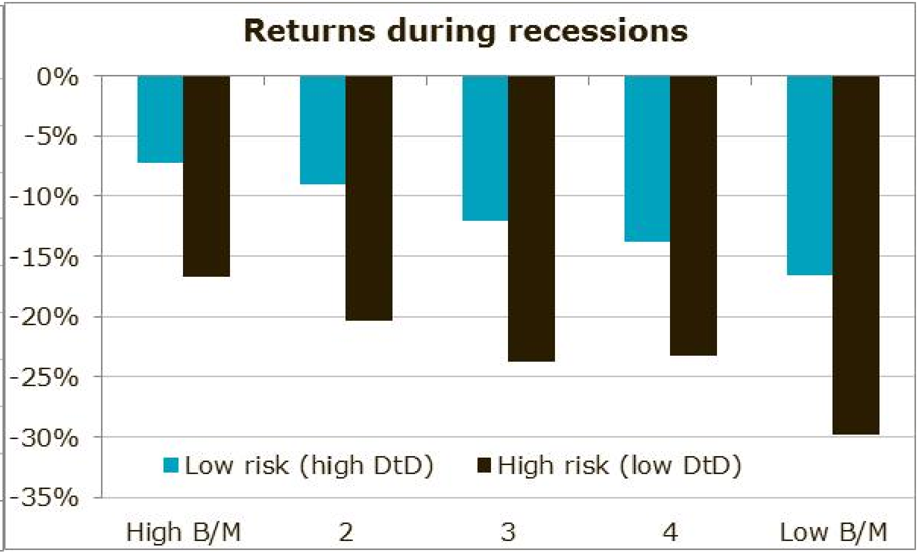
Size effect controlled by distress risk



- The return of small-cap stocks is <u>negatively</u> 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 <u>high</u> during recessions.

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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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Important information