Corporate Financial Risk Management

Ligterink, J.E.

Publication date
2001

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: https://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
## Contents

### 1 Introduction
- 1.1 Motivation for this study ................................................. 1
  - 1.1.1 Need for economic framework and understanding .......... 3
- 1.2 Approach and background ............................................. 4
- 1.3 Outline of this dissertation .......................................... 7

### 2 Why do firms hedge: a theoretical framework
- 2.1 Introduction ............................................................. 13
- 2.2 A neoclassical analysis .............................................. 15
  - 2.2.1 Introduction ....................................................... 15
  - 2.2.2 The irrelevance of corporate risk management ............ 15
  - 2.2.3 Reducing expected taxes ....................................... 22
  - 2.2.4 Reducing expected bankruptcy costs ....................... 25
  - 2.2.5 Concluding remarks and empirical predictions: risk management in a neoclassical framework .................. 30
- 2.3 Ex post contracting problems between the firm and its financiers .................................................. 31
  - 2.3.1 Introduction ....................................................... 31
  - 2.3.2 Reducing underinvestment ..................................... 32
  - 2.3.3 Asset substitution and risk management .................... 40
  - 2.3.4 Risk management, investment distortions and debt capacity .......................................................... 44
  - 2.3.5 Conclusion and empirical predictions ....................... 47
### 2.4 Ex ante information frictions between the firm and its financiers

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4.1</td>
<td>Introduction</td>
<td>48</td>
</tr>
<tr>
<td>2.4.2</td>
<td>Costly external finance and financial risk management</td>
<td>49</td>
</tr>
<tr>
<td>2.4.3</td>
<td>Concluding remarks and empirical predictions</td>
<td>55</td>
</tr>
</tbody>
</table>

### 2.5 Ex post information frictions between managers and shareholders

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5.1</td>
<td>Introduction</td>
<td>56</td>
</tr>
<tr>
<td>2.5.2</td>
<td>Risk management: increasing the manager’s expected utility of compensation packages</td>
<td>56</td>
</tr>
<tr>
<td>2.5.3</td>
<td>Reducing expected costs of managerial discretion (the overinvestment problem)</td>
<td>65</td>
</tr>
<tr>
<td>2.5.4</td>
<td>Agency costs of risk management</td>
<td>68</td>
</tr>
<tr>
<td>2.5.5</td>
<td>Concluding remarks</td>
<td>71</td>
</tr>
</tbody>
</table>

### 2.6 Ex ante information problems between managers and the firm

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6.1</td>
<td>Introduction</td>
<td>72</td>
</tr>
<tr>
<td>2.6.2</td>
<td>Symmetric information: risk management to manipulate the market’s learning</td>
<td>72</td>
</tr>
<tr>
<td>2.6.3</td>
<td>Asymmetric information: risk management and managerial incentives</td>
<td>78</td>
</tr>
<tr>
<td>2.6.4</td>
<td>Concluding remarks and empirical predictions</td>
<td>83</td>
</tr>
</tbody>
</table>

### 2.7 Concluding remarks

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>83</td>
</tr>
</tbody>
</table>

### 3 Review of empirical research on corporate risk management

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Introduction</td>
<td>87</td>
</tr>
<tr>
<td>3.2</td>
<td>Characteristics and approaches of empirical studies in corporate risk management</td>
<td>88</td>
</tr>
<tr>
<td>3.3</td>
<td>Taxes</td>
<td>91</td>
</tr>
<tr>
<td>3.4</td>
<td>Bankruptcy costs</td>
<td>94</td>
</tr>
<tr>
<td>3.5</td>
<td>Investment distortions due to contracting problems between firms and financiers</td>
<td>96</td>
</tr>
<tr>
<td>3.5.1</td>
<td>Introduction</td>
<td>96</td>
</tr>
<tr>
<td>3.5.2</td>
<td>Investment distortions</td>
<td>97</td>
</tr>
<tr>
<td>3.5.3</td>
<td>Corporate risk management and the firm’s capital structure</td>
<td>101</td>
</tr>
<tr>
<td>3.5.4</td>
<td>Conclusions</td>
<td>102</td>
</tr>
<tr>
<td>3.6</td>
<td>Managerialism</td>
<td>102</td>
</tr>
<tr>
<td>3.7</td>
<td>Additional findings</td>
<td>106</td>
</tr>
<tr>
<td>3.7.1</td>
<td>Introduction</td>
<td>106</td>
</tr>
<tr>
<td>3.7.2</td>
<td>Does size matter?</td>
<td>106</td>
</tr>
<tr>
<td>3.7.3</td>
<td>Alternatives for derivatives in corporate risk management: substitutes or complements?</td>
<td>109</td>
</tr>
<tr>
<td>3.7.4</td>
<td>Does risk management effect the riskiness and the value of the firm?</td>
<td>112</td>
</tr>
<tr>
<td>3.8</td>
<td>Discussion</td>
<td>113</td>
</tr>
</tbody>
</table>
4 An evaluation of the state-of-the-art of corporate risk management

4.1 Introduction .................................................. 117

4.2 Lessons from theoretical and empirical work ............................................. 118
  4.2.1 Risk management: fine-tuning the firm’s financing decisions ................. 119
  4.2.2 Managerialism and risk management ................................................. 122
  4.2.3 Costs of financial risk management .................................................. 123

4.3 Surveys on the corporate use of derivatives ............................................. 124
  4.3.1 Introduction .................................................. 124
  4.3.2 Design and sample characteristics of recent surveys ......................... 124
  4.3.3 How many firms use derivatives? .................................................... 126
  4.3.4 Objectives for corporate risk management ........................................ 127
  4.3.5 In which area do firms use derivatives (and how do they use them)? .... 128
  4.3.6 The impact of market view ......................................................... 134
  4.3.7 Accounting guidelines and risk management ...................................... 136
  4.3.8 Main findings and confrontation .................................................... 136

4.4 Puzzles in the literature; towards a research agenda ................................ 140
  4.4.1 Why do firms use a view on the market in risk management? ............... 140
  4.4.2 Risk management and accounting .................................................. 141
  4.4.3 Risk management for small firms: what do we know? ......................... 142
  4.4.4 Interaction among different forms of risk management ....................... 143
  4.4.5 How does risk management interact with the firm’s securities? .......... 143
  4.4.6 The importance of product markets .............................................. 144

4.5 Concluding remarks .............................................................................. 145

II Extensions

5 Risk management and security design .................................................. 149

5.1 Introduction .............................................................................. 149

5.2 A risk sharing security design framework ............................................ 152

5.3 Placement frictions or marketing costs .............................................. 159

5.4 Corporate hedging and security design ............................................. 163
  5.4.1 Introduction .............................................................................. 163
  5.4.2 The benefits of hedging: higher revenues from security design .......... 164
  5.4.3 Hedging and security design with marketing costs ......................... 166
  5.4.4 Discussion .............................................................................. 167

5.5 Limitations ...................................................................................... 168
  5.5.1 Framework specific limitations ...................................................... 168
7.4.2 An analysis of the consequences of the debt contract for the optimal strategy on the product market .......................................................... 230
7.4.3 Hedging and its impact on the product market ..................................................... 232
7.5 Corporate hedging and predation ........................................................................ 235
7.6 Conclusion ............................................................................................................. 236

8 Risk management at Fokker: a case study ................................................................. 239
8.1 Introduction .............................................................................................................. 239
8.2 An analysis of Fokker’s default .............................................................................. 241
8.2.1 Short history of the firm .................................................................................... 241
8.2.2 Development of the Fokker 50 and Fokker 100: 1979-1989 ......................... 242
8.2.3 Things get worse, 1990-1996 ............................................................................ 243
8.3 Forces relevant to Fokker’s risk management ......................................................... 246
8.3.1 An analysis of competition in the product market ............................................. 246
8.3.2 Fokker’s financial position: a clear case of debt overhang? ......................... 249
8.3.3 The US dollar: further increasing financial problems ...................................... 250
8.3.4 Summary of the main insights ......................................................................... 251
8.4 Currency risk management at Fokker ................................................................... 252
8.4.1 Risk management: 1987-1991 .......................................................................... 253
8.4.2 Risk management: 1991 to 1996 ...................................................................... 254
8.5 Objective in risk management .............................................................................. 255
8.5.1 Fokker’s rationale for full hedging, 1987 to 1991 ............................................. 255
8.5.2 Confronting theory with practice: rationalizing Fokker’s full hedging strategy ......................................................................................... 255
8.6 Why did Fokker stop hedging? .............................................................................. 259
8.7 Alternative risk management strategies ................................................................. 262
8.8 The US dollar and Fokker’s financial planning .................................................... 264
8.9 Some comments on the receivers’ criticisms of Fokker’s risk management ....... 267
8.10 Concluding remarks ............................................................................................ 268

9 Summary and conclusions ...................................................................................... 271

10 Samenvatting (Summary in Dutch) ......................................................................... 277

References .................................................................................................................. 285
Contents