

Contents

| | |
|--|----------|
| List of figures | XIX |
| List of tables | XXI |
| List of abbreviations | XXV |
| 1 Introduction | 1 |
| 1.1 Focus and goals of the study | 1 |
| 1.2 Organization of the study | 3 |
| 2 Conceptual framework | 5 |
| 2.1 Introduction | 5 |
| 2.2 Terminological basis | 5 |
| 2.2.1 Definition of mergers and acquisitions | 5 |
| 2.2.2 Categories of mergers and acquisitions | 7 |
| 2.2.3 Success of mergers and acquisitions | 11 |
| 2.3 Theories explaining mergers and acquisitions activity | 14 |
| 2.3.1 Overview | 14 |
| 2.3.2 Relevant economic theories | 15 |
| 2.3.2.1 New institutional economics theories | 15 |
| 2.3.2.2 Strategic management theories | 17 |
| 2.3.2.3 Portfolio theory | 19 |
| 2.3.3 Motives of the acquiring companies | 19 |
| 2.3.3.1 Systematization | 19 |
| 2.3.3.2 Shareholder value-related motives | 20 |
| 2.3.3.3 Management-related motives | 24 |
| 2.3.4 Special considerations for cross-border transactions | 26 |
| 2.4 Mergers and acquisitions activity in the period 1990 to 2004 | 28 |
| 2.4.1 Global mergers and acquisitions | 28 |
| 2.4.1.1 Volume of transactions | 28 |
| 2.4.1.2 Exogenous influences of the business environment | 31 |
| 2.4.2 German mergers and acquisitions | 33 |

| | | |
|----------|--|-----------|
| 2.4.2.1 | Volume of transactions | 33 |
| 2.4.2.2 | Transactions in the United States | 34 |
| 2.5 | Phases of the mergers and acquisitions process | 39 |
| 2.5.1 | Structure of a standardized acquisition process | 39 |
| 2.5.2 | Strategic analysis and conception phase | 41 |
| 2.5.3 | Acquisition structuring and management phase | 42 |
| 2.5.3.1 | Pre-signing | 42 |
| 2.5.3.2 | Valuation | 45 |
| 2.5.3.3 | Signing and closing | 47 |
| 2.5.4 | Post-closing integration phase | 48 |
| 2.5.5 | Special considerations for cross-border transactions | 49 |
| 2.5.5.1 | Strategic analysis and conception phase | 49 |
| 2.5.5.2 | Acquisition structuring and management phase | 50 |
| 2.5.5.3 | Post-closing integration phase | 50 |
| 2.6 | Summary | 51 |
| 3 | Special considerations for structuring and managing a cross-border acquisition of a U.S. target company | 53 |
| 3.1 | Introduction | 53 |
| 3.2 | Structure of the transaction | 53 |
| 3.2.1 | Overview | 53 |
| 3.2.2 | Acquisition of a private company | 56 |
| 3.2.3 | Acquisition of a public company | 57 |
| 3.2.3.1 | Type of transaction | 57 |
| 3.2.3.2 | Securities laws applicable to a cash tender offer | 59 |
| 3.2.3.3 | Securities laws applicable to a proxy solicitation | 62 |
| 3.2.3.4 | Securities laws applicable to an exchange offer | 63 |
| 3.2.3.5 | Protective measures for the target in a hostile offer | 67 |
| 3.3 | Due diligence for the transaction | 69 |
| 3.3.1 | Overview | 69 |
| 3.3.2 | Financial and accounting due diligence | 70 |
| 3.3.2.1 | Overview | 70 |
| 3.3.2.2 | Financial position of the target company | 72 |
| 3.3.2.3 | Earnings situation of the target company | 78 |
| 3.3.2.4 | Impact of the Sarbanes-Oxley Act | 79 |

| | |
|--|------------|
| 3.3.3 Legal due diligence | 80 |
| 3.3.4 Tax due diligence | 82 |
| 3.3.5 Environmental due diligence | 83 |
| 3.3.6 Human resources due diligence | 86 |
| 3.3.6.1 Compensation and benefit plans | 86 |
| 3.3.6.2 Employee protection | 88 |
| 3.4 Tax planning for the transaction | 90 |
| 3.4.1 Overview | 90 |
| 3.4.2 Taxable transaction | 91 |
| 3.4.2.1 Asset deal | 91 |
| 3.4.2.2 Share deal | 93 |
| 3.4.2.3 Comparison of taxable transaction structures | 96 |
| 3.4.3 Tax-free transaction | 98 |
| 3.4.4 Other considerations | 99 |
| 3.5 Valuation of the target company | 101 |
| 3.5.1 Overview | 101 |
| 3.5.2 Application of the comparable multiples method | 102 |
| 3.5.3 Application of the discounted cash flow method | 103 |
| 3.6 Principal documentation of the transaction | 105 |
| 3.6.1 Acquisition of a private company | 105 |
| 3.6.2 Acquisition of a public company | 107 |
| 3.7 U.S. antitrust laws and regulatory pre-acquisition review requirements | 108 |
| 3.7.1 Overview | 108 |
| 3.7.2 Hart-Scott-Rodino filing process | 109 |
| 3.7.3 Exon-Florio process | 111 |
| 3.8 Conclusions and implications | 112 |
| 4 Prior research on the success of cross-border acquisitions and its determinants | 119 |
| 4.1 Introduction | 119 |
| 4.2 Selection of prior research | 119 |
| 4.3 Methodologies for measuring success | 122 |
| 4.3.1 Capital market based event studies | 122 |
| 4.3.1.1 Mechanics of the methodology | 122 |
| 4.3.1.2 Variations of the input parameters in prior research | 129 |

| | |
|---|------------|
| 4.3.1.3 Evaluation of the methodology | 132 |
| 4.3.2 Financial statements based studies | 135 |
| 4.3.2.1 Mechanics of the methodology | 135 |
| 4.3.2.2 Variations of the input parameters in prior research | 135 |
| 4.3.2.3 Evaluation of the methodology | 136 |
| 4.3.3 Surveys of executives | 138 |
| 4.3.3.1 Mechanics of the methodology | 138 |
| 4.3.3.2 Variations of the input parameters in prior research | 138 |
| 4.3.3.3 Evaluation of the methodology | 140 |
| 4.3.4 Comparison of the methodologies | 141 |
| 4.4 Overall success of analyzed transactions | 143 |
| 4.4.1 Capital market based event studies | 143 |
| 4.4.1.1 Cumulative abnormal returns to target shareholders | 143 |
| 4.4.1.2 Cumulative abnormal returns to acquirer shareholders in domestic transactions | 144 |
| 4.4.1.3 Cumulative abnormal returns to acquirer shareholders in cross-border transactions | 145 |
| 4.4.2 Financial statements based studies | 147 |
| 4.4.3 Surveys of executives and other studies by consulting firms | 148 |
| 4.5 Determinants of transaction success | 151 |
| 4.5.1 Overview | 151 |
| 4.5.2 Characteristics of acquiring companies | 152 |
| 4.5.3 Characteristics of target companies | 155 |
| 4.5.4 Characteristics of transaction structuring and management | 157 |
| 4.5.5 Influences of the economic environment | 161 |
| 4.6 Conclusions and testable hypotheses for the further analysis | 162 |
| 5 Empirical analysis of the success of German acquisitions in the United States | 167 |
| 5.1 Introduction | 167 |
| 5.2 Methodologies for measuring success | 167 |
| 5.2.1 Capital market based event study | 167 |
| 5.2.1.1 Sample design and description | 167 |
| 5.2.1.2 Estimation of abnormal returns | 173 |
| 5.2.1.3 Definition and distributional properties of significance tests | 175 |

| | | |
|---------|--|-----|
| 5.2.1.4 | Operationalization of determinants of transaction success | 177 |
| 5.2.2 | Survey of executives | 180 |
| 5.2.2.1 | Sample design and response data | 180 |
| 5.2.2.2 | Structure of the standardized questionnaire | 182 |
| 5.2.2.3 | Measures of statistical inference | 183 |
| 5.3 | Overall success of the analyzed transactions | 184 |
| 5.3.1 | Results of the capital market based event study | 184 |
| 5.3.1.1 | Cumulative abnormal returns to target shareholders | 184 |
| 5.3.1.2 | Cumulative abnormal returns to acquirer shareholders | 185 |
| 5.3.2 | Results of the survey of executives | 191 |
| 5.3.3 | Comparison of the results | 193 |
| 5.4 | Univariate analysis of the determinants of transaction success | 194 |
| 5.4.1 | Overview | 194 |
| 5.4.2 | Characteristics of acquiring companies | 195 |
| 5.4.2.1 | Absolute size | 195 |
| 5.4.2.2 | Financial condition | 197 |
| 5.4.2.3 | Valuation ratio | 199 |
| 5.4.2.4 | Previous participation in the target | 200 |
| 5.4.2.5 | U.S. transaction experience | 201 |
| 5.4.3 | Characteristics of target companies | 205 |
| 5.4.3.1 | Industry classification | 205 |
| 5.4.3.2 | Status | 208 |
| 5.4.3.3 | Absolute transaction value and relative size compared to the acquirer | 209 |
| 5.4.4 | Characteristics of transaction structuring and management | 214 |
| 5.4.4.1 | Strategic direction | 214 |
| 5.4.4.2 | Form of payment | 216 |
| 5.4.4.3 | Acquisition structure | 219 |
| 5.4.4.4 | Form of transaction for public targets | 220 |
| 5.4.4.5 | Inclusion of external advisors | 222 |
| 5.4.4.6 | Other aspects of the survey | 225 |
| 5.4.5 | Influences of the economic environment | 229 |
| 5.4.5.1 | Relative strength of U.S. economic growth | 229 |
| 5.4.5.2 | Relative strength of capital markets | 230 |
| 5.4.5.3 | Relative strength of the Euro | 232 |
| 5.4.6 | Summary | 233 |

| | |
|--|------------|
| 5.5 Multivariate analysis of the determinants of transaction success | 236 |
| 5.5.1 Methodology | 236 |
| 5.5.2 Results of the capital market based event study | 238 |
| 5.5.3 Results of the survey of executives | 240 |
| 5.6 Comparison of the U.S. transactions to domestic and European cross-border transactions by German acquirers | 241 |
| 5.6.1 Overview | 241 |
| 5.6.2 Overall success of the analyzed transactions | 242 |
| 5.6.2.1 German domestic transactions | 242 |
| 5.6.2.2 European cross-border transactions | 244 |
| 5.6.2.3 Comparison of the results | 245 |
| 5.6.3 Determinants of transaction success | 246 |
| 5.6.3.1 German domestic transactions | 247 |
| 5.6.3.2 European cross-border transactions | 249 |
| 5.6.3.3 Comparison of the results | 251 |
| 5.7 Conclusions and implications | 252 |
| 6 Summary and outlook | 259 |
| Appendix | 265 |
| References | 297 |

List of figures

| | |
|---|-----|
| Figure 1.1: Organization of the study | 4 |
| Figure 2.1: Areas of M&A activity in a broad sense | 6 |
| Figure 2.2: Criteria for categorizing mergers and acquisitions | 7 |
| Figure 2.3: Categories of mergers and acquisitions based on strategic direction | 8 |
| Figure 2.4: Criteria for differentiating success of mergers and acquisitions | 12 |
| Figure 2.5: Systematization of economic theories explaining external growth | 15 |
| Figure 2.6: Systematization of motives for mergers and acquisitions | 20 |
| Figure 2.7: Worldwide M&A activity in the period 1990 to 2004 | 29 |
| Figure 2.8: German M&A activity in the period 1990 to 2004 | 33 |
| Figure 2.9: German M&A activity in the period 1990 to 2004 by region | 34 |
| Figure 2.10: German M&A activity in the United States in the period 1990 to 2004 | 35 |
| Figure 2.11: Overview of valuation methods | 45 |
| Figure 3.1: Predominant U.S. transaction structures | 54 |
| Figure 3.2: IRC Section 338(g) election | 94 |
| Figure 3.3: IRC Section 338(h)(10) election | 95 |
| Figure 3.4: Differences in premiums between domestic and cross-border transactions | 103 |
| Figure 4.1: Basic analytical models for estimating the expected return of a share | 124 |
| Figure 5.1: Number of transactions in the event study sample by year | 171 |
| Figure 5.2: Number of transactions in the response sample by year | 182 |
| Figure 5.3: CAR for each transaction within the [-1,1] event window | 188 |
| Figure 5.4: Criteria for measuring transaction success | 192 |
| Figure 5.5: Minimum period for measuring success and comparison of success between cross-border and domestic acquisitions | 192 |
| Figure 5.6: Success assessment for U.S. cross-border acquisitions | 193 |
| Figure 5.7: Correlation between status of the acquirer and transaction success | 197 |
| Figure 5.8: Correlation between previous participation and transaction success | 201 |
| Figure 5.9: Correlation between transaction experience and transaction success | 203 |
| Figure 5.10: Correlation between portion of cross-border transactions in prior acquisition experience and transaction success | 204 |
| Figure 5.11: Correlation between prior U.S. experience and transaction success | 204 |
| Figure 5.12: Correlation between industry of the target and transaction success | 207 |
| Figure 5.13: Correlation between status of the target and transaction success | 209 |
| Figure 5.14: Correlation between transaction volume and success | 213 |
| Figure 5.15: Correlation between relative size of the target and transaction success | 213 |
| Figure 5.16: Correlation between strategic direction and transaction success | 215 |
| Figure 5.17: Correlation between form of payment and transaction success | 218 |
| Figure 5.18: Correlation between acquisition structure and success | 220 |

| | |
|---|-----|
| Figure 5.19: Correlation between inclusion of external advisors and transaction success | 224 |
| Figure 5.20: Correlation between transaction initiator and success | 227 |
| Figure 5.21: Correlation between multiple bidders and transaction success | 227 |
| Figure 5.22: Correlation between management retention and transaction success | 228 |
| Figure 5.23: Correlation between intensity of post-merger integration of the target and transaction success | 228 |
| Figure 5.24: Correlation between economic growth and transaction success | 230 |
| Figure 5.25: Correlation between year and transaction success | 232 |
| Figure 5.26: Correlation between relative strength of the Euro and transaction success | 233 |

List of tables

| | | |
|-------------|---|-----|
| Table 2.1: | Comparison of asset and share deals | 10 |
| Table 2.2: | Potential perspectives for evaluating transaction success | 13 |
| Table 2.3: | German mega-deals in the United States from 1990 to 2004 | 36 |
| Table 2.4: | Most active German acquirers of U.S. targets in the period 1990 to 2004 | 37 |
| Table 2.5: | Structure of a standardized acquisition process | 40 |
| Table 2.6: | Subjects of due diligence | 44 |
| Table 3.1: | Form of a U.S. acquisition vehicle | 55 |
| Table 3.2: | German companies with registered ordinary shares and ADRs in the United Sates | 65 |
| Table 3.3: | Securities laws applicable to acquisitions of public U.S. targets | 66 |
| Table 3.4: | Protective measures for a U.S. company in a hostile offer | 67 |
| Table 3.5: | Importance of subjects of due diligence for a U.S. target | 70 |
| Table 3.6: | Major differences between U.S. GAAP, German GAAP, and IFRS | 76 |
| Table 3.7: | Tax asset classes for purchase price allocation | 92 |
| Table 3.8: | Tax implications of asset and share deals | 97 |
| Table 3.9: | Method applied for determining the value of a U.S. target company | 101 |
| Table 3.10: | Transaction multiples paid by German acquirers | 103 |
| Table 3.11: | Applied WACC-rate for transactions in the survey | 104 |
| Table 3.12: | Specific concerns for U.S. acquisitions cited by German acquirers | 117 |
| Table 4.1: | Overview of reviewed empirical studies of transaction success | 121 |
| Table 4.2: | Variations of the input parameters in the reviewed studies | 130 |
| Table 4.3: | Variations of the input parameters in the reviewed studies | 136 |
| Table 4.4: | Variations of the input parameters in the reviewed studies | 139 |
| Table 4.5: | Comparison of main methodologies for measuring transaction success | 142 |
| Table 4.6: | Cumulative abnormal returns in domestic transactions | 144 |
| Table 4.7: | Cumulative abnormal returns in cross-border transactions | 146 |
| Table 4.8: | Results of studies of financial statements data | 148 |
| Table 4.9: | Results of studies by consulting firms | 149 |
| Table 4.10: | Overview of reviewed determinants of transaction success | 152 |
| Table 4.11: | Testable hypotheses for the study | 166 |
| Table 5.1: | U.S. acquisitions by German acquirers in the event study sample | 169 |
| Table 5.2: | Descriptive statistics of the event study sample | 171 |
| Table 5.3: | Size of the transactions in the event study sample | 172 |
| Table 5.4: | Industry sectors of the transactions in the event study sample | 172 |
| Table 5.5: | Strategic direction of the transactions in the event study sample | 173 |
| Table 5.6: | Form of acquisition of public U.S. targets in the event study sample | 173 |
| Table 5.7: | Summary of the Kolmogorov-Smirnov test | 177 |

| | |
|--|-----|
| Table 5.8: Operationalization of determinants of transaction success | 179 |
| Table 5.9: Mailing list for the survey of executives | 180 |
| Table 5.10: Industry sectors of the surveyed U.S. transactions | 181 |
| Table 5.11: Cumulative abnormal returns for U.S. target companies | 185 |
| Table 5.12: Cumulative abnormal returns for German acquirers | 186 |
| Table 5.13: Statistical distribution of CARs for various event windows | 187 |
| Table 5.14: CARs for German acquirers excluding NEMAX companies | 189 |
| Table 5.15: CARs for German acquirers listed on the NEMAX | 190 |
| Table 5.16: Statistical distribution of CARs for various event windows excluding German acquirers listed on the NEMAX | 191 |
| Table 5.17: Statistical distribution of CARs for various event windows for German acquirers listed on the NEMAX | 191 |
| Table 5.18: Comparison of event study and survey results | 194 |
| Table 5.19: CARs for size of the acquirer | 196 |
| Table 5.20: CARs by liquidity ratio | 198 |
| Table 5.21: CARs by cash-to-assets ratio | 198 |
| Table 5.22: CARs by market-to-book ratio | 199 |
| Table 5.23: CARs by previous investment in the target | 200 |
| Table 5.24: CARs by frequency of U.S. transactions | 202 |
| Table 5.25: CARs for non-frequent acquirers by size of the acquirer | 203 |
| Table 5.26: CARs by industry sectors | 205 |
| Table 5.27: CARs by regulated industries | 206 |
| Table 5.28: Success of transactions by target's industry sector | 207 |
| Table 5.29: CARs by status of the target | 208 |
| Table 5.30: CARs by mega-deals | 209 |
| Table 5.31: CARs by transaction volume | 210 |
| Table 5.32: CARs by mega-deals for private targets | 211 |
| Table 5.33: CARs by mega-deals for public targets | 211 |
| Table 5.34: CARs by relative size of the target | 212 |
| Table 5.35: CARs by strategic direction | 214 |
| Table 5.36: CARs for related transactions | 215 |
| Table 5.37: CARs by form of payment | 217 |
| Table 5.38: CARs by form of payment in private transactions | 217 |
| Table 5.39: CARs by form of payment in public transactions | 218 |
| Table 5.40: CARs by acquisition structure | 219 |
| Table 5.41: CARs by form of acquisition for public targets | 220 |
| Table 5.42: CARs by inclusion of external advisors | 222 |
| Table 5.43: CARs by level of external advisors | 223 |
| Table 5.44: CARs for non-frequent acquirers by inclusion of external advisors | 224 |
| Table 5.45: Correlation between transaction motives and success | 225 |

| | | |
|-------------|--|-----|
| Table 5.46: | Relative importance of synergy categories | 226 |
| Table 5.47: | CARs by relative strength of U.S. economic growth | 229 |
| Table 5.48: | CARs for various time periods | 231 |
| Table 5.49: | CARs by relative strength of the Euro | 232 |
| Table 5.50: | Summary of the univariate analysis of transactions in Panel A | 234 |
| Table 5.51: | Summary of the univariate analysis of transactions in Panel B | 235 |
| Table 5.52: | Regression results for significant determinants of transaction success in Panel A | 239 |
| Table 5.53: | Regression results for significant determinants of transaction success in Panel B | 240 |
| Table 5.54: | Regression results for significant determinants of transaction success in the survey | 241 |
| Table 5.55: | Descriptive statistics of the sample of German domestic transactions | 242 |
| Table 5.56: | CARs for German acquirers in domestic transactions | 243 |
| Table 5.57: | Descriptive statistics of the sample of European cross-border transactions | 244 |
| Table 5.58: | CARs for German acquirers in European cross-border transactions | 245 |
| Table 5.59: | Comparison of the CARs for the three samples | 246 |
| Table 5.60: | Summary of the univariate analysis for German domestic transactions | 248 |
| Table 5.61: | Regression results for significant determinants of success for German domestic transactions | 249 |
| Table 5.62: | Summary of the univariate analysis of European cross-border transactions | 250 |
| Table 5.63: | Regression results for significant determinants of success of European cross-border transactions | 251 |
| Table 5.64: | Regression results for significant determinants of success for the intersection of German acquirers in all three samples | 252 |
| Table 5.65: | Summary of confirmation of tested hypotheses | 254 |
| Table 5.66: | Reasons for transaction success cited in the survey | 258 |