

Online Appendix. Supplementary results

This appendix contains supplementary material for the article ‘What do we really know about corporate hedging? A multimethod meta-analytical study’

List of Appendices

Online Appendix A. Overview of the literature search process in electronic databases	2
Online Appendix B. Overview of the studies included in the meta-analysis	3
Online Appendix C. Detailed bibliographic information for studies included in the meta-analysis.....	5
Online Appendix D. Results from univariate meta-analysis and vote counting.....	13
Online Appendix E. Mean correlation matrix	15
Online Appendix F. Controlling for heterogeneity via meta-regression analysis (OLS).....	16

Online Appendix A. Overview of the literature search process in electronic databases

Search step	Detailed description
INCLUSION CRITERIA	
Appropriate data for effect-size calculation	The study contains sufficient information about the correlation between the hedging dummy and the examined proxy variables or/and the correlations among the proxy variables.
Only non-financial firms	The study investigates non-financial firms.
ELECTRONIC DATABASES	
Selected databases	ABI/INFORM Complete (via ProQuest), Business Source Premier (via EBSCOhost), EconBiz, ScienceDirect
Search period	January 01, 1990 – June 24, 2014
Search options	We search only peer-reviewed articles in ABI/INFORM Complete, Business Source Premier, EconBiz and ScienceDirect.
SEARCH COMMAND	
Search command for ABI/INFORM Complete, SSRN and Dissertations and Theses via ProQuest	(cabs(hedg*) or cabs(derivative*)) and (ab(use) or ab(using) or ab(usage) or ab(polic*) or ab(activit*)) and (cabs(compan*) or cabs(corporat*) or cabs(firm*)) and (cabs(sample*) or cabs(evidence) or cabs(result*) or cabs(data) or cabs(investigat*) or cabs(test*) or cabs(empiric*) or cabs(survey*) or cabs(examine*))
Search command for Business Source Premier via EBSCOhost	(hedg* OR derivative*) AND (AB use OR AB using OR AB usage OR AB polic* OR AB activit*) AND (compan* OR corporat* OR firm*) AND (sample* OR evidence OR result* OR data OR investigat* OR test* OR empiric* OR survey* OR examine*)
Search command for EconBiz	(All Fields:hedg* OR derivative* AND All Fields:use OR using OR usage OR polic* OR activit* AND All Fields:compan* OR corporat* OR firm* AND All Fields:sample OR evidence OR result* OR data OR investigat* OR test* OR empiric* OR survey* OR examine*)
Search command for ScienceDirect	tak(hedg* or derivative*) and (abs(use) or abs(using) or abs(usage) or abs(polic*) or abs(activit*)) and tak(compan* or corporat* or firm*) and tak(sample* or evidence or result* or data or investigat* or test* or empiric* or survey* or examine*)
SORTING OF RESULTS	
Steps for sorting of results	(1) Elimination by study title, (2) elimination by study's abstract, (3) elimination by screening content and (4) eliminating studies with no or negative response from the authors to our data request email.

The table presents the details of the literature search in electronic databases.

Online Appendix B. Overview of the studies included in the meta-analysis

Author(s) (Year)	Published	Number of firms	Observation period	Observed countries
Aabo et al. (2010)	P	213	2005, 2007	Denmark
Aabo et al. (2015)	P	186	2008	Denmark
Adam (2002)	P	111	1989-1999	US, Canada
Adedeji and Baker (2002)	P	140	1996	UK
Afza and Alam (2011b)	P	105	2004-2008	Pakistan
Afza and Alam (2011a)	P	86	2004-2007	Pakistan
Ahmad and Haris (2012)	P	110	2006-2009	Malaysia
Ahmed et al. (2013)	G	288	2005-2012	UK
Alam et al. (2013)	P	1,612	2004-2010	Malaysia
Allayannis and Weston (1999)	G	916	1994-1995	US
Allayannis and Weston (2001)	P	120	1990-1995	US
Allayannis et al. (2012)	P	272	1990-1999	Several countries
Alsubaie (2009)	P	55	2001	US
Bartram (2015)	G	6,896	2000-2001	Several countries
Bartram et al. (2009)	P	7,319	2000-2001	Several countries
Bartram et al. (2011)	P	6,860	2000-2001	Several countries
Bashir et al. (2013)	P	107	2006-2010	Pakistan
Berkman and Bradbury (1996)	P	116	1994	New Zealand
Berkman et al. (2002)	P	106	1995	Australia
Berrospide et al. (2008)	G	167	1997-2005	Brazil
Brailsford et al. (2005)	P	96	2000	Australia
Brown et al. (2006)	P	44	1993-1998	US, Canada
Brunzell et al. (2011)	P	112	2006	Denmark, Finland, Iceland, Sweden
Búa et al. (2013)	P	100	2004-2007	Spain
Buhr (2010)	G	74	2007	New Zealand
Campello et al. (2011)	P	1,185	1996-2002	US
Capstaff and Marshall (2005)	P	212	2000	UK, France
Chaudhry et al. (2014)	P	75	2007-2011	Pakistan
Chen and Zhang (2012)	G	119	2007-2010	China
Chernenko and Faulkender (2011)	P	1,854	1993-2003	US
Chiang and Lin (2007)	P	99	1998-2005	Taiwan
Chiorean et al. (2012)	G	3,858	2000-2008	US
Choi et al. (2013)	P	68	2001-2006	US
Choi et al. (2015)	G	276	1996-2006	US
Chou and Lai (2013)	G	125	2005-2010	US
Clark and Judge (2008)	P	192	1994	UK
Clark et al. (2006)	G	227	2002	Hong Kong, China
Croci and Jankensgård (2014)	G	40	2000-2008	US
Dadalt et al. (2002)	P	752	1992-1996	US
Dadalt et al. (2012)	P	1,327	2002-2004	US
Davies et al. (2006)	P	81	2001	Norway
De Oliveira and Novaes (2007)	G	343	1999-2002	Brazil
Dionne and Triki (2013)	P	18	1991-1999	US, Canada
Dolde and Mishra (2007)	P	493	1996	US
Donohoe (2011)	G	2,772	2000-2008	US
Elsawaf (2005a)	G	209	1996-1998	US
Elsawaf (2005b)	G	474	1993, 1995, 1998	US
Fauver and Naranjo (2010)	P	1,746	1991-2000	US
Fehle (1999)	P	2,528	1993-1997	US
Fok et al. (1997)	P	396	1990-1992	US
Gay and Nam (1998)	P	486	1995	US
Gay et al. (2011)	P	1,341	1992-1996, 2002-2004	US
Gebhardt and Ruß (2002)	G	113	1996	Germany
Géczy et al. (1997)	P	372	1990	US
Géczy et al. (2006)	P	19	1993-1995	US
Glaum (2002)	P	65	1998	Germany
Gleason et al. (2005)	G	216	1998	US
Goldberg et al. (1998)	P	410	1993	US
González et al. (2007)	G	49	2003	Spain
González et al. (2010)	P	96	2004	Spain
Goswami et al. (2004)	P	314	1996	US
Graham and Rogers (2000)	G	404	1995	US
Hagelin (2003)	P	101	1997-2001	Sweden
Hagelin et al. (2007)	P	62	1998-1999, 2000-2001	Sweden
Heaney and Winata (2005)	P	374	1999	Australia
Hentschel and Kothari (2001)	P	325	1990-1993	US
Hu and Wang (2006)	P	369	2003	Hong Kong
Huang (2003)	G	382	1992-1996	US
Huang and Li (2014)	G	90	2009-2010	Australia
Huang et al. (2007)	P	599	1992-1996	US

Author(s) (Year)	Published	Number of firms	Observation period	Observed countries
Isin et al. (2014)	G	32	2000-2012	Several countries
Jalilvand (1999)	P	77	1992-1994	Canada
Jankensgård (2015)	P	207	2009	Sweden
Jin and Jorion (2006)	P	66	1998-2001	US
Jin and Jorion (2007)	G	44	1991-2000	US, Canada
Judge (2004)	G	356	1995	UK
Kang (2014)	G	831	1997	US
Kapitsinas (2008)	G	81	2004-2006	Greece
Khediri (2010)	P	250	2000-2002	France
Khediri and Folus (2010)	P	320	2001	France
Kim et al. (2006)	P	424	1998	US
Klimczak (2008)	P	150	2001-2003	Poland
Krajcar et al. (2008)	P	44	2006	Several countries
Lai et al. (2012)	G	596	2005-2009	Taiwan
Lee (2001)	G	151	1985-1997	US
Lel (2012)	P	253	1990-1999	Several countries
Lin (2003)	G	1,198	1992-1996	US
Lin and Lin (2012)	P	39	2002-2004	US
Lin et al. (2007)	P	1,046	1992-1996	US
Lin et al. (2008)	P	494	1992-1996	US
Lin et al. (2009)	P	450	1992-1996	US
Lin et al. (2010)	P	1,045	1992-1996	US
Magee (2013)	P	401	1996-2000	US
Mahayni (2001)	G	138	1998	Germany
Marami and Dubois (2013)	G	967	1998-2005	US
Marsden and Prevost (2005)	P	185	1994, 1997	New Zealand
Marshall et al. (2013)	P	801	2006	UK
Mefteh-Wali et al. (2012)	P	130	1999-2000	France
Meredith (2002)	G	61	1996-1998	US
Mian (1996)	P	3,022	1992	US
Muff et al. (2008)	G	277	2000-2001	UK
Muller and Verschoor (2005)	G	335	2003	Germany, Netherlands, Belgium
Nain (2004)	G	1,630	1998-1999	US
Naito and Laux (2011)	P	434	2009	US
Nance et al. (1993)	P	169	1986	US
Nguyen (2011)	G	423	2000-2001	US
Nguyen and Faff (2002)	P	235	1999-2000	Australia
Nguyen and Faff (2007)	G	214	1999-2000	Australia
Nguyen et al. (2007)	P	99	1996, 2000	France
Panaretou et al. (2013)	P	169	2003-2008	UK
Pérez-González and Yun (2013)	P	203	1960-2007	US
Pincus and Rajgopal (2002)	P	59	1993-1996	US
Ramlall (2009)	P	225	2005-2006	Mauritius
Reynolds et al. (2007)	G	99	1994-1999	New Zealand
Rossi (2007)	P	212	1996-2004	Brazil
Rossi (2013)	P	200	2007-2009	Brazil
Rossi and Laham (2008)	G	212	1996-2005	Brazil
Samitas et al. (2011)	P	50	2007-2009	US
Sang et al. (2013)	P	112	2000	UK
Schiozer and Saito (2009)	P	46	2001-2004	Argentina, Brazil, Chile, Mexico
Shu and Chen (2003)	P	391	1997-1999	Taiwan
Spanò (2007)	P	222	1999-2000	UK
Sprčić (2013)	G	49	2005	Croatia
Sprčić and Šević (2012)	P	89	2005	Croatia, Slovenia
Tufano (1996)	P	17	1990-1993	US, Canada
Velasco (2014)	P	74	2007-2011	Philippines
Wang and Fan (2011)	P	71	2003-2004	US
Wang et al. (2010)	P	31	2002-2008	China
Wysocki (1998)	G	403	1994	US
Yip and Nguyen (2012)	P	97	2006-2009	Australia
Yong et al. (2011)	P	235	1999-2000	Australia
Zhu (2012)	G	579	1994-2008	US

This table shows the study characteristics for the underlying sample of primary studies. ‘P’ stands for published literature. Gray literature, such as dissertations, working and conference paper are marked ‘G’.

Online Appendix C. Detailed bibliographic information for studies included in the meta-analysis

- Aabo, Tom, Marianna Andryeyeva Hansen, and Yaz Gulnur Muradoglu. 2015. Foreign Debt Usage in Non-Financial Firms: A Horse Race Between Operating and Accounting Exposure Hedging. *European Financial Management* 21 (3): 590-611.
- Aabo, Tom, Esben Høg, and Jochen Kuhn. 2010. Integrated foreign exchange risk management: The role of import in medium-sized manufacturing firms. *Journal of Multinational Financial Management* 20 (4-5): 235-250. doi:10.1016/j.mulfin.2010.08.002.
- Adam, Tim R. 2002. Do Firms Use Derivatives to Reduce Their Dependence on External Capital Markets? *Review of Finance (former European Finance Review)* 6 (2): 163-187. doi:10.1023/A:1020121007127.
- Adedeji, Abimbola, and C. Richard Baker. 2002. Why Firms in the UK Use Interest Rate Derivatives. *Managerial Finance* 28 (11): 53-74. doi:10.1108/03074350210768167.
- Afza, Talat, and Atia Alam. 2011a. Corporate Derivatives and Foreign Exchange Risk Management: A Case Study of Non-Financial Firms of Pakistan. *The Journal of Risk Finance* 12 (5): 409-420. doi:10.1108/15265941111176145.
- Afza, Talat, and Atia Alam. 2011b. Determinants of Corporate Hedging Policies: A Case of Foreign Exchange and Interest Rate Derivative Usage. *African Journal of Business Management* 5 (14): 5792-5797.
- Ahmad, Noryati, and Balkis Haris. 2012. Factors for Using Derivatives: Evidence from Malaysian Non-Financial Companies. *Research Journal of Finance and Accounting* 3 (9): 79-87.
- Ahmed, Hany, Alcino Azevedo, and Yilmaz Guney. 2013. The Effect of Hedging on Firm Value and Performance: Evidence from the Nonfinancial UK Firms. *Paper presented at the Multinational Finance Society Annual Conference 2013 in Izmir*.
- Alam, Atia, Talat Afza, and Mahmood Ahmad Bodla. 2013. Capital Market Imperfections and Equity Derivatives: A Case of Malaysian Non-Financial Firms. *Middle-East Journal of Scientific Research* 17 (1): 110-116.
- Allayannis, George, Lel Ugur, and Darius P. Miller. 2012. The Use of Foreign Currency Derivatives, Corporate Governance, and Firm Value Around the World. *Journal of International Economics* 87 (1): 65-79. doi:10.1016/j.jinteco.2011.12.003.
- Allayannis, George, and James P. Weston. 1999. The Use of Foreign Currency Derivatives and Industry Structure. *Working Paper at the University of Virginia*.
- Allayannis, George, and James P. Weston. 2001. The Use of Foreign Currency Derivatives and Firm Market Value. *The Review of Financial Studies* 14 (1): 243-276. doi:10.1093/rfs/14.1.243.
- Alsubaie, Abdullah N. 2009. CEO Overconfidence and Corporate Derivative Hedging Decisions. *International Review of Business Research Papers* 5 (6): 22-32.
- Bartram, Söhnke M. 2015. Corporate Hedging and Speculation with Derivatives. *Working Paper at Warwick Business School*.
- Bartram, Söhnke M., Gregory W. Brown, and Jennifer Conrad. 2011. The Effects of Derivatives on Firm Risk and Value. *Journal of Financial and Quantitative Analysis* 46 (4): 967-999. doi:10.1017/S0022109011000275.
- Bartram, Söhnke M., Gregory W. Brown, and Frank R. Fehle. 2009. International Evidence on Financial Derivatives Usage. *Financial Management* 28 (1): 185-206. doi:10.1111/j.1755-053X.2009.01033.x.

- Bashir, Hamid, Khurram Sultan, and Omar Khazaal Jghef. 2013. Impact of Derivatives Usage on Firm Value: Evidence from Non Financial Firms of Pakistan. *Journal of Management Research* 5 (4): 108-127.
- Berkman, Henk, and Michael E. Bradbury. 1996. Empirical Evidence on the Corporate Use of Derivatives. *Financial Management* 25 (2): 5-13.
- Berkman, Henk, Michael E. Bradbury, Phil Hancock, and Clare Innes. 2002. Derivative Financial Instrument Use in Australia. *Accounting and Finance* 42 (2): 97-109. doi:10.1111/1467-629X.0006.
- Berrosipide, Jose M., Amiyatosh Purnanandam, and Uday Rajan. 2008. Corporate Hedging, Investment and Value. *European Finance Association Annual Meeting 2008*.
- Brailsford, Tim, Richard Heaney, and Barry Oliver. 2005. Use of Derivatives in Public Sector Organizations. *Accounting and Finance* 45 (1): 43-66. doi:10.1111/j.0810-5391.2004.00120.x.
- Brown, Gregory W., Peter R. Crabb, and David Haushalter. 2006. Are Firms Successful at Selective Hedging? *The Journal of Business* 79 (6): 2925-2949.
- Brunzell, Tor, Mats Hansson, and Eva Liljeblom. 2011. The Use of Derivatives in Nordic Firms. *The European Journal of Finance* 17 (5-6): 355-376. doi:10.1080/1351847X.2010.543836.
- Búa, Milagros Vivel, Luis Otero González, Sara Fernández López, and Pablo Durán Santomil. 2013. Is Value Creation Consistent with Currency Hedging? *The European Journal of Finance* 21 (10-11).
- Buhr, Klaus. 2010. Why Firms Use Derivatives: Evidence from New Zealand. Paper presented at the Paper presented at the 23rd Australasian Finance and Banking Conference, Sydney,
- Campello, Murillo, Chen Lin, Yue Ma, and Hong Zou. 2011. The Real and Financial Implications of Corporate Hedging. *The Journal of Finance* 66 (5): 1615-1647.
- Capstaff, John, and Andrew P. Marshall. 2005. International Cash Management and Hedging: A Comparison of UK and French Companies. *Managerial Finance* 31 (10): 18-34. doi:10.1108/03074350510769893.
- Chaudhry, Naveed Iqbal, Mian Saqib Mehmood, and Asif Mehmood. 2014. Dynamics of Derivatives Usage and Firm's Value. *Wulfenia Journal* 21 (7): 293-310.
- Chen, Yin, and Xiao-qin Zhang. 2012. The Effects of Derivative Hedging on Firm' Financial Activity - An Evidence from Chinese Listed Companies. *Paper presented at the 19th International Conference on Management Science & Engineering 2012 in Dallas*.
- Chernenko, Sergey, and Michael Faulkender. 2011. The Two Sides of Derivatives Usage: Hedging and Speculating with Interest Rate Swaps. *Journal of Financial and Quantitative Analysis* 46 (6): 1727-1754. doi:10.1017/S0012029011000319.
- Chiang, Yi-Chein, and Hui-Ju Lin. 2007. Foreign Exchange Exposures, Financial and Operational Hedge Strategies of Taiwan Firms. *Investment Management and Financial Innovations* 4 (3): 95-105.
- Chiorean, Raluca, Michael Donohoe, and Theodore Sougiannis. 2012. Why Do Firms Use Derivatives? Revisiting the Underinvestment Hypothesis. *Working Paper at University of Illinois at Urbana-Champaign*.
- Choi, Jongmoo Jay, Connie X. Mao, and Arun D. Upadhyay. 2013. Corporate Risk Management under Information Asymmetry. *Journal of Business Finance and Accounting* 40 (1): 239-271. doi:10.1111/jbfa.12008.

- Choi, Jongmoo Jay, Connie X. Mao, and Arun D. Upadhyay. 2015. Earnings Management and Derivative Hedging with Fair Valuation: Evidence from the Effects of FAS 133. *The Accounting Review* 90 (4): 1437-1467. doi:10.2308/accr-50972.
- Chou, Shuching, and Chang-Hong Lai. 2013. Overconfident CEOs, Hedging and Performance. *Working Paper at National Yunlin University of Science & Technology*.
- Clark, Ephraim, and Amrit Judge. 2008. The Determinants of Foreign Currency Hedging: Does Foreign Currency Debt Induce a Bias? *European Financial Management* 14 (3): 445-469. doi:10.1111/j.1468-036X.2007.00360.x.
- Clark, Ephraim, Amrit Judge, and Wing Sang Ngai. 2006. The Determinants and Value Effects of Corporate Hedging: An Empirical Study of Hong Kong and Chinese Firms. *Working Paper at Middlesex University*. doi:10.2139/ssrn.929317.
- Croci, Ettore, and Håkan Jankensgård. 2014. CEO Age, Risk Incentives and Hedging Instrument Choice. *Working Paper*.
- Dadalt, Peter, Gerald D. Gay, and Jouahn Nam. 2002. Asymmetric Information and Corporate Derivatives Use. *The Journal of Futures Markets* 22 (3): 241-267.
- Dadalt, Peter J., Bing-Xuan Lin, and Chen-Miao Lin. 2012. Do Derivatives Affect the Use of External Financing? *Applied Economics Letters* 19: 1149-1152.
- Davies, Dick, Christian Eckberg, and Andrew P. Marshall. 2006. The Determinants of Norwegian Exporters' Foreign Exchange Risk Management. *The European Journal of Finance* 12 (3): 217-240. doi:10.1080/13518470500249274.
- De Oliveira, Fernando N., and Walter Novaes. 2007. Demand for Foreign Exchange Derivatives in Brazil: Hedge or Speculation? *Banco Central Do Brasil Working Paper Series*.
- Dionne, Georges, and Thouraya Triki. 2013. On Risk Management Determinants: What Really Matters? *The European Journal of Finance* 19 (2): 145-164. doi:10.1080/1351847X.2012.664156.
- Dolde, Walter, and Dev R. Mishra. 2007. Firm Complexity and FX Derivatives Use. *Quarterly Journal of Business and Economics* 46 (4): 3-22.
- Donohoe, Michael. 2011. Financial Derivatives in Corporate Tax Avoidance: An Empirical Examination of New Users. *Working Paper at Fisher School of Accounting, University of Florida*.
- Elsawaf, Nehad. 2005a. Currency Risk Management Strategies and Agency Costs. *Paper 2 of Essays on Currency Risk Management, Dissertation at Old Dominion University*.
- Elsawaf, Nehad. 2005b. The Valuation Effects of the 1997 Asian Currency Crisis and the 1999 Brazilian Real Devaluation. *Paper 1 of Essays on Currency Risk Management, Dissertation at Old Dominion University*.
- Fauver, Larry, and Andy Naranjo. 2010. Derivative Usage and Firm Value: The Influence of Agency Costs and Monitoring Problems. *Journal of Corporate Finance* 16 (5): 719-735. doi:10.1016/j.jcorpfin.2010.09.001.
- Fehle, Frank R. 1999. Panel Evidence on Corporate Hedging. *Canadian Journal of Administrative Sciences* 16 (3): 229-242. doi:10.1111/j.1936-4490.1999.tb00198.x.
- Fok, Robert C. W., Carolyn Carroll, and Ming C. Chiou. 1997. Determinants of Corporate Hedging and Derivatives: A Revisit. *Journal of Economics and Business* 49 (6): 569-585. doi:10.1016/S0148-6195(97)00040-4.

- Gay, Gerald D., Chen-Miao Lin, and Stephen D. Smith. 2011. Corporate Derivatives Use and the Cost of Equity. *Journal of Banking and Finance* 35 (6): 1491-1506. doi:10.1016/j.jbankfin.2010.10.033.
- Gay, Gerald D., and Jouahn Nam. 1998. The Underinvestment Problem and Corporate Derivatives Use. *Financial Management* 27 (4): 53-69. doi:10.2307/3666413.
- Gebhardt, Günther, and Oliver Ruß. 2002. Erklärungsfaktoren für den Einsatz von Währungsderivaten bei deutschen Unternehmen - Eine empirische Logit-Analyse. *Working Paper Series of the Johann Wolfgang Goethe University Frankfurt No. 100*.
- Géczy, Christopher C., Bernadette A. Minton, and Catherine Schrand. 1997. Why Firms Use Currency Derivatives. *The Journal of Finance* 52 (4): 1323-1354. doi:10.1111/j.1540-6261.1997.tb01112.x.
- Géczy, Christopher C., Bernadette A. Minton, and Catherine Schrand. 2006. The Use of Multiple Risk Management Strategies: Evidence from the Natural Gas Industry. *The Journal of Risk* 8 (3): 19-54.
- Glaum, Martin. 2002. The Determinants of Selective Exchange Risk Management - Evidence from German Non-Financial Corporations. *Journal of Applied Corporate Finance* 14 (4): 108-121.
- Gleason, Kimberly C., Young Sang Kim, and Ike Mathur. 2005. The Operational and Financial Hedging Strategies of U.S. High Technology Firms. *Working Paper at the Southern Illinois University*.
- Goldberg, Stephen R., Joseph H. Godwin, Myung-Sun Kim, and Charles A. Trites. 1998. On the Determinants of Corporate Usage of Financial Derivatives. *Journal of International Financial Management and Accounting* 9 (2): 132-166. doi:10.1111/1467-646X.00034.
- González, Luis Otero, Milagros Vivel Búa, Sara Fernández López, and Alfonso Rodríguez Sandiás. 2007. Why Spanish Firms Hedge With Derivatives: An Examination of Transaction Exposure. *Working Paper at the University of Santiago de Compostela*. doi:10.2139/ssrn.1003358.
- González, Luis Otero, Milagros Vivel Búa, Sara Fernández López, and Pablo Durán Santomil. 2010. Foreign Debt as a Hedging Instrument of Exchange Rate Risk: A New Perspective. *The European Journal of Finance* 16 (7): 677-710. doi:10.1080/1351847X.2010.481455.
- Goswami, Gautam, Jouahn Nam, and Milind M. Shrikahande. 2004. Why Global Firms Use Currency Swaps? Theory and Evidence. *Journal of Multinational Financial Management* 14 (4-5): 315-334.
- Graham, John R., and Daniel A. Rogers. 2000. Does Corporate Hedging Increase Firm Value? An Empirical Analysis. *Working Paper at Northeastern University*.
- Hagelin, Niclas. 2003. Why Firms Hedge with Currency Derivatives: An Examination of Transaction and Translation Exposure. *Applied Economics Letters* 13 (1): 55-69. doi:10.1080/09603100110094501.
- Hagelin, Niclas, Martin Holmén, John D. Knopf, and Bengt Pramborg. 2007. Managerial Stock Options and the Hedging Premium. *European Financial Management* 13 (4): 721-741. doi:10.1111/j.1468-036X.2007.00380.x.
- Heaney, Richard, and Henry Winata. 2005. Use of Derivatives by Australian Companies. *Pacific-Basin Finance Journal* 13 (4): 411-430. doi:10.1016/j.pacfin.2004.11.004.
- Hentschel, Ludger, and S. P. Kothari. 2001. Are Corporations Reducing or Taking Risks with Derivatives? *The Journal of Financial and Quantitative Analysis* 36 (1): 93-118.
- Hu, Chao, and Pengguo Wang. 2006. The Determinants of Foreign Currency Hedging - Evidence from Hong Kong Non-Financial Firms. *Asia-Pacific Financial Markets* 12 (1): 91-107.

- Huang, Guangping, and Steven Li. 2014. The Impact of Firm Characteristics and Manager Holdings on Hedging Decisions by Australian Mining Companies. Paper presented at the 5th Annual Financial Markets and Corporate Governance Conference 2014, Brisbane,
- Huang, Pingsun. 2003. The Determinants of the Choice of Derivative Financial Instruments: An Empirical Examination of Hedging Practices in US Corporate Firm. *Two Essays on Corporate Hedging: The Choice of Instruments and Methods, Chapter 2, Dissertation at Louisiana State University and Agricultural and Mechanical College.*
- Huang, Pingsun, Harley E. Ryan, and Roy A. Wiggins III. 2007. The Influence of Firm- and CEO-Specific Characteristics on the Use of Nonlinear Derivative Instruments. *The Journal of Financial Research* 30 (3): 415-436. doi:10.1111/j.1475-6803.2007.00221.x.
- Isin, Adnan Anil, Stanley B. Gyosehv, and Kevin McMeeking. 2014. Hedging and Firm Value: Measuring the Implications of Airline Hedging Programs. *Working Paper at University of Exeter.*
- Jalilvand, Abolhassan. 1999. Why Firms Use Derivatives: Evidence form Canada. *Canadian Journal of Administrative Sciences* 16 (3): 213-228.
- Jankensgård, Håkan. 2015. Does Centralisation of FX Derivatives Usage Imapct Firm Value. *European Financial Management* 21 (2): 309-332. doi:10.1111/j.1468-036X.2013.12014.x.
- Jin, Yanbo, and Philippe Jorion. 2006. Firm Value and Hedging: Evidence from U.S. Oil and Gas Producers. *The Journal of Finance* 61 (2): 893-919.
- Jin, Yanbo, and Philippe Jorion. 2007. Does Hedging Increase Firm Value? Evidence from the Gold Mining Industry. *Working Paper at California State University.*
- Judge, Amrit. 2004. The Determinants of Foreign Currency Hedging by UK Non-Financial Firms. *Paper presented at the European Financial Management Association Annual Meeting 2004 in Basel.*
- Kang, Mo Chang. 2014. Managerial Incentives, Moral Hazard and Risk Management. *Working Paper at UNSW Australia Business School.*
- Kapitsinas, Spyridon. 2008. The Impact of Derivatives Usage on Firm Value: Evidence from Greece. *MPRA Working Paper from the University Library of Munich.*
- Khediri, Karim Ben. 2010. Do Investors Really Value Derivative Use? Empirical Evidence from France. *The Journal of Risk Finance* 11 (1): 62-74.
- Khediri, Karim Ben, and Didier Folus. 2010. Does Hedging Increase Firm Value? Evidence from French Firms. *Applied Economics Letters* 17 (10): 995-998.
- Kim, Young Sang, Ike Mathur, and Jouahn Nam. 2006. Is Operational Hedging a Substitute for or a Complement to Financial Hedging? *Journal of Corporate Finance* 12 (4): 834-853. doi:10.1016/j.jcorpfin.2005.09.003.
- Klimczak, Karol Marek. 2008. Corporate Hedging and Risk Management Theory: Evidence from Polish Listed Companies. *The Journal of Risk Finance* 9 (1): 20-39. doi:10.1108/15265940810842393.
- Krajcar, Slavko, Miloš Danijela Sprčić, and Petra Sprčić. 2008. The Influence of Risk Management Theories on the Use of Derivatives in the Electronic Power Industry. *Journal of Energy* 57 (1): 64-87.
- Lai, Yi-Hsun, Lin Lin, and Vivian W. Tai. 2012. Financial Distress, Volatility Risk and Hedging Behavior. *NTU Management Review* 24: 61-96. doi:10.6226/NTURM2014.NOV.D03.

- Lee, Bae Yong. 2001. Estimation of and Determinants of Exchange Rate Exposure and Hedging Activities of U.S. Multinational Corporations. *Dissertation at the University of Mississippi*.
- Lel, Ugur. 2012. Currency Hedging and Corporate Governance: A Cross-Country Analysis. *Journal of Corporate Finance* 18 (2): 221-237. doi:10.1016/j.jcorpfin.2011.12.002.
- Lin, Barry J., Christos Pantzalis, and Jung Chul Park. 2007. Corporate Use of Derivatives and Excess Value of Diversification. *Journal of Banking and Finance* 31 (3): 889-913.
- Lin, Barry J., Christos Pantzalis, and Jung Chul Park. 2009. Derivatives Use, Information Asymmetry, and MNC Post-Acquisition Performance. *Financial Management* 38 (3): 631-661.
- Lin, Bingxuan, and Chen-Miao Lin. 2012. Asymmetric Information and the Corporate Risk Management by Using Foreign Currency Derivatives. *Review of Pacific Basin Financial Markets and Policies* 15 (1): 1-19. doi:10.1142/S0219091511500068.
- Lin, Chen-Miao. 2003. Risk Management and the Cost of Equity. *Essay 1 of Two Essays on Risk Management, Dissertation at Georgia State University*.
- Lin, Chen-Miao, Richard D. Philips, and Stephen D. Smith. 2008. Hedging, Financing, and Investment Decisions: Theory and Empirical Tests. *Journal of Banking and Finance* 32 (8): 1566-1582.
- Lin, Chu-Chia, Chung-Rou Fang, and Hui-Pei Cheng. 2010. Relationships between oil price shocks and stock market: an empirical analysis from Greater China. *China Economic Journal* 3 (3): 241-254. doi:http://dx.doi.org/10.1080/17538963.2010.562031.
- Magee, Shane. 2013. The Effect of Foreign Currency Hedging on the Probability of Financial Distress. *Accounting and Finance* 53 (4): 1107-1127.
- Mahayni, Daniel. 2001. Determinanten des unternehmerischen Währungseinsatzes. *Dissertation at the Humboldt University Berlin*.
- Marami, Ali, and Michel Dubois. 2013. Interest Rate Derivatives and Firm Value: Evidence from Mandatory versus Voluntary Hedging. *Working Paper at University of Neuchatel*.
- Marsden, Alastair, and Andrew K. Prevost. 2005. Derivatives Use, Corporate Governance, and Legislative Change: An Empirical Analysis of New Zealand Listed Companies. *Journal of Business Finance and Accounting* 32 (1-2): 255-295. doi:10.1111/j.0306-686X.2005.00594.x.
- Marshall, Andrew P., Martin Kemmitt, and Helena Pinto. 2013. The Determinants of Foreign Exchange Hedging in Alternative Investment Market firms. *The European Journal of Finance* 19 (2): 89-111. doi:10.1080/1351847X.2012.659267.
- Mefteh-Wali, Salma, Sabri Boubaker, and Florence Labégorre. 2012. Derivatives Use and Analysts' Earnings Forecast Accuracy. *Frontiers in Finance and Economics* 9 (1): 51-86.
- Meredith, Joseph Howard. 2002. The Corporate Use of Derivatives to Hedge Energy Price Risk. *Dissertation at the University of Mississippi*.
- Mian, Shehzad L. 1996. Evidence on Corporate Hedging Policy. *Journal of Financial and Quantitative Analysis* 31 (3): 419-439. doi:10.2307/2331399.
- Muff, Tony, Stephen Diacon, and Margaret Woods. 2008. The Management of Currency Risk: Evidence from UK Company Disclosure. *Centre for Risk and Insurance Working Paper Series 2008*.

- Muller, Aline, and Willem F. C. Verschoor. 2005. The Impact of Corporate Derivative Usage on Foreign Exchange Risk Exposure. *Working Paper at Maastricht University*.
- Nain, Amrita. 2004. The Strategic Motives for Corporate Risk Management. *Paper presented at the European Financial Association Annual Meeting 2004 in Maastricht*.
- Naito, John, and Judy Laux. 2011. Derivatives Usage: Value-Adding or Destroying? *Journal of Business and Economics Research* 9 (11): 41-50.
- Nance, Deana R., Clifford W. Smith Jr, and Charles W. Smithson. 1993. On the Determinants of Corporate Hedging. *The Journal of Finance* 48 (1): 267-284. doi:10.1111/j.1540-6261.1993.tb04709.x.
- Nguyen, Hoa, and Robert Faff. 2002. On the Determinants of Derivative Usage by Australian Companies. *Australian Journal of Management* 27 (1): 1-24. doi:10.1177/031289620202700101.
- Nguyen, Hoa, and Robert Faff. 2007. Are Financial Derivatives Really Value Enhancing? Australian Evidence. *Deakin University School Working Paper in Accounting/Finance Series 2007*.
- Nguyen, Hoa, Robert Faff, and Andrew P. Marshall. 2007. Exchange Rate Exposure, Foreign Currency Derivatives and the Introduction of the Euro: French Evidence. *International Review of Economics and Finance* 16 (4): 563-577.
- Nguyen, Hong V. 2011. Why Do Non-Financial Firms Select One Type of Derivatives Over Others? *Journal of Applied Business and Economics* 12 (3): 91-109. doi:10.2139/ssrn.1707739.
- Panaretou, Argyro, Mark B. Shackleton, and Paul A. Taylor. 2013. Corporate Risk Management and Hedge Accounting. *Contemporary Accounting Research* 30 (1): 116-139. doi:10.1111/j.1911-3846.2011.01143.x.
- Pérez-González, Francisco, and Hayong Yun. 2013. Risk Management and Firm Value: Evidence from Whether Derivatives. *The Journal of Finance* 68 (5): 2143-2176.
- Pincus, Morton, and Shivaram Rajgopal. 2002. The Interaction Between Accrual Management and Hedging: Evidence from Oil and Gas Firms. *The Accounting Review* 77 (1): 127-160.
- Ramlall, Indranarain. 2009. Determinants of Hedging: An Empirical Investigation for Mauritius. *The ICAI University Journal of Financial Risk Management* 6 (3-4): 99-120.
- Reynolds, Murray P., Gurmeet S. Bhabra, and Glenn W. Boyle. 2007. Cash Flow, Investment and Derivative Use: An Empirical Analysis of New Zealand Listed Companies. *Working Paper at University of Otago*.
- Rossi, José Luiz. 2007. The Use of Currency Derivatives by Brazilian Companies: An Empirical Investigation. *Revista Brasileira de Finaças* 5 (2): 205-232.
- Rossi, José Luiz. 2013. Hedging, Selective Hedging, or Speculation? Evidence of the Use of Derivatives by Brazilian Firms During the Financial Crisis. *Journal of Multinational Financial Management* 23 (5): 415-433. doi:10.1016/j.mulfin.2013.08.004.
- Rossi, José Luiz, and Juliana Laham. 2008. The Impact of Hedging on Firm Value: Evidence from Brazil. *Journal of International Finance and Accounting* 8 (1): 76-91.
- Samitas, Aristeidis, Ioannis Tsakalos, and Nikolaos Eriotis. 2011. Hedging Effectiveness in Energy Market During Economic Crisis: Better Way to Integration. *Journal of Economic Integration* 26 (3): 463-476.
- Sang, Lim Thien, Zatul Karamah, and Zaiton Osman. 2013. The Determinants of Corporate Hedging. *Journal of the Asian Academy of Applied Business* 2 (1): 44-55.

- Schiozer, Rafael F., and Richard Saito. 2009. The Determinants of Currency Risk Management in Latin American Nonfinancial Firms. *Emerging Markets and Trade* 45 (1): 49-71. doi:10.2753/REE1540-496X450104.
- Shu, Pei-Gi, and Hsuan-Chi Chen. 2003. The Determinants of Derivatives Use: Evidence from Non-Financial Firms in Taiwan. *Review of Pacific Basin Financial Markets and Policies* 6 (4): 473-500. doi:10.1142/S0219091503001171.
- Spanò, Marcello. 2007. Managerial Ownership and Corporate Hedging. *Journal of Business Finance and Accounting* 34 (7): 1245-1280. doi:10.1111/j.1468-5957.2007.02024.x.
- Sprčić, Miloš Danijela. 2013. How Do Croatian Companies Make Corporate Risk Management Decisions: Evidence from the Field. *University of Zagreb Working Paper Series Paper No. 07-13*.
- Sprčić, Miloš Danijela, and Željko Šević. 2012. Determinants of Corporate Hedging Decision: Evidence from Croatian and Slovenian Companies. *Research in International Business and Finance* 26 (1): 1-25. doi:10.1016/j.ribaf.2011.05.001.
- Tufano, Peter. 1996. Who Manages Risk? An Empirical Examination of Risk Management Practices in the Gold Mining Industry. *The Journal of Finance* 51 (4): 1097-1137. doi:10.1111/j.1540-6261.1996.tb04064.x
- Velasco, Lawrence G. 2014. Factors Influencing Derivatives Usage by Selected Listed Companies in the Philippines. *Philippine Management Review* 21: 1-12.
- Wang, Peng-fei, Shi Li, and Jian Zhou. 2010. Financial Risk Management and Enterprise Value Creation. *Nankai Business Review International* 1 (1): 5-19.
- Wang, Xuequn, and Lida Fan. 2011. The Determinants of Corporate Hedging Policies. *International Journal of Business and Social Science* 2 (6): 29-38.
- Wysocki, Peter D. 1998. Managerial Motives and Corporate Use of Derivatives: Some Evidence. *Working Paper at the University of Michigan Business School*.
- Yip, Wing Hung, and Hoa Nguyen. 2012. Exchange Rate Exposure and the Use of Foreign Currency Derivatives in the Australian Resources Sector. *Journal of Multinational Financial Management* 22 (4): 151-167. doi:10.1016/j.mulfin.2012.06.003.
- Yong, Hue Hwa Au, Robert Faff, and Hoa Nguyen. 2011. The Association Between Firm Characteristics and the Use of a Comprehensive Corporate Hedging Strategy: An Ordered Probit Analysis. *Frontiers in Finance and Economics* 8 (1): 1-16.
- Zhu, Margaret R. 2012. The Decision to Hedge and the Extent to Hedge. *Working Paper at City University of Hong Kong*.

Online Appendix D. Results from univariate meta-analysis and vote counting

Proxy variable		Hyp. sign	No. of firms	Univariate meta-analysis				Vote counting					
				<i>r</i>	SE(<i>z</i>)	<i>p</i> -value	Eggers's regression test <i>p</i> -value	$\alpha = 0.50$		$\alpha = 0.05$			
								-	+	-	0	+	
CORPORATE TAXES (H1)													
Tax credits	+	10,198	-0.7435 [†]	0.2992	0.0014***	0.0000***	1	4*	1	2	3*		
Tax-loss carry forwards	+	12,529	0.0828	0.0270	0.0021***	0.0520*	3	16*	1	15*	3		
BANKRUPTCY AND FINANCIAL DISTRESS COSTS (H2)													
Dividend yield	?	17,038	0.1125	0.0239	0.0000***	0.9816	7	33*	3	20*	18		
Interest coverage ratio	−	16,187	-0.0145	0.0285	0.6110	0.1150	13	17*	4	23*	3		
Leverage ratio	+	51,866	0.0661	0.0165	0.0000***	0.4042	34	71*	13	58*	38		
Liquidity	−	33,767	-0.1100	0.0218	0.0000***	0.2666	54*	16	28	37*	7		
Profitability	−	33,308	0.1108	0.0247	0.0000***	0.3895	21	46*	6	34*	28		
Size	+	52,667	0.2647	0.0295	0.0000***	0.8943	20	94*	9	26	81*		
Tangible assets	−	11,938	0.1079	0.0495	0.0285**	0.0403**	4	7*	2	6*	3		
ASYMMETRIC INFORMATION AND AGENCY CONFLICTS OF EQUITY (H3)													
Institutional investors	−	18,040	0.1352	0.0430	0.0016***	0.7883	6	16*	2	9	11*		
Option ownership	?	13,026	0.0086	0.0331	0.7959	0.5585	8	10*	2	13*	4		
Share ownership	+	13,643	-0.0876	0.0277	0.0015***	0.6446	28*	14	19	19	6		

Online Appendix D. (continued)

COORDINATION OF FINANCING AND INVESTMENT POLICY AND AGENCY CONFLICTS OF DEBT (H4)

Capex	+	25,482	-0.0009	0.0180	0.9593	0.1126	18*	15	7	21*	7
Research and development	+	28,770	0.0811 [†]	0.0310	0.0087***	0.0002***	14	22*	6	18*	13
Tobin's Q	+	38,937	0.0322	0.0202	0.1106	0.8578	37	42*	15	49*	15

This table shows the results of the univariate meta-analysis and the vote counting procedure. Names of the proxy variables are listed in the first column, and the second column shows the specific hypothesized sign; the third column shows the number of firm observations summed up from the primary studies testing the respective proxy variable. The table additionally provides the results from univariate meta-analysis. They contain the summary effect size r (back-transformed in the correlation metric for an easier interpretation) and the standard deviation $SE(z)$ of the z -transformed values (as within the calculations in Online Appendix A). We calculate the z -statistic and the corresponding p -value to test the null hypotheses of $r = 0$. The Egger's regression test indicates the existence of publication bias for the respective proxy variable. Finally, the results from the vote counting procedure are displayed for $\alpha = 0.05$ and $\alpha = 0.50$. In the first case, "+" ("−") indicates the number of significantly positive (negative) results from the primary studies and "0" shows the number of insignificant results. The second case corresponds to a t -statistic of zero, which means that only the negative and positive directions of the relationships are counted as shown in column two and three. The asterisks (*) show the respective "winner category" for each proxy variable, i.e. the most reliable relationship due to the unique majority of entries, if the others have at least one entry fewer. In the case of equality between two or more winner categories, no statement can be made. *, ** and *** indicate the rejection of the null hypotheses at the 10%, 5%, and 1% probability levels.

[†] The underlying sample of this proxy variable is adapted by the trim-and-fill method in the univariate meta-analysis to account for the detected publication bias.

Online Appendix E. Mean correlation matrix

	Hedging dummy	Dividend yield	Institutional investors	Interest coverage ratio	Leverage ratio	Liquidity	Option ownership	Profitability	Capex	Research and development	Share ownership	Size	Tangible assets	Tax-loss carry forwards	Tobin's Q
Hedging dummy	1	17038 (41)	18040 (22)	16187 (30)	51866 (108)	13026 (19)	33308 (68)	25482 (35)	33767 (72)	28770 (37)	13643 (44)	52667 (115)	11938 (11)	12529 (19)	38937 (79)
Dividend yield	0.1124***	1	936 (5)	1312 (5)	5555 (21)	1257 (4)	1208 (7)	695 (3)	4359 (15)	1664 (7)	2340 (10)	5107 (17)	1986 (2)	1319 (6)	2347 (13)
Institutional investors	0.1334***	-0.0216	1	912 (6)	6432 (11)	461 (2)	2473 (5)	3233 (3)	1032 (6)	611 (3)	2867 (8)	3137 (9)	343 (1)	3097 (3)	5531 (8)
Interest coverage ratio	-0.0134	-0.0277	-0.0583*	1	8813 (11)	573 (3)	7420 (5)	7357 (3)	1425 (8)	8096 (7)	1414 (8)	9069 (14)	7087 (3)	978 (7)	665 (4)
Leverage ratio	0.0666***	0.0175	-0.0249	-0.2469***	1	2127 (8)	14269 (29)	13031 (16)	8797 (34)	12661 (17)	6370 (22)	22128 (48)	9284 (5)	4395 (9)	11449 (33)
Liquidity	0.0109	-0.0777***	0.2526***	0.0217	0.0481	1	856 (2)	1040 (3)	2038 (7)	1317 (4)	2127 (8)	2127 (8)	374 (1)	763 (3)	885 (3)
Option ownership	0.1074***	0.1356**	0.0411	0.3264***	-0.1467***	0.1189**	1	11346 (15)	4786 (16)	10391 (14)	3910 (11)	16257 (31)	7384 (4)	555 (3)	6638 (24)
Profitability	-0.0014	0.0152	-0.1088***	-0.1096	0.0954**	-0.0471	-0.0431	1	3433 (8)	9110 (8)	1421 (6)	11758 (16)	6955 (2)	2772 (1)	5194 (11)
Capex	-0.1094***	-0.1002***	-0.0819***	0.1201*	-0.2081***	-0.0128	0.0743**	-0.0935*	1	9429 (9)	3850 (16)	16705 (33)	8941 (4)	1623 (8)	4754 (21)
Research and development	0.0785**	-0.0257	0.118	-0.1112	-0.1090***	0.052	-0.0505	0.029	0.1989*	1	1810 (5)	13435 (20)	6896 (1)	696 (3)	2803 (11)
Share ownership	-0.0876***	-0.1385***	-0.1705	0.0248	-0.0231	-0.024	0.0152	0.0029	0.0463*	0.0651***	1	7330 (24)	460 (2)	1290 (7)	5476 (16)
Size	0.2639***	0.1059*	0.0947***	0.0304	0.1172***	0.0587	0.1964***	-0.0206	-0.1234***	-0.0405	-0.0762*	1	9475 (7)	4836 (11)	12493 (34)
Tangible assets	0.1064**	-0.0281	-0.0144	0.0439	0.1633***	-0.1562***	-0.0154	0.1513	-0.0368	0.0496***	-0.0542	0.1015*	1	565 (3)	717 (2)
Tax-loss carry forwards	0.0816***	-0.0456	0.0941	-0.0983	0.0973	0.0783	-0.1838	0.1916***	0.0261	0.1178**	-0.0671**	0.0236	0.0785	1	7049 (7)
Tobin's Q	0.0315	-0.0599	-0.0475***	0.1459*	-0.1015*	-0.0608	0.3076	-0.0022	0.1141***	0.0998**	0.0498	-0.0756***	-0.0647	0.0131	1

This table shows the mean correlation matrix estimated via GLS with random effects weights across all 132 primary studies in the lower triangular matrix. The upper triangular matrix refers to the total number of firms for the set of effect sizes for each bivariate correlation with the number of studies in parentheses. *, ** and *** indicate a 10%, 5%, or 1% significance level, respectively.

Online Appendix F. Controlling for heterogeneity via meta-regression analysis (OLS)

Hypothesis	Taxes (H1)	Bankruptcy and financial distress costs (H2)							Asymmetric information and agency conflicts of equity (H3)			Coordination of financing and investment policy and agency conflicts of debt (H4)		
Dep. variable/ effect size	Tax-loss carry- forwards (binary)	Dividend yield (cont.)	Interest coverage ratio	Leverage ratio	Liquidity	Profit- ability	Size	Tangible assets	Institutional investors	Option ownership (cont.)	Share ownership	Capex	Research and develop- ment	Tobin's Q
Hyp. sign	+	?	-	+	-	-	+	-	-	?	+	+	+	+
This study	0	+	0	0	-	0	+	0	0	0	0	0	0	0
Intercept	0.0120 (0.07)	0.2047 (1.48)	-0.1402 (-0.93)	0.2319** (2.51)	-0.1317 (-0.96)	0.1072 (0.75)	0.4034*** (2.70)	0.6343* (2.00)	0.3565 (1.71)	-0.0415 (-0.30)	-0.0907 (-0.74)	0.1022 (1.05)	-0.0517 (-0.50)	0.0288 (0.31)
ν	1.0863 (0.90)	-0.9946 (-1.08)	1.5094 (1.46)	-0.4779 (-0.90)	-0.6202 (-0.75)	0.3754 (0.45)	-0.2363 (-0.27)	1.9553 (0.92)	-1.1190 (-1.05)	0.7877 (1.46)	0.9188 (1.28)	-1.1952** (-2.09)	1.7484* (1.83)	0.0077 (0.01)
Citations	0.0056 (0.12)	0.0039 (0.10)	-0.0105 (-0.23)	-0.0052 (-0.18)	0.0180 (0.41)	0.0315 (0.67)	-0.0075 (-0.17)	-0.0312 (-0.40)	-0.0543 (-1.07)	0.0427 (1.46)	0.0340 (0.85)	-0.0153 (-0.58)	0.0171 (0.65)	0.0101 (0.36)
North America	-0.0505 (-0.61)	-0.0958 (-1.04)	0.0263 (0.31)	-0.1375** (-2.27)	0.0716 (0.78)	-0.0925 (-1.05)	-0.1296 (-1.30)	-0.1082 (-0.44)	0.0369 (0.26)	-0.0313 (-0.33)	-0.0839 (-1.01)	0.0271 (0.49)	0.0775 (1.26)	0.0407 (0.71)
Mean year	0.0002 (0.02)	0.0036 (0.36)	0.0035 (0.33)	-0.0096 (-1.54)	0.0033 (0.34)	-0.0011 (-0.12)	-0.0056 (-0.56)	-0.0619* (-2.37)	-0.0167 (-0.96)	-0.0086 (-0.75)	-0.0118 (-1.31)	-0.0036 (-0.66)	-0.0112* (-1.88)	-0.0039 (-0.66)
Adj. R^2	-0.15	-0.01	-0.03	0.02	-0.04	-0.03	-0.02	0.22	-0.02	0.22	0.07	0.11	0.23	-0.02
Observations	18	41	30	108	72	68	115	11	22	19	44	35	37	80

This table presents the results for meta-regression analysis. This approach allows the inspection of systematic variations in the effect sizes. As dependent variable, we use the z -transformed effect sizes measuring the direct influences of each proxy variable on the hedging dummy variable. As independent variables, we use explanatory variables representing study quality, observation period, regional effects, and publication bias. In this regard, the number of citations is calculated as the logarithm of [(Google Scholar citations)/(age of the study) + 1]. The number of citations was collected on January 13, 2017. The number of citations is preferred, as it considers study-specific quality characteristics and it is available for each study, including unpublished works. As a remarkable part of literature examines hedging data from US firms, we include a dummy variable that indicates whether a study uses US data (= 1 for US studies, zero otherwise). To consider potential temporal changes due to regulatory changes or the development of financial markets, the mean observation year of a sample is integrated in the analysis. Finally, we investigate the existence of a potential publication selection bias in the reported results. As commonly included in meta-regression analysis research, our model contains the standard deviation of the effect size as explanatory variable. The estimated regression model in general terms corresponds to

$$z_{ij} = \beta_0 + \beta_1 \nu_{ij} + \beta_2 \text{Citations}_i + \beta_3 \text{North America (binary)}_i + \beta_4 \text{Mean year}_{ij} + \varepsilon_{ij}, \quad \varepsilon_{ij} \sim N(0; \nu_{ij}^2).$$

The upper part of the table shows the regression coefficients, with the corresponding t -statistics are reported in brackets below. *, ** and *** indicate the rejection of the null hypotheses at the 10%, 5%, and 1% probability levels.