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Do Tourism Firms with Female CEOs Hold Higher Levels of Cash?

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Using data over a ten-year period from the Finnish tourism sector comprising more than 15 000 firm-year observations, as well as various models, this paper studies whether firms with a female CEO (Chief Executive Officer) hold a larger level of cash than those with a male CEO. The study controls for various firm characteristics, such as size, growth opportunities, profitability, leverage and debt structure, as well as the size of the board of directors and age of the CEO. It is hypothesized that firms run by female managers tend to have larger cash balances. In line with the hypothesis, the results indicated such firms hold significantly larger levels of cash than those run by men. The study also demonstrates that the proportion of firms with female CEOs among Finnish tourism enterprises somewhat increased during the sample period.

Keywords: Cash holdings, Gender, Corporate governance, Tourism business

Whether men and women run firms differently is a much-debated question, one prompted by the extensive management and psychology literature on gender differences (Melero, 2011). The relevance of this type of research question is supported by the steady growth in the proportion of women in the management of organizations (in the US and UK, see, e.g. Huang & Kisgen, 2013). This increase has fueled the debate about the potential benefits of female management for company success. Research has revealed gender differences in areas such as cognitive functioning, communicative skills, decision making, risk aversion, overconfidence and leadership styles (e.g. Eagly & Carli, 2003; Eagly & Johannesen-Schmidt, 2001; Huang & Kisgen, 2013). However, gender differences cannot automatically be translated into consequences for firm performance. For example, without emphasizing gender issues Fee,

Hadlock and Pierce (2013) study whether internally (endogenously) and externally (exogenously) motivated CEO departures are related to abnormally high variability in firm policy choices and detect (no) statistically high policy changes when a CEO is replaced for internal (external) reasons. Their evidence suggests a causal relationship between a CEO's style and firm policies. This consideration is anticipated by the board and used when selecting the CEO, suggesting that a firm's policies are ultimately shaped by the interaction of the two. Thus, not all changes in a firm's policy are attributable to its CEO.

This paper examines whether there is an association between the CEO's gender and the level of a firm's cash holdings. Traditional corporate finance largely ignores the influence a specific manager has on decision making, focusing on corporate rather than managerial characteristics. Cash holdings are examined in terms of the CEO's gender for three reasons. First, cash reserves are easily accessible by management, with little scrutiny, and managers have great discretionary power over use of the reserves. Second, cash reserves are economically significant, since under information asymmetry managers can choose between spending free cash and stockpiling it to create substantial cash reserves. Lastly, while firms typically have the same CEO for years (according to Kaplan & Minton, 2006, the average tenure of a CEO in the US is about six years), there is substantial variation in firm-level cash holdings over time. This variation in cash allows for statistically powerful tests to examine the effect that the CEO's gender has on cash reserves and the eventual use of cash reserves in individual firms.

To put things into perspective, in the year 2000, based on financial information for more than 22,000 firms from different industries in 48 countries, the average proportion of cash and marketable securities to total assets was 17.5 % (Chang & Noorbakhsh, 2006). Firms hold cash for different reasons. First, they need it to finance their day-to-day operations and maintain an appropriate level of net working capital. This is called a transaction cost motive for holding cash. Second, in a purpose proposed by Keynes (1936) in his precautionary saving theory, firms hold cash to protect themselves against adverse cash flow shocks that might force them to forgo valuable investment opportunities due to costly external financing. Third, agency theory addresses the question of whether managers are using these liquid resources inefficiently vis-à-vis the goal of maximizing shareholder wealth (Jensen, 1986).

In Finland, the proportion of women reaching top positions is still very low, as in most countries; however, the figure has been increasing in the US and in some European countries¹. Also some developing economies, such as India, China and countries in the Middle East (Tunisia and Jordan) are beginning to recognize the importance of developing female talent up to the board level (Singh, 2008). Some governments, for example, those of Iceland, France, Norway (Ahern & Dittmar, 2012; Hoel, 2008) and Spain (De Anca, 2008), have even introduced regulations prescribing the gender composition of the boards of directors of private firms in order to improve equal opportunities. However, there is still a shortage of women CEOs in listed companies in the Nordic countries (Economist, 2014; WSJ, 2014). Although Finland has no law

¹ One aspect is presented by Jimenez (2009), who reviewed factors that can help or hinder daughters in progressing professionally and achieve leadership positions in family firms.

prescribing the gender mix in companies at board or executive level, Finnish large cap listed companies now have more than 30 % women on their boards. This is the highest percentage for listed companies in the EU (Chamber of Commerce, 2014; European Commission, 2013; WSJ, 2014).

In 2008, the Securities Market Association (2010) introduced a non-binding recommendation in its corporate governance code that both genders are to be represented on the board Finnish listed companies, with the recommendation to be enforced by a “comply or explain” principle. According to the Chamber of Commerce (2014), both genders are represented in 89 per cent of the listed companies, compared to 51 per cent before the recommendation was issued. However, at this writing (May 2015) there are only two female CEOs in the 123 listed companies in Finland (Erkko, 2015). In smaller firms female CEOs are more common. Analysing a large sample consisting of more than 14 000 Finnish companies, Kotiranta, Kovalainen, and Rouvinen (2007) found female CEOs in 7.6 % of companies in the year 2003. They also found that the likelihood of finding a female CEO varies considerably between industries. Currently 15.7 % of Finnish firms have a female CEO, with the highest proportion in the hotel and catering businesses (Kauppi, 2015).

To the authors’ knowledge, this is one of the first studies to systematically describe the association between the CEO’s gender and company cash holdings for a large sample of firms in the tourism industries². Prior research on women’s contributions to management in the tourism business has focused on a variety of topics, such the perceptions of management work (Schaap, Stedham, & Yamamura, 2008), differences in management style (Eagly & Karau, 2002), the effect of hotel work on family life (Mulvaney, O’Neill, Cleveland, & Crouter, 2007) and the relationship between gender and firm performance (Marco, 2012). However, research on hospitality and tourism finance has almost totally neglected gender issues. In their comprehensive review, Jang and Park (2011) report that risk management, financing, bankruptcy and capital structure have frequently been studied, suggesting a need for diversifying the range of research topics addressed. The tourism sector, as a part of the service sector in general, can be described as “female friendly”, exhibiting as it does the highest number of women in top management (Smith, Smith, & Verner, 2006). Despite the importance of women for the economic growth of the sector as a whole, research regarding women’s contribution – as pointed out by Ahl (2006) and Thomas, Shaw, and Page (2011) – is scanty and in its infancy. This study aims to contribute to the understanding of company management by analysing corporate cash reserves from a gender perspective; the analysis will furnish valuable information on company development over time and shed light on gender-related performance in the tourism industries. In addition, the study opens up a path for studying the performance of companies run by women in terms of cash reserves as well as other financial measures.

² Bertrand and Schoar (2003) and Frank and Goyal (2010) found that the CFO of a firm significantly affects both capital structure and acquisition policy. However, the data used in this study do not contain that information. In a footnote, Huang and Kisgen (2013) mention no significant differences between cash positions with male versus female executives. Unfortunately, the test results are unreported. However, their evidence suggests that firms with female executives make decisions that are better for shareholders.

In order to determine the role of the CEO's gender on the level of a firm's cash holdings, the study runs a range of regression models of firms' cash holdings and controls for factors that have been found to be related to cash holdings, such as firm size, growth opportunities, profitability, leverage, and debt structure. The data set is from the Finnish tourism sector and covers the period 2000–2012. Since females are generally regarded as more risk averse than men (e.g. Croson & Gneezy, 2009; Eckel & Grossman, 2008) and less confident than men (e.g. Grinblatt & Keloharju, 2009; Johnson et al., 2006), it is hypothesized that firms which are run by female managers are more likely to have larger cash balances.

The rest of the paper is organized as follows. Section 2 presents the hypotheses, and section 3 the data and methodology. Section 4 describes the empirical findings. Section 5 concludes with insights for future research and policy recommendations.

Gender Differences and Decision Making on the Level of Cash Held

This section discussed the hypothesis that female executives maintain relatively larger cash holdings compared with male executives. Previous finance and psychology literature suggests that men are more overconfident in comparison with women. However, overconfidence is a somewhat tricky concept. Some papers (e.g., Malmendier & Tate, 2005) define overconfidence to include both positive expectations for future events (optimism) and overestimation of one's ability to affect future outcomes (better-than-average effect), while others distinguish overconfidence from optimism by defining overconfidence only as better-than-average effect (e.g., Ben-David, Graham, & Harvey, 2013). Overall, it is hard to distinguish between these two constructs.

Overconfident managers tend to hold lower levels of cash. Since cash instruments in general have low returns, overconfident managers optimistically believe that they can find another use for cash. Furthermore, overconfident managers, who have positive expectations for future events, believe that day-to-day operations require no more than a low cash balance for transactions. Such managers also perceive a low need for a cash balance to protect themselves against adverse cash flow shocks. Finally, overconfident managers believe they have the skills to negotiate external financing when valuable investment opportunities emerge.

In addition to an overconfidence bias for male executives, research has shown that women are relatively more risk averse and more conservative than men (Byrnes, Miller, & Schafer, 1999; Jianakoplos & Bernasek, 1998; Johnson & Powell, 1994; Levin, Snyder, & Chapman, 1988; Powell & Ansic, 1997). Huse and Solberg (2006) show that women on corporate boards are better prepared than men. This can be seen as an indicator of commitment to carry out their duties conscientiously. Previous research also suggests that women invest in less risky assets. For example, Agnew, Balduzzi, and Sundén (2003) indicate that women's investment portfolios contain less risky assets than men's. According to Schubert (2006), as well as Watson and McNaughton (2007), women try to avoid losses and are less inclined to take extreme risks.

Although female risk aversion and male overconfidence can lead to similar predictions, one distinction, as pointed out by Huang and Kisgen (2013), is that both overconfident men and women who avert high risks make bad decisions for a firm. Overconfident men undertake more negative NPV investments (e.g., acquisitions) and should be removed from their position. Similarly, women who are averse to high risks should be removed from their position if they reject positive NPV transactions. These arguments have implications for cash holdings. Negative NPV investments are likely to result in lower cash levels and risk aversion is likely to result in higher cash levels. In addition, managers who are averse to high risk perceive future uncertainties as being more serious and protect themselves against adverse cash flow shocks by holding a higher cash balance.

Some of the research to date has focused on analysing performance by means of comparing risk aversion (Huang & Kisgen, 2013; Jianakoplos & Bernasek, 1998; Powell & Ansic, 1997), growth (e.g. Alonso-Almeida, 2013; Carter & Rosa, 1998; Coleman, 2007), capital structure (Coleman, 2007; Coleman & Robb, 2009; Huang & Kisgen, 2013) and financial performance (e.g. Alsos, Isaksen, & Ljunggren, 2006; Fairlie & Robb, 2009; Martin, Nishikawa, & Williams 2009; Rosa, Carter, & Hamilton, 1996) in companies run by men and women. These studies have obtained mixed results with regard to gender-related capitalization, financing, investment decisions and firm performance.

Data and Methodology

Data

The data required for the sample were acquired from Suomen Asiakastieto Oyj, which is a leading company providing corporate, risk management information services in Finland. It maintains the most comprehensive information database in Finland on private firms, with up-to-date data on all Finnish companies and their key individuals. The database used in this study contains detailed annual financial statements (income statement and balance sheet) and details on CEOs, chairs of boards (CoBs) and members of boards (MoBs) such as their names, dates of birth and genders, as well as the beginning and ending dates of their appointment to these positions. Only limited liability companies are included in the present sample. These data make it possible to construct the composition of the board for each firm and each date.

The tourism sector was defined as comprising the industries in Statistics Finland's Standard Industrial Classification (TOL 2008), which have frequently been used by the Ministry of Trade and Industry to define the tourism sector in Finland³. Firms from these industries were selected provided that they were active in the year 2012

³ TOL 2008 framework does not identify tourism industries or the tourism sector in Finland. Thus, there are difficulties in defining 'the tourism industries' or 'the tourism sector' in the context of tourism. In his article, Leiper (2008) discussed that for some firms (e.g. hotels, amusement parks and tour operators) tourism is a focus of business strategies, whereas some firms (e.g. many restaurants, bars and cafes) do not need to do anything special simply there are tourists among their customers. However, there is no prior knowledge about how this identification problem can affect research results.

and had reported annual time series covering the years 2000–2012 or the years 2006–2012. The shorter period was added to control for survivorship bias.

Table 1. Sample selection procedure.

	Firm-year observations
Total number of firm-year observations in the source data	25 696
excluded if financial variable lacking	./ 3 682
excluded if data on the key firm individuals lacking	./ 5 998
excluded if fewer than four observations for firm	./ . 86
Total number of firm-year observations in final sample	=15 930

After these criteria were applied, the source data yielded a total of 25 696 firm-year observations. The sample selection procedure is presented in Table 1 and the breakdown of observations by industry is set out in Table 2. Due to the two data-gathering procedures and the lacking data described in Table 1, the number of observations per firm varies.

Table 2. Sample split by tourism industries.

TOL 2008 code	Tourism sector	Firm-year observations
55101	Hotels	1 658
55109	Motels, guest houses and similar accommodation	264
55201	Youth hostels and mountain refuges	47
55209	Holiday villages and other short-stay accommodation	356
55300	Camping grounds, recreational vehicle parks and trailer parks	185
56100	Restaurants and mobile food service activities	22
56101	Restaurants	4 599
56102	Cafés	2 830
56103	Food kiosks	350
56210	Event catering activities	431
56290	Other food service activities	341
56301	Beer and drink bars	390
56302	Cafés and coffee bars	230
79900	Other reservation service and related activities	1 277
91020	Museums activities	101
91040	Botanical and zoological gardens and nature reserves activities	22
93110	Operation of sports facilities	1 855
93130	Fitness facilities	305
93210	Activities of amusement parks and theme parks	85
93291	Skiing centre activities	234
93299	Amusement and recreation activities not elsewhere classified	348
Total number of firm-year observations in the final sample		15 930

Methodology

Since female executives are not randomly assigned to firms, the methodology must consider potential endogeneity issues. It is possible that boards of directors self-select female CEOs into certain types of firms. As a matter of fact, there are some industries which are associated with male occupations and others that are associated with female occupations. For example, tourism, being part of the service sec-

tor in general, can be described as a “female-friendly” industry (Smith et al., 2006). Female executives could also prefer firms of a certain kind, for instance, more profitable ones.

In this paper, dummy regression models are used to mitigate endogeneity concerns. The following model is employed, which uses industry and year dummies as controls for factors that have been previously identified in the literature (see, e.g. García-Teruel & Martínez-Solano, 2007) as relating to the level of cash holdings:

$$CASH_{it} = a_0 + a_1CASH_{i,t-1} + a_2 \ln(SALES_{it}) + a_3GROW_{it} + a_4PROF_{it} + a_5MATUR_{it} + a_6BANK_{it} + a_7LIQ_{it} + a_8LEV_{it} + a_9BOARD_{it} + a_{10}AGE_{it} + a_{11}FEM_{it} + IndustryDummies_{it} + YearDummies_{it} + v_{it} \quad (1)$$

where

- CASH* = ratio of cash and marketable securities to total assets;
ln(SALES) = natural logarithmic of sales;
GROW = sales-to-lagged sales ratio;
PROF = return-on-investment ratio;
MATUR = long-term debt divided by total debt;
BANK = ratio of bank loans (long term and short them) to total assets;
LIQ = ratio of working capital less cash to total assets;
LEV = ratio of debt to total assets;
BOARD = board size;
AGE = age of CEO;
FEM = CEO dummy, one for firms with a female CEO, zero otherwise.

The subscript *i* refers to firm *i* and the subscript *t* refers to year. The dependent variable used in this study, *CASH*, is calculated as the ratio of cash and marketable securities to total assets (see, e.g. Ozkan & Ozkan, 2004). The following are used as independent variables: lagged cash, firm size, growth opportunities, firm profitability, debt maturity structure, relationship with financial institutions, investment in other liquid assets, financial leverage, board size, CEO age, CEO gender, as well as the industry and year dummies. Lagged cash is used as the first independent variable, since it allows the assumption that changes in the cash holding ratio follow a partial adjustment process. It is possible that the proportion of female MoBs, the gender of CoBs or the gender of Chief Financial Officers (CFOs) can affect the cash level. Their role is, however, assumed to be less influential than that of CEOs.

Firm size is assumed to affect cash holdings (see e.g. García-Teruel & Martínez-Solano, 2007). The traditional models by Baumol (1952) and Miller and Orr (1966) demonstrate that there are economies of scale associated with cash levels that result in larger firms being able to keep lower cash holdings. Firm size is proxied by *ln(SALES)*, which is calculated as the natural logarithm of sales. A negative correlation is expected between *ln(SALES)* and *CASH*.

Firms with growth opportunities are predicted to be positively associated with higher cash levels. Growth opportunities are associated with larger information asymmetry (Myers & Majluf, 1984), which increases external financing costs. Hence, firms with more growth opportunities keep higher liquidity levels so that they may maintain and create profitable investment projects. For listed companies it is quite common to measure growth opportunities using the market-to-book ratio, but for unlisted companies the measurement is much trickier. For unlisted companies growth opportunities are measured by the sales-to-lagged sales ratio (*GROW*), used by e.g. Scherr and Hulburt (2001). Firms that have grown in the past are assumed to have growth opportunities in the future as well. Thus *GROW* is assumed to be positively related to cash level.

Firm profitability is assumed to have a positive effect on cash holdings. Profitability is associated with an ability to generate cash that can be used for future investments or distributed to stockholders as dividends. Profitability (*PROF*) is proxied by return-on-investment ratio.

Debt maturity structure refers to the distribution of short- and long-term debt. As Ferreira and Vilela (2004) and García-Teruel and Martínez-Solano (2007) have suggested, it can affect decisions concerning liquid financial assets. An increase in short-term debt frequently compels firms to renew credit, with this risk of having to refinance prompting them to maintain higher cash levels in order to avoid financial problems. The structure of debt maturity is measured by the variable *MATUR*, defined as long-term debt divided by total debt. A negative association is expected between *MATUR* and *CASH*.

A firm's relationship with financial institutions is assumed to be related to cash level. Firms that have a deep and long-lasting bank relationship are likely to enjoy lower information asymmetry and agency problems, since valuable information about client quality can be disclosed to the bank (see, e.g. Boyd & Prescott, 1986; Diamond, 1984; Leland & Pyle, 1977; Peltoniemi & Vieru, 2013). Relationship with financial institutions (*BANK*) has been approximated by the ratio of bank loans to total assets. This variable measures the debt levels that the firms maintain with their banks. The expected relation between *BANK* and *CASH* is negative.

In addition to cash and marketable securities, firms can have other sources of liquid assets that function as substitutes for cash. Therefore, firms with relatively large amounts of non-cash liquid assets can reduce their cash levels (Ferreira & Vilela, 2004; García-Teruel & Martínez-Solano, 2007; Opler, Pinkowitz, Stulz, & Williamson, 1999; Ozkan & Ozkan, 2004). The amount of other sources of liquid assets, denoted by the variable *LIQ*, is proxied by the ratio of working capital less cash to total assets, and is expected to have a negative relation to cash level.

The financial leverage ratio may also affect a firm's cash holdings. The empirical studies of this relationship (Ferreira & Vilela, 2004; García-Teruel & Martínez-Solano, 2007; Kim, Mauer, & Sherman, 1998; Opler et al., 1999; Ozkan & Ozkan, 2004) demonstrate a negative association between cash levels and financial leverage. The reason for this may be that financial leverage raises the costs of any financing used to invest in liquid assets (Baskin, 1987). Financial leverage (*LEV*) is measured

by the ratio of debt to total assets. A negative relationship between this variable and cash holdings is expected.

In addition, two control variables, board size (*BOARD*) and CEO age (*AGE*) are included in the model. A larger board is usually related to a firm's size and its degree of networking. The CEO's age is included in the model, since older CEOs may have a lower tolerance for risk and thus hold large amounts of cash as compared with younger CEOs. However, no expected signs for these relations are presented. To control for industry effect and year effect, the model further includes industry and year dummies. The database record on a company contains the CEO's name and in most cases his or her gender as well. Where the gender has not been indicated, it has been coded on the basis of the CEO's given name. The coding is usually quite straightforward, as given names in the Finnish tradition avoid gender-neutral names. However, there are some firms with managers of foreign background (e.g. ethnic restaurants) whose CEOs cannot be assigned a gender on the basis of their given names. In these situations (some 30 firms), the author phoned the firms and directly asked whether they know these individuals whose names were in the register of Suomen Asiakastieto and whether those persons were male or female. Usually this procedure was very successful; if the information could not be obtained, the firms were omitted from the dataset.

Empirical Results

Descriptive statistics

Table 3 characterizes how the proportion of females in top management developed during the research period in the firms sampled. The second and third columns of Table 3 present statistics on the number of female CEOs (Chief Executive Officer) and the fourth and fifth columns corresponding statistics on female CoBs (Chair of the Board). The sixth and seventh column present statistics on the number of female MoBs (Member of the Board). Overall, the figures remain quite stable. However, the proportion of firms with female CEOs seemed to increase during the focal period. Where the proportion of firms with female CEOs was 25.4 per cent in the year 2001, it had increased to 26.7 per cent in 2012⁴. On average, the proportion of firms with a female CoB is 11.5 per cent, while the corresponding figure for the proportion of firms with female MoBs is 34.2 per cent.

⁴ There seems to be a relatively dramatic change in the figures between 2006 and 2007. Part of this change may be attributable the data selection procedure, described in the section Data.

Table 3. Descriptive statistics on the number of females in top management in the sample (N=15 930).*

Year	Number of firms with female CEO	Proportion of firms with female CEO	Number of firms with female CoB	Proportion of firms with female CoB	Number of firms with female MoB	Proportion of firms with females MoB
2001	186	0.2541	92	0.1257	301	0.3421
2002	219	0.2561	107	0.1252	358	0.3479
2003	250	0.2575	113	0.1164	395	0.3408
2004	283	0.2585	128	0.1169	437	0.3344
2005	318	0.2538	153	0.1221	502	0.3383
2006	374	0.2563	171	0.1172	588	0.3401
2007	429	0.2685	178	0.1114	646	0.3418
2008	439	0.2739	175	0.1092	656	0.3458
2009	437	0.2724	176	0.1097	646	0.3422
2010	434	0.2718	179	0.1121	637	0.3394
2011	433	0.2739	183	0.1158	632	0.3409
2012	420	0.2668	181	0.1150	643	0.3459
Total	4 225		1 838		6 445	
Average		0.2652		0.1154		0.3417

*) For the year 2000, there were only 8 observations, and therefore no statistics for that year are presented.

It is interesting to compare the figures in Table 3 with the European Commission's (2013) report on female representation in top management for listed companies and a study made by Kotiranta et al. (2007) using a large sample of Finnish companies covering different industries. The Commission reported that Finland has the highest proportion of female board members in the EU-27 (29.1 %, the EU average being 16.6 %). The report also reveals that there are still very few listed companies with a female CoB (4.4 %) or CEO (2.7 %). The data in Table 3 seem to be in line with this finding. The figures in the Table indicate a somewhat larger female representation in top management positions than the statistics in the study by Kotiranta et al. (2007), who report that 19 % of the companies in the hotel and catering business have female CEOs. Similarly, they found that on average 22.3 % (7.1 %) of the board members (chairs of the board) are female.

Table 4. Average board size, age of CEO, CoB and MoB split by gender and year.*

Year	Average board size	Average age of					
		female CEOs (♀)	male CEOs (♂)	female CoBs (♀)	male CoBs (♂)	female MoBs (♀)	male MoBs (♂)
2001	3.7404	44.83	45.72	47.92	49.91	46.51	46.21
2002	3.7287	44.95	45.82	48.73	50.33	46.71	46.42
2003	3.6262	45.15	46.13	49.39	50.43	46.54	46.66
2004	3.5361	45.52	46.66	49.76	50.77	47.35	47.48
2005	3.4525	46.33	46.76	49.25	51.58	47.67	47.71
2006	3.4215	46.52	46.92	48.51	51.59	47.45	47.95
2007	3.3698	46.43	47.03	48.92	51.61	47.25	48.08
2008	3.3706	47.38	47.68	50.33	51.85	47.90	48.88
2009	3.3435	48.08	47.71	50.74	52.42	48.48	49.50
2010	3.3594	48.62	48.25	51.38	53.51	49.03	50.04
2011	3.3447	49.31	48.75	52.18	54.09	49.87	50.72
2012	3.3348	49.90	49.44	53.81	54.57	50.27	51.28
Average	3.4690	46.92	47.24	50.08	51.89	47.92	48.41

*) For the year 2000, there were only 8 observations, and therefore no statistics for that year are presented.

Table 4 describes how the size of the board and the age of the top management developed during the focal period. The table clearly demonstrates that there is an age challenge in Finnish tourism businesses. While the average age of female (male) CEOs was 44.8 years (45.7 years) in the year 2001, the corresponding figures for female (male) CEOs in 2012 were 49.9 years (49.44 years). A similar trend can be seen when comparing age figures for CoBs and MoBs. When top management becomes older, it can have economic consequences, such as decision horizons becoming shorter and conservatism increasing. The size of the board is quite stable across time.

Table 5. Descriptive statistics after winsorizing.

Variable	Mean	Std	Median	Minimum	Maximum
CASH	0.2237	0.2361	0.1321	0.0000	0.8918
CASH _{t-1}	0.2233	0.2350	0.1330	0.0000	0.8918
ln(SALES)	12.9276	1.4946	12.9947	8.6995	17.0979
GROW	1.1104	0.4851	1.0000	0.4286	4.1761
PROF	0.1095	0.2707	0.0814	-0.8571	0.8859
MATUR	0.3162	0.3347	0.2054	0.0000	0.9853
BANK	0.1898	0.2605	0.0244	0.0000	1.0337
LIQ	-0.1316	0.3345	-0.0921	-1.6111	0.6721
LEV	0.6736	0.4998	0.6200	0.0132	3.3689
BOARD	3.4352	1.8124	3	1	13
ln(AGE)	3.8352	0.2203	3.8501	2.9957	4.4067
AGE	47.4014	10.0212	47	20	82
FEM	0.2652	0.4415	0	0	1

The descriptive statistics of the key characteristics, based on 15 930 observations for the firms after winsorizing (1 % rule in both tails) during the period 2000–2012. Values for the variables were calculated annually. CASH is the ratio of cash plus marketable securities to total assets; ln(SALES) measures firm size; GROW is growth opportunities (measured using the sales-to-lagged sales ratio); PROF is firm profitability (measured using the return-on-investment ratio) MATUR is debt maturity structure (measured using the long-term debt divided by total debt); BANK is the firm's relationship to banks (measured

using the level of bank loans in relation to total assets); *LIQ* is investment in other liquid assets (measured using the ratio of working capital less cash to total assets); *LEV* is leverage (measured using the ratio of debt to total assets); *BOARD* is number of board members; $\ln(\text{AGE})$ is the logarithmic age of the CEO; *AGE* is the age of the CEO in years.

The descriptive statistics for the variables used are presented in Table 5. The data has been winsorized using a 1 % rule in both tails. Winsorizing is frequently employed for statistical purposes to reduce the possible effects of spurious outliers (Barnett & Lewis, 1994, pp. 41, 78–85). There is considerable evidence that many financial ratios have computation or interpretation problems that are associated with negative denominators and extreme observations, for example, with these then causing outliers in the financial data (Foster, 1986, p. 99). Winsorizing replaces observations below the 1st percentile with ones set to the value for the 1st percentile and observations above the 99th percentile with ones set to the value for the 99th percentile.

The sample is made up of small firms, with average sales of € 411 500, which corresponds to the logarithmic value 12.92 in Table 5. They hold more debt than equity in their balance sheets, with debt of 0.67 times their total assets. Bank debt (*BANK*) represents almost 20 % of these firms' total assets. In addition, most of their debt is short-term, their long-term debt (*MATUR*) making up 31.6 % of their external financing. The average cash holdings of Finnish tourism SMEs are 22.4 % of total assets (*CASH*).

Univariate analysis

Before moving into multivariate analysis, a univariate analysis was conducted in order to determine if there were significant differences between firms with female CEOs and firms with male CEOs for the variables studied. This analysis provided evidence whether firms with female CEOs are distinguishable from firms with male CEOs. In Table 6, the average values of the variable *CASH* are presented in the first row. In the following rows, corresponding figures are presented for other variables. Finally, difference-of-means tests based on Student's *t* were carried out to determine if the mean values of the female-CEO firms significantly differed from the male-CEO firms. The *t*-statistic is shown in the final column in Table 6.

Table 6. Firm characteristics by CEO gender.

Variable	Female	Male	Difference	<i>p</i> -value
<i>CASH</i>	0.2826	0.2025	0.0801	(<.0001)
<i>CASH_{t-1}</i>	0.2809	0.2025	0.0783	(<.0001)
$\ln(\text{SALES})$	12.7193	13.0029	-0.2836	(<.0001)
<i>GROW</i>	1.1132	1.1094	0.0038	(0.6640)
<i>PROF</i>	0.1239	0.1043	0.0196	(<.0001)
<i>MATUR</i>	0.2659	0.3343	-0.0684	(<.0001)
<i>BANK</i>	0.1750	0.1952	-0.0202	(<.0001)
<i>LIQ</i>	-0.1457	-0.1265	-0.0192	(0.0014)
<i>LEV</i>	0.6783	0.6719	0.0064	(0.4787)
<i>BOARD</i>	3.2485	3.5026	-0.2541	(<.0001)
$\ln(\text{AGE})$	3.8316	3.8365	-0.0049	(0.2145)

Comparison of average values of key characteristics of 15 930 observations. *CASH* is the ratio of cash plus marketable securities to total assets; $\ln(\text{SALES})$ measures firm size; *GROW* is growth opportunities (measured using the sales-to-lagged sales ratio); *PROF* is firm profitability (measured using the return-on-investment ratio); *MATUR* is debt maturity structure (measured using long-term debt divided by total debt); *BANK* is the firm's relationship to banks (measured using the level of bank loans to total assets); *LIQ* is investment in other liquid assets (measured using the ratio of working capital less cash to total assets); *LEV* is leverage (measured using the ratio of debt to total assets); *BOARD* is number of board members; $\ln(\text{AGE})$ is the logarithmic age of the CEO. The statistic *t* tests difference of means between firm characteristics with female and male CEOs. *p*-values are in parentheses.

In general terms, the univariate analysis revealed that characteristics of firms with female CEOs differ significantly from those with male CEOs. Firms with female CEOs have higher cash holdings. To illustrate the average difference using figures in the row of Table 5, male CEOs holds some 20.25 euros and female CEOs some 28.26 euros in cash and marketable securities relative to total assets of 100 euros, meaning that on average female CEOs' cash holdings relative to total assets are 39.56 per cent higher than male CEOs'. Although this seems to be an economically meaningful difference, it is likely that the difference cannot be attributed in its entirety to the gender of the CEO. Moreover, firms with female CEOs seem to have a higher return-on-investment ratio, suggesting a higher profitability for such firms.

In contrast, female-led firms are smaller in size, have a shorter-term debt structure, a lower proportion of bank debt, and smaller boards. These findings demonstrate that firms run by female CEOs differ in many ways firms run by male CEOs. This makes it necessary to control for the effect of other variables in the multivariate analysis when inferences are made whether firms with female CEOs hold higher cash levels. It is not surprising that the size of the firms with female CEOs is generally smaller. Women might, for example, self-select to work in smaller firms with higher profitability. Another reason often mentioned for the underrepresentation of women in top positions in large firms is the existence of higher gender-based barriers (e.g. Oakley, 2000). Further, if men acknowledge the importance of networking in general – and especially in bank relationships – and female CEOs want to prove that they “can do it on their own” (Verheul & Thurik, 2001), a higher proportion of bank debt is to be expected for firms with male CEOs. The univariate test seems to support this since the variable *BANK* in Table 6 is statistically higher for male-led firms. Statistically significant differences are not found for growth, leverage or CEO age.

Multivariate analysis

Table 7 presents the results of regression analyses. The regressions were first run without year and industry dummies and then with them. Parameter estimation results without the dummies are presented in the third column and with the dummies in the fifth column. The results do not seem to deviate significantly from each other. The estimates also seem to be quite closely in line with the expected signs. The last variable (*FEM*) before the year dummies and the industry dummies variables in the regressions captures whether firms with female CEOs hold higher cash balances. The dummy *FEM* is one if the firm has a female CEO and zero if the firm has a male CEO. The Variance inflation factor (VIF) quantifies the severity of multicollinearity.

Rawlings (1988, p. 277) suggests that a variance inflation factor of greater than ten ($VIF > 10$) is the threshold of serious multicollinearity.

In both regressions, the estimated parameter for *FEM* has a significantly positive sign ($p < 0.0001$), suggesting that firms with female managers hold significantly larger levels of cash. Using the model without year and industry dummies, firms with female CEOs have on average 6.2 % higher⁵ cash and marketable security to total assets (*CASH*) ratios than firms with male CEOs. Correspondingly, with year and industry dummies, female CEOs have on average 4.5 % higher cash and marketable security to total assets (*CASH*) ratios than firms with male CEOs for the reference firm; that is, the year and industry dummies are set to zero.

In Table 7, the parameter estimates of debt maturity structure (*MATUR*) have signs opposite to those predicted. This suggests that firms with higher proportions of short-term debt relative to total debt hold lower cash balances. It was predicted that the opposite would be the case inasmuch as firms would try to mitigate the risk associated with refinancing their debts. This can indicate that healthy firms trust their possibilities for debt renewal and are not motivated to hold cash on a precautionary basis based on that debt maturity structure. Bank-dominated financial systems (Niskanen & Niskanen, 2006) and close bank-firm relationships (Peltoniemi & Vieru, 2013) can partly explain this surprising result. Another explanation is that there might be financially distressed firms that have serious difficulties in receiving long-term loans.

⁵ This percentage is computed by summing the products of each parameter estimate from Table 7 and the corresponding average from Table 5. This returns 0.2201 for cash and marketable security to total assets for firms with male CEOs. For firms having female CEOs, this ratio is 0.0137 higher, being 6.2 per cent higher ($0.0137/0.2201$).

Table 7. Regression analyses ($N=15\ 930$).

Independent variable	Expected sign	Parameter estimate (p-value)	Variance inflation factor <i>VIF</i>	Parameter estimate (p-value)	Variance inflation factor <i>VIF</i>
Intercept	?	0.1267 (<0.0001)	0.0000	0.1396 (<0.0001)	0.0000
<i>CASH(t-1)</i>	+	0.7452 (<0.0001)	1.2959	0.7350 (<0.0001)	1.3557
<i>ln(SALES)</i>	-	-0.0048 (<0.0001)	1.1090	-0.0061 (<0.0001)	1.3454
<i>GROW</i>	+	-0.0058 (0.1234)	1.0335	-0.0054 (0.1480)	1.0452
<i>PROF</i>	+	0.1173 (<0.0001)	1.2232	0.1177 (<0.0001)	1.2486
<i>MATUR</i>	+	-0.0236 (<0.0001)	2.2238	-0.0147 (0.0012)	2.4272
<i>BANK</i>	-	-0.0527 (<0.0001)	1.8384	-0.0570 (<0.0001)	1.8792
<i>LIKQ</i>	-	-0.0846 (<0.0001)	1.8764	-0.0914 (<0.0001)	1.9748
<i>LEV</i>	-	-0.0335 (<0.0001)	2.1876	-0.0409 (<0.0001)	2.3742
<i>BOARD</i>	?	-0.0011 (0.0480)	1.1848	0.0006 (0.4008)	1.5332
<i>ln(AGE)</i>	?	0.0040 (0.3921)	1.0264	0.0028 (0.5536)	1.0835
<i>FEM</i>	+	0.0137 (<0.0001)	1.0341	0.0120 (<0.0001)	1.0630
Year dummies		No		Yes	
Industry dummies		No		Yes	
F-value		3579.99 <0.0001		949.03 <0.0001	
Adj. R^2		0.7119		0.7143	

In this model, the dependent variable is *CASH*, which is the ratio of cash plus marketable securities to total assets. The variables have been defined in previous tables. The notations below the regression coefficients in parentheses are based on the two-tailed *p*-values adjusted for an unknown type of heteroscedasticity using White (1980). The variance inflation factor (*VIF*) quantifies the severity of multicollinearity.

Sensitivity analysis and caveats

In order to assess sensitivity of the results, the regression analysis was also run using alternative proxies for the variables. The analysis employed another cash level measure (*CASH2*), which is identical to *CASH* except that in the denominator cash and marketable securities are subtracted from the total assets (García-Teruel & Martínez-Solano, 2007; Opler et al., 1999). In addition, instead of proxying firm growth opportunities using the sales-to-lagged-sales ratio, the total-assets-to-lagged-total-assets ratio is used (*GROW2*). Similarly, instead of proxying firm size by the natural logarithm of sales, the also natural logarithm of total assets (*lnASSETS*) is used. The outcomes of these additional tests are presented in Table 8. The results remain unchanged.

Table 8. Sensitivity analysis using alternative proxies for the variables (N= 15 716).

Independent variable	Expected sign	Parameter estimate (p-value)	Variance inflation factor <i>VIF</i>	Parameter estimate (p-value)	Variance inflation factor <i>VIF</i>
Intercept	?	0.4077 (0.0006)	0.0000	0.5110 (0.0001)	0.0000
CASH2(<i>t-1</i>)	+	0.7220 ($<.0001$)	1.1701	0.7147 ($<.0001$)	1.2000
<i>ln</i> (ASSETS)	-	-0.0438 ($<.0001$)	1.5083	-0.0474 ($<.0001$)	1.7070
GROWTH2	+	0.0034 (0.7502)	1.0134	0.0037 (0.7348)	1.0253
PROF	+	0.4637 ($<.0001$)	1.1798	0.4685 ($<.0001$)	1.2135
MATUR	+	-0.0017 (0.9501)	2.2222	0.0311 (0.2677)	2.4703
BANK	-	-0.1815 ($<.0001$)	1.8463	-0.1943 ($<.0001$)	1.8864
LIKQ	-	-0.3809 ($<.0001$)	1.8525	-0.4095 ($<.0001$)	1.9636
LEV	-	-0.2187 ($<.0001$)	2.2415	-0.2507 ($<.0001$)	2.4874
BOARD	?	0.0044 (0.2391)	1.3072	0.0068 (0.1017)	1.6006
<i>ln</i> (AGE)	?	0.0920 (0.0008)	1.0226	0.0789 (0.0050)	1.0763
FEM	+	0.0754 ($<.0001$)	1.0507	0.0683 ($<.0001$)	1.0778
Year dummies		No		Yes	
Industry dummies		No		Yes	
F-value		2042.26		539.69	
		<0.0001		<0.0001	
Adj. R ²		0.5883		0.5901	

In this model, the dependent variable is *CASH2*, which is the ratio of cash plus marketable securities to total assets less cash and marketable securities; *GROW2* equals total assets-to-lagged-total assets; *lnASSETS* equals the natural logarithm of total assets. The other variables have been defined in previous tables.

There are, however, still some endogeneity concerns. The first arises from the possibility that the results could be influenced by variables that have been omitted. In particular, the documented correlation between CEO gender and cash level may simply reflect unobservable characteristics that affect both CEO gender choice and corporate cash level. The specific concern is that the omission of these factors might lead us to incorrectly attribute the differences in cash level to differences in CEO gender. There are various ways to mitigate this contingency. For example, Huang and Kisgen (2013) suggest a difference-in-differences framework for empirical tests, comparing cash levels before and after transitions from a male to a female executive with a control sample of male-to-male transition firms. In addition, after the transitions the executive needs to be in power long enough before significant changes in cash level policy can be expected. The control group also has to be defined. Huang and Kisgen (2013, p. 825, 828) suggest other refinements as well. One is a more traditional panel data regression with firm fixed effects with a female executive dummy variable. Oth-

ers include propensity score matching and the use of instrumental variables. These tests are left for future studies.

Conclusions

This study proves that female CEOs hold a higher level of cash balance in Finnish tourism firms. This conclusion was obtained by analysing firm-level data over the ten-year period from 2000 to 2012 with more than 15 000 firm-year observations. Depending on the model used, on average female CEOs hold 4.5% to 6.2 % higher levels of cash and marketable securities to total assets than their male counterparts. This empirical evidence is consistent with research indicating that female managers exhibit higher risk aversion and lower overconfidence.

This study clarifies the picture and the role of the differences of female and male CEO-style effects in the focal firms' behaviour. Although the results are based on gender differences in cash holdings, they may have broader implications. The fact that male CEOs are more likely to make riskier decisions with overconfidence entails a greater probability of low liquidity. Correspondingly, if the risk tolerance of a female CEO is lower, some of the firm's growth opportunities remain untapped. Furthermore, the result implies that models that focus on firm characteristics alone miss important gender factors that may account for differences in tourism firm behaviour. Thus, additional research will be needed to investigate the effect of gender on firm performance in more detail.

The tourism industries have grown significantly in recent decades and have promising growth prospects in both developed and developing countries (TEM, 2013; UNWTO, 2010). The data in this study reveal that the average proportion of female CEOs is 26.5 per cent, a relatively high figure compared to that for other business sectors in Finnish society. In addition, during the sample period the average age of CEOs has increase some five years, reaching approximately 50 years in the year 2012. Since risk aversion generally increases with age, it is vitally important that new-growth oriented and innovative tourism firms with much younger managers come onto the playing field. Otherwise, it may be impossible to realize the promising future prospects of tourism. These findings should serve to assist policymakers in creating environments for tourism industries that allow them to realize their future sustainable growth potential.

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