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CONTENTS

DETERMINANTS OF INTERNET CORPORATE SOCIAL RESPONSIBILITY COMMUNICATION

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ABSTRACT

The goal of this research is to identify determinants of internet Corporate Social Responsibility communication of 41 Belgian companies. Using a content analysis and scoring technique, this paper estimates the degree of website information disclosure of companies' involvement with corporate social responsibility. This score is then regressed via Ordinary Least Square (OLS) on variables presented in the literature as determinants of firm internet communication and led to the formulation of our research hypotheses. The results indicate that the firm size and listed status are positively related to the level of Corporate Social Responsibility communication trough the web. In contrast, profitability age of the firm and sector are not significant.

JEL : C31, M14, M15, M31, O32

KEYWORDS: Communication, Internet, Corporate Social Responsibility, Web

INTRODUCTION

In times of a socioeconomic environment in perpetual movement, companies are increasingly aware of the impact of their activities on sustainable development which allows for meeting the needs of the present without compromising the capacities of future generations (Brundtland, 1987). In line with sustainable development is the corporate social responsibility of companies.

To facilitate dialogue and meet the expectations of stakeholders, companies are also brought to communicate more about their implemented sustainable practices. Among the communications used by these companies, the Internet has become a major tool. According to Wanderley et al. (2008), currently the Internet is one of the main channels of communication used by companies for disclosures regarding responsibility practices. It offers numerous advantages such as the disclosure of more information at a lower cost and in a reduced time, a larger public audience, etc. (Branco and Rodrigues, 2006; Jahdi and Acikdilli, 2009).

Recently, numerous researchers (Pollach, 2003; Welcomer et al ., 2003; Branco and Rodriguez, 2006; Laville, 2009) have examined the Internet as a Corporate Social Responsibility (CSR) communications tool. Little is known about the way companies use this communication channel, in particular within European countries. By focusing on Belgian market active companies, the current research research fills this gap by analyzing the way companies communicate their CSR) practices through their Web site. Our study aims at classifying member companies of the Association Business and Society Belgium. This is done by establishing a scoring of CSR communication. Next, we highlight the main determiners of CSR communication on the Web.

In the first section, we provide a literature review. Next we formulate our research hypotheses concerning the determinants of Corporate Social Responsibility (CSR) communication over the web. In the following section, we will present our methodology. The findings are discussed in the third section. We first present the results of the web content analysis and how we derive a CSR communication score for each firm in our sample. Next, we present the results of Ordinary Least Squares (OLS) regressions used to highlight the determinants of CSR communication on the web. The paper closes with some concluding comments.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

According to Birth et al. (2008) Corporate Social Responsibility (CSR) aims to broadcast information justifying the company's behavior thereby affecting its perceived image to stakeholders and to the public. Capriotti and Moreno (2007) highlight that CSR communication is highly related to sustainable action. This allows making the public aware of company's acts, in addition to its economic objective, to reinforce its relationship with its stakeholders and to behave in clear and ethical ways.

Although research regarding Internet as a CSR communication tool has been growing (Pollach, 2003 ; Welcomeret al., 2003 ; Branco and Rodriguez, 2006 ; Birthet al., 2009), no known research regarding tools and strategies implemented by companies in their web CSR communications has been conducted. A few (Craven and Otsmani, 1999; Hamid, 2004) have suggested determiners of CSR communication.

Numerous studies have examined determinants of voluntary disclosure. Some authors have set the focus on financial communication (McNallyet al. 1982 ; Chow and Wong-boren, 1987 ; Raffournier, 1995 ; Craven and Martson 1999 ; Asbaugh et al. 1999 ; Debreceny et al. 2002 ; Ettredgeet al 2002 ; Rodriguez and Menezes 2003 ; Xiaoet al. 2004, Mendes-da-Silva and Christensen 2004 ; Laswadet al. 2005 ; Bollenet al. 2006; Paturelet al. 2006 ; Andrikopouloset al. 2007). Other authors have dealt with corporate communication (Adams and Hossain, 1998 ; Larran and Giner, 2001 ; Bonson and Escobar, 2002), while some were interested in identifying determiners of R&D communication (Ding and Stolowy, 2003). Each highlights explanatory variables of voluntary information. In the CSR context, we suggest a list of variables on which our research hypothesis rely.

It is widely accepted in the literature that there is a positive relation between company size and the level information published (Ding and Stolowy, 2003). The scope of research dedicated to determiners of voluntary disclosure show a positive size effect on the level of published information. Some authors (Mc Nallyet al, 1982; Debrecenyet al. 2002; Ettredgeet al 2002; Rodriguez and Menezes 2003; Xiaoet al. 2004, Mendes-da-Silva and Christensen 2004; Bollenet al. 2006; Andrikopouloset al. 2007) have highlighted the positive influence of the company's size on the level of internet financial communication. Still other researches find a positive relation between company's size and the level of information (Adams and Hossain, 1998; Bonson and Escobar, 2002; Larran and Giner, 2001). Ding and Stolowly (2003) showed that size is a significant explanatory variable of the level of information disclosure regarding R&D. The positive impact of company size on CSR information disclosure has been highlighted by Hamid (2004). These findings lead to the following hypothesis:

Hypothesis 1: the size of the company has a positive effect on its internet CSR communication score.

In our research firm size is measured by total assets, as in Mc Nallyet al (1982), Rodriguez and Menezes (2003) and Hamid (2004). We used the natural logarithm of the total assets. This logarithmic transformation was necessary to mitigate skewness in the data set (Adams and Hossain, 1998).

Hamid (2004) explains the level of information disclosure is higher in countries where the listed status is the main source of financing, compared to countries where the debt is the main source. In their research dedicated to Portuguese banks, Branco and Rodrigues (2006) explain that listed banks place more emphasis on CSR communication through their website. They justify this through the fact that the more famous a company, the higher the need for justifying their existence through CSR communication. Listed companies are more notorious than non-listed companies. Ding and Stolowly (2003) highlight a positive and significant relation between listing status on a foreign market and information disclosure about R&D. Research conducted in Malaysia by Theoh and Thong (1984) reveals that listed companies communicate more CSR information than non listed companies. The reason is that listed companies can take advantage of information disclosure regarding their social activities. Hamid (2004) finds a positive relation between the listing status of a company and its level of CSR information disclosure. This leads us to the following hypothesis where listing status is measured by a binary variable which takes a value of 1 for listed firms and 0 for unlisted firms:

Hypothesis 2: The listing status of the company has a positive effect on its internet CSR communication score.

Age

In his research regarding Corean listed companies, Choi (1999, cited by Hamid, 2004) shows that company age is related to its CSR information disclosure. The company's is linked to its reputation and its involvement in CSR activities. Other research (Hamid, 2004; Branco and Rodrigues, 2006) reveal also a positive relation between company's age and its level of CSR information disclosure.
This leads us to the following hypothesis where company age is measured as the number of years since the firm's inception:

Hypothesis 3: the age of the company has a positive effect on its internet CSR communication score.

Profitability

A negative relation between the level of financial information disclosure and the company's profitability has been highlighted in several papers (Mendes-da-Silva and Christensen, 2004; Debrecenyet al. 2005; Paturelet al. 2006). This negative relation is explained by the incurred competitive risk in cases of positive information disclosure. Due to lack of significative results, Hamid (2004) has not been able to validate his hypothesis of a negative impact of profitability on CSR communication score. This leads us to the following hypothesis:

Hypothesis 4: the profitability of the company has a negative effect on its internet CSR communication score.

In our research, performance is measured by the Return on Equity (ROE) ratio, like Hamid (2004), Debrecenyet al. (2005) and Paturelet al. (2006). The Return on Assets (ROA) ratio could also have been a suitable indicator of profitability (Mc Nallyet al, 1982) but its correlation with total assets would have distorted the results of our econometric model.

Sector

The importance of sector is highlighted by several authors. Ding and Stolowy (2003) explain that the companies from the same sector evolve in the same environment and are under the same pressure which forces them to communicate. Entwistle (1999, cited by Ding and Stolowy, 2003) shows that companies from traditional sectors publish less R&D information than IT or biotech companies. Bonson an Escobar (2002) reveal a positive influence of sector on the quantity of information provided by the company. Companies from specific sectors must communicate on certain aspects in order to improve their image. The authors highlight that this is mainly the case for industrial companies which communicate more environmental information than firms in other sectors. According to Ding and Stolowly (2003), B2C and equipment companies communicate less while pharmaceuticals, aeronautical and defense companies communicate more on R&D. In order to show their technology mastery and to set the focus on their expertise, IT companies tend to communicate more through their website. It seems that belonging to the industrial sector positively influences CSR information disclosure, and belonging to the IT sector has a positive impact on Internet communication. This leads to the following hypothesis:

Hypothesis 6: The membership in the IT sector or in the industrial sector has a positive effect on its internet CSR communication score.

In our research, sector is measured by a binary variable, which is assigned a value of 1 for companies from the industrial or IT sectors and a value 0 for other companies. We define the industrial sector as NACE codes 2003 from 10 to 50, and code 74.7 (industrial cleaning), as well as code 74.2 (Architecture and engineering). The IT sector is defined by NACE codes 2003 from 30 to 33 as well as code 64 (post and communication) and 72 (IT activities).

DATA AND METHODOLOGY

This section has two parts. In the first part, we present our sample and some statistics are presented in Table 1 and Table 2. In the second part, we present our methodology.

Sample Data

Our data concerns 41 companies which are members of the Business and Society Belgium (ABSB), and communicate in French on their website. This company's network is the reference regarding CSR in Belgium. It brings a support to companies wishing to integrate CSR in their management and in their activities. This is made possible through the share of good practices, the implementation of new CSR solutions and through CSR communication to stakeholders. The aim of our research is to analyse implemented strategies and tools in the framework of CSR communication. It seems relevant to base our sample on companies' inclined to communicate on these aspects. The member companies of the ABSB are registered in an active initiative of CSR. From then on; we suppose that they communicate in this direction through their Web site. Indeed, according to Chaudhri and Wang (2007) an active behavior of companies regarding CSR would lead them naturally to communicate on these aspects, in particular through their Web site.

Table 1: Companies' Sectors

Sector/Industry	Numbers of firms	Percentages
Manufacturing (NACEBEL : 01 à 41)	10	24.39%
Building and Construction (NACEBEL : 45)	1	2.44%
Retail and Consumer goods (NACEBEL : 50 - 55)	7	17.07%
Transportation and telecommunication (NACEBEL : 60 - 64)	4	9.76%
Financial services (NACEBEL: 65 - 67)	7	17.07%
Services industry (NACEBEL : 72 - 93)	12	29.27%
Total	41	100%

This table shows in which sectors are the firms of ours ample.

Table 2: Firm Size Indicators

Indicators	Mean	Standard deviation	Max	Min
Sales Revenues	68,453,840	387,757,139	2,228,400,000	2,016
Total Assets	53,169,653,788	229,649,107,039	1,163,643,000,000	4,097
Average number of employees	2,645	5,950	30,030	1

This table shows some indicators of firms' size.

METHODOLOGY

Content analysis is the most used method for analyzing questions related to information disclosure relative to CSR through company websites (Branco and Rodrigues, 2006; Patten, 2002; William and Pei, 1999). On the basis of our literature review and to structure the information we have implemented an analysis grid allowing us to highlight the presence or the absence of certain elements of information. Next, we give one point for each item of the analysis grid present on the web site. A score for every company is so obtained. All items are assigned equal importance. This technique of scoring is the current practice in the study of voluntary information disclosures (Larran and Giner, 2001). Indeed, the quantity of disclosed items is a reasonable measure of the trend of the company toward information disclosure (Branco and Rodrigues, 2006).

The items in the analysis grid are divided into various categories: accessibility, sustainable contents related to the company, communication aiming to promote sustainability and the ergonomics of the Website and its interactivity. The "accessibility" category measures if there is a tab dedicated to CSR on the website homepage. A distinction for vocabulary is made: questioning if the words environment, CSR, sustainable development or expressions making reference to social responsibility (training (formation), working conditions) or societal (health) are used. If the company dedicates text concerning CSR on its homepage, it obtains an additional point. Another point is added if the company dedicates the total of its homepage to CSR. If a search engine is available, we observe the quantity of results obtained by search relative to the vocabulary presented above.

The second category analyses the contents dedicated to sustainable actions related the company: its strategy, its objectives, its commitments and its profits. A distinction is made between elements for environmental, social and societal character. Through the third category, we observe if the company gets loose from its own products and activities to insure the promotion of the sustainable development, defend causes, to give responsibly to the consumer and inform the public. The last category focuses on the practices of communication, the ergonomics of the Web site and its interactivity.

Using the analysis grid, we examined the websites of companies and assigned them one point for each item on the site. A score is therefore obtained for every company. From this score we were able to estimate the level of website information disclosure of the 41 companies in this study. Next, this score is examined using the ordinary least squares (OLS) method according to the explanatory variables related to the hypotheses of interest as in Debreceny and Rahman (2005), Paturelet al. (2006), Ben Rhouma and Cormier (2007) and Jouini (2007).

EMPIRICAL RESULTS

This section contains two parts. In the first part, we present the findings of our web contents analysis and how we derive a Corporate Social Responsibility (CSR) communication score. In the second part, we present the results of our regression analysis.

Corporate Social Responsibility Communication Score

Using the analysis grid we examined the websites of all the companies in our sample. A point was given for every item of the analysis grid on the website. The scores are presented in Table 3.

Table 3: CSR Communication Score

No	CompanyName	Score	No	Company Name	Score	No	Company Name	Score
1	Coca-cola Belgium	**32**	15	Randstad	**13**	29	TNT Express	**5**
2	MIVB - STIB	**29**	16	ING	**13**	30	SWIFT	**5**
3	KBC	**26**	17	Danone	**13**	31	Axa	**5**
4	Electrabel	**25**	18	Alpro	**12**	32	Pricewaterhouse Coopers	**4**
5	Mobistar	**24**	19	Infrabel	**11**	33	Citibank Belgium	**4**
6	Delhaize Group	**22**	20	Cera	**11**	34	Care	**4**
7	GDF Suez	**21**	21	Siemens	**10**	35	Artoos	**4**
8	BNP Paribas Fortis	**20**	22	Ecover Belgium	**10**	36	SD WORX	**3**
9	Dexia	**19**	23	Reyners aluminium	**9**	37	ICHEC-Entreprises	**3**
10	Belgacom Group	**17**	24	Novo Nordisk	**9**	38	Elia	**3**
11	Ernst & Young	**16**	25	Cofely Services	**8**	39	Sanofi Pasteur MSD	**2**
12	Sodexho	**15**	26	Loterie Nationale	**7**	40	Baxter	**2**
13	Ricoh Belgium	**15**	27	Careco	**6**	41	Delta Lloyd	**1**
14	la Poste	**14**	28	Tractebel Engineering	**5**			**1**

This table shows the CSR communication score for our sample's companies.

On 56 items in our analysis grid, a maximum of 32 items were identified on the Web site of Coca-Cola Belgium. Several elements of its communication are interesting. On one hand, this company dedicates its homepage to the problem of sustainable development and distinguishes it by several tabs (Health, Environment and Work) related to the various spheres within which it is active. It takes into account the diverse sensibilities of its stakeholders. On the other hand, besides communication regarding the importance of dialogue with stakeholders, Coca-Cola Belgium highlights the pressure which it exercises on its commercial partners. It proposes in particular a charter of its "Sustainable development Commitment ." Besides, this company indicates exactly on its Web site its CSR strategy, but also its future objectives and its past results. Moreover, Coca-Cola Belgium supplies consumerist information allowing the consumers to identify the calories of drinks and other information.

The MIVB STIB (Belgian company in public transport) is in second position. This company communicates its strategy and its results at the environmental, social and societal level. Furthermore, the MIVB - STIB also supplies consumerist information. It also focuses external causes which require support on its Web site and proposes links towards associations with ethical vocation.

The KBC (banking sector) which is on the third step of the podium distinguishes itself mainly by its contribution at the environmental, social and societal level in terms of communication of its CSR strategy. It also proposes links towards associations.

By examining the other companies of the Top 10, we can highlight, in terms of CSR communication, the importance given to the environmental sector by Electrabel (supplier of energy) at the level of the strategy, future objectives and results; the support of Mobistar (telecommunication) for external causes on its Web site as well as its communication in terms of consumerist information; the interactive annual CSR report proposed by Delhaize Group (food Distributor) which has allowed this company to receive the price of the best sustainable development report; the willingness of GDF Suez (supplier of energy) for the support of external causes; the code of conduct environmental statement advanced by BNP Fortis (bank) on its site as well as its pressure on stakeholders; the communication relative to the responsible investments proposed by Dexia (bank); the word of the President of Belgacom (telecommunication) in favor of the CSR as well as its code of ethics for its suppliers. At the bottom of the classification, we find the only two pharmaceutical companies of our sample.

In terms of accessibility, most of the analyzed sites are multilingual (39). The fact that Belgium is a trilingual country and that the companies of our sample arise from international groups could explain this. When we observe tabs dedicated to CSR and to sustainable development, we notice that there is no homogeneity with regard to vocabulary. So, the companies of our sample clearly distinguish their environmental, social and/or societal commitment. This can be related to the fact that the current public is more warned and more able to understand that there are various concepts regarding the sustainable development.

Among 42 visited sites, 8 propose a text presenting the CSR on the homepage and 7 completely dedicate the front page to CSR. We note that both energy sector companies of our sample define themselves as socially responsible from the first visit. This can be explained by the negative image of the sector in which these companies are active, forcing them to reaffirm their responsible commitment.
Moreover, a search engine is present on numerous sites. However we note that it does not often work properly and that the results are not always relevant.

Other tools provided by the Internet technology, contributing to improving the ergonomics of the Web site, are used relatively little by the sample companies. We find few sites proposing a newsletter (2), FAQ (3), an interactive report (4), illustrated texts with schema (5) or a specific CSR contact (6). One company proposes the word of the president in video (Electrabel), Five companies include on-line video of another actor. Illustrated texts with images are more frequently present (17). On the other hand, forums and blogs are absent in visited sites.

Although images were not the object of a detailed analysis, our results indicate that companies try to stress the impact of the textual communication by using images reflecting the field action.
With regard to sustainable contents related to the company, press releases dedicated to CSR are used by 18 companies. We identify a willingness to strengthen communication related to sustainable development and around company involvement.

The least present items are: ethical publications (5), archives of the annual CSR reports (6), prices and rewards (6), current CSR events (14) and the code of conduct (14). The annual CSR report is set on-line by 11 companies. A few companies emphasize a presidential speech concerning CSR or another actor (respectively 4 and 3 companies). We stress that they are, for the most part, in the top 10 of our classification. This practice is mostly used by companies communicating a lot on CSR. Concerning analyzed topics, the environment is the most prevalent, in terms of objectives, results or strategy. The favorite topic of energy sector companies and cleaning products companies are centered around environmental problems.

Companies of the food sector (Danone, Alpro, Delhaize, Coca-Cola Belgium) seem to set the priority on the societal theme. It is namely present on the agencies interim site of our sample. It seems that companies communicate in a more important way on problems related to their activities and to which their stakeholders would be most sensitive. However, few companies (5) communicate on the dialogue they keep with their stakeholders. Three companies (Belgacom, Coca-Cola Belgium and BNP) urge their partners to align themselves with responsible practices, by requiring for example an ISO certification. Sustainable investments are highlighted by 6 companies of which 4 are from the banking sector (BNP, Cera, Dexia, and KBC). Indeed, one of the ways for companies of the banking sector to get involved in CSR is to promote sustainable investments. So by acting, they also promote their products.

The third category, dedicated to the promotion of sustainable development in the broad sense, is little visible. Fourteen companies offer a link towards an association, 5 defend a cause, 4 broadcast consumerist information and 2 try to give responsibilities to the consumer. No company warns the public about the offers of the market.

RESULTS

The explanatory variables come from the Belfirst database (version 2008) published every year by the Van Dijk Office in partnership with the National Bank of Belgium. For each of these variables, we considered the last year of availability of the accounts. The variable definitions are presented in Table 4. We present the descriptive statistics of the explanatory variables in Table 5 and the correlation between those variables in Table 6. Because listing status and sector are binary variables, they are not presented in Table 5.

Table 4: Variables Definition

Variables	Measure
Size	Log total assets
Listing status	Listed firms = 1 and Unlisted firms = 0
Age	Number of years since the creation of the firm
Profitability	Return On Equities (ROE) ratio
Sector	IT or Industrial sector = 1 and others = 0

This table shows how the explanatory variables are measured.

The following regression equation was estimated to identify the determinants of CSR communication score:

Score =ά + ß1 (size) + ß2 (listing status) + ß3 (Age) + ß4 (profitability) + ß5 (sector)

This model was tested using the 2007 version of the software STATA. Ordinary Least Squares estimates were obtained. The results are presented in Table 7.

Table 5: Descriptive Statistics

Variables	Mean	Std. Dev.	Min	Max
Score	11.6341	8.1754	1	32
Size	13.2696	5.5657	0	27.7825
Age	36.9512	27.6956	2	105
Profitability	30.1965	63.5167	-5.24	320.26

This table shows the descriptive statistics of the explanatory variables

Table 6: Correlation between Variables

	Score	Size	Listing status	Age	Profitability	Sector
Score	1.0000					
Size	0.0409	1.0000				
Listing status	0.4263	0.3838	1.0000			
Age	0.2331	0.2464	0.2821	1.0000		
Profitability	-0.0011	-0.1928	0.0046	-0.0325	1.0000	
Sector	0.0766	-0.0970	0.0605	0.0124	0.0376	1.0000

This table shows the correlation between the explanatory variables.

To obtain valid estimations of the variance and the covariance of our estimators, we used the variance and the standard distances corrected by heteroscedasticity. A Breush-Godfrey test made it possible to show the presence of autocorrelation of the residues. The quality of adjustment of this model is correct: 26.88 percent of R-squared. The results of the tests of Model 1, presented in Table 7, indicate that, as predicted, the coefficient of the size variable is statistically significant at the 5 percent level. The positive sign of this coefficient confirms our first hypothesis: the size of the company has a positive effect on its internet CSR communication score. This result confirms the conclusions of previous studies (Mc Nallyet al, 1982 ; Adams and Hossain, 1998 ; Debrecenyet al. 2002 ; Ettredgeet al 2002 ; Bonson and Escobar, 2002 ; Larran and Giner, 2001 ; Ding and Stolowy, 2003; Rodriguez and t Menezes, 2003 ; Xiaoet al. 2004; Mendes-da-Silva and Christensen, 2004 ; Hamid, 2004 ; Bollenet al. 2006 ; Andrikopouloset al. 2007)

Hypothesis two, which postulates a positive influence of the listing status on the CSR communication score on the web, is confirmed. This result confirms the conclusions of Ding and Stolowy (2003) and Hamid (2004). Other hypotheses were not confirmed: the coefficients of the variables of age, profitability and sector were not significant.

To refine this model, we proceeded to a Wald test on the coefficients of variables age, profitability and sector. The results of this test prompted us not to reject the null hypothesis of these coefficients and to extract these three variables from model one. The results of tests of Model 2 are presented in Table 8

Table 7: Results of the Regressions by OLS – Model 1

	Coeficient	Robust Std. Err.	Sign
Size	0.4410	0. 1928	0.028 **
Listing Status	5.7668	3.4818	0.107
Age	0.0236	0.0369	0.527
Profitability	0.0070	0 .0117	0.550
Sector	1.3920	2.3853	0.563
cons	2.9585	2.8739	0.310
Number of obs		41	
F stat		3.06	
Prob > F		0.0214	
R-squared		0.2688	

*This table shows the regression estimates of the equation: Score =ά + ß1 (size) + ß2 (listing status) + ß3 (Age) + ß4 (profitability) + ß5 (sector). ***, ** and * indicate the significance at the 1, 5 and 10 percent levels respectively.*

Table 8: Results of the Regressions by OLS – Model 2

	Coeficient	Robust Std. Err.	P>t
Size	0.4240	0.1920	0.033 **
Listing Status	6.4282	3.3453	0.062 ***
cons	4.7532	2.2525	0.041
Number of observations		41	
F stat		6.9	
Prob > F		0.0028	
R-squared		0.2527	

*This table shows the regression estimates of the equation: Score =ά + ß1 (size) + ß2 (listing status). ***, ** and * indicate the significance at the 1, 5 and 10 percent levels respectively.*

The results of Model 2 presented in Table 8 indicate that the removal of these variables doesn't affect the quality of adjustment. We see a 25.27 percent of R-squared adjustment. In this new model, the size variable is always statistically significant at the 5 percent, but the listing status variable is now statistically significant at 10 percent.

CONCLUSION

The goal of this research was to determine the intensity with which companies use the internet as a vector of Corporate Social Responsibility (CSR) communication and to identify the determinants of this level of communication through the web. Our study examines 41 companies that are members of Business and Society Belgium (ABSB), communicating in French on their website.

In order to reach our research objectives we used a scoring on the first step and the ordinary least squares (OLS) method on the second step. We first observed the websites of our companies and developed an analysis grid. We thus obtained a score for each firm included in our study. We then tried to identify the determinants of the financial communication score obtained by means of a regression.

Our literature review combined with our analysis establishes a classification of our sample's companies. This classification allows us to identify the most active companies in term of CSR communication. To do so, they use the various opportunities of communication offered by the Internet, but not always in a very complete way. This classification also allowed us, according to 4 categories of our analysis (accessibility – sustainable contents related to the company - promotion of sustainable action - ergonomics and interactivity), to highlight the strategic elements which companies emphasized in their CSR communication.

Our results emphasized that the used vocabulary in the accessibility section was not similar and that few firms dedicate a homepage to CSR. For the second category, although the business sector of the company seems to influence these communication topics, the environment is the favorite topic of the sample companies. However press releases regarding CSR are very present, this doubtless indicates a companies willingness to communicate on their respective involvement.

The promotion of sustainable actions seems to be least used by companies. Finally the fourth section is set aside by the communication strategies of our sample. We notice a very low use of the interactivity tools offered by the Internet. This analysis of implemented strategies in the various companies fills modestly the gaps on CSR practices, which were little studied in the previous research.

The results show that size of the company has a positive impact on the CSR communication score consistent with hypothesis 1, which indicates that bigger companies will communicate more CSR elements through their websites than other firms. Listing status also has a positive impact on CSR communication level trough the web, confirming the second hypothesis. This study doesn't allow us to confirm the influence of firm age, profitability and membership in the industrial of IT sector.

This study has several limitations. First, the period of study is a single year. Longitudinal studies would provide additional insights. Secondly the sample could be bigger. The 41 firms used here is however useful for a first study. We also have to moderate our conclusions as far as the methodology used in this research. We have focused our analysis on the Internet tool and ignored other media used by companies. If we had integrated other media, our classification could be different. Media act in synergy to strengthen the message, a point not considered in the analysis here.

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INTERNATIONALIZATION IN TAIWANESE FAMILY FIRMS

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ABSTRACT

This paper studies the corporate internationalization decision of family firms and the effect of family ownership on internationalization. Using a panel data set of manufacturing firms listed on the Taiwan Stock Exchange during 2000–2007, the empirical results indicate that internationalization is positively and significantly related to family firms and family ownership. The findings suggest that, compared with non-family firms, family firms are more likely to internationalize. Additionally, compared with firms with lower family ownership, firms with higher family ownership are more likely to go international. The evidence is consistent with the argument that family firms may confer some unique features, and these features enable them to undertake risky, but profitable, internationalization.

JEL: F23; G32; G34

KEYWORDS: Family firms, family ownership, family board of directors, internationalization.

INTRODUCTION

The decline in barriers to trade and investment and the use of efficient communication technology and transportation have greatly improved opportunities for a company to do business anywhere and with anyone. Although internationalization is associated with a set of benefits, it also comes with many challenges and threats. Therefore, firms frequently face a dilemma regarding whether or not to internationalize. Accordingly, it is worthwhile to identify factors that influence a firm's decision to internationalize.

Family firms have been recognized as an important organizational structure in both developed and developing economies (Chu, 2009). In particular, family influence is substantial in Asian countries. Nevertheless, the corporate internationalization decision of family firms in Asian countries has not been explored in depth. This paper is particularly interested in investigating the internationalization decision of family firms and the effect of family ownership on internationalization in Asian countries.

Among the extant research, some scholars have suggested that family firms possess a set of unique features, including natural alignment of interests between family managers and the firm (Tsai, Hung, Kuo, and Kuo, 2006), intensive communication and enduring information sharing among family members (McCollom, 1988; Zahra, 2003), the capability to respond to rapid changes and challenges in international marketplaces (Fernandez and Nieto, 2006), and the ability to access important resources (Miller and Le Breton-Miller, 2006). These unique features may reduce the probability of failure during the internationalization process. Therefore, the willingness of family members to internationalize may be increased, which may enhance the firm's competitiveness and achieve long-run profitability. On the other hand, some scholars have argued that family firms tend to be risk-averse and have limited resources, and therefore may not attempt to undertake risky and costly internationalization (e.g., Fernandez and Nieto, 2005; Sapienza, Autio, George and Zahra, 2006). As the results of the extant studies are inconclusive, this paper aims to clarify this issue by examining the internationalization decision of family firms and the effect of family ownership on internationalization.

This paper explores the corporate internationalization decision of family firms and the effect of family ownership on internationalization. Conducting a two-way fixed-effects approach to analyze a panel data set of manufacturing firms listed on the Taiwan Stock Exchange (TSE) during 2000–2007, the empirical results indicate that internationalization is positively and significantly associated with family firms and family ownership. The findings thus suggest that, compared with non-family firms, family firms are more likely to internationalize. Additionally, compared with firms with lower family ownership, firms with higher family ownership are more likely to go international. This phenomenon implies that family firms possess some unique features that favor internationalization and consequently increase the likelihood of success in internationalization, which in turn increase family members' willingness to expand internationally.

The remainder of the paper is organized as follows: the second section discusses the benefits and costs of internationalization and lays out the arguments of the hypotheses; the third section describes the sample, variables and methods; the fourth section reports the empirical results; and the conclusions of this paper are contained in the fifth section.

LITERATURE REVIEW

The Benefits and Costs of Internationalization

Internationalization comes with both benefits and costs. In terms of benefits, internationalization may achieve economies of scale and scope (Lu and Beamish, 2004), make domestic products available in international markets (Cullen and Parboteeah, 2005), reduce revenue fluctuations by spreading investment risks over different countries (Kim, Hwang and Burgers, 1993), and enhance revenues by increasing the market power (Miller, 1992). Accordingly, internationalization may be recognized as a necessary and valuable strategy to increase a firm's competitiveness and enhance long-run profitability (Graves and Thomas, 2008).On the other hand, the costs associated with internationalization come from (1) unfamiliarity with environments and cultural, political and economic differences (Lu and Beamish, 2004); (2) coordination difficulties, incentive misalignment and information asymmetry between headquarters and subsidiaries (Zaheer, 1995); and (3) substantial investments such as facilities procurement and installation, and recruitment and training of qualified staff (Lu and Beamish, 2004). Accordingly, internationalization is considerably risky and costly because it involves various challenges, threats and investments during the process.

The coexistence of benefits and costs means that firms frequently face a dilemma regarding whether or not to go international. As family firms have been recognized as an important organizational structure and have a substantial influence on the development of national economies (Chu, 2009), this paper is particularly interested in investigating the internationalization decision of family firms and the effect of family ownership on internationalization.

The Positive Effect of Family Firms on Internationalization

Some scholars have suggested that family firms possess a set of unique features including natural alignment of interests (Tsai, Hung, Kuo, and Kuo, 2006), information sharing among family members (McCollom, 1988; Zahra, 2003), flexibility and speedy decision-making (Fernandez and Nieto, 2006), and access to resources (Miller and Le Breton-Miller, 2006). These features may affect internationalization positively. First, family members generally serve as CEOs and/or other top managers in family firms and as such may create a natural alignment of interests between family managers and the firm (Lansberg, 1999). Family managers tend to be profit-oriented and undertake profitable investments. Internationalization may achieve a firm's competitiveness and enhance long-run profitability (Graves and Thomas, 2008); therefore, family managers may opt for internationalization despite its associated risks and costs.

Second, intensive communication and enduring experiences and knowledge-sharing among family members pervade family firms (McCollom, 1988). Family members therefore have a better understanding of organizational objectives and consequently promote a willingness to support risky investment activities. With family support, family managers are more likely to pursue risky, but profitable, international expansion (Zahra, 2003).

Third, decision-making in family firms is centralized, suggesting flexible and speedy decision-making. Internationalization requires today's companies to respond to markets at an increasingly faster pace (Ruzzier, Hisrich, and Antoncic, 2006). The characteristics of flexibility and speedy decision-making of family firms enable them to respond to many rapid changes and challenges in international marketplaces (Fernandez and Nieto, 2006) and consequently reduce the risks associated with internationalization, which in turn increase the willingness of family members to internationalize.

Finally, family members may actively develop and sustain long-term relationships with outside connections, such as buyers, suppliers and capital providers, which provide access to resources. For instance, family firms generally build a close relationship with banks and as such may facilitate access to bank capital (Miller and Le Breton-Miller, 2006). As internationalization involves substantial investment in procuring and installing facilities and recruiting and training qualified staff (Lu and Beamish, 2004), access to bank capital may enable family firms to accumulate the financial capital needed for internationalization.In summary, with profit orientation, information sharing among family members, flexibility and speedy decision-making and the ability to access resources, family firms are more likely to internationalize. Therefore:

H1a: Compared with non-family firms, family firms are more likely to go internationally.
H2a: Family ownership has a positive influence on the corporate decision to internationalize.

<u>The Negative Effect of Family Firms on Internationalization</u>

On the other hand, some scholars have argued that family firms confer some disadvantages, such as a risk-averse propensity and an unstructured nature, which may affect internationalization negatively (e.g., Fernandez and Nieto, 2005; Graves and Thomas, 2006). With undiversified investments and a desire to pass the business on to their offspring, family members are considered risk-averse (Graves and Thomas, 2006) and may mainly focus on firm stability and survival (Lee, 2006). From this viewpoint, Chen and Hsu (2009) argue that family members have a conservative attitude towards risky investments and find a negative relationship between family ownership and risky investment in R&D. Internationalization exposes firms to environmental and organizational uncertainties and thus is associated with variable outcomes. To protect their family's wealth, as well as to build an enduring legacy for succeeding generations, family members may opt not to invest in risky international expansion that may jeopardize firm viability.

The conservative and unstructured nature of family firms may impede them in amassing the capabilities and resources necessary for internationalization (Davis, 1983; Ward, 1988). Decision-making in family firms is centralized with little horizontal differentiation and formalization, unclear lines of authority, informal control and poorly-developed information systems (Fernandez and Nieto, 2006). Entering the international marketplace, which consists of different cultural, economic and political systems, is definitely more complicated and demanding (Gomez-Mejia, 1988), and thus requires more complex structures, formal control and decentralization (Fernandez and Neito, 2006). However, the above requirements such as decentralization are considered by family members as a loss of control (Ward, 1988). With a centralized organizational structure, family firms may not be able to respond to the challenges and threats in international marketplaces quickly, and that consequently increases the risks associated with internationalization. As a result, family members are less likely to internationalize.

Family members have the desire to maintain the family's independence and control, and therefore may tend to rely on firm-generated family resources or funds financed from institutions (Chen and Hsu, 2009). With limited access to financial resources, family members are less likely to commit money to international expansion, which requires significant financial availability (Cullen and Parboteeah, 2005) to support facility procurement and installation and the recruitment and training of qualified staff (Lu and Beamish, 2004).

Additionally, family firms generally prefer to appoint family members to managerial positions instead of hiring more qualified outsiders (Weidenbaum, 1996), which in turn may lead to a low level of qualified professional managers who can handle the complexities brought about by international expansion (Dyer, 1989). Graves and Thomas (2006) indicate that, compared with non-family firms, family firms have fewer professional managers as they expand internationally. In summary, with a conservative attitude towards risky investments and limited access to financial and human resources, family firms are less likely to internationalize. Therefore:

H1b: Compared with non-family firms, family firms are less likely to go international.
H2b: Family ownership has a negative influence on the corporate decision to internationalize.

EMPIRICAL SETTING

<u>Sample</u>

A panel data set of TSE-listed firms during the period 2000–2007 is used to examine the internationalization decision of family firms and the effect of family ownership on internationalization. To be included in the study sample, an observation must satisfy all the following requirements: (1) the firm was continuously listed on the TSE during 2000–2007; (2) fiscal year-end is on December 31; and (3) all the required accounting data are available. The dependent variables (from 2001-2007) are regressed against the independent and control variables (from 2000-2006), which ensures that the direction of causality is from family ownership to internationalization and not the reverse (Lee and Park, 2008), and allows ownership and governance features time to reveal their impacts on strategic choices (Chen and Hsu, 2009). Therefore, the final sample consists of 1,512 usable observations (216 firms x 7 years). The study data are gathered from Taiwan Economic Journal (TEJ) Data Bank, and include family ownership, family board of directors, established date, the number of foreign subsidiaries, the total number of subsidiaries and financial status.

<u>Variables</u>

This study employs one widely-used measure of internationalization: the number of foreign subsidiaries divided by the total number of subsidiaries as the dependent variable (Sullivan, 1994; Tallman and Li, 1996; Sanders and Carpenter, 1998; Tihanyi, Johnson, Hoskisson and Hitt, 2003).

The independent variable of this study is measured by two methods. First, a dummy variable, FB, is classified as a family firm (=1) if a firm has more than 5% family shareholdings and has at least one family member on the board of directors; otherwise, it is classified as a non-family firm (=0) (Chu, 2009). Second, a numerical measure of family ownership is calculated as the number of shares of all classes held by the family divided by the total shares outstanding (Litz, 1995; Zahra, 2003). The numerator is the sum of family personal shareholding, family unlisted company shareholding, family foundation shareholding, and family listed company shareholding.

Four firm-level control variables are used in the analyses to account for alternative determinants of internationalization. Total assets, logged to correct for skewness, are included as a measure of firm size (Lee and O'Neill, 2003). Firm age is measured as the natural log of the number of years a firm has been in existence (Chen and Martin, 2001). Past performance is calculated as the ratio of net income to total equity (Zahra, 2003). Leverage is the ratio of total debt to total assets (Chen and Huang, 2006).

ANALYSIS

Two-way fixed-effects regression analysis is used to test the hypotheses. A two-way fixed-effects approach is preferred because it controls for unobservable firm characteristics (Frye, 2004; Kor, 2006) and time effects (Chen and Hsu, 2009). The regression equations below are used to test the internationalization decision of family firms and the effect of family ownership on internationalization:

$$\text{Internationalization}_{it} = \beta_0+\beta_1 (\text{FB})_{it-1}+\beta_2(\text{ControlVariables})_{it-1}+\varepsilon \quad (1)$$

$$\text{Internationalization}_{it} = \beta_0+\beta_1 (\text{FamilyOwnership})_{it-1}+\beta_2(\text{ControlVariables})_{it-1}+\varepsilon \quad (2)$$

where Internationalization is the number of foreign subsidiaries divided by total number of subsidiaries; FB is a dummy variable (family firm = 1, non-family firm = 0); family ownership is the number of shares of all classes held by the family divided by the total shares outstanding; and Control Variables include firm size, firm age, past performance and leverage.

EMPIRICAL RESULTS

Table 1 provides a summary of industry representation by the sample firms. As shown in the table, the final sample of 216 firms spans 18 different industries, among which, there is a certain profusion of electronics firms. Additionally, the rubber industry achieves the highest internationalization level of 88.87%, while the oil, gas and electricity industry has no foreign subsidiaries.

Table 1: Number and Proportion of Firm and Internationalization Level by Industry Classification

Industry	Number of Firms	Percentage of Firms (%)	Internationalization (Number of Foreign Subsidiaries/Total Number of Subsidiaries, %)
Cement	5	2.31	19.01
Foods	8	3.70	37.09
Plastic	6	2.78	37.63
Textile	18	8.33	29.33
Electric Machinery	16	7.41	46.47
Electrical and Cable	8	3.70	34.87
Chemical and Biotech	9	4.17	44.60
Glass and Ceramics	2	0.93	41.41
Paper and Pulp	3	1.39	24.79
Iron and Steel	9	4.17	22.05
Rubber	3	1.39	88.87
Automobile	3	1.39	19.80
Electronics	84	38.89	57.25
Building and Construction	9	4.17	5.63
Ship and Transportation	8	3.70	30.14
Trading and Consumer	5	2.31	27.92
Oil, Gas and Electricity	2	0.93	0.00
Others	18	8.33	33.80

Number of Firms=216.

The means, standard deviations and Pearson product-moment correlations of the variables are presented in Table 2. The average internationalization, FB and family ownership are 42.18%, 0.96 and 27.90%, respectively. Additionally, the matrix shows that there is one significant correlation between past performance and leverage (0.41), suggesting that a degree of multicollinearity may exist between these two variables. Therefore, the variance inflation factors (VIF) of independent and control variables are calculated to test for the effects of multicollinearity. The highest VIF is 1.26, thus suggesting that multicollinearity is not a problem in the analyses.

Table 2: Means, Standard Deviations and Correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7
1. Internationalization (in %)	42.18	29.67	--						
2. FB (in dummy)	0.96	0.21	0.02	--					
3. Family Ownership (in %)	27.90	15.91	-0.03	0.32***	--				
4. Firm Size (in log)	6.95	0.53	-0.14***	-0.10***	-0.16***	--			
5. Firm Age (in log)	1.42	0.19	-0.25***	0.14***	0.19***	0.15***	--		
6. Past Performance (in %)	5.32	17.70	0.14***	0.00	0.06*	0.09***	-0.08***		
7. Leverage (in %)	40.04	15.11	-0.13***	0.08**	0.05	0.10***	0.15***	-0.41***	--

*Number of Firms=216. ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

Presenting the regression result of Model 1, Table 3 indicates that internationalization is significantly and positively associated with FB (t-statistic = 3.44). This finding lends support to hypothesis 1a and suggests that, compared with non-family firms, family firms are more likely to internationalize. The regression result of Model 2 presented in Table 3 indicates that internationalization is significantly and positively associated with family ownership (t-statistic = 3.09), a finding that lends support to hypothesis 2a and suggests that compared with firms with lower family ownership, firms with higher family ownership are more likely to undertake risky internationalization. The evidence is consistent with the argument that family firms may possess some unique features that enable them to expand internationally (Zahra, 2003).

Table 3: Results of Regression Analysis

Variables	Internationalization	
	Model 1	**Model 2**
Constant	184.35*** (7.06)	170.70*** (6.37)
Independent Variables		
FB (in dummy)	7.11** (3.44)	
Family ownership (in %)		0.14** (3.09)
Control Variables		
Firm Size (in log)	-16.93*** (-5.75)	-15.06*** (-5.05)
Firm Age (in log)	-24.37 (-1.62)	-21.79 (-1.44)
Past Performance (in %)	0.05 (1.91)	0.04 (1.72)
Leverage (in %)	0.07 (1.78)	0.07 (1.65)
Adjusted R^2 (in %)	88.31	88.29
F value	51.50***	51.39***

*Two-tailed coefficient tests. Number of Firms = 216. Standardized coefficients are presented with standard errors in parentheses. ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

The sensitivity of the control variables is tested for different measurement results. Firm size is measured as the log of the number of employees (Fernandez and Nieto, 2006). Past performance is the return on assets (Chu, 2009). Leverage is measured as log[Leverage/(1-Leverage)], where leverage is the ratio of the book value of total debt to the market value of the equity and book value of debt (Balakrishnan and Fox, 1993). This unreported analysis also yields results similar to those presented in Table 3.

CONCLUSION

This paper examines the internationalization decision of family firms and the effect of family ownership on internationalization by conducting a two-way fixed-effects analysis of a panel data set of TSE-listed manufacturing firms during 2000–2007. The empirical results indicate that internationalization is positively and significantly related to family firms and family ownership. The findings suggest that, compared with non-family firms, family firms are more likely to internationalize. Additionally, compared with firms with lower family ownership, firms with higher family ownership are more likely to go international. The evidence is thus consistent with the argument that family firms may confer a set of unique features that enable them to undertake risky, but profitable, investments such as internationalization.

This paper has some limitations and thereby provides opportunities for further research. One avenue of research would be to investigate the corporate governance of other ownership structures, such as small and medium enterprises. Furthermore, the findings are based on the unique context of firms in Taiwan – other useful studies could be undertaken in Asian countries to compare the results with those reported here. Moreover, further research could use different measures of international expansion such as entry modes (e.g., wholly-owned subsidiaries and joint ventures), if such data are available. Finally, the findings of this study may hold in some industries better than others. Future studies can be enriched by examining this issue by industry if researchers were able to employ alternative research designs and data-collection methods to obtain more observations for each different industry.

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STRATEGIC INVESTMENT IN TAIWAN CHAIN AND FRANCHISE STORES: A REAL OPTIONS AND GAME-THEORETIC APPROACH

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ABSTRACT

The purpose of this study is to examine and demonstrate the strategic investment decisions faced by Taiwan's chain and franchise store enterprise. We show that incorporating an abandonment option to strategic timing in a game-theoretic real option approach makes the approach more complete and accurate. The results show that the chain and franchise store industry favors large companies, a finding consistent with economies of scale. The demonstration also provides practitioners a step-by-step guideline for analyzing dynamic investment strategy in the chain and franchise store industry.

JEL: G31

KEYWORDS: Abandonment option; Chain and franchise store; Game-theoretic real options.

INTRODUCTION

The chain and franchise store industry has grown rapidly in Taiwan. Based on statistics from Association of Chain and Franchise Promotion Taiwan (2009), there are 27,833 regular chain stores, and 79,422 franchise chain stores in 2008. There are over 300 member franchisers in more than 180 different trade lines, running 30,000 franchised stores with over 200,000 employees, generating up to NT$600 billion annually. Moreover, Taiwan's chain and franchise store companies are reorganized internationally. They build brands and compete with international brands. Therefore, to be an international enterprise, the most important problem faced by a chain and franchise store company is how to evaluate investment values under uncertain situations.

It is often stressed that real option theory is best used to analyze problem of strategic investments. However, traditional real options analysis only applies to proprietary investment projects. See, for example, Dixit and Pindyck (1994). This occurs because it ignores the interaction effects of competitor moves. Many academicians and practitioners integrated game theory into a real option approach, resulting in decision-making that involves not only nature but competitor actions. Among others, Smit and Ankum (1993) analyzed project timing in production facilities. Grenadier (1996) applied game-theoretic real options in real estate investment. Weeds (2002) studied strategic delay in a research and development competition context. Smit and Trigeorgis (2007) demonstrated strategic options and games in analyzing the option value of technology investments.

Each of these works improve the quality of project decision-making faced by managers. However, most studies do not consider abandonment options in dealing with investment timing. For example, the works of Smit and Ankum (1993) and Smit and Trigeorgis (2007) only explore decisions of waiting to invest. In their game-theoretic extensive form, the branch stops when both firms invest. For most investment opportunities, each firm can decide not only when to invest, but when to abandon if the investment is made. The investment value is underestimated without considering abandonment options in the game-theoretic real options approach. Therefore, this study examines not only investment timing decisions, but the abandonment timing decision.

The goal of this study is to examine and demonstrate the strategic investment decisions faced by the chain and franchise store companies, by incorporating abandonment options to strategic timing in a game-theoretic real option approach. The chain and franchise store industry in Taiwan is competitive. A manager must incorporate impacts of anticipated competitive erosion in investment decisions. Besides, the retail market is highly variable, resulting in large uncertainty in expected market values. Therefore, the game-theoretic real option approach is best to analyze the problem of timing investment in the industry. Following the work of Smit and Ankum (1993), two players with unequal market power are examined in a three-period game.

The results show the chain and franchise store industry favors large companies consistent with economies of scale. A company with larger market power can sustain a declining market much longer than its smaller competitor. Therefore, if a small firm enters a local market, larger firms will enter the same market in next period even if the market doesn't grow. On the contrary, if a large firm had invests first, small firms won't enter the market in next period without market growth. This makes the bigger firm bigger by gathering more market share.

In the next section will review the related literature. We discuss the methodology of game-theoretic real option approach and analyze timing investment strategy in chain and franchise stores. Some concluding remarks are provided in the final section.

LITERATURE REVIEW

Irreversible investment decisions are characterized by uncertainty and choice about the timing of the investment. Initially, the uncertainty and choice are solved by a real option approach. This is because there are several limitations with regard to the characteristics of irreversibility when net present value (NPV) valuation is applied as noted by Copeland and Antikarov (2003). NPV valuation can't deal with uncertainty and resulting managerial flexibility. It ignores the value of a manager's options. This leads to underestimation of a project's value.

The decisions on irreversible capital investment problems under uncertainty have been improved considerably by real options. McDonald and Siegel (1986) pioneered the real option approach in deciding when to invest. The problem of waiting to invest is expanded to included interest rate uncertainty by Ingersoll and Ross (1992). Specific types of real option approaches have been modeled extensively. Kulatilaka and Trigeorgis (1994) and Grinyer and Daing (1993) modelled the option to abandon. Pindyck (1988) and Kester (1984) worked on the growth option. Childs, Riddiough, and Triantis (1996) discussed the problem of switch inputs and outputs. Hodder and Riggs (1985) and Smit (1997) examined staged investment problems. Much of the literature stresses the similarity between a financial call option and the invest opportunity in a real asset. As a result, the investment problem can be solved by typical valuation of an American option. Dixit and Pindyck (1994) and Trigeorgis (1996) provide excellent surveys of the related valuations and applications.

The real option approach has been applied to many areas, such as natural resources, real estate, manufacturing, research and development, labor force, inventory, venture capital, merge and acquisition, and advertising, etc. See, e.g. the survey of Lander and Pinches (1998). However, the real option approach ignores the feedback of a competitor's move. Smit and Trigeorgis (2006) pointed out that managers have the flexibility to delay investment decisions so that new information is revealed and invest only when the investment is profitable from a real option perspective. However, from the game perspective, it is not advisable to delay investment because the firm doesn't earn early cash flows and loses competitive advantage owing to competitor moves. Therefore, many academics, e.g.,Weeds (2002), suggested a game-theoretic real option approach should be applied when there is an option value of waiting and when the option value is affected by competitor moves.

Leahy (1992) discovered that competitive firms make optimal entry decisions even if they moved myopically. Smit and Ankum (1993) used economic rent to explore investment timing strategy faced by duopoly firms. The simultaneous moves of game theory are extended to sequential moves by Butterfield and Pendegraft (2001). Grenadier (2001) analyzed firm strategy under uncertain situations by game-theoretic real option approach. He considered the investment in real estate under ologopoly first. Then, he analyzed the investment in an oil field under asymmetric information. Smit and Trigeorgis (2007) detailed a firm's decision about when to invest. Smit and Trigeorgis (2006) provided many examples involving important competitive/strategic decisions under uncertainty.

METHODOLOGY

An unequal market power for two competitors (A and B) is examined. The market share is three-fifths versus two-fifths. The chain and franchise store in Taiwan is easy to enter or exit, resulting a competitive industry. However, some firms have superior management ability, and invest more resources in information technology. This gives these firms a competition advantage. Moreover, the scale of economy is significant in the industry. The more stores you invest in, the lower your costs. For example, the chain stores of President Chain Store Corporation exceed 4,000, which are much more than other competitors. Therefore, President Chain Store Corporation has economies in transportation cost, purchase price, advertisement, and human resources management. As a result, it achieved more market share than its competitors. The most important decision in a chain and franchise' company is when to invest in a local market. If a specific firm has monopoly power in the market, then we can apply the real option approach to solve the problem of when to invest. However, as mentioned before, the chain and franchise store market is a competitive industry. Any firm in this industry takes not only the market's growth into account, but the competitor's move. Consequently, the game-theoretic model needs to be included in a real option approach. The game-theoretic real option approach had been studied and applied in many studies, e.g., the works of Smit and Ankum (1993) and Smit and Trigeorgis (2007). This paper will extend their work to study strategic investment in the chain and franchise store industry.

The example presented in Smit and Ankum (1993) can be applied to analyze strategic investment decisions faced by a chain and franchise store firm. There are two players (A and B) in a three-period game. Smit and Ankum (1993) depicted an extensive form to show the two-player actions and their investment value pairs. When both players invest immediately, the branch of the extensive form closes. This is because they didn't consider the abandonment option. We extend the investment branch to allow both players have the option to shut down. This is important becuase a chain and franchise store can easily close a retail store. To compare the work of Smit and Ankum (1993), the next market cash flow and present value are assumed to increase 50% ($u = 1.5$), or decline 66% ($d = 0.66$), the risk-free rate is 10% ($r = 0.1$,) and investment outlay requires 50 ($I = 50$). The variation of market values comes from the fact that the chain and franchise stores compete not only with each other, but also with other potential competitors, such as an electronic commercial network or department stores. In addition, variation may come from a customer's purchasing power or wholesale price.

The dynamics of market cash flow present value is assumed to followed binomial process, which is shown in Figure 1. The present value of market cash flow is assumed to be 100 ($V_0 = 100$), and market cash flow is 10% of present value in each period. The market cash flow likes dividends in a financial stock option.

The investment value (V) would be

$$V = [CF_1 + R_1]/(1+r) - I, \tag{1}$$

when player abandons at end of stage 1,

$$V = CF_1/(1+r) + [CF_2 + R_2]/(1+r)^2 - I, \tag{2}$$

when player abandons at end of stage 2, and

$$V = CF_1/(1+r) + [CF_2 + V_2]/(1+r)^2 - I, \tag{3}$$

when player continues to stay beyond stage 2. In the above calculation, CF_t denotes cash flow at stage

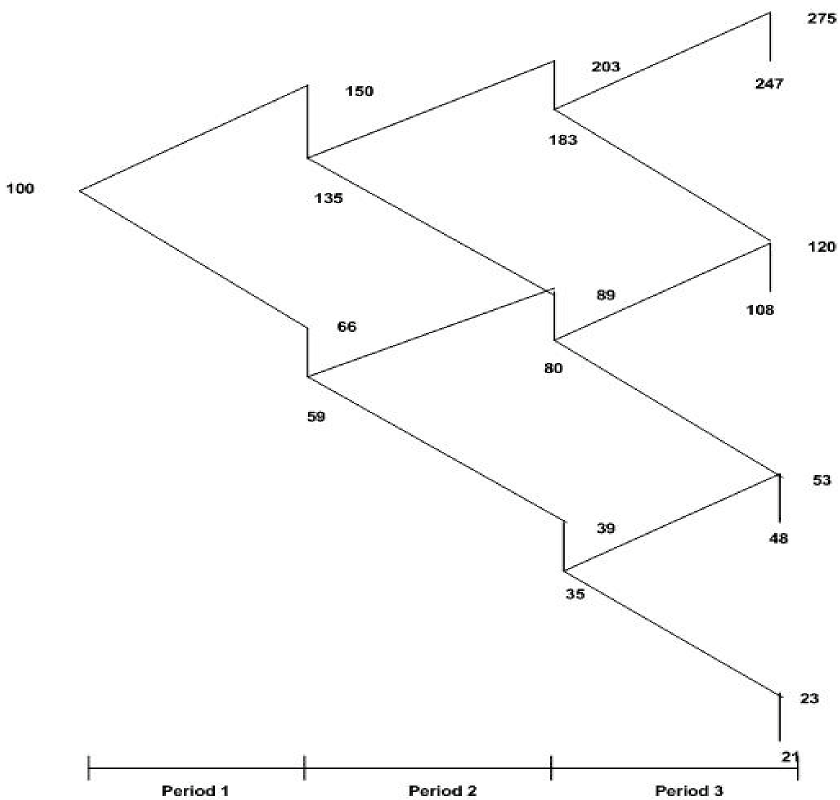
t, r denotes risk-free rate, R_t represents salvage value at stage t, I denotes investment outlay , and V_2 is expected investment value at state 2.

The expected investment values of player A and B come from the calculation:

$$V_A = p \times V_{u,A} + (1-p) \times V_{d,A}, \quad V_B = p \times V_{u,B} + (1-p) \times V_{d,B}, \tag{4}$$

where $p = (1+r-d)/(u-d) = (1+0.1-0.66)/(1.5-0.66) = 0.52$ is neutral probability, μ, d are the incremental or decline percentage of market value, and $V_{i,j}$ denotes the investment value of player j when the nature goes up (μ) or down (d).

Figure 1: Dynamics of present value of market cash flow



The market cash flow and present value are assumed to increase 50% ($u = 1.5$), or decline 66% ($d = 0.66$) , and risk-free rate is 10% ($r = 0.1$). the present value is 100, and will increase to 150 or decline to 66 next stage. the second cash flow is equal to 15 (150 minus 135), or 7 (66 minus 59).

When both players invest immediately, the value of each player would be (10, -10) if market share is three-fifths versus two-fifths. That's because $V_A = 100 \times 3/5 - 50 = 10$, $V_B = 100 * 2/5 - 50 = -10$. Most investment outlays have salvage values in the subsequent periods. I assume that the original investment outlay has salvage value of 40 ($R_1 = 40$) and 30 ($R_2 = 30$) at end of stage 1 and 2, respectively. Each player can stop its investment to recover the salvage value if nature moves down. However, the market may sustain one player's operation even if nature moves down. The options to abandon between competitors become a game.

RESULTS

Both Players Invest Simultaneously in the First Stage

Figure 2 shows the value pairs for the two-player investment decisions. The extensive form only extends branch if both players invest simultaneously. In the two-stage game, each player can decide to abandon (a) at stage 2 or stage 3, or stay (s) beyond stage 3. When nature moves up at stage 1 and 2, the value pairs would be equal to (42, 39) if both players decide to stay at stage 1 and 2.

This is because $V_A = 15(3/5)/1.1 + 203(3/5)/1.1^2 - 50 = 59$,

$V_B = 15(2/5)/1.1 + 203(2/5)/1.1^2 - 50 = 23$.If nature moves up at stage 1 and moves down at stage 2, the value pairs of player A and B would be equal to $V_A = 15(3/5)/1.1 + 89(3/5)/1.1^2 - 50 = 2$ and $V_B = 15(2/5)/1.1 + 89(2/5)/1.1^2 - 50 = -15$.

The expected investment value of player A is $V_A = p \times V_{u,A} + (1-p) \times V_{d,A} = 0.52 \times 59 + 0.48 \times 2 = 31$, and B $V_B = p \times V_{u,B} + (1-p) \times V_{d,B} = 0.52 \times 23 + 0.48 \times (-15) = 5$.

The subgame perfect Nash equilibrium set of strategies can be reached by backward induction. Both players would stay if nature (N) moves up (u) at the early stage, and continue to stay no matter if nature moves up or down in the following stage. The expected value pairs would be (31, 5).

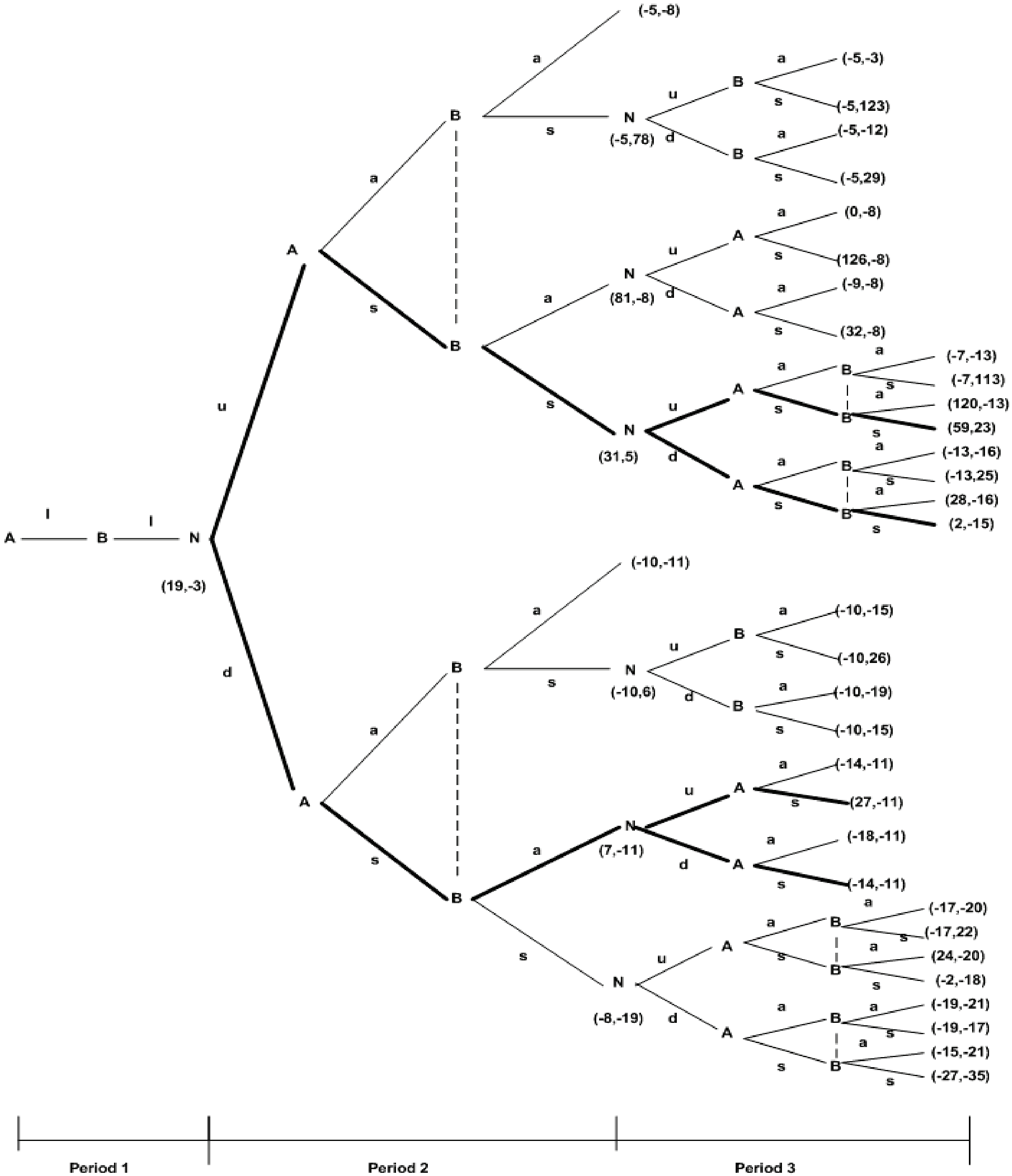
However, when nature moves down (d) at stage 1, the strategy equilibrium would be (stay, abandon) and the value pairs are (7, -11). The dominant strategy for player B is to abandon when nature moves down at the early stage. This is because player B seizes less market share than that of player A. If player B also continues to stay, player B would lose more (-19 < -11). Therefore, unless the market turns out to be large enough to support both players, the preferred strategy of follower B should be abandon.

The expected value of player A equals to $V_A = p \times V_{u,A} + (1-p) \times V_{d,A} = 0.52 \times 31 + 0.48 \times 7 = 19$, and B $V_B = p \times V_{u,B} + (1-p) \times V_{d,B} = 0.52 \times 5 + 0.48 \times (-11) = -3$. Based on the backward induction, the expected investment value pairs is (19, -3), which are larger than those without abandonment options (10, -10). Both players would receive a poorer outcome if they decide stay at the same time when the market turns out to be worse. One player can increase his value by abandoning investment, but the competitor seizes the whole market and result in a larger investment value.

Player A Invests While Player B Delays in the First Stage

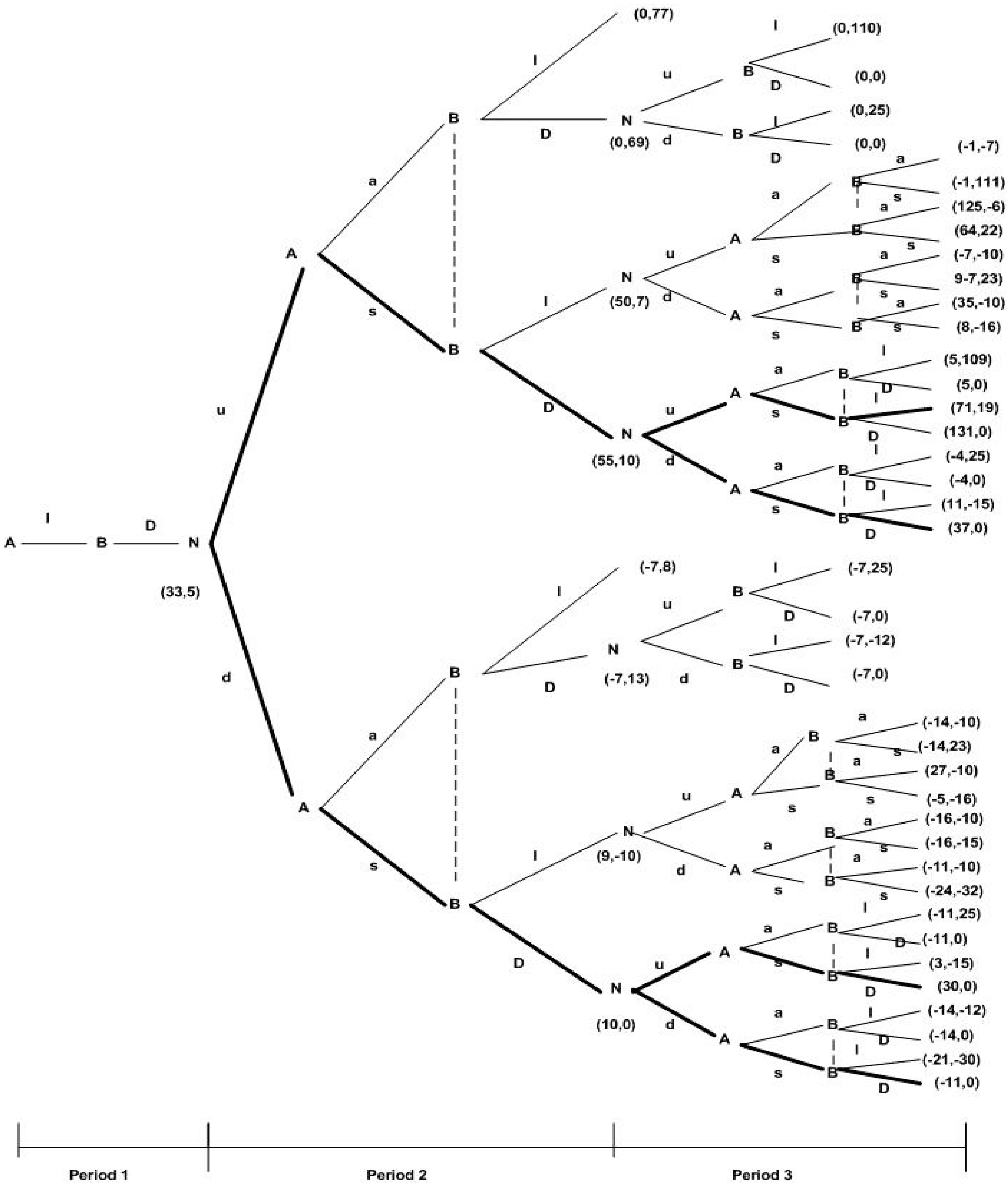
Next, I will discuss the example of a leader player A, who invests, while the follower player B delays in the first stage. Exhibit 3 presents the backward induction outcome. When the market turns out to be favorable in the early stage, player A will stay no matter what the market develops in the successive stage. Player B should delay in the second stage, and still delay if market doesn't goes up in the third stage. On the contrary, if the market goes up in the third stage, player B should invest. The subgame perfect Nash equilibrium set of strategies for the two players are (stay, delay) at second stage, resulting in value pairs (55, 10) When nature moves down in the early stage, the dominant strategy for player A is to stay beyond stage 2 no matter how nature moves in the following stage, while the dominant strategy for player B is still to delay. Therefore, unless the market turns out to be large enough to support both players, the preferred strategy of weak player B should be to delay. Based on the backward induction, the subgame perfect Nash equilibrium set of strategies for the two players are (stay, delay) at second stage, resulting in value pairs (10, 0). The expected investment value pairs is (33, 5), when player A invests while player B delays in the first stage.

Figure 2: Investment values when two players invest simultaneously.



Each player (A, B) can decide to abandon (a) at stage 2, stage 3, or stay (d) beyond stage 3. The nature (N) may move up (u) or down (d). The market shares of A and B are three-fifths and two-fifths. The values of both players (A, B) are shown in parentheses. The bold line shows the subgame perfect Nash equilibrium.

Figure 3: Investment values when player A invests while player B delays



Leader A can decide to abandon or stay at stage 2, stage 3, while follower B must decide to invest or still delay at stage 2 or 3. The nature (N) may move up (u) or down (d). The market shares of A and B are three-fifths and two-fifths. The values of both players (A, B) are shown in parentheses. The bold line shows the subgame perfect Nash equilibrium..

Player A Delays While Player B Invests in the First Stage

Exhibit 4 presents the backward induction outcome when player A delays while follower B invests in the first stage. When the market turns out to be favorable in the early stage, the subgame perfect Nash equilibrium set of strategies for the two players are (investment, stay) at second stage. The player B will stay beyond stage 2 no matter how the market develops in the successive stage. Player A should invest in the second stage, and stay beyond stage 2 even if the market moves down in the following stage. The value pairs of both players are (28, 13). The result is different than the above case when player A invests and player B delays, whose subgame perfect Nash equilibrium set of strategies are (stay, delay) at the second stage. When player B invests first, player A will invest immediately invest if nature moves up. However, if player A invests first, player B waits to see even if nature moves up in the second stage.

When nature moves down at the early stage, the dominant strategy for player B is to abandon, while player A is to delay at stage 2. In the third stage, player A should delay when the nature moves down still, but invest if the nature goes up in the successive stage. The subgame perfect Nash equilibrium set of strategies for the two players are (delay, abandon) in the second stage, resulting in value pairs (13, -7). Based on the backward induction, the expected investment value pairs of both player would be equal to (15, 12).

Both Players Delays in the First Stage in the First Stage

Finally, I examine the case of both player delays in the first stage. Exhibit 5 presents the backward induction outcome when the market turns out to be favorable in the early stage. Player A will invest and stay even if the market moves down in the successive stage. The player B should still delay in the second stage, and invest if the market goes up in the third stage. The value pairs of both players are (51, 5). The strategy of player B is similar to the case of leader A invests firstly while player delays in the first stage.

Figure 6 shows the backward induction outcome when nature moves down in the early stage. The dominant strategy for both players is to wait in the second stage. If the market turns out to be favorable in the third stage, player A would invest and player B would still delay. If the nature doesn't go up, both players should wait and see. Based on backward induction, the value pairs of waiting option are (13, 0). The expected investment value pairs of both players are (33, 3).

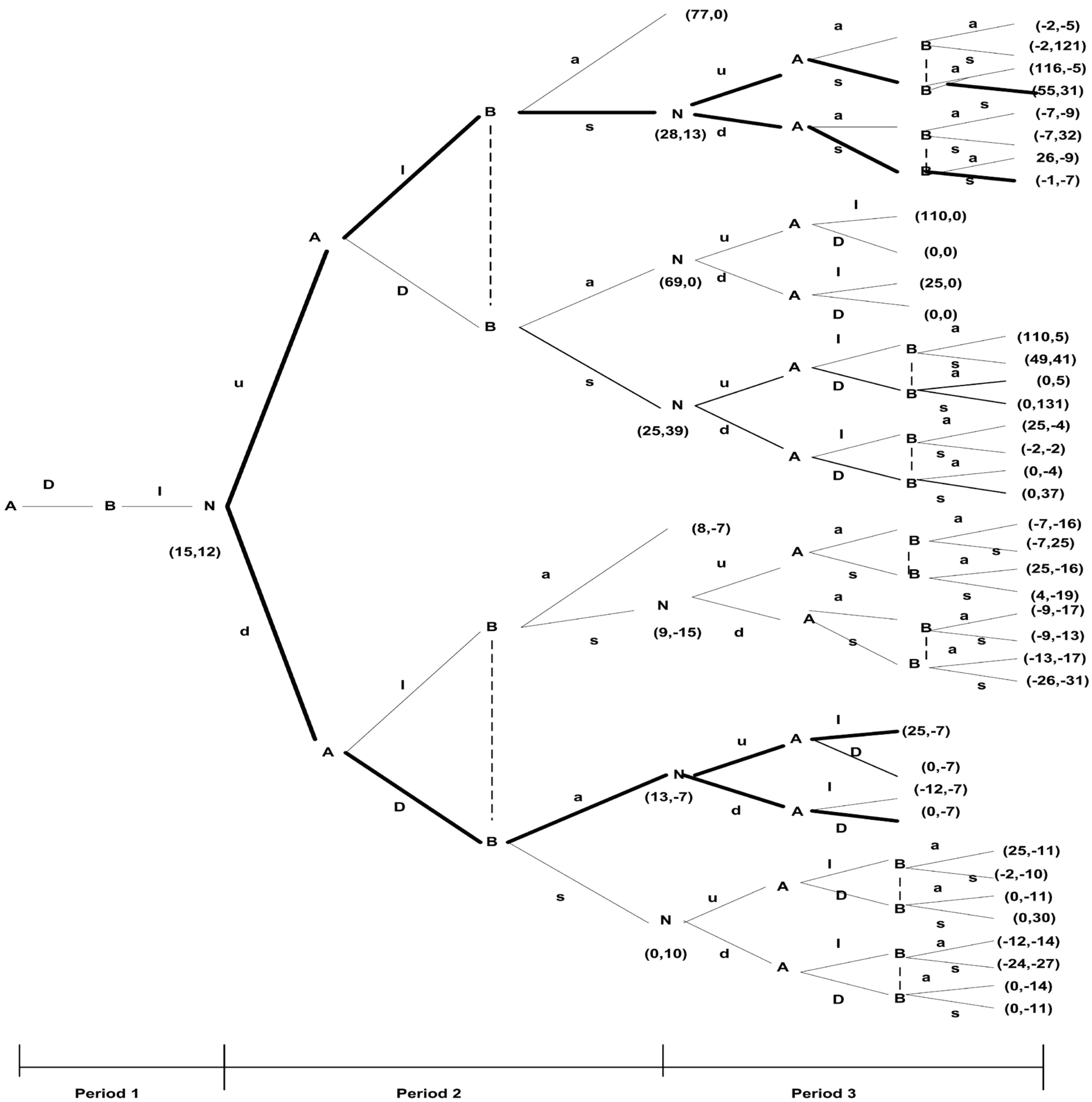
Strategic Investment Decision

Exhibit 7 shows the strategic investment decision for two players which have unequal market powers. The Nash equilibrium for the two players is a game of chicken. When player A invests, player B is better off by wait and see. When player B invests, play A should delay to see how the market moves. The value pairs are (15, 12) or (33, 5). The value of leader A is larger than follower B. This is because when follower B invests and leader A waits in the first stage, leader A will invest if market the goes up in the next stage. However, if the leader A invests first and follower B waits, follower B will still waits even if the market goes up in the second stage. The bigger a firm is, the bigger the firm becomes. In the competitive market, the scale of economics dominates the competitive advantage.

CONCLUSION

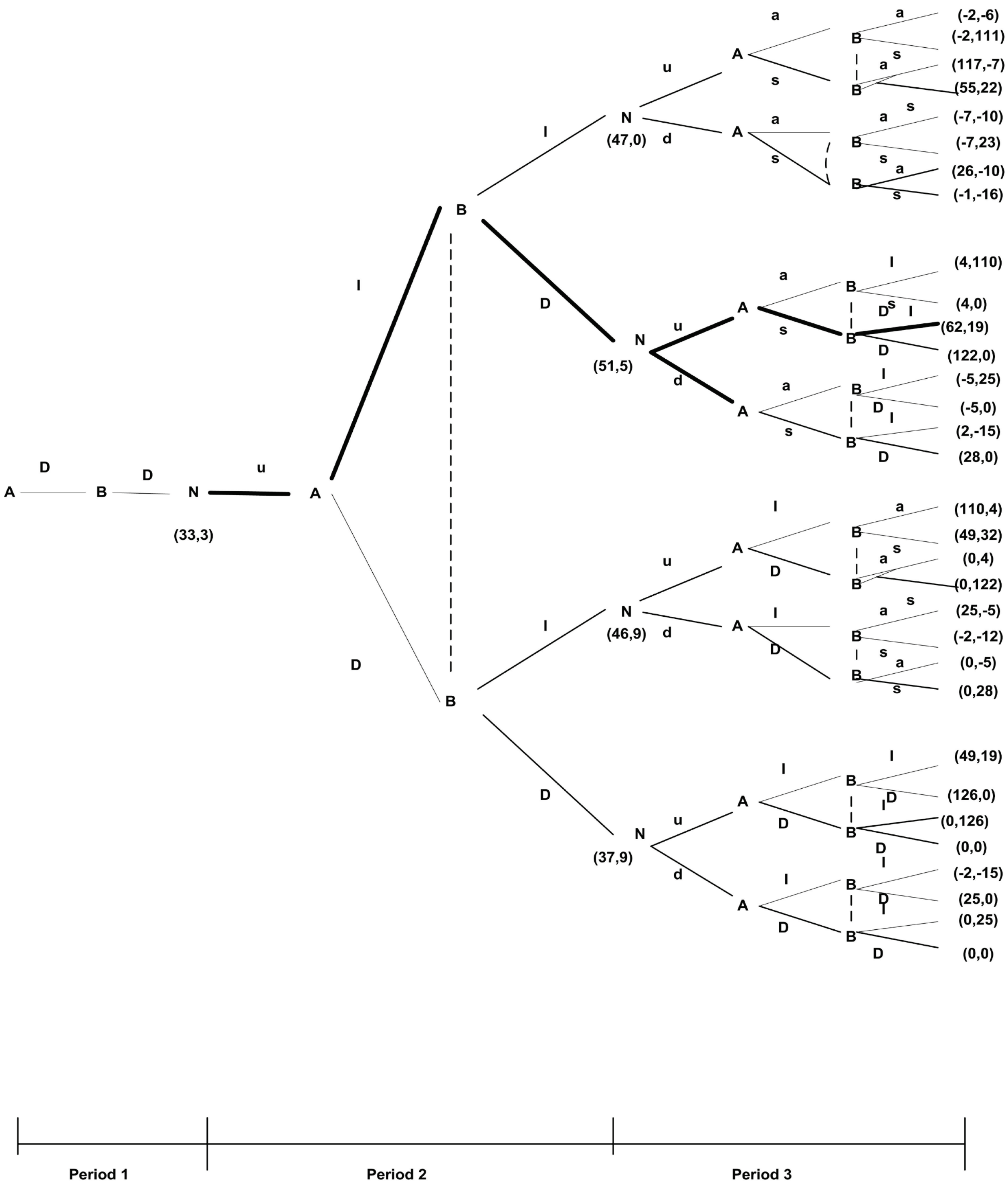
The chain and franchise store industry is very competitive in Taiwan. It becomes essential for a firm to be more flexible in their investment strategy. The purpose of this study is to examine and demonstrate strategic investment decisions faced by chain and franchise stores companies, by incorporating abandonment options to strategic timing in a game-theoretic real option approach. Each firm can decide not only when to invest, but when to abandon if he had invested. This paper incorporates an abandonment option to strategic timing in a game-theoretic real option approach, making the approach more complete and accurate. The example presented in Smit and Ankum (1993) is extended to analyze when to invest with the option to abandon. There are two players in a three-period game. By comparison to Smit and Ankum, the next market cash flow and present value are same as their work.

Figure 4: Investment Values When Player A Delays While Player B Invests



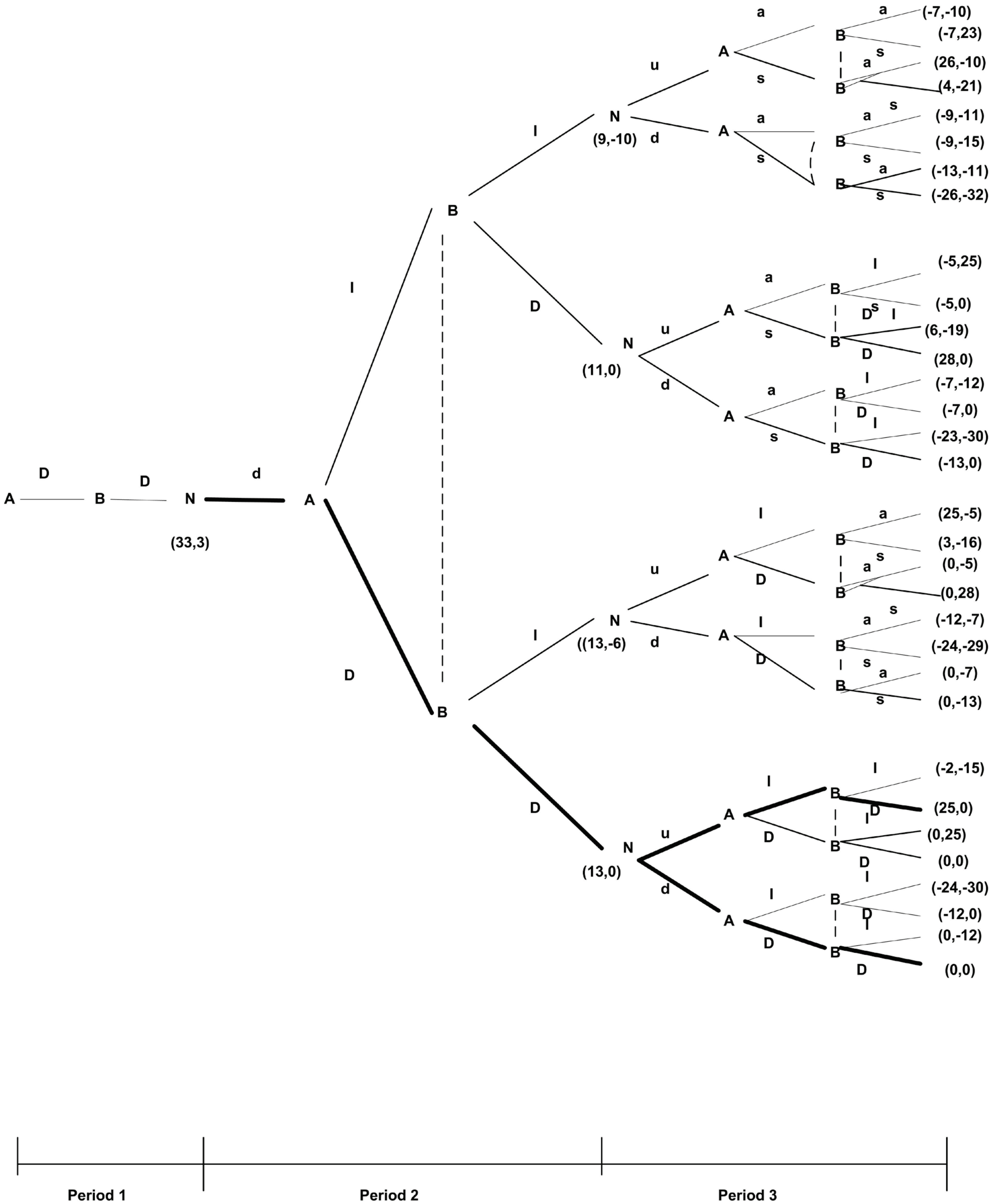
The extensive form extends branch of leader A delays (D) while follower B invests (I). Leader A must decide to invest or delay at stage 2, stage 3, while follower B can decide to stay (s) or abandon (a) at stage 2 or 3. The nature (N) may move up (u) or down (d). The market shares of A and B are three-fifths and two-fifths. The values of both players (A, B) are shown in parentheses. The bold line shows the subgame perfect Nash equilibrium.

Figure 5: Investment Values When Both Players Delay



The extensive form extends branch of both players delays (D). Both players decide to invest or delay at stage 2, stage 3. The exhibit only shows the time when nature (N) may move up (u). The market shares of A and B are three-fifths and two-fifths. The values of both players (A, B) are shown in parentheses. The bold line shows the subgame perfect Nash equilibrium.

Figure 6: Investment Values When Both Players Delay



The. extensive form extends branch of both players delays (D). Both players decide to invest or delay at stage 2, stage 3. The exhibit only shows the time when nature (N) moves down (d).The market shares of A and B are three-fifths and two-fifths. The values of both players (A, B) are shown in parentheses. The bold line shows the subgame perfect Nash equilibrium.

The results show that the chain and franchise store industry favors large companies. A bigger firm will invest in retail stores faster than a smaller one. A company with larger market power can sustain a declining market much longer than its competitor. The small firm is better to wait until the market improves. The paper provides a guideline for analyzing investment strategies in chain and franchise stores. Nevertheless, it cannot answer all possible situations a firm might encounter in the chain. The demonstration can be extended to incorporate more firms, or investigate the effect of changing market share. This will leave for further research.

Figure 7: Strategic Investment Game in the First Stage

Player A	**Player B**	
Investment value	Investment	Delay
Investment	19,-3	**33,5**
Delay	**15,12**	33,3

The standard form shows investment game for the two players, which have unequal market power. The values of both players (A, B) are shown in parentheses. The bold numbers show the perfect Nash equilibrium.

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BIOGRAPHY

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HOW CORRUPTION AFFECTS SOCIAL EXPENDITURES: EVIDENCE FROM RUSSIA

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ABSTRACT

This paper clarifies the main theoretical issues of corruption. An estimate and branch analysis of corruption in Russia is offered. The research concentrates on effects produced by corruption on social expenditures. The analysis demonstrates how corruption influences the poverty situation after social transfers and on the general efficiency of social payments. Using the European Commission method and a corrected method, indicators of efficiency of social spending are calculated for Russia. Also, the existence of correlation between efficiency of social spending and corruption perception index calculated by Transparency International Agency is estimated for European Union countries and Russia. A few policy recommendations aimed at controlling corruption in modern Russia and optimization of public expenditures are offered.

JEL: C12, C43, D73, G18, H5, I38, O57, P37

KEYWORDS: Corruption, public expenditures, quantity effect, allocation effect, Russia

INTRODUCTION

Corruption has been an issue for humanity since ancient times and became a global problem in the beginning of 20th century. Bribes were, are, and will be taken. Research conducted by the Institute of the World Bank show that around $1US trillion is annually paid all over the world. This figure is constantly increasing and demonstrates that corruption is widespread. This paper focuses on the effects of corruption on social expenditures. It is hypothesized that corruption decreases the efficiency of government social expenditures aimed at poverty reduction and results in general economic inefficiency.

As social expenditures are aimed mainly at the poor, the question of how corruption affects the poor is of great interest. Corruption slows the rate of economic growth and increases the gap between the rich and poor. It also skews the incentive structure, with adverse consequences on the poor by depriving them of income-generation opportunities or favoring capital-intensive projects, as opposed to labor-intensive projects for which bribery is not so profitable. Finally, corruption can affect the targeting of social programs to the truly needy because funds are siphoned off from poverty programs by well-connected people in the public and private sectors.

With regard to social expenditures efficiency, research has shown that, for the same level of spending and for a given budgetary function, public spending is less efficient in countries with high levels of corruption: Corrupt public agents tend to favor investment projects that generate the highest bribes and not necessarily the most efficient (Shleifer & Vishny, 1993). Corruption diminishes the impact of public spending on social outcomes and alters the quality of public services.

The major impact of this paper is to expand knowledge about specific features of corruption in Russia. Even though reasons and consequences might appear similar to other countries, the scales and portions of corrupted spheres differ greatly. Previous analyses on this topic have identified that corruption introduces distortions into social expenditure levels and efficiency of measures aimed at poverty reduction. None of these previous studies, however, have taken Russia into consideration. Using research of Herrmann et. al. (2008), the recent Transparency International Agency's Report (2010), and Russian Federal Statistics Department data on national budgetary accounts, this article attempts to answer the following questions:

Does corruption affect efficiency of social expenditures in the European Union and in Russia. If yes, to what extent?
The paper consists of six sections: an introduction, followed by the literature review, which clarifies main theoretical issues of corruption study (e.g., definition, reasons, and consequences of corruption). Next, background on corruption in Russia is analyzed: Statistical methods are used to examine the correlation between corruption and social spending efficiency. Recommendations for improvement and concluding comments close the paper.

LITERATURE REVIEW

There is no conventional definition of corruption, mainly because of significant cultural differentiation. For instance, something that is called a bribe in one society, in other one may be allowed and expected. Corruption means actions that lead to infringement of rights and freedoms equity. Experts from the Europe Council have created a general definition of corruption: graft, bribery, and any other kind of behavior of a person, endowed responsibilities in public or private sector, who infringes his duties as a public person, employee, independent agent or other same status, aimed at obtaining incompetent advantages of any kind for themselves of another person" (Some Aspects, 2000).

Existence of public property presupposes that some people will realize their own interests from participation in a state organization by trying to maximize their use of opportunities. In modern research, this kind of behaviour is connected with opportunism and examined as a form of corruption. This phenomenon is common for states and has been known for some time. Public property in the form of state property sometimes is not used in the interests of society but in the interest of private persons. A contradiction between public and private interests is not decided in society's favor. Hence it is impossible to attain the full potential realization of state property as a basis for the realization of public interests. Russia traditionally has a strong state institution. State power, which dominates social life, is connected with a complex of historical, geopolitical, economical, national, and social factors (Ryazanov, 1998).

The literature describes several types of corruption, including local, business, and supreme (Yani et. al., 2002). Local corruption is triggered by interaction of common citizens and officials on duty. This type of corruption includes gifts and services for the officials and/or their families and is often associated with nepotism. Business corruption arises during interaction between state powers and business society. Supreme corruption relates to higher political officials in democratic systems. It supposes dishonest behavior of politicians who are not in favor with the electorate. Supreme corruption is a type of behavior strategy used by powerful social groups and directed at economic seizure of state and power for further establishment of shadow control under markets and finance. People who make such seizures are usually called oligarchic.

Several types of corruption can be defined according to the chosen criterion, for instance, bureaucratic and political; forced and consensual; centralized and decentralized (Ozhiganov, 1999), criminal and mainly of economic character (Katayev & Serdyuk, 1995). Executive power is usually corrupted more than others because it conducts operative management of economic resources (Chetvericov, 2008). To sum up, corruption appears in multiple forms and involves either obtaining or giving up some advantages.

Theories of corruption broadly fall under two categories: demand theories and supply theories. In general, demand theory models of corruption include two approaches: resource-allocation models, which assess the consequences of the allocation of resources to bribe-seeking activities, and principal-agent relationship models (Jain, 1998). Resource-allocation models are based on the premise that bribe-seeking is one aspect of any economic activity and thus part of a firm's resources are devoted to this pursuit (Krueger, 1974). In a competitive world, bribe-seeking opportunities are created either by agents through government policy or by underlying societal characteristics (Mauro, 1995). Bribes are shared between agents and firms.

Principal-agent models of corruption concern the misuse of power by a ruling government, which is motivated either by the desire to be re-elected or by self-interest. Economic policies motivated by self-interest lead to the misallocation of resources to the highest bribe-yielding projects (Jain, 1998). The second aspect of this model explains that bureaucratic corruption arises from an agent's incentive to disregard a principal's interest because of information asymmetry and the principal's inability to monitor the agent's behavior. Demand models clearly indicate that agent behavior is the central determinant of corruption and thus demand-model theorists have argued that anticorruption efforts should be aimed at controlling agent behavior.

Supply theorists put the onus of the fight against corruption on the supplier side. People pay bribes by their own volition and primarily for three reasons: to counterbalance poor quality or high pricing, to create a market for redundant goods, or to stay in competition (Stuart, 1997). On the basis of an empirical examination of the 19 largest exporting countries during 1992-1995, Lambsdorff (1998) observed that highly corrupted exporting countries attract a larger market share in corrupt importing countries. He concluded that the inclination to offer bribes therefore emerges as the sovereign choice of exporters.

More recent theories support a middle-of-the-road approach and have observed that corrupt behavior is characterized by the decision calculus of both the payee and the payer based on value maximization. Also, an experimental game has been developed to analyze corrupt behavior at the micro level (Abbinik et al., 2002). According to these researchers, the essential characteristics of corruption are reciprocity relations, as no corrupt contract can be legally enforceable, negative welfare effects, and sanctions when corrupt practices are discovered. Based on the authors' experiments using game theory, they conclude that reciprocity alone establishes stable relations between the payee and the payer and negative externalities such as welfare effects have no impact on the level of cooperation. Additionally, the threat of drastic penalties significantly reduces the level of reciprocal cooperation. However, the payer-payee pair has a tendency to underestimate the overall probability of sanctions, which diminishes the deterrence to some extent.

The main reasons for the existence of corruption are low incomes of the majority; opportunism of officials on duty; weakness of civil society and democratic tradition; and illiteracy of the majority. Social and economics situations are influenced greatly by corruption. First, an illegal economy grows and leads to decreases in tax inflows. Social guarantees become difficult obtain. Second, market mechanisms are broken, which decreases economic efficiency and discredits the market system at large. Third, public budget resources are used sometimes in the interests of small, powerful groups. Fourth, prices increase because of additional costs of corruption. As a result, consumers suffer. Fifth, property inequality and poverty are maintained. More, corruption whips up injustice and unjust redistribution of facilities in favor of oligarchic groups. Sixth, rights as the main instruments of civil regulation are discredited. Consequently, the public consciousness forms impressions about the defenselessness of households and entrepreneurs before harassment of bureaucracy. Seventh, police corruption stimulates development of organized crime, which merges with bureaucracy.

A wide range of negative economic consequences follow corruption. Corruption in public sector leads to decisions that may not meet public interests and therefore reduces efficiency in society. Corruption may also increase transaction costs for individuals and firms in their interactions with public sector bureaucracy. This may result in higher public spending and changes to the structure of that spending (e.g., in favoring public investment or procurement). Corruption in public procurement also may increase prices (i.e., taxpayers receive less for their money). This type of corruption also increases investment risk in the country, as it raises question about the rule of law. In a corrupt environment, people lose trust in public institutions. Corruption can create a perverse incentive structure that provides incorrect signals with asymmetric information. Corruption introduces inequality among individuals, favors those who are able to bribe; redistributes resources to those who have decision-making power over valued resources and are willing to use it in somebody's favor. Corruption distorts the role of the government in the area of contract enforcement and protection of property rights. Corruption may reduce the trust of citizens in democracy and market economy (Tanzi, 1999).

Intervention of the state in the economy has three main roles: (1) the allocation of funds consists of corrections to the weaknesses of the market, such as imperfect information and competition or limited rationality that leads to wrong allocation of the resources and are obstacles to development; (2) the state has to act on the stabilization of economic activity and the redistribution of wealth, and (3) the state makes a certain amount of goods and public services available for everyone. However, the different forms of corruption in civil service prevent the state from fulfilling wholly its roles insofar as they give way to distortions in public decision-making (Delavallade, 2006).

The International Monetary Fund's (IMF's) studies (Gupta et. al., 1998) of cross-country regressions showed considerable impact of corruption. A worsening of the corruption perception index (CPI) by 2.5 points (on a scale of 1 to 10) is associated with an increase in inequality equivalent to the reduction of education at the secondary level by three years, which is indeed a large effect. A 1% increase in the rate of corruption reduces the income growth of the poorest (bottom 20%) by almost 8% per annum.

The corruption level of a country in general is a reliable indicator of the quality of its institutions. Recent research work aimed at pointing out priority fields in combating corruption have emphasized the need to control the transparency of rules and regulations about public decisions so as to limit the discretionary power and domain of civil servants. These studies also have discussed the role of incentives such as higher salaries and penalties for corruption in lowering such types of behavior (Tanzi, 1998).

To be more precise, corruption may occur in civil service in the form of bribes offered to a public official as reward for a favor shown toward a private actor. This is an obstacle to competition as it reduces the cost of economic activity for the active corruptor or creates for new opportunities. Corruption can also take the form of bribes to a public official for a service that would normally be provided by the administration without any additional tax. This can incite the civil servant to invent rules that make it legal to ask for a commission. In both cases, the rules of public decision-making are biased (Delavallade, 2006).

Varoudakis' (1996) typology, as well as Tanzi's and Davoodi's (1997) empirical research and that of Johnson, Kaufmann and Zoido-Lobatón (1999) have shown that the total amount of social spending is increased by bribes when public-decision makers are corrupt, especially under the influence of a bureaucratic system. When corruption exists, by diverting public funds, the state budget includes not only effective social expenditures, but also the diverted amounts. Corruption probably also reduces the amount of effective government expenditure.

The impact of corruption on the allocation of government spending can use various channels. First, as for bribe demand (i.e., collection), government authorities find themselves in a monopsony position, with little competition because of their small number compared to great demand. They decide the allocation of expenditures and contracts, which increases their negotiating power and develops bribe-seeking behaviors. Moreover, corrupt agents are incited to favor some spending items for which they know or expect that decisions are made in relative secret (e.g. defense, public order). Second, as for bribe supply (i.e., attribution), firms may be incited—namely by noncommittal laws or even tax codes that allow bribes to obtain contracts abroad—to bribe foreign civil servants to exporting arms, military equipment, oil, gas, or gold. Moreover, the effects of the competition level between sellers on the bribe offer is uncertain;

heavy competition between sellers could prompt them to pay commissions to compensate for these civil servants' weak negotiating power and get market shares (Gupta, de Mello, & Sharan, 2000). On the other hand, low competition induces anticipation of significant bribes to obtain these markets (Mauro, 1998).

To sum up, consequences of corruption cost much more than the cost of bribes paid to officials. Corruption is not only a crime but also a symptom of systemic economic crisis. The most important condition needed to eradicate corruption is efficient social policy directed at increasing life quality and wealth. Moreover, real losses from corruption significantly exceed those calculated on the basis of few revealed corruption crimes and accomplished investigations. It is particularly interesting to note that the sum total of allocated public spending correlates significantly with corruption: the higher the level of corruption, the weaker the portion of allocated spending. Analysis of the correlation table suggest that corruption practices reduce not only the global part of the budget allocated to different budgetary items but also the relative part allocated to social sectors.

BACKGROUND ON CORRUPTION IN RUSSIA

The World Bank has estimated that annual worldwide bribery is close to $1 trillion. Fifteen percent of enterprises give bribes in Western Europe and North America, 30% in Asia, and around 60% in Eastern Europe and Middle Asia (Petrova, 2007). The corruption system in Russia involves more than 2.5 million people, and the society pays them approximately $40-45 million per annum. In 2006, there were approximately 6 thousand bribe-taking crimes, 4 thousand bribe-giving crimes in the public sphere and about 2 thousand commercial grafts were registered. Thus, corruption income reached 7% of an average company's annual sales. According to the most optimistic estimates, total annual losses caused by corruption exceed $30 million or around 1% of GNP in buying goods and services for public needs. As a result, market efficiency declines, democratic institution fail, and economic and political inequity increase. Obviously, corruption has become a national threat (Kupreschenko, 2008).

Direct and indirect economic losses caused by corruption can be distinguished. Direct losses are calculated as public budget income shortages. For instance, the Russian Federal Tax Department increased its own efficiency and increased its income by $500 million. Indirect losses are much more difficult to estimate, though approximate calculations can be made by using international comparisons. These calculations are based on regression models in which corruption level, on the one hand, and general economic efficiency indicators, on the other hand, are correlated. One recent example is the research, which showed that scales of corruption in Russia, cause additional expenses for investors equal to an additional 43% taxation (ibid.).

According to the Freelance Bureau (2005), an approximate estimate of losses from top-level corruption can be made on the basis of well-known examples for which losses have been calculated. This process showed that a decrease corruption levels from Mexico to Singapore has the same effect as a 20% increase in taxes. Losses from corruption are caused by nonmarket pricing, which leads to 5-15% consumer goods price increases. Corruption causes additional costs equal to 15% greater taxation or 10% employment decline. Good examples of corruption in top executive power all over the world are found in contracts for public needs. Not surprisingly, losses from this kind of corruption exceed 30% of such public expenditures (ibid.).

A slight increase has occurred in frequency of bribery from 38.72 to 39.30%. Some data have been based on impersonal interviews: 21% give bribes to tax inspectors, 16.2% to policemen and judges, 13.9 to fire inspectors, 13.4% to public officials who sign contracts for public needs, 12.5% to customs officers, and 4.1% to public officials of legislative power (ibid.).

Russian experts have distinguished the corruption potential of Russian regions. In these experts' opinions, the most corrupted territories are big cities, transport nodes, ports, and transit zones. Interestingly, no zones are completely free of corruption. The least corrupted are spheres in which advantages are difficult to estimate, for instance, private health services and innovative business.

The most corrupted spheres are political power, police, communal services, tax, customs services, public health, and education. The most common corruption transactions are: overestimation of costs, especially in state entrepreneurship; kickbacks from public and private partnership; bribery in the business sphere aimed at obtaining/granting competitive advantages; bribery in business sphere aimed at licensing and accreditation; bribery among politicians for granting certain advantages to business; bribery in schools aimed at obtaining/granting false certificates; and bribery in hospitals aimed at obtaining/granting better services.

Executive power is the most corrupted in Russia. State officials are always engaged in property redistribution using ordered bankruptcies, unfriendly mergers and absorptions, business captures, lately including widespread corporate raider seizures of property. Not surprisingly, this business is very profitable and can be compared with the drug trade. Estimated profitability of corporate raider seizures reaches 500% (Kupreschenko, 2008)!

The growth of corruption in Russia occurs mainly in the form of kickbacks for obtaining large-scale contracts. The share of kickbacks in the cost of these contracts recently increased from 1.51 to 1.99%, and the share of other types of bribes in the total turnover of all Russian companies fell from 1.43 to 1.07% (ibid.). In 2005, the annual volume of bribes distributed by Russian businessmen was in $316 million; the average Russian company pays $135,800 per annum (ibid.).

It is also important to pay attention to low-level corruption. Small and medium enterprises in Russia spend a minimum of $500 million per month on official bribes (around $6 million per annum). The preliminary analysis showed that 10% of gross income is spent on bribes (ibid.).

It would not be an exaggeration to say that the main reason for corruption is poverty and low quality of life. This is persuasively confirmed by international research. The level of corruption is identified by CPI, which is annually determined and published by Transparency International (TI, 2010). This index seems to be objective, as it reflects estimates of corruption levels among businessmen and analysts in miscellaneous countries. The absence of corruption corresponds to 10; growth of corruption drops the index to 0. Russia stands in 146th place among the 180 least corrupted countries in 2010; the CPI calculated on the basis of eight surveys by TI is 2.2. In comparison, the index exceeds 9.0 in good practice economies such as Singapore, Sweden, and Switzerland.

The least developed countries of the world shoulder a double burden: poverty and corruption. TI therefore recommends that states with low incomes oppose corruption and provide greater access to information about budget expenses. A sign of national corruption is unprecedented development of low-level corruption, which is founded on the historically based principle of management in the Russian state, that is, the institution of so-called feeding. As a result, the majority of the population ethically accepts corruption as a form of problem-solving. More, 54% of Russians are tolerant of bribes to executives, 27% acknowledged that they sometimes give bribes to official public executives. Interestingly, young people showed more tolerant attitude toward bribery than the elderly.

Illegal interaction between public officials, police, and criminals are widespread in modern Russia, especially in big cities. Corruption phenomena have also spread in the judicial system. Judges often solve deals in favors of wealthier complainants. Recent sociological surveys show that only 14% of respondents have answered that the present court is objective; more than 21% suppose that it is not objective, and more than 57% are convinced that "the result depends on the price" (Kimlatskiy & Machulskaya, 2007, p.10).

Experts have noted that the Russian electoral process is highly corrupt. Corruption occurs in illegal financing of electoral campaigns and mass media, grafting of persons called to provide openness and publicity for the electoral process (the watchers, members of the electoral commissions with consultative privileges). Last year, large criminal groups actively introduced their representatives in the legislative and executive branches of all levels to pursue the lobbying interests of the former. These lobbyists actively master the electoral system and direct significant material and financial facilities in electoral funds to their own representatives.

Education also is corrupt at all stages, even in primary education. Bribery often occurs at entrance and intermediate qualification exams. More, a shadow market has emerged and affects term papers, diplomas, and theses. As a result, general efficiency of education decreases. The medical services market remains nominally free of charge; however, it appears that many free services provided to the population by medical organizations are limited and differentiated on quality. As a consequence, many types of officially free services are performed in the shadow economy. Interestingly, high price often does not mean high quality of medical services.

The redistribution of property by a new class of top public officials and businessmen, a strong desire to occupy the high position in society not as a result of professional skills but on account of wealth, reassessment and the fall of certain valuables in society, weakness of local authorities, and staff leapfrogging have become reasons for the rapid development of corruption in modern Russia.

Table 1 reports how poverty rates were reduced as a share of GDP according to the European Commission method (2007) as the difference between poverty reduction before and after social spending. The third column of Table 1 shows residuals from regression of initial poverty on poverty after social transfer (% before minus % after social transfers). The fourth column shows the extent to which the poverty situation is better than the predicted level. The fifth column describes the predicted value based on linear regression of social expenditures and improvement of the social situation). Eurostat data on poverty after social transfers are taken here. Efficiency of social spending (column 6) is measured on the basis of the coefficient of poverty after transfers better than expected (column 4) corrected by the predicted value, which shows improvement of the social situation (column 5).

Social expenditure as a share of GDP is the highest in Sweden and France and the lowest in all three Baltic countries. Despite low levels of social expenditures, the latter show significant reductions in their poverty rates. The other essential correlations observed in the table are represented in the Figures below, which test for the existence of correlation between social spending efficiency and corruption.

The two variables in Figure 1 are correlated (0.37). Social expenditures explain 28% of the variation in the percentage of poverty reduction among the countries. The figure of 8 %-points of initial poverty reduction is expected for Russia. Next, the correlation between social expenditures per GDP (column 2) and poverty situation after transfers better than expected (in % points) (column 4) is examined.

Table 1: Poverty Reduction at Existing Levels of Social Expenditures and Corruption: European Commission Method and Results Based on the Corrected Method

Country (1)	Social expenditure per GDP (2)	Reduction of poverty, %-points (3)	Poverty situation after transfers better than expected (in %	Predicted value of improvement of the social situation) (5)	Residual (Social Expenditure Efficiency	CPI 2009*** (7)
Austria	29.0	12	2.63	1.9	0.73	7.9
Belgium	29.3	12	1.23	2	-0.76	7.1
Czech R.	19.3	12	4.73	-1.17	5.9	4.9
Denmark	30.9	16	4.53	2.5	2.03	9.3
Estonia	13.1	7	-2.37	-3.13	0.76	6.6
Finland	26.6	16	3.83	1.14	2.69	8.9
France	31.3	12	2.63	2.63	0	6.9
Germany	29.6	13	2.93	2.09	0.84	8.0
Greece	23.6	2	-5.97	0.19	-6.16	3.8
Hungary	20.7	14	1.13	-0.72	1.86	5.1
Ireland	18.2	15	0.03	-1.52	1.55	8.0
Italy	26.0	4	-4.67	0.95	-5.62	4.3
Latvia	12.9	5	-6.47	-3.19	-3.28	4.5
Lithuania	13.3	7	-3.77	-3.07	-0.7	4.9
Netherlands	28.3	11	4.43	1.68	2.75	8.9
Poland	20.1	10	-2.17	-0.91	-1.25	5.0
Portugal	24.7	7	-2.37	0.54	-2.91	5.8
Romania	15.1	5	-3.67	-2.5	-1.17	3.8
Russia	17.2**	**8***	**-2.07***	-0.58*	-2.63*	2.2
Slovak R.	17.3	8	2.13	-1.8	3.93	4.5
Slovenia	23.7	12	3.33	0.22	3.11	6.6
Spain	20.6	4	-4.67	-0.76	-3.91	6.1
Sweden	32.7	17	4.83	3.07	1.76	9.2
UK	26.3	11	-1.87	1.05	-2.92	7.7

*Note. * = calculated by the author. Sources: Herrmann et. al. (2008), TI Agency Report* (2010), Russian Federal Statistics Department** (2009), and the author's calculations on Microsoft Excel software.*

Figure1: Correlation between Social Expenditures and Poverty Reduction

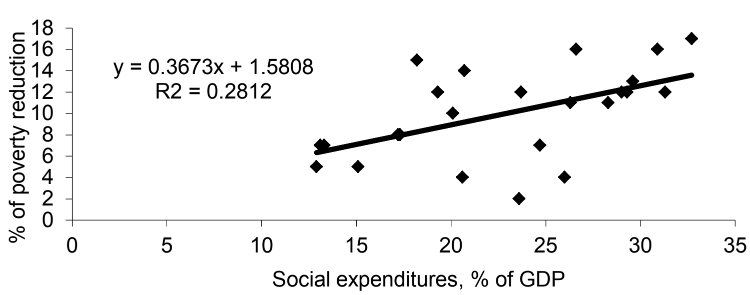
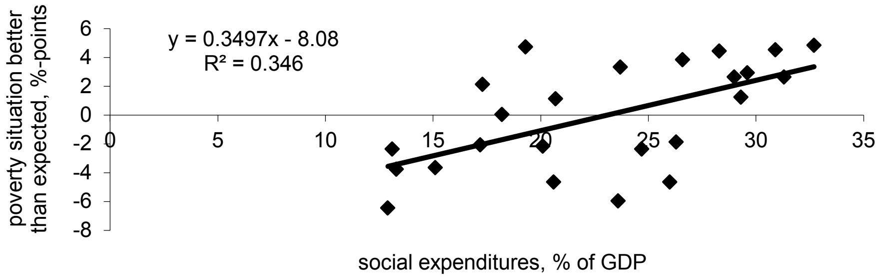


Figure 1 tests the hypothesis of correlation existence between social spending efficiency and corruption.Source: Herrmann et. al. (2008)

Figure 2 shows a positive relationship between social expenditures and poverty after transfers better than expected (in %). The two variables are correlated (0.35): social expenditures explain around 35% of the poverty situation better than expected in the percentage among the countries. Obviously, while figures for all Scandinavian countries and some Central Europe countries are positive, for all three Baltic countries, Italy, Spain, Portugal and some others they are negative. Noticeably, the calculated figure for Russia is -2.07, which is close to the Poland's (-2.17) and Estonia's (-2.37) ones. Not surprisingly, figures for transition countries are mostly negative, however, a few opposite examples exist for less corrupted countries like Slovenia, Czech and Slovak Republic, in which market transition processes have longer history. Second, the correlation between poverty situation better than expected (column 4) and predicted improvement of social situation (column 5) is shown.

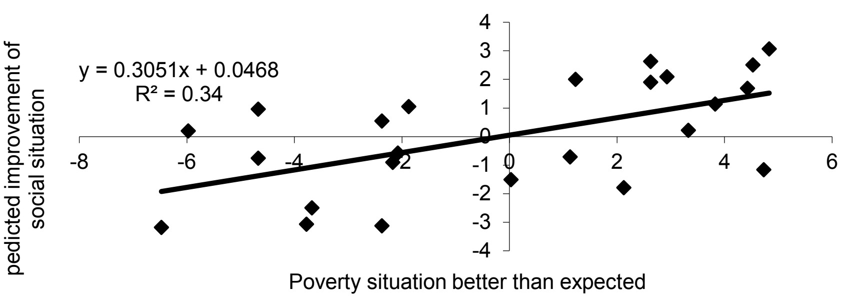
Figure 2: Correlation between Social Expenditures and Poverty situation Better than Expected.



Source: the author's calculations on Microsoft Excel software based on Herrmann et. al. (2008). figures for transition countries are mostly negative, however , a few opposite examples can be found for less corrupted countries like Slovenia, Czech and Slovak Republic, in which market transition processes have longer history.

Figure 3 shows a positive relationship between social expenditures and poverty after transfers better than expected (in % points). The two variables are correlated (0.31): social expenditures explain around 34% of the poverty situation improvement in the percentage among the countries. Lastly, correlation between efficiency of social expenditure calculated by European Commission (column 6) and corruption measured by the CPI (column 7) is explored.

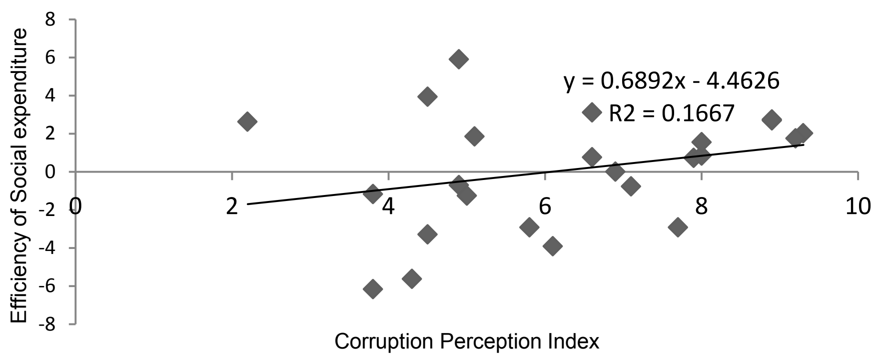
Figure 3: Correlation between Poverty Situation Better than Expected and Predicted Improvement of Social Situation



The two variables are correlated (0.31): social expenditures explain around 34% of the poverty situation improvement in the percentage among the countries.Source: the author's calculations on Microsoft Excel software based on Herrmann et. al. (2008).

Figure 4 shows the correlation between CPI and efficiency of social expenditures that proves our hypothesis. The two variables are correlated (0.69): CPI explains around 17% of the efficiency of social expenditures among the countries. As might be expected, social spending aimed at poverty reduction is more efficient in less corrupted countries that prove my working hypothesis.

Figure 4: Correlation between Efficiency of Social Expenditure and Corruption



The two variables are correlated (0.69): CPI explains around 17% of the efficiency of social expenditures among the countries. Source: the author's calculations on Microsoft Excel software based on Herrmann et. al. (2008) and TI Agency Report (2010).

To sum up, Russia remains a highly corrupted country from top to bottom, and the social items of public expenditures are no exception. Applying two alternative methodologies – the European Commission's and that suggested by Herrmann et. al. (2008) – it is possible to conclude that that efficiency of state expenditures for reducing poverty rates is greatly influenced by corruption.

RECOMMENDATIONS FOR IMPROVEMENT

The neoliberal agenda that emerges from the research maintains that to diminish the negative consequences of corruption and increase the general efficiency of public spending, governments should: redirect rather than increase public expenditures; revise the pension systems and unemployment benefit schemes (these should be implemented in parallel); encourage people to work longer and be more active so as to reduce the social, economic, fiscal and other challenges of coping with aging populations (Herrmann et. al., 2008).

The first set of measures involves a reduction of bribe-seeking opportunities. Specific measures include the creation of procurement legislation or rules, transparent procedures, and strong and independent audit institutions. Simultaneously, the principal's (i.e., the public's) control over the agent (i.e., political executives and bureaucrats) is tightened by the elimination of information asymmetry. Alternatively, information asymmetry can be reduced by gradual strengthening oversight institutions, the media, and civil society. Additionally, the behavior of corrupt public officials can be controlled by enforcement of ethical codes of behavior and by strict criminal sanctions against bribe-taking.

The second set of measures involves control of supply-side behavior. Obviously, an essential element of the struggle with corruption is administrative reform aimed at bureaucratic process simplification to transfer certain functions to non-governmental organizations (NGOs). As a result, public control of state management is maintained. This approach includes enforcement methods such as disbarments, penalties, criminal sanctions against bribe payers, or development of ethical codes of conduct and other self-regulation mechanisms. Although these steps are often sufficient to combat corruption when both the purchaser and seller are from the same country, these measures typically fail when the buyer and supplier are from different countries.

Numerous unsuccessful attempts have been made to eradicate corruption. The main reason for such failure is the stability of approaches that have been used. It is impossible to imagine that corrupt power will stage an effective fight against corruption. As can be expected, these people could not influence the factors that cause corruption. Moreover, the struggle against corruption often results in a struggle between political rivals.

Generally speaking, it is necessary to make a systemic revision of legislation on corruption. Temporary Russian legislation consists of laws of three types: (1) those put into effect recently; (2) those implemented at the beginning of the transition, and (3) those enacted during the Soviet period. Some legislative acts set a rule and the substitute acts distort and/or incorrectly interpret the former. Lack of transparence, contradictory character of these laws, and/or possibility of free interpretation promotes the various types of corruption. Apparently, they should be revised as they impose conceptual adjustments to various social-economic legal relations.

To sum up, corruption is a phenomenon with a systemic nature. Hence, the struggle against it is efficient only when a certain complex of economical and political measures is implicated. Executive power's improvements in decision-making. Mechanisms to make them more transparent and public and implementation of stricter punishment for corruption crimes, are obligatory conditions of a successful struggle to overcome corruption.

CONCLUDING COMMENTS

The goal of this paper is to summarize the effects of corruption at social expenditures efficiency. Even though the negative influence of corruption might seem obvious, the extent, at which it decreases efficiency of social spending in Russia remains unclear. Basic reasons and consequences of corruption were investigated to identify the extent to which Russia corresponds to European trends. Next, on the basis of research of Herrmann et. al. (2008), the recent Transparency International Agency's Report (2010), and Russian Federal Statistics Department data on national budgetary accounts, the econometric analysis were used in order to test the hypothesis about negative effect on poverty situation and social expenditures efficiency.

European Union countries' and Russia's evidence was provided to show that efficiency of public expenditures aimed at poverty reduction increases in less corrupt countries. The most important condition for eradication of corruption is efficient social policy directed at increasing quality of life. In Russia, attention is devoted mostly to the consequences of corruption but not to its reasons. For this reason, complementary implications in economic policy suggest that corrupt countries like the Russian Federation should be induced to make the policy more transparent.

The main limitation of the analysis is that all estimates of corruption are approximate. Similarly, there is no perfect methodology for estimating the efficiency of social spending. Consequently, the logical continuation of the research would be study of correlations based on alternative methodologies for comparing relevant indicators for Russia, other transition economies, and developed countries.

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SHOULD LAST IN FIRST OUT INVENTORY VALUATION METHODS BE ELIMINATED?

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ABSTRACT

The Last in First out Method (LIFO) is presently under severe scrutiny from the financial community which may soon culminate in its repeal as an acceptable accounting method. There are pressures from the SEC in conjunction with the International Financial Accounting Standards Board to standardize accounting standards worldwide. In addition, there is political pressure imposed by the US Obama administration to raise additional revenues. Both groups strongly oppose LIFO, raising a strong possibility that's its complete elimination as an accounting method will occur by as early as 2014. Are these groups correct in their negative assessment of LIFO? This paper examines critically the many disadvantages of LIFO. Ultimately, the author theorizes that these negatives may collectively explain the observed research findings of the inverse relationship between LIFO adoption and firm value/stock price. The elimination of LIFO which seems imminent may result in a win-win situation for all; as the negative and added costs of LIFO may well exceed its tax advantage, resulting in greater cash flow for the firm, while allowing for the standardization of worldwide accounting standards and raising additional tax revenue for the US government.

JEL: M4, M40, M41, M48, M49.

KEYWORDS: GAAP, IFRS, LIFO, LIFO, LIFO Conformity LIFO Reserve, FIFO.

INTRODUCTION

The Last in First out (LIFO) method has been an acceptable, popular accounting method since its inception in 1939. Since then, many have and continue to argue against LIFO as a viable, economic, realistic accounting method. At present, LIFO faces a strong and real possibility of its elimination by the year 2014, as political forces coming from the International Financial Accounting Standards Board and the Obama administration strongly oppose this method. The International Financial Reporting Standards (IFRS) prohibit LIFO as an acceptable accounting method, and the Obama administration has proposed in its 2010 budget to repeal LIFO altogether in the future. Part 2 will present a literature review and empirical findings, Part 3 will address the issues associated with LIFO Valuation .An overview of the three accounting methods are presented ,followed by the current state of LIFO .The disadvantages of LIFO are then reviewed in detail ,in support of its eliminations, and include: the "tax loophole" only aspect of LIFO, lax LIFO conformity requirements, faulty inventory asset management decision making processes ,covenant agreement compromises ,possible income manipulation, added administration cost requirements, lack of internal uses of LIFO, balance sheet and income statement limitations along with fictitious inventory flow assumptions, political and international opposition, and finally, the reasons for the observed negative relationship between LIFO adoption and stock price behavior. Part 4 will review the future of LIFO and with recommended tax strategies, and Part 5, the conclusion section will also address the limitations of this paper and recommended areas for future research.

LITERATURE REVIEW

The tax advantages associated with LIFO have been documented by tax laws, research, literature and Congress. Internal Revenue Code (IRC) 472 allows for the Last in First Out method of inventory since its inception date in 1939. Computationally, as the price of inventory increases, lower income will result under LIFO when compared to all other inventory methods, resulting in a lower tax payment. This tax advantage has led to the criticism of LIFO resulting in an unfair tax loophole advantage for a few beneficial industries, leading to poor and inefficient management of inventories and finally flawing the balance sheet presentation.

Plesko (2006), has labeled LIFO as a "tax holiday" for the few. While, Sondhi and White (2008), state that due to the tax advantages associated with LIFO resulting in greater cash flows, the choice of inventory method should point towards LIFO. Shackelford and Sheulin (2001) have documented the tax motivated effect of LIFO. Dopuch and Pincur (1988) found that the taxation effect was the primary reason a company chose LIFO.

Many question as why a company would choose a method other than LIFO if there is a tax benefit potential. Biddle (1980) "found surprising that many firms potentially paid tens of thousands of dollars by continuing to use FIFO rather than switching to LIFO". The accounting review, editorial comments section (1992) stated: "We continue to be relatively uninformed about these issues and know little about the real reasons that many firms do not switch to LIFO when it appears that they would benefit by positive tax savings". White, Sondhi and Fried, (2008), theorize that perhaps management does not accept the Efficient Market Hypothesis theory, as the major explanation for not adopting LIFO.

Congressman Charles Rangel (2007) has called for the repeal of tax loopholes citing LIFO as a material culprit in this area. The US government estimates a loss of over $100 billion of tax revenue over the next ten years if LIFO is not repealed. Further, Secretary Paul O'Neill and Edmund Jerkins reported in 2001 that the LIFO conformity requirement was not in practice taking place, thereby allowing these LIFO companies to obtain both; a tax benefit as well as a financial statement presentation benefit.

The tax advantages of LIFO are dependent on inventory additions or buildups, known as reserves at increasing prices. This has resulted in poor inventory asset management and suboptimal business behavior. Trackel and Trezevant (1994) examined year end purchasing decisions by firms as a function of their inventory methods and concluded that firms using LIFO make additional year end purchases which appear to be for tax reasons leading to inventory management inefficiencies.

Lastly, LIFO is not balance sheet friendly and can and will result in a gross understatement of balance sheet value given the tax motivated behavior. Romeo (2009) observed that most oil companies report inventory purchased before World War II on their balance sheet. Kieso, Waygandt and Warfield illustrate the shortcomings of LIFO, as the inventory value reported on the balance sheet does not represent its current replacement value. The result is that a LIFO presented balance sheet cannot, and should not be used for financial statement analysis purposes.

The literature studying the effects of LIFO adoption and stock price effects is inconsistent. Ricks (1974) concluded that LIFO adaptors suffered negative abnormal return performance during the period surrounding the annual earnings announcement. Kang, (1993) concluded that there is no indicator of LIFO adoption related abnormal returns and the size of potential nominal tax savings. Stevenson (1987) however found that firms which adopt LIFO experience an increase in stock value. Biddle and Linadl (1985) found that stock price reactions to LIFO adoption are inconclusive. Note should be made that the Ricks study is the largest of companies made to date (over 400 during the 1974-1975 period)and most of the literature points to an inverse relationship between LIFO adoption and stock price effects.

Issues Associated with LIFO Valuation

Presently, there are three acceptable inventory methods under U.S. Generally Accepted Accounting Principles (GAAP) and include: Last in First out (LIFO), First in First out (FIFO) and the weighted average or average cost methods. Under international Financial Reporting Standards (IFRS), LIFO is not a permissible method. LIFO assumes that the last or most recent purchases of inventory are sold first. FIFO assumes that the first inventory purchases are sold first and the weighted average method weights the entire inventory on the basis as one unit cost in its inventory valuation base. (See Appendix 1 for an illustration of the inventory methods).

LIFO is facing pressures from both: the International Reporting Standards Board in cooperation with the SEC and the U.S. Congress for its possible complete elimination by the year 2014. On November 15, 2007, the Securities and Exchange Commission (SEC) exempted foreign firms from including reconciliation from International Financial Reporting Standards (IFRS) to U.S Generally Accepted Accounting Principles, (U.S. GAAP) when filing on U.S. Stock exchanges. Foreign public firms are now permitted to file using the International Financial Reporting Standards (IFRS) without reconciliation to U.S. GAAP as previously required. This move has created a mandate to converge IFRS and U.S. GAAP and financial statement requirements (SEC, 2007)

On June, 18, 2008 the SEC issued a press release stating that the world's securities regulators are uniting to increase their oversight of international accounting standards. There are plans set forth by the SEC and the IFRS to standardize accounting standards, on a worldwide basis with a target date set for periods ending after December 31, 2014. Under IFRS rules, LIFO is not a permitted acceptable accounting method. IFRS is balance sheet oriented and on this basis, disallows LIFO as an inventory method. The use of LIFO disrupts the theoretical foundation of the IFRS and if plans proceed as expected, complete phase out of LIFO will occur in the near future.

More importantly is the current tax position on LIFO. The Obama Administration has proposed in its 2010 budget to repeal LIFO altogether in an attempt to generate greater tax revenues. Given the ongoing and increasing international opposition to LIFO, coupled with the current spiraling US federal deficit, its support base is very unstable. Below, we address the many limitations of LIFO.

Tax Loophole

The primary reason LIFO is adopted by companies is the tax advantage inherent in this method (Dopuch and Pircus, 1988). In inflationary periods, a common scenario, LIFO will produce the lowest income when compared to other inventory methods, resulting in the lowest tax payment. The problem here is that very few can benefit from this tax advantage. To obtain the tax benefit, two elements have to be satisfied. First, increasing inventory prices and second, a build up or increase in inventory, known as a LIFO reserve. This will result in expensing the most current higher cost inventory purchases against revenues, resulting in the lowest possible income total. The question is; who are these beneficiaries?

Oil and gas producers, commodities firms, such as steel and chemical companies, plastic and specialty retailers such as fabric related and drug stores are the biggest beneficiaries of LIFO. Industries possessing inventories which are obsolete in nature and/or sold quickly (high turnover) and/or perishable, cannot benefit from LIFO adoption. The chip, computer, software and other high tech industries are such examples, so they choose either FIFO or the weighted average method.

Exxon – Mobil is the most profitable company in the world and possesses by far the highest level of LIFO reserve. LIFO reserve is the difference between the values of FIFO inventory over the reported LIFO amount. Exxon-Mobil's LIFO reserve is over $25 Billion, which in effect results in a tax postponement or tax loophole of approximately $9 Billion ($25 Billion x 35 tax rate) .Of the top LIFO reserve companies, most are oil and gas producers, while Sunoco for example has a LIFO reserve in excess of its Stockholders Equity Value (Compustat) . Another observation is that the LIFO reserve totals have been increasing over time since its inception in 1939. Clearly, the tax benefits are being realized in a more profound manner. Cushing and Le Clere (1992) found that the tax advantage is the primary reason for LIFO, and Dopuch and Pircus (1988) found: "that the long term FIFO firms in our sample have not been forgoing significant tax savings in which case remaining on that method is certainly consistent with FIFO being an optional tax choice, given other considerations. In contrast, long-term LIFO firms would have forgone significant tax savings".

The argument that is made then is that the very few benefit from the LIFO tax advantage, and as stated above the beneficiaries are the most profitable industries, at the expense of many. The US government has estimated that presently only about 4% of publically traded companies use LIFO and that the corporate tax rate of 35% can be reduced to 30.5% if all of the corporate tax loopholes such as LIFO were eliminated.

Another problem with LIFO use in the oil industry is its inherent assumption does not match the true physical flow of goods. LIFO assumes that the last units are sold first. This is not true for the oil or commodities industries where the true physical flow of goods is on a weighted average basis. The economics flow of oil products contradicts the tax method, as well as the accounting method which leads to the argument that the presentation of financial data by the oil industry is flawed, and not indicative of economic reality.

Tax Conformity Rule and Its Easing Requirements

In an effort by Congress to counteract the tax benefit inherent in LIFO, the LIFO conformity rule was passed upon inception, requiring users of LIFO for tax purposes to also adopt LIFO for financial statement purposes, effectively showing lower income amounts in their financial reporting.

The problems with this requirement is first ,by virtue of the Efficient Market Hypothesis, which has been supported and documented by research (Fama, 1970), a poorer financial reporting scenario based solely on an accounting method, does not hurt or negatively impact a company's stock price. The major reason for this is that if a financial user can adjust one method to another and understand its impact on the financial statements, then a choice of overstating income based on a choice of accounting methods is simply cosmetic, and not real. Stock prices are impacted on real events and not cosmetic as would be the case of higher earnings reporting solely by choosing FIFO over LIFO.

Adjustments from LIFO to FIFO

A company reporting under the LIFO method is required under the U.S. GAAP to disclose a "LIFO reserve" amount. The LIFO reserve is simply the difference of FIFO inventory valuation over LIFO (See Appendix 4). As an example, in year 1 if a company uses LIFO and its income before tax is $200, and its ending inventory is $600, and given a $10 LIFO reserve total, then the presentation of a financial statement on a FIFO basis is quite simple and is based on the following calculation: FIFO = LIFO + LIFO reserve. FIFO will result in a $10 greater inventory total as well as a $10 pretax total as disclosed by the LIFO reserve. Consequently, pretax income under FIFO would be $110 and the ending inventory under FIFO would be $610. The conversation from LIFO to FIFO is simple, and by virtue of this, the difference in income between the LIFO and FIFO method is cosmetic and easily calculated. However, the tax advantage of LIFO use is real, as the cash amount will be greater due to a lower tax payment. The result here is that the LIFO conformity rule does not negatively affect a company or its stock price while retaining the "real" tax benefit.

Lax Tax Conformity Application

A second problem with the LIFO conformity rule is that it has become lax in its application over time. The result is the creation of a tax conformity loophole by LIFO users In an April 13, 2001 letter to Secretary Paul H. O'Neill, Edmund Jenkins, then serving on the Financial Accounting Standards Board, argued for repealing LIFO conformity because conformity was not, in practice, taking place. Specifically, Mr. Jenkins stated. The level of conformity that is in fact achieved may well be illusory. The background section of Accounting Series Release (ASR 293) reports the following:
"On January 13, 1981, the IRS published amended regulations concerning the LIFO conformity rule. For many years, the IRS strictly enforced the conformity rule and required companies to apply LIFO in most cases identically for books and tax purchases and did not permit companies to disclose supplemental information about alternative methods of inventory pricing. The Commission considers two aspects of the IRS amendments to be significant: (1) companies may apply LIFO differently for book purposes than for tax purposes as long as they use an acceptable form of LIFO; and (2) companies may provide supplemental non – LIFO disclosures if they are not presented on the face of the income statement" (Plesko, 2006).

FAULTY BUSINESS MAKING CRITERIA AND INCOME MANIPULATION POTENTIAL

Increasing physical inventory totals lead to added costs, which results in poor inventory management. Carrying costs such as storage, insurance, maintenance, interest and obsolescence are associated with high levels of inventory. LIFO by virtue of its inherent tax advantage encourages buildup in inventory amounts which results in higher cost and poor asset management decisions criteria.

Frankel and Trezevant (1994) examined the year-end purchasing decisions of firms as a function of their inventory accounting methods and tax status and report "(1) high-tax LIFO firms are more likely to purchase extra inventory at year-end than low-tax LIFO firms, (2) LIFO firms are more likely to purchase extra inventory than FIFO firms, and, by contrast, (3) FIFO firms do not show differences in purchasing that are related to their tax status. The authors concluded based on their findings "that additional year-end LIFO inventory purchases appear to be made for tax reasons suggests that permitting the LIFO methods to be used for tax purposes leads to inventory management inefficiencies."

The ability to control purchases leads to the possibility of income manipulation. Build up of inventory will result in lower profit under LIFO (assuming rising prices) and conversely, liquidation of inventory will lead to higher profit. Consequently, a company can use LIFO to manipulate multiple years' profit simply by altering its year end purchases pattern. The research is inconclusive as to whether companies do behave in this pattern, however, this possibility exists and its simplicity is well documented.

Just In Time (JIT) inventory methods which require inventory purchases only when needed ,is the most efficient and cost effective method of inventory management. LIFO opposes a JIT system as there would be no tax benefit if imposed. Kinney and Wempe (2004) have documented that firms using LIFO are less likely to adopt JIT as an inventory management system because of the tax consequences of LIFO liquidations. "Additionally firms with a history of managing their reported earnings were also less likely to adopt JIT. As a result, LIFO does indeed cause inefficient, costly inventory management". (White, Sondhi, Fried, 2008)

Covenant Agreement Compromise

The use of LIFO can also disrupt a company's financial policies as directed by bond covenant agreements LIFO will produce more conservative, lower income, asset and shareholders' equity values than FIFO, resulting in lower liquidity, working capital, leverage and profitability ratios (See Appendix 3). This may create forced prepayment of bonds due to a failure to must legal financial requirements. As an example, if a bond covenant requires a company to maintain a minimum current ratio, and a maximum debt ratio (see appendix 3), then LIFO will result in worse ratios when compared to FIFO. The term debt hypothesis theory applies when a company foregoes LIFO because its effect on the debt ratios and covenant are greatly compromised. Hunt (1985), did find support for the debt hypothesis theory especially with respect to debt ratios, and found a threshold level of divided payout ratios above which firms are reluctant to use LIFO.

Lack of Internal/Managerial Uses of LIFO Other than for Tax Purposes

If LIFO is a legitimate accounting method, one would expect its use for other purposes in addition to tax reporting. Is LIFO used for internal revenue making purposes such as for pricing decisions? Is LIFO used as a basis to judge management performance? Is LIFO used as a basis for bonus purposes? To answer these questions, if the use of LIFO was primarily motivated by management rather than solely tax considerations, then we would expect LIFO to be an integral part of firms internal operations, but this

does not appear to be the case: Many companies use LIFO for tax and external reporting purposes but maintain a FIFO, average cost, or standard cost system for internal reporting purposes. There are several reasons to do so: (1) Companies often base their pricing decisions on a FIFO, average, or standard cost assumption, rather than on a LIFO basis. (2) Record keeping on some other basis is easier because the LIFO assumption usually does not approximate the physical flow of the product. (3) Profit-sharing and other bonus arrangements are often not based on a LIFO inventory assumption. Finally, (4) the use of a pure LIFO system is troublesome for interim periods, for which estimates must be made of year-end quantities and prices. (Kieso, Weygandt, and Warfield, 2005).

"Note in particular that if profit-sharing and management bonuses are not based on LIFO the implication is that company does not consider LIFO to be a cost assumption appropriate in measuring a firm's performance. If proponents of LIFO believe its use is necessary to ensure that income is properly reported, it seems they should advocate a requirement that all firms use LIFO for tax and financial accounting purposes, or, at a minimum, that an electing firm be required to use LIFO exclusively, rather than permit a business to use LIFO for a portion of inventories and another method (or methods) for their remaining inventory." (Plesko, 2006)

Added Administrative Costs

LIFO use is costly from an administrative view point as companies employing LIFO for tax and GAAP purposes will have yet another set of records for internal use, as discussed above. Additionally, LIFO reserve requirements are necessary, further compounding its accounting cost. The use of LIFO then is costly from both; an asset management, including covenant compromise position, as well as an administrative viewpoint, while allowing for the potential of income manipulation.

Balance Sheet and Income Statement Presentation

Since LIFO expenses its most recent inventory acquisitions to cost, the ending inventory balance presentation is composed of the oldest inventory purchases, making the balance sheet potentially and practically very inaccurate. From a non tax aspect, this is the most viable argument against LIFO. An example will illustrate this shortcoming: if Exxon- Mobil purchased 20,000 barrels of oil in 1939 for $5 per barrel, and the 20,000 barrels remained in the accounting records as ending inventory in 2010, when the cost per barrel is $100, an assumption which is easily satisfied assuming an increasing inventory trend, then the LIFO balance sheet total for inventory in 2010 is materially misstated. Under LIFO, ending inventory in 2010 is 20,000 barrels x $5 = $100,000(1939 prices), whereas the more accurate valuation which would be reflected under FIFO is 20,000 barrels x \$100 = \$2,000,000(most current prices), resulting in an understatement of \$1, 9000,000 or 95% of asset value. LIFO produces unrealistic Balance Sheet Inventory totals when compared to economic reality. LIFO is too conservative and yields unrealistic financial totals for inventory, current assets, total assets, net income and Shareholders' Equity. LIFO is contradictory to FASB 157, a fair market valuation for certain assets which aims at a truer financial statement presentation. LIFO is too conservative and goes too far to understate inventory value, resulting in a balance sheet presentation of very limited usefulness to the financial user. Note also, that this company has gained a tax advantage of \$1,900,000 x the tax rate over the years.

The result is that LIFO has no real application to the balance sheet, and any type of analysis from this is not viable. FIFO on the other hand, is depictive of the true inventory values as it expenses the earliest inventory and maintains it's most current inventory for balance sheet presentation. In our example, FIFO would reflect an ending inventory of 20,000 barrels X \$100 or \$2,000,000, an amount reflective of the true economic picture. FIFO then is balance sheet friendly and any type of ratio analysis involving Balance Sheet Inventory valuation should use FIFO as its base. As the following examples illustrate, if we wanted to calculate Return on Assets = EBIT/Assets, the asset base should include inventory on the FIFO basis. In term of debt ratio = Liabilities/Assets, the asset base again should include inventory on the FIFO basis (see appendix 2). The use of LIFO in asset, including inventory type ratios is not correct and the adjustment to FIFO via the LIFO reserve should be made prior to calculating, interpreting and commenting on balance sheet related ratios.

Romeo (2009) has noted that Exxon Mobil and most oil producers have inventory purchases made before World War II presented on their Balance Sheet. Additionally, many of these firms also have a material amount of LIFO reserves when compared to total assets and stockholders Equity, making the older inventory historical cost presentation of LIFO inapplicable.

The greatest defense for LIFO is the appropriateness of its use to derive a true economic income statement. Since LIFO expenses its most current purchase to cost of sales, it effectively matches current cost to current income, thereby making the income statement representative of economic reality. While true, there are potential flaws in this argument.

<u>LIFO Liquidation</u>

The first flaw is in the case of liquidating inventory. If inventory liquidates, then the cost of goods sold expense total (cost of sales) will include current inventory purchases in addition to "older" inventory purchases. As such, current revenue will be matched not only with current inventory purchases, but also with much older, predated purchases. If this were to occur, the income statement depiction of inventory would be incorrect. As an example, if Corp X had the following:

Beginning Inventory	10 Units	@ \$10 per unit	=	\$100
Purchase	90 Units	@ \$20 per unit	=	\$1,800
Total	100 Units			\$1,900

If ending inventory is 15 units, i.e. 85 units sold @ \$30 per unit, we have a "correct" LIFO income statement as follows:

Sales	[\$2,550]	(85 units X\$30)
Cost of Goods Sold	(\$, 1700)	(85 units X \$30)
Gross Profit	(\$850	(1) Gross Profit %=Sales-Cost of Sales Sold)/Sales=33%

This is the correct income statement as there is a buildup/maintenance of inventory. Current revenue is matched only with current purchases. However, in the case of liquidation, if for example ending inventory is 2 units, i.e. 98 units sold, we are expensing current purchases of \$20 each plus older purchases of \$10 each against revenue. The Income Statement now is not reflective of economic reality. The result using LIFO is as follows:

Sales		\$2,940	(98 units x \$30)
Cost of Goods Sold		\$1,880	(2)
Gross Profit		\$1,060	
(2) (90 x\$20)	=	\$1,800	
+ (8x \$10)	=	80	
		\$1,880	

The Gross Margin Profit %(Sales – Cost of Goods Sold/Sales) here is \$1060/2940 = 36% substantially higher than the reality of 33 %(1), resulting in an unreal income statement.

<u>FIFO Presentation</u>

Second, FIFO if used, would not give an exact, perfect presentation of the Income statement, but assuming a low to a modest inflation rate (a realistic assumption), would result in a very realistic income statement. The only shortcoming of FIFO is to expense beginning inventory, which is usually the last inventory purchases of the prior period, plus the current year's purchase, but not all of the most current purchases as reflected by ending inventory.

Thus the difference in obtaining a correct income statement is to reconcile the difference between this year's most current ending inventory costs with the beginning, last year's most current inventory costs. Mathematically, this difference approximates the inventory inflation rate times Beginning Inventory= ∏ x Beginning Inventory.

An example will illustrate this application: Assume Company Y has the following:

Beginning Inventory	100	units	@	=	\$1,000
Purchases	500	units	@	=	\$5,075
Purchases	500	units	@	=	\$5,150
Total Available for Sale	1100	units			\$11,225

Assume further that the ending inventory remains at 100 units. Under FIFO, the cost of goods sold is \$11,225 less ending inventory of \$1,030=\$10,195. Under LIFO, the most correct presentation in this scenario, as we have non -liquidating inventory; cost of goods sold is \$11,225-ending inventory of \$1,000=\$10,225, resulting in a difference of \$30.

The difference of \$30 results because the ending inventory cost is 3% greater than the beginning inventory cost. ∏=\$10.3 - \$10/\$10=3% x Beginning Inventory of \$1,000=\$30.

Note that this difference is not material, as it represents a difference of 30/10,225 or .29% of the total cost. Rather this difference is minute, and the argument made is although not perfect, FIFO is a close and material indicator of income statement reality. Coupled with the best balance sheet presentation, FIFO is clearly the much superior overall inventory method from a financial and economic perspective when compared to LIFO.

International Reporting Standards

As stated earlier, IFRS does not allow LIFO as an accounting method. This creates several problems: A) The standardization of one single set of accounting standards as proposed by the US Congress may be conditional upon the elimination of LIFO. LIFO is in a politically bad situation.

B) Equally important, cross country comparisons of financial statements will be difficult if LIFO is still maintained. LIFO is a US phenomenon, and the rest of the world does not use it. Comparing a European firm using LIFO to a US company using LIFO makes financial analysis and comparability difficult. Much of the blame of the current worldwide crisis is being pinned on financial statement manipulation. World standardization of financial reporting will greatly alleviate the problem of accounting engineering.

C) Difficulty of Adjustments from FIFO to LIFO. : Adjusting LIFO to FIFO, as discussed earlier is relatively easy by use of the LIFO reserve disclosure. However, the adjustment form FIFO to LIFO is quite complex and difficult. Given that 96% of US companies and 100% of non US companies does not use LIFO, adjusting the 4% of US companies using LIFO to a FIFO basis for inter and intra Company comparisons may not be possible. Comparisons of LIFO use companies to non LIFO use companies will remain a paradox, compounding the problems of financial statement comparability.

D) Other LIFO methods: Dollar value LIFO is yet another offspring of LIFO, adding to its complexity. Additionally, if one uses a perpetual inventory method, LIFO will be require greater record keeping and yield different and multiple financial inventory totals when compared to the periodic inventory method, adding yet another layer of financial statement difficulty

Inverse Relationship: Stock Price and Adoption of LIFO

Jennings, Sinko and Thompson (1996) found a negative relationship between firm value/ stock price and the adoption of LIFO. This is consistent with pervious findings by Guenther and Trombley (1994), which showed empirically a negative relationship between firm value and the magnitude of the LIFO reserve. Their rationale is that if firms cannot pass on input price increase to their customer, an increase in LIFO reserve indicates lower future profitability. Jennings observed: As the elasticity of output prices with respect to input prices fall, the LIFO to FIFO reserve components of non-LIFO inventory have increasing by different implications for future net resource inflows, and loss of information through aggregation increase. LIFO adoption is most prevalent with increasing inflation as the tax benefit is maximized. A lot of the studies were done for firms that switched to LIFO in the early 1970's, a time of double digit inflation. Another possibility is that the negative relationship may a have resulted, as a market signal for an increasing inflation scenario, leading to a higher cost of capital, and resulting in a lower stock price. Another explanation offered is the deferred tax, FASB 109 theory. Dhaliral Trezevant and Wilkins (2000), argue that the LIFO reserve indicates a deferral in tax liability; a timing difference. The market perceives this LIFO reserve as a future cash obligation, payable when the inventory is sold or liquidated.

Finally, Biddle and Ricks (1988) also confirmed negative excess market returns for the firms adopting LIFO in 1974. They explain the paradox as part of the analyst forecasting errors for the 1974 LIFO adopters. Analyst overestimated the earnings of their companies as they did not anticipate the impact of inflation in their estimates. Actual results were lower than estimated earnings, causing a decrease in stock value. Perhaps the real reason for this negative relationship is that the additional costs of LIFO adoption exceed the tax benefit, resulting in a decrease in firm value and stock price.

The added cost due to carrying inventory reserves, the added administrative costs inherent with LIFO use, more unfavorable bond covenant results, causing a potentially higher interest rate and cost of capital, the prospect of income manipulation which is seen very negatively by the market, coupled with the tax deferred rather than the tax exempt aspect of the LIFO reserve, may be seen by the market as a greater sum total when compared to the tax savings. So the tax benefit of LIFO may be lower than the other added costs associated with its use, causing lower firm cash flow and resulting in lower company value and stock price.

<u>The Future of LIFO and Recommendations</u>

There are four possibilities of LIFO going forward, and illustrated as follows:

Case	**Financial Reporting**	**Tax Rules**
1	Yes	Yes
2	No	Yes
3	Yes	No
4	No	No

In case 1, LIFO would continue as present. Given extreme dual resistance from IFRS and Congress, this result seems most unlikely. The fact that LIFO users continue to decrease, is a good indication that most believe that its repeal is eminent. Furthermore, resistance to the abolishment of LIFO will greatly and potentially hinder the goal of uniform financial reporting going forward.

In case 2, allowing LIFO for tax purposes and not for financial reporting purchases represents the best of both world, as a company report the highest income for financial reporting purposes and pay the least amount of tax. The scenario would effectively eliminate the LIFO conformity requirement. The likelihood of this happening is most unlikely and not feasible.

In case 3, the worst of both worlds for a company; that is, the lowest income for financial reporting and the highest tax payment. This scenario is also not feasible.

Case 4 represents the complete elimination of LIFO. I believe that this will occur. If LIFO is eliminated at the tax level then it will be eliminated for financial reporting purposes as the advantage for business purposes, would not exist. Given the huge U.S. budget deficit, the few select beneficiaries of LIFO use which include some of the most profitable industries such as the oil produces, and the movement to a uniform worldwide accounting reporting standard whose passage is dependent on the abolishment of LIFO, make LIFO's future pale. I believe that LIFO is on its last footing, and will be eliminated in the near future. It is possible that its elimination may be delayed for a few years, possibly to year 2015, but its termination is in my belief, inevitable.

Assuming the repeal of LIFO by the Obama administration for the period ending after tax year 2011, what are some of the tax planning opportunities available to taxpayers?

1.Section 481(a) Adjustment Period: Under current tax rules, if a taxpayer charges its accounting period form LIFO to another acceptable method, and it results in a higher inventory value, the difference in additional tax is payable over a period of four years. Under the current Obama Administration's 2010 Budget Proposal, which would eliminate LIFO, the difference would be spread to taxable income and payable over eight years. Consequently, the termination of LIFO would be mitigated as the resulting extra tax would be payable to the tax authorities over an eight year period.

2.Lowering Ending Inventory: A zero ending balance will result in the same income under any inventory method. A low inventory amount will mitigate any tax advantages between LIFO and FIFO, and as described earlier, there are additional non-tax advantages with maintaining low inventory levels.

3.Net Operating Loss: Given the current recession, a company may have encountered losses in the last two years. Under current U.S. tax rules, such losses can be used to offset in part or in full, past profits for the last 2 years and/or future profit for the next 20 years; known as the 2/20 rule. A change from LIFO to FIFO will result in a higher income amount in the year of adoption, but this added income may be offset by past net operating losses, minimizing the tax effect of LIFO repeal.

CONCLUSION

This paper addressed the many disadvantages of LIFO in support for its repeal. Given LIFO's extreme political opposition, the probability for it's elimination as an acceptable accounting method is real and most likely in the near future. The probable repeal of LIFO however should be viewed as favorable. First; it will pave for the convergence of standardizing International Financial Standards; second; it will raise additional sums of tax revenue for the US government; third: the extra cost savings of non LIFO adoption may very well exceed its tax benefit, resulting in greater cash flows and greater value for the firm; and fourth: there are also various tax planning opportunities available to help ease the transition from LIFO. The limitations of my research is that the negative relationship between LIFO adoption and firm value is based on 400 firms who changed to the LIFO method in the early 1970's ,a time of double digit inflation.

It is possible that this relationship does not hold absent high inflation environments? Further research should be done to quantity in dollar terms the costs of the disadvantages of LIFO adoption addressed in this paper. What is the dollar cost of inventory inefficiencies caused by inventory reserves? What are the additional administrative dollar costs of LIFO adoption? When all the costs discussed in this paper are totaled (See Appendix 2), do they exceed the tax benefit realized by LIFO? The effect of stock prices for companies who opted out of LIFO should be empirically tested to see the results. For these companies, was there a change in stock price resulting from the change, and if so, was this significant, and in which direction? The research should focus on companies making this adjustment in recent years and in non inflationary periods.

Additionally, research should be done on the manipulation income effects of LIFO. Do companies in practice liquidate reserves in bad times to reduce losses? Do companies increase their reserves in good times to reduce profits and their income tax liability? What impact does this behavior if observed, have on stock price? This is interesting, as there is an added tax / cash benefit potential if practiced, which would be negated by income manipulation practices.

APPENDIX

Appendix 1: Accounting Inventory Methods

Suppose Company X in its first year of operation purchases inventory as follows: (Rising prices or inflationary trend)

Month	Units	Cost/Unit	Total Cost
January 15	100	$10	$,1000
March 15	100	$10.20	$1020
June 15	100	$10.40	$1,040
December 15	100	$10.60	$1,060
Total	400		$4,120

At year end, an inventory count reveals 20 units in its ending inventory.The following costs of goods sold would result under the following three methods of accounting (FIFO, LIFO and weighted average):

	FIFO	**LIFO**	**Weighted Average**
Beginning Inventory	0	0	0
(+) Purchases	$4,120	$4,120	$4,120
Total Available for Sales	$4,120	$4,120	$4,120
Less Ending Inventory	(212)[1]	(200)[2]	(206)[3]
Cost of Goods Sold	$3,908	$3,920	$3,914

FIFO: The ending inventory is represented by the last purchases made at $10.60 each. (20 x $10.60 = $212)
LIFO: The ending inventory is represented by the first purchases made at $10 each. (20 x $10.00 = $200)

Weighted average: The ending inventory is represented by the weighted average cost: Total cost/total units = $4120/400 = $10.30 per unit

The above illustrates the three common accounting methods and its differences in an inflationary environment. LIFO will result in a $12 higher cost then FIFO by virtue of inflation. This will result in a pretax lower income of $12 and a tax savings of $6 lower than the tax rate. Assuming a 40% tax bracket, LIFO will result in a lower tax payment of 40% x 12 or $4.80 and a lower new income of $12-$4.80 or $7.20. FIFO will result in a higher pretax income of $12, a higher tax payment of $4.80 and a higher new income of $7.20. (The weighted average method results will be between the LIFO and FIFO method.

Appendix 2: Summary of Advantages/Disadvantages of LIFO and FIFO

		LIFO	**FIFO**
1	Tax Advantage	Yes	No
2	Effective Inventory Management	No	Yes
3	J.I.T Adoption	No	Yes
4	Potential for Income Manipulation	Yes	No
5	Bond Covenant Advantage	No	Yes
6	Internal Uses of Method	No	Yes
7	Added Administrative Costs	Yes	No
8	IFRS Consistent	No	Yes
9	Balance Sheet Oriented	No	Yes
10	Income Statement Oriented	Yes	Yes

The above items represent a comparison of the advantages and disadvantages of LIFO when compared with FIFO. Beyond the tax advantage (#1), LIFO is a costly method of accounting choice. FIFO possesses advantages for items # 2 to 9, while both methods satisfy item 10.

Appendix 3: Selected Financial Ratios

I Liquidity 1 Current Ratio: $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

Working Capital= Current assets-Current Liabilities

II. Leverage 2 Debt Ratio: $\frac{\text{Total Liabilities}}{\text{Total Assets}}$

III.	Profitability	3	Gross Profit Ratio:	$\frac{\text{Sales – Cost of Goods Sold}}{\text{Sales}}$
		4	Operating Income Ratio:	$\frac{\text{Earnings Before Interests and Tax}}{\text{Sales}}$
		5	Net Income Ratio:	$\frac{\text{Net Income}}{\text{Sales}}$
IV.	Activity	6	Asset Turnover:	$\frac{\text{Sales}}{\text{Average Total Assets}}$
		7	Return on Assets:	$\frac{\text{Earnings Before Interests and Tax}}{\text{Average Total Assets}}$
		8	Return on Stockholders' Equity:	$\frac{\text{Net Income}}{\text{Average Stockholders' Equity}}$

FIFO will provide better financial ratios for all of the above, except for Assets Turnover, #6. The above ratios measure liquidity ratios, Debt ratios, Profitability ratios and Activity ratios of companies. These represent common ratios and are not representative of an exhaustive list of all the relevant ratios. The result is that FIFO will provide better financial ratios for all of the above, except for Asset Turnover, #6.

Appendix 4: LIFO to FIFO Balance Sheet and Cost of Goods Sold Calculation

Balance Sheet: FIFO= LIFO+ LIFO Reserve

Income Statement: Cost of Goods Sold FIFO= Cost of Goods Sold LIFO + ΔLIFO Reserve
ΔLIFO Reserve=LIFO Reserve, end of period-LIFO Reserve, beginning of period

The above formulae convert LIFO inventory methods to a FIFO basis Balance Sheet and Income Statement. LIFO reserve represents the difference between FIFO valuation of inventory less LIFO valuation of inventory and this amount needs to be disclosed in the notes of the financial statements.

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EPS DIFFERENCES USING DIFFERENT EARNINGS MEASUREMENT METHODS EVIDENCE FROM SPAIN

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ABSTRACT

This paper examines how EPS differs when calculated using two different measures of income: net income and comprehensive income. To examine how the measures differ in practice Spanish companies listed on the IBEX-35, during the period 2004-2008 are examined. This period covers a time of serious financial crisis. The Wilcoxon Signed-Rank Test was used to identify differences. The results show statistically significant differences in EPS depending upon calculation method for three of the years studied. Results in 2008 are specifically noteworthy. The evidence suggests a new dimension in fundamental analysis.

JEL: G00, G01, M41

KEYWORDS: Earnings per Share, comprehensive income, net income, international accounting, Spanish companies, IBEX-35

INTRODUCTION

The Financial Accounting Standards Board (FASB) was a pioneer in incorporating comprehensive income into its Conceptual Framework (Statement of Financial Accounting Concepts (SFAC 3, 1980; replaced by SFAC 6, 1985, par. 70). This concept of business performance (Feltham and Ohlson 1995, Brief y Peasnell 1996, Linsmeier *et al*. 1997, Mattessich 2002, Newberry 2003, Cauwenberge y Beelde 2007 and Sousa 2009a, among others), has been incorporated into the main accounting standard (Statement of Financial Accounting Standard (SFAS 130) of the FASB, International Accounting Standard (IAS 1) of the International Accounting Standards Board (IASB) and Australian Accounting Standards Board (AASB 101) of the AASB, among others).

In IAS 33 (2003) of the IASB, in addition to regulating the assessment and disclosure of traditional Basic Earnings per Share and Diluted Earnings per Share, the door was left open for companies to disclose in their financial statements the impact of other figures from their Statement of Comprehensive Income regarding the weighted average of ordinary shares outstanding.

Comprehensive income as described above, adding to net income items of expense and income which according to the corresponding standards should be recognised directly in equity. Said items include, among others, changes in fair value of financial instruments classified as available for sale, cash flow hedges, differences in foreign currency exchange and changes in fair value of tangible and intangible fixed assets, if the companies should opt for this evaluation criterion. Therefore we have a business performance which much better represents the reality of the market than traditional net income.

Within this framework of international financial information, our research aims to evaluate empirically the impact of comprehensive income on Earnings per Share (EPS) as opposed to the same ratio determined according to the more traditional net income. We analyze a select group of companies listed on the Madrid Stock Exchange of the IBEX-35 for the period 2004 through 2008, thus incorporating both economically booming and crises years. In addition to the analysis of descriptive statistics and the results obtained using box plots, we use the Wilcoxon Signed-Rank Test due to normality issues in the data.

This study sheds light on an area that has been investigated very little and is of particular interest in light of paragraph B102 of the Basis for Conclusions for IAS 1 (2007). This paragraph states that the IASB, in the discussion period to which said standard refers, received suggestions regarding what may be included in the main body of financial statements along with other alternative measures that differ from that found in traditional Earnings per Share.

This paper has to do with traditional Earnings per Share calculated according to traditional net income. We propose other alternatives for calculating net income, such as determining the ratio in accordance with comprehensive income (Cauwenberge y Beelde 2007 and Sousa and Carro 2009c). This practice is something the IASB has not ruled out and may reconsider within the framework of the current Financial Statements Presentation. It may elect to integrate it into the Memorandum of Understanding (MoU), which is being developed in conjunction with the FASB.

We anticipate that Earnings per Share calculated in accordance with comprehensive income impacts in statistically different from the more traditional net income. The findings show that in particular in 2008, a significant difference between the two measures. The empirical evidence, as well as suggesting a new tool for fundamental analysis, is of particular interest to investors and analysts. The evidence here suggests that comprehensive net income and the associated earnings per share is worthy of prominent and relative disclosure in the main body of the Statement of Comprehensive Income regulated by IAS 1 reviewed in 2007.

The paper is organized as follows. Section 2 provides the conceptual foundations of comprehensive income. Literature Review is described in Section 3 and Data and Methodology are explained in Section 4. Section 5 provides analysis and interpretations of the empirical findings and Section 5 concludes the paper.

CONCEPTUAL FOUNDATIONS OF COMPREHENSIVE INCOME

In order to provide theoretical backing to our research we must define the essential foundations on which comprehensive income is based. The FASB was the pioneering standard-setter regarding incorporating the concept of comprehensive income in the SFAC 3 (1980), replaced by SFAC 6 (1985). This concept is defined in paragraph 70 as "the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. It includes all changes in equity during a period except those resulting from investments by owners and distributions to owners".

This concept is close to the concept of income set forth by the British Nobel Prize award winner Hicks (1939: 172): "A man's (*sic*) income is the maximum value which he can consume during a period and still expect to be as well off at the end of the period as he was at the beginning".

According to Alexander (1950: 15), if we transfer this economic concept to Accounting, the profit of a business corporation can be defined as the amount of dividends that a company can distribute to shareholders without diminishing the capital invested, that is, remaining at the same level of wellbeing at the end of the year as it was at the beginning.

This definition leads us to clean surplus theory (Brief and Peasnell 1996, Felthan and Ohlson 1995, Beale y Davey 2000 and Mattessich 2002, among others), pursuant to which corporate performance captures relevant events from the value point of view, and is determined comparing the book value of equity at the end of a financial year with that registered at the beginning of the period, without shareholder's operations.

In short, as noted by Linsmeier *et al.* (1997) and Sousa (2009a), the adoption of comprehensive income is an important event in Accounting as is the economic concept of income advocated by authors of the Classical Normative-Deductive School (MacNeal 1939, Edwards and Bell 1961, Alexander 1950, Moonitz 1961 and Spouse and Moonitz 1962, among others). It is important to note that, comprehensive income is not conceived as a sole and unquestionable *a priori* magnitude as these authors suggested, but rather devised to satisfy the needs of the users, particularly of investors, given that it contributes to the efficient functioning of the market and to usefulness of the accounting information for market valuation (Mora 2004: 10).

LITERATURE REVIEW

There have been a series of descriptive studies (Beale and Davey 1997, Luecke and Meeting 1998, Bhamornsiri and Wiggins 2001, Mazza and Porco 2004 quoted in Hunton *et al*. 2006 and Pandit *et al*. 2006, among others) on comprehensive income. There is also a body of research orientated towards capital markets (Cheng *et al*. 1993, Dhaliwal *et al*. 1999, O' Hanlon and Pope 1999, Cahan *et al.* 2000, Wang *et al*. 2003 and Hodder *et al*. 2006, among others). Other studies have analyzed comprehensive income compared with net income from different angles (Sousa 2008 and 2009b, Sousa and Carro 2009a, 2009b and 2010). Still other researchers have focused on studying the impact on analysts and investors of the way in which comprehensive income is presented (Hirst and Hopkins 1998, Maines and McDaniel 2000, and Hunton *et al*. 2006).

Apart from the pioneering work of Sousa and Carro (2009c), there are no studies that have taken into account the impact of comprehensive income with regard to Earnings per Share, in particular, in the context of a serious economic crisis. This paper examines whether Earnings per Share calculated according to comprehensive income impacts is significantly different from EPS calculated by traditional net income. We examine our contentions using a sample of companies listed on the IBEX-35 during the period 2004-2008, paying special attention to 2008 because of the serious economic crisis.

As previously indicated, our research is of particular interest since in the Basis for Conclusions of IAS 1 (2007) reference is made to the fact that the IASB received suggestions regarding what may be included in the main body of financial statements along with other alternative measures regarding earnings per share. This is noteworthy given that traditional Earnings per Share calculated pursuant to net income is not the most relevant indicator for financial analysts (Cauwenberge and Beelde, 2007. We propose other alternatives to calculate EPS, such as based on comprehensive income.
We also analyze the impact of comprehensive income on other relevant ratios for fundamental analysis such as the Price to Earnings Ratio.

We are aware of the analytical limitations that arise from any ratio which draws on information of annual accounts presented by companies, due to the accounting policies followed by these companies. However, the idea of considering comprehensive income as a much broader indicator of business performance than traditional net income, incorporates a new analytical perspective with regard to the performance of economic entities.

DATA AND METHODOLOGY

In order to conduct our research we start with information disclosed in the Annual Consolidated Statements of the Spanish companies listed on the IBEX-35 in accordance with the International Financial Reporting Standards (IFRS) of the IASB. We analyze firms for the years 2005, 2006, 2007 and 2008. We also including data from 2004 as comparative information in the Annual Consolidated Statements of 2005. Data were obtained from the National Commission for the Spanish Stock Exchange (CNMV in Spanish) website and the websites of the listed companies.

By considering the period between 2004 and 2008, a boom period as well as a year of recession are considered. This allows us to assess the extent to which comprehensive income impacts Earnings per Share in extremely diverse economic and financial circumstances. It is important to note that the majority of corporate groups did not disclose comprehensive income in accordance with the principles of IAS 1 (2003), in particular those who opted to apply the Statement of Changes in Net Equity, with which we constructed the comprehensive income variable based on items that comprise it.

This study is limited to companies listed on the IBEX-35 (*Iberia Index*), a capitalisation weighted index, employed by "Bolsas y Mercados Españoles" (BME), which is the principle index of reference for the Spanish stock market, and comprises 35 companies with the most liquidity in the market.

Among others, the index includes, Telefónica, Banco Santander Central Hispano, Banco Bilbao Vizcaya Argentaria, Repsol and Endesa; large Spanish corporations with a global presence, particularly in Latin-America. On the other hand, the two Banks are included in The Banker's Top 25 World Banks 2010.

From January 1, 2005 all listed companies of the European Union are obliged to disclose their consolidated financial statements in accordance with the IFRS of the IASB, to which the current convergence of financial information models must be added not only on a European scale but on a world scale. The fact that we use a sample of 35 listed Spanish companies with the most liquidity means that our work addresses current issues and is of international interest. It also suggests further lines of investigation with respect to companies listed on other stock markets.

Consider the variable of Earnings per Share according to net income in each year *t*, bearing in mind the regulatory stipulations of IAS 33 (2003). The variable naturally coincides with that disclosed in the Annual Consolidated Statements when the standard's criteria are applied.

$$\text{Earnings per Share (t) (Net Income) [EPS-NI]} = \frac{\text{Net income attributable to the ordinary shareholders of the parent company }(t)}{\text{Weighted average number of ordinary shares outstanding }(t)}$$

We also need to define the new variable of Earnings per Share, incorporated into our research, calculated according to comprehensive income.

$$\text{Earnings per Share (t) (Comprehensive Income) [EPS-CI]} = \frac{\text{Comprehensive income attributable to the ordinary shareholders of the parent company }(t)}{\text{Weighted average number of ordinary shares outstanding }(t)}$$

Net income and comprehensive income, in both mathematical expressions, have been determined with the incorporation of continuing operations. Discontinued operations which appears to a very small among firms in the sample was not included.

Bear in mind that the numerator and denominator in both expressions respectively, have been adjusted in order to comply with the corresponding stipulations established in IAS 33. Moreover we have not considered Diluted Earnings per Share since the vast majority of the business groups only disclosed Basic Earnings per Share. With these measurements in place, the following null hypothesis is tested:

H_o1 Earnings per Share determined in accordance with Net Income (EPS-NI) is not significantly different from the same ratio calculated according to Comprehensive Income (EPS-CI) for each of the years in the period 2004-2008.

$$\theta_{EPS-NI\,2004} = \theta_{EPS-CI\,2004}$$
$$\theta_{EPS-NI\,2005} = \theta_{EPS-CI\,2005}$$
$$\theta_{EPS-NI\,2006} = \theta_{EPS-CI\,2006}$$
$$\theta_{EPS-NI\,2007} = \theta_{EPS-CI\,2007}$$
$$\theta_{EPS-NI\,2008} = \theta_{EPS-CI\,2008}$$

$H_1 1$ Alternative hypothesis: $\theta_{EPS-NI} \neq \theta_{EPS-CI}$ for at least a year *k*.

In order to test this hypothesis and its corresponding alternative hypothesis the the Student's T-test for paired samples would be suitable. However as we show in Table 1, using the Kolmogorov-Smirnov sample test, the normal null hypothesis is rejected in four out of the five years studied. Not adapting the data to a Gaussian distribution for the majority of years studied, in order to obtain the contrast we adopt the alternative non-parametric tool, the Wilcoxon-Signed Rank Tests, with a confidence level of 95%, for which the significance level is $p < 0.05$. The test contrasts the null hypothesis that the medians of the two samples are equal. Applying this to our investigation allows us to establish whether Earnings per Share determined according to comprehensive income differs significantly to that calculated according to net income.

Table 1: Kolmogorov-Smirnov Test for a sample

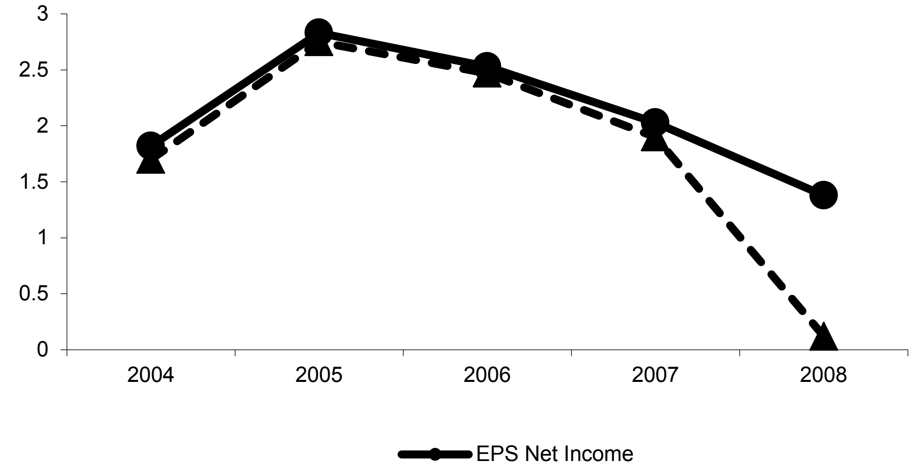
		EPS-CI-2004 –EPS-NI-2004	**EPS-CI-2005 –EPS-NI-2005**	**EPS-CI-2006 –EPS-NI-2006**	**EPS-CI-2007 –EPS-NI-2007**	**EPS-CI-2008 –EPS-NI-2008**
N		35	35	35	35	35
		-0.12	-0.08	-0.06	-0.13	-1.26
Normal parameters [a]	**Average**	0.92	2.16	0.40	0.66	2.55
	Standard Deviation					
	Absolute	0.37	0.41	0.19	0.25	0.35
		0.25	0.26	0.15	0.25	0.27
Most extreme differences	**Positive**					
		-0.37	-0.41	-0.19	-0.17	-0.35
Negative						
Kolmogorov-Smirnov Z		2.16	2.45	1.11	1.49	2.07
Asymp. Sig. (2-sided)		0.00 **	0.00 **	0.17	0.02 **	0.00 **

[a] The contrast distribution is the Standard. *This test contrasts the normality of variables formed by the differential between EPS-CI and EPS-NI of the years 2004-2008 for the companies listed on the IBEX-35.* Source: Compiled by author, from the Database and SPSS v. 17.0.

RESULTS

Figure 1 shows the profile of EPS calculated according to net income and comprehensive income, and in Table 2 the descriptive statistics associated to the comparison variables.

Figure 1: EPS-CI and EPS-NI



This figure shows the EPS-CI and EPS-NI average for the period 2004-2008 for companies listed on the IBEX-35. Earnings per Share Value (EPS-CI and EPS-NI) expressed in Euros. Source: Compiled by author, from the Database and SPSS v. 17.0.

For the sample as a whole, in all years studied, Earnings per Share determined according to comprehensive income is less than that calculated according to net income. No large differences were found for the years 2004, 2005, 2006 and 2007. However, in the year 2008, Earnings per Share calculated according to comprehensive income fell spectacularly compared to the same ratio calculated according to net income

Table 2: Descriptive Statistics

Variable	N	Average	Standard Deviation	Minimum	First Quartile	Median	Third Quartile	Maximum
EPS-NI-2004	35	1.82	4.09	-0.05	0.64	1.00	1.33	24.79
EPS-CI-2004	35	1.70	3.26	-0.07	0.57	1.01	1.51	19.64
EPS-NI-2005	35	2.83	7.36	0.07	0.73	1.18	2.44	44.10
EPS-CI-2005	35	2.75	5.42	-0.05	0.79	1.28	2.56	31.97
EPS-NI-2006	35	2.53	4.16	0.06	0.82	1.29	2.09	22.06
EPS-CI-2006	35	2.47	4.30	0.06	0.69	1.33	1.70	22.26
EPS-NI-2007	35	2.03	2.72	0.05	0.90	1.33	2.14	15.66
EPS-CI-2007	35	1.90	2.45	-0.34	0.77	1.17	2.00	13.41
EPS-NI-2008	35	1.38	2.19	-6.04	0.56	1.14	2.12	7.48
EPS-CI-2008	35	0.12	3.04	-14.60	-0.17	0.49	1.28	5.84

This table shows the descriptive statistics of the EPS-CI and EPS-NI average for the period 2004-2008 for companies listed on the IBEX-35. Earnings per Share Value (EPS-CI and EPS-NI) expressed in Euros. Source: Compiled by author, from the Database and SPSS v. 17.0.

The explanation for this substantial difference in 2008 is the strong negative impact on the results of certain new items of business groups incorporated in comprehensive income including changes in fair value of financial instruments classified as available for sale, cash flow hedge adjustments, the 2008 financial crises and negative differences in foreign currency conversion due to fluctuations in the exchange rate of the Euro and the Dollar.

In Table 3, we study how EPS calculated according to comprehensive income tangibly impacts a business relative to EPS calculated according to net income. For this we rely on the analysis of extreme and outlier values obtained from box plot diagrams, taking the differential of both ratios as the test variable.

Table 3: Extreme Values and Outliers

Listed Companies	Sector	Period 2004-2008					Average 2004-2008
		2004	2005	2006	2007	2008	
Abengoa	Basic Materials	-0.23	0.45	-1.00*	1.44*	3.05o	0.74
Acerinox	Basic Materials	-0.16	0.51	-0.67o	-0.58	-0.05	-0.19
Acciona	Basic Materials	-0.02	2.67*	0.20	-2.25*	-12.00*	-2.28
Actividades Construcción y Servicios	Basic Materials	-0.13	0.26	-0.24	2.01*	5.08*	1.40
Bankinter	Financial and Property Services	0.47*	0.02	-0.10	-0.14	-0.09	0.07
Criteria Caixacorp	Financial and Property Services	0.36o	0.33	-0.13	0.22	-0.88	-0.02
Endesa	Oil and Energy	0.04	0.69	-0.47o	0.05	-0.93	-0.12
Ferrovial	Basic Materials	0.00	0.40	0.90*	1.23o	-8.56*	-1.21
Fomento Construcciones y Contratas	Basic Materials	-0.05	-0.09	0.48o	-0.62	2.48o	0.44
Gas Natural	Oil and Energy	0.01	0.96o	-0.47o	-0.17	-0.49	-0.03
Iberdrola Renovables	Oil and Energy	0.85*	0.15	0.44 o	-0.19	0.01	0.24
Obrascón Huarte Laín	Basic Materials	-0.23*	0.20	-0.82*	-0.51	-3.13o	-0.90
Repsol	Oil and Energy	-0.31o	0.87o	0.86*	-0.87o	0.30	0.17
Sacyr Vallehermoso	Basic Materials	0.78 *	-0.25	-0.56o	0.43	0.87	0.25
Técnicas Reunidas	Basic Materials	-5.15*	-12.12*	0.37o	0.13	-0.49	-3.45
Telecinco	Technology and	0.73*	0.00	0.00	0.10	0.00	0.17
Unión Fenosa	Oil and Energy	0.27o	1.11o	0.62o	0.09	-0.43	0.33

*This table shows extreme values (*) and outliers (○) for the companies listed on the IBEX-35 regarding the differential between the EPS-CI and the EPS-NI in the period 2004-2008. Expressed in Euros.* Source: Compiled by author, from the Database and SPSS v. 17.0.

Extreme values are those greater than 3 times the length of the box from the top or bottom edge of the box. The length of the box is the inter-quartile range; and outlier values correspond to values between 1, 5 and 3 lengths of the box from the top or bottom edge of the box. A considerable number of listed companies, almost half of the sample, show extreme or outlier values in one or several of the years studied, in some cases showing a spectacular difference. This shows that the EPS calculation method has a marked effect on companies of different sectors.

Next, a comparative analysis is carried out using the Wilcoxon-Signed Rank Test. Table 4 shows notable differences between average ranks and the sum of the ranks of the ratios that are the object of this study. Of particular interest is the year 2008 which suffered a severe economic crisis.

These notable differences between the positive and negative ranges upon comparing both ratios, as set out in Table 5, lead to statistically significant differences for the years 2005, 2007 and 2008, being $p < 0.05$, which lead us to reject the null hypothesis H_o1 and consequently accept its alternative hypothesis H_o1.

Based on the empirical evidence we can say that the listed companies as a whole, of the IBEX-35, for the years 2005, 2007 and 2008, the Earnings per Share calculated according to comprehensive income is different in a statistically significant from that calculated according to net income. These results are largely in line with the results produced from the work by Sousa and Carro (2009c), in which statistically significant differences were found between both ratios for the years 2004-2007. Our study considered the select group of companies listed on the IBEX-35 instead of a sample of all Spanish companies listed on the Stock Exchange of Madrid as was the case in the study by the earlier authors, thus providing additional empirical evidence regarding the crisis effect with the inclusion of the year 2008.

Table 4: Wilcoxon Signed-Rank Test

		N	Average Ranks	Sum of Ranks
	Negative Ranks……	13[a]	20.23	263.00
EPS-NI-2004	**Positive Ranks**……	21[b]	15.81	332.00
EPS-CI-2004	**Ties**……	1[c]		
	Total……	35		
	Negative Ranks……	25[d]	18.96	474.00
EPS-NI-2005	**Positive Ranks**……	9[e]	13.44	121.00
EPS-CI-2005	**Ties**……	1[f]		
	Total……	35		
	Negative Ranks……	18[g]	14.39	259.00
EPS-NI-2006	**Positive Ranks**……	16[h]	21.00	336.00
EPS-CI-2006	**Ties**……	1[i]		
	Total……	35		
	Negative Ranks……	10[j]	16.50	165.00
EPS-NI-2007	**Positive Ranks**……	24[k]	17.92	430.00
EPS-CI-2007	**Ties**……	1[l]		
	Total……	35		
	Negative Ranks……	8[m]	8.25	66.00
EPS-NI-2008	**Positive Ranks**……	26[n]	20.35	529.00
EPS-CI-2008	**Ties**……	1[o]		
	Total……	35		

This table shows the ranks of the comparison of the EPS-NI with the EPS-CI for the companies listed on the IBEX-35 in the years 2004-2008. Source: Compiled by author, from the Database and SPSS v. 17.0.
a. EPS-NI-2004 < EPS -CI-2004 ; b. EPS-NI-2004 > EPS-CI-2004; c. EPS-NI-2004 = EPS-CI-2004; d. EPS-NI-2005 < EPS-CI-2005; e. EPS-NI-2005 > EPS-CI-2005; f. EPS-NI-2005 = EPS-CI-2005;
g. EPS-NI-2006 < EPS-CI-2006; h. EPS-NI-2006 > EPS-CI-2006; i. EPS-NI-2006 = EPS-CI-2006; j. EPS-NI-2007 < EPS-CI-2007; k. EPS-NI-2007 > EPS-CI-2007; l. EPS-NI-2007 = EPS-CI-2007;
m. EPS-NI-2008 < EPS-CI-2008; n. EPS-NI-2008 > EPS-CI-2008; o. EPS-NI-2008 = EPS-CI-2008.

Table 5**:** Contrast statistics of the Wilcoxon Signed-Rank Test

	EPS-NI-2004 EPS-CI-2004	**EPS -NI-2005 EPS -CI-2005**	**EPS -NI-2006 EPS -CI-2006**	**EPS -NI-2007 EPS -CI-2007**	**EPS -NI-2008 EPS -CI-2008**
Z	-0.590 [a]	-3.018 [b]	-0.658 [a]	-2.265 [a]	-3.958 [a]
Asymp. Sig. (2-sided)	0.555	0.003 **	0.510	0.023 **	0.000 **

This table shows the contrast statistics of the Wilcoxon Signed-Rank Test in the comparison of the EPS-NI with the EPS-CI of the period 2004-2008 for companies listed on the IBEX-35. Source: Compiled by author, from the Database and SPSS v. 17.0.
a. Based on negative ranks.
b. Based on positive ranks.

Therefore, taking into account the empirical evidence uncovered by our research, together with that produced by the above-mentioned study, we confirm that within the analytical framework of Earnings per Share there is an impact or effect on comprehensive income compared to net income, owing to the fact that the first better represents the reality of the markets. This is because as previously stated, comprehensive income, compared to the more traditional net income, essentially incorporates into income changes the fair value of financial instruments classified as available for sale, cash flow hedges adjustments and differences in the conversion of foreign currencies.

We also wanted to consider that if an all inclusive measure of income is adopted, as in the case of comprehensive income, then the reality of the market may have an impact on a ratio for fundamental analysis, such as a Earnings per Share ratio, especially in the context of a severe economic crises.

However if a much more restrictive measure of company performance is adopted, as in the case of traditional net income, then we are less aware of the impact of the market on income. This way an all inclusive concept of income represents information which more relevant to the user, in particular for investors.

CONCLUDING COMMENTS

This paper studies the impact of Earnings per Share calculated according to comprehensive income compared to that determined by the more traditional net income for the period 2004-2008, of the companies listed on the IBEX-35 in accordance with the regulatory stipulations of IAS 1 (1993, reviewed in 2003 and 2007) and IAS 33 (2003) of the IASB.

Based on the evidence here there is a statistically significant impact on Earnings per Share calculated according to comprehensive income compared to that calculated according to net income with respect to the sample as a whole and for the years 2005, 2007 and 2008. Moreover, there was spectacular deterioration in the year 2008 considering comprehensive income compared to the more traditional net income. This finding is due to the marked negative effects of the present crisis on comprehensive income. Most notable changes in fair value of financial instruments classified as available for sale, cash flow hedges adjustments or differences in the conversion of foreign currencies.

The empirical findings of our research, although limited to a select sample of the thirty-five companies listed on the IBEX-35 of the Madrid Stock Exchange, represent a point of reference for investors and analysts, as well as for economists in the undertaking of their professional activity. This holds particularly true with respect to the economic and financial analyses of companies from a perspective that better represents the market reality as is the case with comprehensive income. This places it further from the principles of historical cost and the prudence upon which traditional income have been sustained.

This way of conceptualizing traditional business performance departs from traditional thinking that has prevailed in models of financial reporting throughout the 20th century. Most notably are differences in orientated towards accountability and control, which requires a change in mentality with regard to how company performance is understood.

Finally we consider that even taking into account the limitations of the ratios produced from accounting information, such as those under research herein, the results of our paper represent a contribution to the debate which is stirring regarding appropriate Financial Statements Presentation. This is based on the statistical evidence provided not only justifying the inclusion in the Notes of Earnings per Share calculated according to comprehensive income, but also its disclosure in a much more prominent and relevant way in the main body of the Statement of Comprehensive Income.

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STORYTELLING AND CAREER NARRATIVES IN ORGANIZATIONS

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ABSTRACT

Storytelling has a history as old as Aristotle and many cultures today have an oral tradition. Children grow up with stories, golfers entertain with accounts of wins and losses on the course, parents use them to regale "the good old days". The use of storytelling in organizations has experienced significant growth during the last decade assisting in change management, formulation of short and long term strategy formation, and rightsizing (to name a few functional areas). This paper presents a brief history of storytelling, the uses in organizations, as well as an explanation of career narratives and how they can be utilized by both individuals and organizations to "tell their story."

JEL: Z00

KEYWORDS: storytelling, career narratives, organizations, Native American

INTRODUCTION

The use of storytelling and career narratives in organizations are important skill sets for the 21st century. Storytelling is as old as time and we use it our everyday lives, but often the idea of telling stories is not a practice incorporated in organizations. According to many authors, it has a place and a part to play in organizations today. Parkin (2001) believes that "storytelling has always been an essential and universal human characteristic" (p. 7). Yolen (1979) a famous children's author, notes the stories that touch us the most come from dreams that are the larger dreams that belong to all mankind. Storytelling comes from the oral tradition. The folktales and fairytales, the myths and legends, the tall tales and fables that children love today are shaped from this oral tradition (Savage, 2000). All cultures and societies had or have an oral tradition where culture, traditions, and history were passed down from generation to generation by word of mouth.

The remainder of the paper is organized as follows. In section one, we discuss the relevant literature. Section two discusses the relevance and outlines the uses of storytelling in organizations. Section three presents the storied approach to career narratives. The paper closes with a discussion of some organizational implications of this work.

LITERATURE REVIEW

Early studies related to organizational storytelling and narratives provided a social constructivist perspective in the research of Berger and Luckmann (1967), leading to integral concepts of the importance of the story in organizational culture. Wilkins and Martin (1979) identified specific functions that are integral for stories in organizations that includes making sense of the organization, control, and creating dedication being in the 1970s (Boyce, 1996). They contend that stories increase commitment, which in turn leads to a more trouble-free control function in the organization. Early research and papers related to storytelling set the stage for the future of storytelling as interest in the benefits to organizations increased and became stronger.

Denning (2000, 2005), Parkin (2001), Simmons (2001) and Simmons (2007) have written excellent books on storytelling in organizations. Parkin (2001) examined the resurgence of storytelling during the 1970s reporting that since this period there has been an upsurge in professional and semi-professional storytellers world-wide. Parkin (2001) notes that "there is obviously faith in storytelling as a means of communication otherwise simply would not have survived; people would have stopped using it" (p. 11). She continues by explaining that storytelling is a "means of taking in and making sense of information is an interactive and sharing process, and is therefore more powerful than a passive means such as the images one soaks up from television or computer" (p. 11). She believes that people are "now realizing the full potential and possible applications of this ancient and influential art in the modern world" (p. 12). This is an interesting phenomenon given the fact that there are so many books available over the last ten years alone extolling the power of storytelling in organizations and that when stories are incorporated in organizational settings, positive results are observed. Mary E. Boyce (1996) examined studies in organizational storytelling while ascertaining the multidisciplinary foundations and challenges faced in the utilization of stories in organizations.

McIlveen and Patton (2007) believe that there is no exact definition for narrative career counseling even though it has been around for the last 20 years. Constructivism can be considered an important force in vocational psychology and an example of the constructivist approach to career. Narrative career counseling encompasses subjectivity and meaning, which facilitates self-reflection and elaboration of self-concepts for better self-understanding. The holistic approach involves individuals creating an open-ended story about their lives and careers. Emotion and feelings are considered an important component. Individuals are supported in their stories by counselors. McIlveen and Patton (2007) outline and summarize the forms this approach can entail as follows: spoken and written forms; visual and spatial forms (life lines, life role circles, card sorts, goal maps, construct laddering, family constellation, guided fantasy, etc.); thematic Extrapolation Method (Super's TEM); life theme career counseling; storied approach; career systems interview; and My Systems of Career Influences (p. 229-232)

There has been a shift career counseling in recent years from a logical positivism view of career counseling to a subjective perspectives view of career counseling (Brott, 2001). In the past career counseling was basically based on logical positivist worldview as a trait and factor approach. However, as the world has become more complicated and views on development altered, so did career and counseling views change.

A postmodern approach to career counseling has evolved. This postmodern perspective is really a constructivist perspective on career counseling which is more relevant to women and people from different cultures. Brown & Brooks (1996) believe that people cannot be separated from their environments and that there are no absolutes. In addition, human behavior can only be understood in the context in which it occurs, and individuals define themselves and their environments. This of course all fits in with assumptions of the constructivist career development model.

Brott (2001) summarizes the change career counseling as follows, "This approach is based on recognizing both continuity and change throughout an individual's life by incorporating constructivist strategies in career counseling." Brott (2001) notes "the storied approach explores the client's world through story development as the client and counselor work together to co-construct, deconstruct and construct life stories. The story development encompasses life experiences in the family school, work and community" (P. 306).

The process involves the exploration of the client's life stories through examining the clients past, present, and future experiences. Co-construction involves the process of revealing the client's life through the examination of past and present life history. De-construction looks at the life experiences or stories from different perspectives or angles with the help of the counselor. Construction is basically planning for the future by writing stories about the future. Questions are posed throughout the approach to help clarify and facilitate the process. Clark, Severy and Sawyer (2004) believe that differing themes/narratives can be explored in career counseling using the person's values and not a set group of criteria. They see this narrative approach to career counseling as being more sensitive to cultural diverse students in a multicultural world. The person is allowed to select the experiences from their lives to honor and celebrate in their narratives. Individual values and beliefs are recognized in this process.

This paper considers how storytelling and career narratives are utilized in relation to organizations in America. We examine storytelling and career narratives in organizations, the use of storytelling from a Native American perspective and the oral tradition in the modern world of organizations. The next section presents utilization of oral narratives, followed by the conclusion.

RELAVANCE AND STORYTELLING IN ORGANIZATIONS

In taking a closer look at storytelling in the Americas, Native Americans today still have a strong oral tradition that is alive and well. They believe there is power in the spoken word. Ambrose (1975) noted, "The white man writes everything down in a book so that it will not be forgotten; but our ancestors married the animals, learned all their ways and passed on the knowledge from one generation to another" (p. 40).

As we begin to examine storytelling more closely, it is important to realize that, in general, Western culture does not value the oral tradition to the extent that it should be within organizational structure. The traditional view of bedtime stories and an elementary teacher reading to a class are what individuals visualize when storytelling is introduced. Storytelling does not conjure images of CEOs around a boardroom table or a manager utilizing a story to introduce change. McCaleb (2003) contends that print literacy dominates orality in a bad way. Foley (2003) goes even further in saying that the non-textual verbal arts have been labeled "primitive, unsophisticated," or "simple" or "worse yet simply ignored."

Historically, Native American chiefs and elders used stories to teach the members of the Tribe important values or ideas. Throughout the Middle Ages, storytellers were powerful because they communicated important information and knowledge (Parkin, 2001). Storytellers were respected and admired. This is no different from the senior members in modern day organizations, who share their memories and educate new employees through their corporate stories. Parkin, (2001) calls them the "Tribal Elders" of the organization (p. 9).

Leslie Marmon Silko (1996), a Pueblo Indian woman and writer, in an oral presentation explained the following in relation to language and literature and the oral tradition:

> Where I come from the words that are most highly valued are those which are spoken from the heart, unpremeditated and unrehearsed. Among Pueblo people, a written speech or statement is highly suspect because the true feelings of the speaker remain hidden as he reads words that are detached from the occasion and the audience… for those of you accustomed to a structure that moves from point A to point B to point C, this presentation may be somewhat difficult to follow because the structure of Pueblo expression resembles something like a spider's web – with many little threads radiating from the center, criss crossing each other. As with the web, the structure will emerge as it is made and you must simply listen and trust, as the Pueblo people do, that meaning will be made (p 48-49).

In today's world, leaders are using stories to explain their point of view or to sway their members. Quong, Walker and Bodycott (1999) believe that the power and place of storytelling in organizations has been well established in relation to learning, communication and socialization. They think life experiences, values, and beliefs are stored in the form of stories in our mind. Stories are important because they tell us all about the storyteller's, knowledge, values, influences and understandings from all aspects the person's life. Boyce (1996) suggests storytelling is critical in organizations to articulate experiences, confirmation and socialization of organizational culture and history, as well as creating vision and strategy.

Individuals in the field of business in areas such as finance, accounting, and strategy tend to be left brain thinkers (logical and analytical). The concepts related to storytelling may be difficult for these individuals to comprehend. Whereas, right brain thought processes center on creativity and influence (Simmons, 2006). According to Simmons (2006), "Story thinking is subjective and sensory; it follows strong emotions and is unpredictable" (p. 257). With individuals and organizations rediscovering storytelling and the benefits from utilizing stories, it's no wonder interest in the topic continues to increase. Storytelling has become an integral skill to possess in organizations in the 21st century. With this being the case, teaching storytelling in college and university (business) classes makes perfect sense (Rhodes, Pullen, & Clegg, 2010). There are approximately 30 institutions of higher education offering degrees in folklore in the United States, yet none of these are specific to business or organizational storytelling (storytelling institute website). So how can organizational storytelling be learned? The answer to this is from books on the subject, practicing, attending conferences, and possibly taking a class–tailoring the learning toward the organizational setting. One of the settings that utilize storytelling routinely is in religious settings; in sermons and homilies.

This was the case during the 56th National Prayer Service at the National Cathedral in Washington, DC. Sharon W Watkins, General Minister and President of the Christian Church (Disciples of Christ), charged United States President and his administration with the following. "What you are entering now, Mr. President and Mr. Vice President, will tend to draw you away from your ethical center…But we, the nation that you serve, need you to hold the ground of your deepest values, of our deepest values. Beyond this moment of high hopes, we need you to stay focused on our shared hopes, so that we can continue to hope, too. We will follow your lead... Watkins said this administration especially has hard times to deal with – the economy and the nation's standing in the world' (Tapper, 2009). The following is the story Watkins told:

> *The Wolves Inside You*
> An elder Native American was teaching his grandchildren about life. He said to them, "A fight is going on inside me... it is a terrible fight and it is between two wolves. One wolf represents fear, anger, envy, sorrow, regret, greed, arrogance, self-pity, guilt, resentment, inferiority, lies, false pride, superiority, and ego.
>
> The other stands for joy, peace, love, hope, sharing, serenity, humility, kindness, benevolence, friendship, empathy, generosity, truth, compassion, and faith."
>
> "This same fight is going on inside you, and inside every other person, too", he added.
>
> The Grandchildren thought about it for a minute and then one child asked his grandfather, "Which wolf will win?"
>
> The old Cherokee simply replied…"The one you feed." (Native American Legend, http://ww.firstpeople.us/FP-Html-Legends/Two Wolves.Cherokee.html)

Stories have been utilized to provide a "charge" to make a change or provide leadership. Quong, Walker and Bodycott (1999) believe that "to state a truism , however, organizational and leadership stories only become genuine vehicles for enlightenment and learning when people actually listen and seek to unearth their meaning. For many people analyzing leadership stories is unfamiliar territory. When people listen to stories, they rarely question what the narratives convey about the person, the organization or the culture from which the story is derived – all of which can provide rich insights into how and why leadership is exercised" (p. 441-442).

Storytelling can be an effective method for developing leaders for organizations. According to Ready (2002), storytelling has emerged as a preferred approach for teaching leadership effectiveness in many organizations and companies today. Simmons (2007) believes stories can have power and impact on others in the corporate world. In fact, she comes from a business family who were natural storytellers. She defines story as "a re-imagined experience narrated with enough detail and feeling to cause your listeners imaginations to it as real" (p. 19). Parkin (2001) indicates that past research has demonstrated that personal storytelling to be the most notable and remarkable form of communication Rhodes, Pullen, & Clegg (2010, p. 6) point out that great leaders like Lincoln, Reagan, Churchill, MacArthur and Hannibal were communicators and thus storytellers. Daniel Pink in his recent book, *A Whole New Mind,* believes storytelling is critical to success in the business world. Although an organizational environment may seem like an impersonal environment, according to Maguire (1998), storytelling already exists under different names; mentor, training, gossiping, or schmoozing (p. 202).

One needs to learn to tell an effective story to realize benefits. Lisa Waukau (personal communication, July 15, 2010) as Tribal Chairwoman of the Menominee Indian Tribe of Wisconsin in 2004 was asked to address the Grand Council in Wisconsin, which is a meeting of all the Indian Tribes in the state. As part of her speech she told a Menominee story about lacrosse and Awonako. Her sister and traditional storyteller, Leslie Teller, gave her this story to share. She used this story in particular to stress the importance of Native people being visionary.

> *The Awonako Story*
> It was the first spring storm when we were first here and the people called for the first lacrosse game in order to appease the powerful thunder gods. And who were these powerful Thunder gods who struck fear in all the people? They were the god's of war and wherever they went they created a fearsome racket. They also brought the rains that brought us wild rice that brought us prosperity and life.
>
> Maeqnapus, the teacher of all good things, paints a ball red because he thinks that will please the Thunder People. The sides are chosen and it is the land animals against the air creatures. He throws this red ball out in Sakakoh and the game begins.
>
> And the animals battle all the way north through Milwaukee, along the cliffs of the dells, over to Green Bay, up the Wolf and north to Lac du Flambeau and over to Lac Courte Oreilles and beyond.
>
> And it looks like Eagle, with his powerful wings is going to win the game on his own, but as he tires; the weakness of the winged creatures are exposed. He finds the Sparrow, even though they are many, they are too light and empty headed to be of any help. And the Crane, there were not enough of them, and besides they are all legs and not much help in this game we call "Little War". Eagle is exhausted and he drops the ball.
>
> And that is just what the land animals were waiting for. With their swift runners, the Deer People, with Bear alongside for protection, the land animals seemed unstoppable.
>
> The winged creatures met in council with Maeqnapus to talk strategy-how can we to stop this force of nature? The sun had already set for the day and the Bat showed and wanted

> to join the winged creature's team. The winged creatures told him, "go away, you have nothing to offer, you are too small." Maeqnapus said, "He is here, he wants to help. Let him play."
>
> So that night, while the land animals were asleep, Bat swooped down and took the red ball away from them and with his night vision was able to navigate his way through the trees and the night spirits-he was Awonako-he carried the ball. And he carried the winged creatures to victory. And the Thunderers were appeased. And that brought the warm spring rain that brought the wild rice and that brought prosperity and life to the people.
>
> This old story tells of the wisdom of our people and each of us takes something from these stories. The old people saw the Bat as a humble creature, not one generally honored among the winged creatures, but one who has medicine for survival, for reincarnation, one who forces us to see further than today and tomorrow and beyond that. For you see, the bat flies at night and in the night are born in our dreams and these are the dreams that build the future.

Lisa said that she received many positive comments from the elders who were in attendance at the meeting. They could relate to the storytelling because in the old days that was how lessons were taught and knowledge shared. Here is another story Lisa shared with a group of Native investors, who were working with the Menominee Tribe. The Menominee are a small tribe in comparison to other tribes and they are not wealthy. They have a casino, but it does bring in a great deal of money. Therefore, it is necessary for them to depend on the support of others. They had to meet with one of their benefactors about continuing their financial assistance in the quest for an off-reservation casino. The other tribe was beginning to have doubts about the benefits of continuing their support as the federal government was not very cooperative. They invited Lisa and other tribal members to meet with them. Lisa (personal communication, August 20, 2010) was asked to say a few words.

> I want to tell you are a family story. You know Indians are not like other people – money doesn't always mean the same thing.
>
> Shania is my niece who lives with her grandparents. She is very petite and tiny for her age. She started fancy shawl dancing when she was very young. She and her aunt Sofie would go to pow-wows all over the country where Shania would contest dance.
>
> They were at a pow-wow in Kansas when Shania caught the eye of an older lady, who looked critically at Shania's dance regalia. The older lady told Sofie, I am going to make Shania some beadwork for her outfit and then she will be a champion dancer. She needs better beadwork.
>
> Time passed. Pow-wows came and went. One day the older lady called Sofie on the telephone and told her, I have a yoke and arm guards for Shania's outfit. I want her to wear them to the next pow-wow.
>
> The beadwork was stunning. It complemented Shania's dance style and her outfit. She started to place and to win money at the pow-wows she entered.
>
> Shania's grandparents were stunned that someone out of the blue would take the time and effort to make such beautiful beadwork for someone they didn't know. John and Leslie decided that they had to do something in return for the older lady.

> They had an old car that needed fixing up. Indians always need a good car so John started slowly repairing the car. He put new tires on it and he repaired the engine. He fixed it up good as new and he probably could have sold and made some money. It was better than a "Rez Runner." But he didn't.
>
> The Teller family drove the car to Northern Minnesota to the older woman's reservation. She lived in federal housing, where houses do not have garages or driveways or decks.
>
> Shania's grandparents told the woman and her family that they wanted to thank her for making Shania's regalia so beautiful. We have a gift for you too. She tells them that they didn't need to do this. They presented her with the car. She immediately took it for a ride and drove up and down the road honking and waving at her relatives. They had made a friend for all time.
>
> The moral of this story in the Indian way - it is not so much the money as it is the friendship and sharing that makes the difference. We are not Coca Cola or GM. We know we are costing you money. Think of us as the old car in the story. You are helping to fix us up and we will be just like new. Indian people don't think like white people. But we know as Indian people that everything cannot be measured by the white man's cash register.

At the end of the story there was dead silence in the room. Some people had tears in their eyes. The investors did not give the Menominee Tribe the heave ho. They decided to continue funding their off reservation endeavor a while longer. This is an example of the power storytelling related to persuasion and change.

One of the reasons this story is so powerful is because of its connection to emotions or affect. Emotion can be an integral part of learning and cognition. Educators must utilize hot cognition in their teaching. Ormrod (2010) defines hot cognition "as learning or cognitive processing that is emotionally charged" (G-2). Furthermore, she indicates that learners pay more attention to emotionally charged information, they continue to think about the information and they will elaborate on the information. It is important for us to utilize the emotion in our stories because affect has an impact on motivation. In fact, Rhodes, Pullen, & Clegg (2010) think that storytelling is not passive for the listener, but triggers active thinking on their part. Simmons (2001) observes that good stories induce a trance in the listeners. It is like an altered state of awareness so that we connect to the listeners' unconscious and imaginations. For example, Evans and Metzger (2000) say that as a stylistic element in telling a story, it is important to consider emotion. The storyteller must help the audience feel the emotion of the story.

In the business world this is a must so that workers are motivated and excited about what they are doing. Storytelling can be a nonthreatening coaching tool for personal development and or to enhance organizational performance (Parkin, 2001). Furthermore, she thinks stories and metaphors have an impact on learning and memory. A good story can relate management principles such as decision-making, leadership, group dynamics, power and politics in a way that captures the attention and enhances memory (Rhodes, 2010). People who tell the best stories "win" according to Simmons (2007, p. 38). She suggests that business people find stories that "win" for them and that is however they define winning. The idea of winning is of course emotion-packed. Everyone wants to win or be a winner.

CAREER NARRATIVES IN ORGANIZATIONS

Career narratives are a form of storytelling. Narratives are often used for a variety of reasons. Career narratives are often utilized for high school students applying for college, students applying to graduate school, or for individuals applying for jobs or making a career change. They may also be used for completing various club membership applications or scholarship applications. Career narratives are set in a "story form", with the writer utilizing a less stringent format that a resume or curriculum vitae.

Career narratives involve the writing and revision of a sound, logical personal and professional narrative through exploration, experience, and reflection. Individuals are empowered to make amendments related to the situation the narrative would be utilized (Severy, 2008).

An example of a career narrative for a student interested in completing a degree in business may read like this:

> I love working with people. It interests me to no end. With this in mind, I plan to obtain a bachelors degree in business-concentrating in human resources management. I have always enjoyed filling out forms and completing computations. This would assist me in working with employees in the hiring process, benefits and compensation, and training compliance. When I establish myself in the working world I want to be in an office, one that is mine alone. I am a person who is self motivated and in dealing with confidential employee issues, this would be imperative.
>
> As of now I have taken steps that will help me obtain my goals. I have taken courses in general business, human resources management, business communications, psychology, and organizational behavior. I will be completing a three-month internship at LNM Bank in their Human Resources Department during the spring 2011 semester. This internship will provide the opportunity to utilize skills I have learned in the classroom into real world situations.
>
> I have developed many skills over the years that I believe will help me achieve my goals. I am diligent, professional, and can obtain, apply and explain information to others. I have learned to be a team player and work well with others. I feel that my goals for the future are possible and that my goals will be achieved.

A career narrative should follow a descriptive structure. It is a way to show the reader something about the writer, present important information related to the writers experience and background related to the topic, as well as demonstrates writing ability. The author is telling a story in a form that is significantly more descriptive than would be found in submission of a resume or application. The concept is to garner the attention of the reader to tell ones' own story.

Career narratives are many times utilized in human resources (HR) to determine current or future training for employees. HR managers can evaluate future goals and aspirations of employees in greater depth from a career narrative; making a determination as to management training.

CONCLUSION

Storytelling and career narratives are powerful tools or forces in today's business world and important skill sets for the 21st century. Storytelling motivates, it touches peoples' emotions, and it helps people remember the message. Organization leaders should not be afraid of using storytelling, instead it is a way to enhance their ideas. The transition from storytelling to career narratives is a natural evolution. A career narrative is a descriptive structure. The author is telling a story in a form that is significantly more descriptive than would be found in submission of a resume or application. Narratives provide self-evaluation, understanding of one's career, and amplifying the power of a person's story (Rehfuss, 2009). The concept is to garner the attention of the reader to tell ones' own story. This process can help individuals assess where they are in their career and changes they can make in their lives, especially during these economic times.

A limitation of this paper is the amount of qualitative and/or quantitative research supporting the impact of storytelling in organizations. Future research should include an analysis of storytelling and career narratives in today's economic conditions. "The story is something that comes from outside. But the meaning is something that emerges from within. When a story reaches our hearts with deep meaning, it takes hold of us. Once it does so, we can let it go, and yet it remains with us (Denning, 2001, p. 195). Storytelling and career narratives are important tools in every organization and business person's skill set.

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THE ROLE OF CORPORATE GOVERNANCE IN THE EVENTS LEADING UP TO THE GLOBAL FINANCIAL CRISIS: ANALYSIS OF AGGRESSIVE RISK-TAKING

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ABSTRACT

This paper seeks to explain how failures in corporate governance contributed to the global financial crisis. More precisely, it studies how the current corporate governance systems failed to safeguard against aggressive risk taking and to provide the control that companies need in order to promote sound business practices. This paper concludes that aggressive risk taking, a corporate governance aspect, was a major cause of the 2007-2008 financial crisis. Inadequate risk management by executives and boards of directors is to be blamed for the credit market collapse and resulting financial crisis. This paper identifies three elements- improper incentive system, rationalization and opportunity- that encouraged managers in financial institutions to engage in aggressive risk taking. This paper contributes directly to understanding what went wrong in the corporate governance system based on a review of the literature. It introduces recommendations to deal with aggressive risk taking behavior in order to avoid future crisis. The outcomes of the study are directly relevant to the corporate decision-makers where the recommendations are tangible and presented in ways that decision-makers could implement.

JEL: G01; G30; G32; G38

KEYWORDS: Financial crisis, corporate governance, risk management

INTRODUCTION

In 2008, the world experienced the biggest economic crisis since the Great Depression (Blundell-Wignall, Atkinson & Lee, 2008; Cheffins, 2009; Ely, 2009; Lang & Jagtiani, 2010). Stock prices dropped further than they had in a single year since the 1930s and major financial institutions were either bailed out or ended up bankrupt (Cheffins, 2009). Lewis, Kay, Kelso, & Larson (2010) argued that bad loans were made at the height of a real estate bubble in the United States. They added that aggressive lenders engaged in extremely high-risk subprime mortgages and most of them violated traditional underwriting standards for the industry. When the overheated real estate market began to cool, it produced a domino effect that caused the collapse of major players in the financial sector.

A remarkable aspect of the financial crisis of 2008, According to Cheffins (2009), is that it occurred despite the strengthening of U.S. corporate governance over the past few years. Corporate scandals at the beginning of the 2000s led to a prompt legislative response in the form of the Sarbanes-Oxley Act of 2002 and new exchange listing requirements at the NYSE and NASDAQ. Those new regulations served as models for governance reform around the world (Adams, 2009). However, many researchers (Cheffins, 2009; Grosse, 2010; Kirkpatrick, 2009) are convinced that the current financial crisis proved current corporate governance arrangements are not adequate to prevent future crisis. A 2009 *Steering Group on Corporate Governance* report, published by the Organization for Economic Cooperation and Development (OECD), concluded that the financial crisis could be attributed to failures and weaknesses in corporate governance system. Similarly, *the Shareholder Bill of Rights Act of 2009*, introduced by the U.S. Senate, found that failure of corporate governance was among the central causes of the financial and economic crises that hit the United States. More precisely, Kirkpatrick (2009) argued that current corporate governance systems fail to safeguard against excessive risk taking and to provide the control that companies need in order to promote sound business practices

This article addresses the issue whether and to what extent corporate governance can be considered a cause of the financial crisis. This is done through analyzing an important aspect of corporate governance - risk management. The major question addressed is: *how might the corporate governance system have contributed to the global financial crisis?* I only study the financial sector because the current crisis proved that the decisions of individual banks could put entire economies at risk. In addition, boards of financial firms face more pressure to satisfy non-shareholder stakeholders than boards of nonfinancial firms.

The paper is organized into four parts. The first part includes a literature review on the fundamentals leading to the financial crisis, and a brief chronology of the phases of the crisis. In this part, I also introduce the corporate governance theory. The second part discusses aggressive risk taking by financial managers before the onset of the crisis. First, I introduce an aggressive risk-taking triangle suggesting three elements behind aggressive risk-taking strategies. Then, I tie the financial crisis to the corporate governance failure. In the third part, I present a series of recommendations based on the review and interpretation of the literature and evaluation on what needs to be done to improve the system. In the final part, I conclude that financial firms failed to implement corporate governance procedures. These procedures consider risk management an obvious oversight duty of the board of directors that would be fulfilled by monitoring the effectiveness of the company's risk strategies and making changes as needed.

LITERATURE REVIEW

Poole (2010) returned conditions leading to the financial crisis to the stock market peak in 2000 when the Federal Reserve in the United States started to reduce funds rate. Back then, Collateralized Debt Obligations backed by subprime mortgages represented the perfect vehicle for investors seeking high yield investments. As the demand for subprime mortgages increased, underwriting standards decreased. Mortgage brokers lent to the households without adequate income or assets to service the mortgages. Many of the mortgage borrowers were investors anticipating quick resale of the properties they purchased. Low underwriting standards and high home prices rocketed the subprime mortgages in 2005 and 2006 (Scott, 2009). In the same time, the US government encouraged growth of the subprime mortgage market in an attempt to increase the percentage of families owning their own homes. The Bush administration pushed Fannie Mae and Freddie Mac, a government-sponsored enterprise, to accumulate subprime mortgages (Poole, 2010). Fannie Mae and Freddie Mac main business was to expend the secondary mortgage market by securitizing prime mortgages into Mortgage-Backed Securities (MBS) allowing lenders to reinvest their assets into more lending.

Similarly, Lang & Jagtiani (2010) identified three central factors leading up to the financial crisis: the enormous price increase in the housing market, the extensive decline in mortgage underwriting standards, and the tremendous growth of the residential MBS. Lang & Jagtiani (2010) explained that the mortgage market's performance was tied very closely to continued housing price appreciation. When the housing price appreciation began to slow in 2005, the performance of mortgages started to deteriorate, and financial firms that were highly concentrated in the mortgage lending business faced severe financial trouble. "As house prices leveled off in 2006, and adjustable-rate mortgages taken out in the low interest rate environment of 2003-2004 began to adjust up, the music stopped" (Poole, 2010, p. 426).

The sharp collapse in financial markets can be dated to August 9, 2007 when the short-term credit markets froze up after French bank BNP Paribas suspended three large investment funds citing problems in the U.S. subprime mortgage (Lang & Jagtiani, 2010). What was thought to be a subprime problem quickly turned into a financial crisis that drained the credit market and jeopardized the banking system. After so many years of expansion in the U.S. housing market, it was clear that U.S. banks expanded loans to borrowers who were not likely to repay their home loans unless housing prices continued to rise. In addition, it was clear that banks did not apply proper controls to adequately evaluate the risks of their mortgage business.

In 2006, subprime mortgages represented 34 percent of all mortgages issued in the U.S. that year (Scott, 2009). In 2007, 74 percent of all mortgages were securitized and 93 percent of subprime mortgages were securitized. Moreover, about two-third of outstanding subprime mortgages had adjustable rates (ARM). When home prices began to fall and the credit markets tightened, borrowers could not refinance their ARM to reduce payments. In 2006, the rate of delinquencies on subprime mortgages rose sharply to 11 percent posing big credit risks for the banks holding the loans, for the securitization vehicles that sold the loans and for investors in such loans. In mid 2007, credit risk spread in many of the world's major financial markets when the market suddenly cut off funding to several financial entities and the major credit rating agencies announced the first wave of significant downgrades (Scott, 2009; Poole, 2010).

By mid 2008, it was clear that the crisis in the subprime market in the U.S. was having a major impact on financial institutions and banks in many countries. The first major indicator of trouble in 2008 was the failure of Countrywide Financial (Scott, 2009). In mid-March 2008, financial strains intensified as the market cut off funding to Bear Stearns. The bailout of Bear Stearns marked the end of the first phase of the financial crisis (Poole, 2010) and declared the start of the global financial crisis shifting the crisis from the housing market into the mainstream capital markets (Scott, 2009). During the second phase of the crisis, the economy was drifting downward, but not at an alarming pace (Poole, 2010) until the U.S. government had to take Freddy Mac and Fanny Mae into its conservatorship in early September when it appeared that their capital position was weaker than expected. Then, a week later, Lehman Brothers declared bankruptcy (Scott, 2009). Lehman's collapse marked the beginning of phase three of the crisis, when market strains went from serious to calamitous (Poole, 2010). Two days after Lehman's collapse, the giant global insurance company, AIG, was rescued by the U.S. government through a financial infusion of $US 85 billion (Scott, 2009). Finally, in October 2008, the Federal Reserve cut its target funds rate in two steps to 1% and further to near zero in December. By the end of 2008, credit strains were severe and economic activity declined sharply. The financial crisis spread around the world and had become an economic crisis that led the world into a deep recession (Scott, 2009). Bankruptcies in the rest of the world were not as frequent as in the United States; however, there were major failures in Europe and the rest of the world.

Given the unique universal harm caused by the crisis, one has to wonder why managers and boards of directors engaged in such risky behaviors and failed to protect themselves and their companies. Before expanding with the role of excessive risk taking in the fall out of the financial crisis, it is important to define the role of corporate governance.

Corporate governance defines the relationship between shareholders and managers. It is a response to the agency problems created by the separation of ownership and control. Today, corporate governance covers all the rules of and constraints on corporate decision-making. Wells (2010) believed that good corporate governance allows for a balance between what managers and what shareholders desire. Good corporate governance assumes that managers have the proper incentives to work on behalf of shareholders and that shareholders are properly informed about the activities of managers. Dragomir (2008) summarized the historical points of corporate governance. Dragomir claimed that Adam Smith was the first one to express the emergence of the corporation. Then the modern corporate governance theory was born with Berle and Means in 1932, followed by the birth of the agency theory with Jensen and Meckling in 1976. In 1984, Freeman discussed the stakeholders' theory. Recently, corporate governance codes were established by the European Union before they were reformed with the Sarbanes-Oxley Act in 2002. Finally, Organization for Economic Cooperation and Development published corporate governance principles that deal with the globalization of corporate governance promoting the responsibility for true and fair reporting.

With the U.S. being the world's dominant economy after World War II, successful corporations grew rapidly and the manager-oriented model of the corporation was superlative. At the beginning, the internal governance of companies was not a high priority; the focus was on building trust among corporate executives and shareholders who only cared about dividends and stock prices of the companies they owned (Howson, 2009).

In summary, the corporate governance theory has long been based on the existence of a board of directors that acts on behalf of the shareholders to supervise and direct the management of the corporation. This theory indicates that profit and return on investment to shareholders are the primary indicators of the success of a business enterprise (Aquila, 2009). Even though the main purpose of strong corporate governance is to increase shareholders' equity and achieve sustainable economic growth, I believe that good corporate governance must serve the interests of all stakeholders by assuring the implementation of adequate internal and external controls over the company's operations.

AGGRESSIVE RISK-TAKING

Scholars agreed that the bubble in the housing prices has triggered the recent financial crisis (Scott, 2009; Yeoh, 2010; Lang & Jagtiani, 2010). Many researchers argued that the most important element of the current financial crisis relates to the credit cycle and blamed the aggressive lending tactics by bankers and credit brokers for what happened (Rotheli, 2010; Pacess, 2010). As Pacces (2010) put it, "Individual mortgage deals were closed as they were pooled together with thousands of similar mortgages, securitized, and sold immediately to investors in different tranches of Mortgage Backed Securities" (p. 3). He added, "Mortgage originators did not have incentives to screen the quality of the credit being provided" because "they did not have sufficient skin in the game" (p. 4). Pacces (2010) concluded that the risk was underestimated and financial institutions were eager to fund the subprime mortgage business by purchasing Mortgage Backed Securities (MBS) that offered great earnings relative to default risk. Similarly, Grosse (2010) agreed that the financial institutions that were involved in creating and distributing MBS did not adequately value the risk of these instruments. Grosse (2010) argued that managers of these financial institutions failed to exercise oversight over their employees who created and sold improperly valued assets.

Kirkpatrick (2009) pointed to major failures of risk management systems in main financial institutions due to improper corporate governance procedures. He reported that information about exposures in a number of cases did not reach board of directors. In other cases, boards had approved risk-oversight strategies but failed to monitor their implementation. Kirkpatrick (2009) concluded that in many cases corporate governance deficiencies facilitated or did not prevent poor practices.

Of the explanations of the financial crisis of 2008, Rose (2010) considered the one that link the crisis to managerial aggressive risk-taking is the most pervasive. Risk management is an essential aspect of good corporate governance, and vice versa. It works hand in hand with corporate governance as a means of constraining agency costs and promoting efficient and prudent management.

Erkens, Hunga, & Matos (2009) investigated the role of corporate governance in the financial crisis using data from 296 of the world's largest financial firms across 30 countries. In their empirical study, they found that boards and shareholders have encouraged managers to increase shareholder returns through aggressive risk-taking. And managers have ignored systemic risk leading their companies into liquidity problems and/or bankruptcies. Along the same line, Lewis et al. (2010) accused bankers and fund managers of pocketing enormous bonuses with no thought to the long-term consequences of their actions. The gambling by these bankers and fund managers was fed by the knowledge that if disaster struck, someone else will be blamed. bankers believed that when things go bad, borrowers, investors, taxpayers, governments and other stakeholders would bear the lion's share of the losses.

Corporate governance arrangements require boards of directors to be clear about the strategy and risk appetite of their companies. These arrangements require efficient reporting systems that allow boards to monitor their companies and respond in a timely manner if needed to. Corporate governance makes risk management an oversight duty of the board. The board function is to monitor the effectiveness of the company's management practices and make changes as needed. In its 2004 *Enterprise Risk Management Integrated Framework Report*, The Committee of Sponsoring Organizations of the Treadway Commission **(**COSO) stated that:

> Enterprise Risk Management is a process, affected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives (p. 2).

The Enterprise Risk Management framework includes Risk Assessment tool that allow risk analysis before determining how risk should be managed. After assessing the risk, management should develop a set of actions to align risks with the entity's risk appetite. Finally, policies and procedures should be established and implemented to ensure that risk responses are effectively carried out.

In his review of what worked and what did not within corporate governance mechanism, Kirkpatrick (2009) drew the following conclusion:

> Some firms made strategic decisions to retain large exposures to super senior tranches of collateralized debt obligations that far exceeded the firms understanding of the risks inherent in such instruments, and failed to take appropriate steps to control or mitigate those risks. Some firms had limited understanding and control over their potential balance sheet growth and liquidity needs. They failed to price properly the risk that exposures to certain off-balance sheet vehicles might need to be funded on the balance sheet precisely when it became difficult or expensive to raise such funds externally (p. 8).

Given the unique harm caused by the recent financial crisis, one has to wonder why managers in financial institutions engaged in such risky behaviors and why they failed to protect themselves and their companies. In order to explain why aggressive risk taking was so popular, a aggressive risk-taking triangle is proposed (refer to Figure 1):

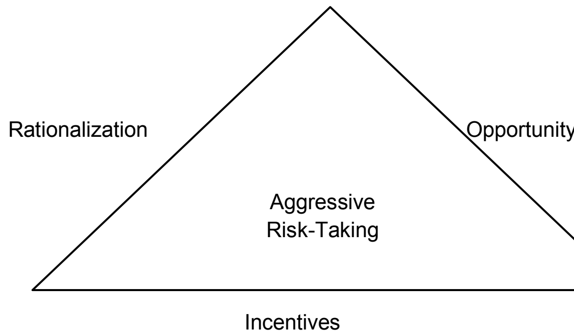
<u>Incentives</u>

Excessive risk taking was encouraged by incentive systems that rewarded high levels of risk taking. Incentive structures have an important impact on corporate strategy and success. The *Remuneration Impact Assessment* published by the European Commission on 2009 stated that badly designed remuneration policy in the financial services industry contributed to short-termism and excessive risk-taking without adequate regard to long-term global performance. The assessment addressed the problem of the mismatch between pay and performance. Executive remuneration normally consists of fixed salary and other incentives. These incentives can affect long-term performance and sustainability of the companies.

In studying the causes of its $18.7 billion loss in subprime mortgages for the year of 2007, the investment bank, UBS, revealed that it faced fundamental failures in incentives (Sahlman, 2009). UBS discovered that its employees had strong incentives to engage in high-yielding MBS. The fee structure at the bank provided special incentives to buy riskier securities. For example, traders received a fee 3 to 4 times as high when they bought risky Collateralized Debt Obligations (CDOs) than when they bought safer ones.

Moreover, UBS gave lots of current cash compensation to individuals engaged in transactions that exposed the company to big risks. UBS awarded bonuses based on gross revenue without consideration of sustainability of those revenues. Finally, UBS charged a very low cost of capital that clearly was not based on the riskiness of the assets being purchased.

Figure 1: Aggressive Risk-Taking Triangle



This triangle explains why managers in the financial institutions engaged in risky businesses jeopardizing their careers and leading their firms to credit crisis and even bankruptcies. The triangle identifies three elements (sides) that led to excessive risk-taking by managers: Incentives – rationalization – opportunity.

It was obvious that remuneration and incentive systems have played a key role in developing the financial crisis. Kirkpatrick (2009) noted that CEO remuneration has not closely followed company performance. The problem was that bankers had the upper hand in setting the structure and the levels of their compensations. Bankers, rewarded through performance contingent bonuses and stock options plans, have an incentive to generate short-term profits regardless of the long-term outcomes.

In addition, researchers have drawn attention also to remuneration problems at the sales and trading function level. Heller (2008) argued that the system of bonuses in investment banking provides incentives for substantial risk taking and do not allow flexibility for banks to reduce costs when they have to. The size of bonuses is unlimited at the upper end while it is limited to zero at the lower end. Losses are borne entirely by the bank and the shareholders and not by the managers.

The Private Sector Report issued by Institute of International Finance in 2008, identified compensation as a serious issue:

> There is strong support for the view that the incentive compensation model should be closely related by deferrals or other means to shareholders' interests and long-term firm-wide profitability. Focus on the longer term implies that compensation programs ought as a general matter to take better into account cost of capital and not just revenues. Consideration should be given to ways through which the financial targets against which compensation is assessed can be measured on a risk-adjusted basis (p. 12).

Broadly speaking, the above-mentioned issues provided strong incentives for managers to engage in risky behavior and insufficient incentives for them to protect their companies. Compensation and other incentives were not well designed to achieve an appropriate balance between risk appetite and risk controls and between short term and longer-term performance.

Rationalization

In explaining the extreme lending policies adopted by banks before the crisis, Rotheli (2010) claimed that the length of the boom period allowed younger and inexperienced managers to be in positions responsible for lending decisions. According to Rotheli, these young managers have not experienced a major economic slowdown during their career and eventually they tend to underestimate risks. During a boom, each bank faces the challenge of strategically positioning itself in the market. Managers had to follow expansionary lending policy to avoid being marginalized by bolder competitors. Therefore, the struggle for survival rationalized the trend towards riskier lending. In order to gain market share, bankers had to offer a compelling product to customers. In the mortgage business, this meant low lending standards and low introductory rates.

> In a hotly competitive business, the marginal price is often set by the lowest common denominator – the firm with the lowest quality, lowest integrity and most aggressive people; the weakest control systems; and, the most aggressive accounting systems. That is exactly what happened in the mortgage industry from 2001 to 2006, as well as in a wide range of other areas like high yield lending (Sahlman, 2009, p. 9).

Another reason that pushed managers to take more risk was that shareholders in financial firms are interested in the current profits, with little regard for the long-term health of the firm itself, and no identifiable interest whatsoever in the entire financial system. Accordingly, the same corporate governance mechanism that holds managers responsible to their shareholders incentivized managers to make risky and irresponsible decisions. Managers who did not follow the crowd stayed behind and might have lost their jobs. Therefore, traditional corporate governance principles rewarded managers for irresponsible risk-taking, higher short-term profitability, and a dynamic stock price, while punishing managers who implemented wisely safe structures designed to ensure long-term profitability and overall market stability.

One example is the French giant bank, BNP Paribas. Before the crisis, BNP Paribas implemented highly conservative risk capital and liquidity requirements. Because of its policy, the bank lagged behind its European competitors such as Deutsche Bank and Société Generale that were making unprecedented profits. With the onset of the global financial crisis, both Deutsche Bank and SocGen were laid low along with the global financial sector, while BNP Paribas survived in far better shape. However, BNP Paribas was criticized in the financial press, had a static stock price, and underwent disruptive shareholder efforts to change senior management (Howson, 2009). The real difficulty was that directors and managers were not well situated to think systemically or act in the long-term public interest. Along the same line, Howson (2009) questioned if AIG's managers, for example, should have turned away assured profits for the company's shareholders arising from Credit Default Swaps written virtually non-stop on AAA-rated CDOs because of some tentative fear that the ongoing boom was too good to be true.

One excuse for increasingly investing in securitizations was that banks had to make use of as much funding liquidity as they had access to. Managers wanted to realize short-term profits, which could be shown to shareholders who only care about current results. Managers, accountable to shareholders, cannot convince their shareholders of accepting less profit in the short run with a promise of maximizing long-term values. Even when managers had less optimistic expectations on the future price of Asset-Based Securities, they could not get shareholders to endorse shrinking of the securitization business and commit to the long run results. Rather, shareholders would force a temporarily underperforming management to resign (Pacces, 2010).

To sum up, managers did not have a choice. If they refused to be involved in the innovative business that was booming before 2006 and the easy money it generated, they would be replaced by others willing to do so. To those mangers, being fired for bankruptcy or underperformance was the same.

Opportunity

The third element in the Aggressive Risk-taking Triangle is the availability of opportunities for managers to exercise their risk-taking strategies that led to the financial crisis. Mainly, ineffective board oversight, improper disclosure and accounting standards and the credit rating process paved the road to executives to do what they have done.

Deficiencies in risk management and incentive systems point to deficient board oversight. Organization for Economic Cooperation and Development (OECD) identifies the key functions of the board to include aligning key executive and board remuneration with the longer-term interests of the company and its shareholders. The board of directors should set and enforce clear lines of responsibility and accountability throughout the organization. Internal controls should be set in place to recognize and assess the material risks that could adversely affect the achievement of the company's objectives (Kirkpatrick, 2009).

In a survey based on interviews with European banks, all interviewed banks admitted that risk governance is a key responsibility of bank boards. The banks confirmed that defining the company's risk appetite and indentifying emerging areas of risk are boards' responsibilities. They further indicated that boards must ensure that risk appetite is a coherent reflection of the company's strategic targets. The interesting point was that most of the interviewed banks indicated that their boards were broadly knowledgeable rather than extremely knowledgeable of their company's risk measurement methodology. More importantly, only one third of the banks were confident that their strategy and planning functions had a detailed understanding of their companies' risk measurement methodology. The results of this survey indicated that risk management is not deeply rooted in the organizations. Accordingly, this was a clear corporate governance weakness (Kirkpatrick, 2009). In addition, reports have documented that risk management information was not always available to the board or in a form corresponding to their monitoring of risk. OECD Principles states that: "in order to fulfill their responsibilities, board members should have access to accurate, relevant and timely information" (Kirkpatrick, 2009, p. 20).

Monetary policies formed another opportunity for executives. Lewis et al. (2010) explained that during the current financial crisis, central banks increased liquidity in order to enhance fees, which led to the ill-fated boom in American sub-prime mortgages. This tendency of bankers and financial managers to accept unnecessary risk is stressed by the fact that financial assets grow during booms. By hedging these extra assets as collateral, bankers were able to borrow even more. If financial groups use the borrowed money to buy more of the sorts of securities they lodged as collateral, then the prices of those securities will go up. That, in turn, enables them to accrue even more debt to buy more securities.

Credit Rating Agencies (CRAs) gave another opportunity to financial mangers to continue their risky business. Rom (2009) explained that CRAs deeply misread the risks of the subprime mortgage market due to the CRAs' economic incentives, their ignorance, and that they became overwhelmed. These factors led CRAs to overrate billions in dollars in MBS. Managers depended on the rating of these agencies to buy and hold the securities.

Finally, U.S. Regulators such as the Federal Reserve, the Federal Deposit Insurance Corporation, the Securities and Exchange Commission, and the Controller of the Currency did not identify the risks that were looming with the investment banks' and other intermediaries' activity in securitizing and distributing the debt obligations.

RECOMMENDATIONS

Based on the interpretations of literatures, the following insights are recommended to enhance organizations' risk management:

Existing corporate governance requirements that deal with boards' risk-oversight responsibilities need new interpretations to ensure boards have more engagement in discussing risk-management policies. In addition, current corporate governance frameworks should be implemented.

COSO's *Enterprise Risk Management – Integrated Framework* report highlights four areas of risk-oversight management. According to COSO's framework, boards must understand the entity's risk philosophy, know the extent to which management has established effective enterprise risk management of the organization, review the entity's portfolio of risk in consideration with the entity's risk appetite and determine whether management is responding appropriately to any identified problem.

Moreover, the Institute of International Finance (IIF) noted the need to reemphasize the respective roles of the board in the risk management process in many firms. In its 2008 *Final Report on Market Best Practices,* the IIF made suggestions for strengthening board oversight of risk issues. The report stated that the boards need to be educated on risk issues and to be given the means to understand risk appetite and the firm's performance against it. In addition, the report suggested having individuals with technical financial sophistication in risk disciplines as members of the risk committee.

Finally, while management develops appropriate procedures to identify, manage and mitigate risks, board of directors should satisfy themselves that the risk management processes designed and implemented by management are adapted to and integrated with the board's corporate strategy and are functioning as directed, and that necessary steps are taken to foster a culture of risk adjusted decision-making throughout the organization.

The financial crisis proved that remuneration systems were not well designed to achieve an appropriate balance between risk appetite and risk controls and between short term and longer-term performance. These systems should be adjusted to ensure that managers would not earn more merely by taking on a greater risk. I suggest retaining a part of executives' compensations and paying it out only after several years to ensure that executives emphasize the long-term profitability of their companies.

Suggestions for addressing the remuneration issues are already emerging. The U.S. Treasury Department is considering regulatory reforms that would require compensation committees of public financial institutions to review and disclose strategies for aligning compensation with sound risk-management. In addition, in its *Remuneration Impact Assessment,* the European Commission recommends improving shareholders' oversight of remuneration policies, strengthening the role and accountability of remuneration committees and ensuring independence for remuneration consultants. More importantly, the Commission recommends these measures not only for company directors, but also for staff whose professional activities have a material impact on the risk profile of the companies (Moslein, 2009).

Finally, *Final Report of the IIF Committee on Market Best Practices: Principles of Conduct and Best Practice Recommendations***,** issued by Institute of International Finance in 2008, proposed seven principles of conduct for compensation policies which could act as a solution for the remuneration problem (Table -1).

Table 1: Proposed Principles of Conduct for Compensation Policies

I.	Compensation incentives should be based on performance and should be aligned with shareholder interests and long term, firm-wide profitability, taking into accounts overall risk and the cost of capital.
II.	Compensation incentives should not induce risk-taking in excess of the firms risk appetite.
III.	Payout of compensation incentives should be based on risk-adjusted and cost of capital adjusted profit and phased, where possible, to coincide with the risk time horizon of such profit.
IV.	Incentive compensation should have a component reflecting the impact of business unit's returns on the overall value of related business groups and the organization as a whole.
V.	Incentive compensation should have a component reflecting the firm's overall results and achievement of risk management and other goals.
VI.	Severance pay should take into account, realized performance for shareholders over time.
VII.	The approach, principles and objectives of compensation incentives should be transparent to stakeholders.

Source: Institute of International Finance (2008b), Final Report of the IIF Committee on Market Best Practices: Principles of Conduct and Best Practice Recommendations, Washington, D.C. Table 1 includes seven principles of conduct for compensation policies that could act as a solution for the remuneration problem.

Direct and timely communications among board members, board committees, and management is one of the most important elements in effective risk-oversight management. Management must communicate to the boards sufficient information to enable them to understand the company's risk profile, the specific material risk exposures affecting the company's current and future operations, how risks are assessed and prioritized by the management team, risk response strategies, implementation of risk management procedures and infrastructure, and the strength and weaknesses of the overall system.

While shareholders cannot run their companies because they might lack adequate understanding of business opportunities and the related risks, they should be more involved in corporate decisions. I believe it is important to ensure that the shareholders become aware of the risks assumed by management. This could be done through making more and better information available to the shareholders.

Many boards of directors delegate risk-oversight responsibilities to the audit committee. To enhance risk monitoring, Sahlman (2009) promoted the idea of creating a new kind of external monitor that could provide helpful insight and advice to managers and regulators. This new external monitor could be achieved by creating risk committee. The risk committee will be responsible of identifying key risk areas and will report to the board of directors and to management as well.

It is worth mentioning that legislation has been introduced in Congress that would mandate the creation of board risk committees. The board committee should meet directly with the executives primarily responsible for risk management. In addition, the committee should create an environment in which managers and executives could notify the committee of extraordinary risk issues and developments that need immediate attention.

Corporate governance agency theory should be modified to make managers accountable to all stakeholders and not only to the company's shareholders. De Graaf & Williams (2009) addressed the effect of such modification on the agency theory and suggested that the stakeholder perspective of a company supplements the agency theory, since no one disagrees that shareholders are a stakeholder of the firm. Along the same line of De Graaf & Williams, Afrasine (2009) called for greater involvement of civil society as solutions for a better approach regarding risk management at international levels.

CONCLUSION

Aggressive risk taking was an important contributor to the recent financial crisis. Inadequate risk management by executives and boards of directors is to be blamed for the credit market collapse and resulting financial crisis. Companies' boards of directors were expected to take a leading role in overseeing risk management structures and policies and to implement current corporate governance procedures and guidelines. It is understood that there is no way to eliminate risk and, consequently, boards of directors are not required to attempt to do so. However, it is important for directors to take steps to be well informed of their companies' risk profile, to discuss and evaluate risk scenarios and to satisfy themselves on an ongoing basis as to the adequacy of management's efforts to address material risks.

Corporate governance arrangements require boards to clearly understand the strategy and risk appetite of the company and to establish efficient reporting systems that allow them to respond in a timely manner. Risk management is an obvious oversight duty of the board that would be fulfilled by monitoring the effectiveness of the company's risk strategies and making changes as needed. In addition, boards need to develop and disclose a remuneration policy statement covering board members, key executives and managers. Such policy statements must specify the relationship between remuneration and performance and include measurable standards that emphasize the long-run interests of the company over short-term considerations. Guided by the agency theory, corporate governance mechanisms have been designed to increase shareholders' profits. The recent global financial crisis proved deficiency of these mechanisms. It is not acceptable anymore that corporate governance serves the shareholders' interest only, effective corporate governance must serve the interests of all stakeholders.

The same corporate governance mechanism that holds managers responsible to their shareholders incentivized managers to make risky and irresponsible decisions. Managers who did not follow the crowd stayed behind and might have lost their jobs. Traditional corporate governance principles rewarded managers for irresponsible risk-taking, higher short-term profitability, and a dynamic stock price, while punishing managers who implemented wisely crafted prudential structures designed to ensure long-term firm and overall market stability and health. In this paper, I identified three elements that fueled aggressive risk taking. First, remuneration system among other factors provided strong incentives for managers to engage in risky behavior and insufficient incentives for them to protect their companies. Second, the struggle for survival rationalized the trend towards riskier lending. Managers had to adopt risky trends to show profit to their shareholders who are interested in the current profits, with little regard for the long-term health of the firm itself, and no identifiable interest whatsoever in the entire financial system. Third, ineffective board oversight, improper disclosure and accounting standards and the credit rating process paved the road to executives to do what they have done.

Finally, the credit crisis has focused a great deal of scrutiny on failures in corporate governance, in particular lax board oversight of risk management and executive compensation practices that encouraged excessive risk-taking. Lots of research has discussed risk management or corporate governance independently. However, empirical studies that discuss the relationships between corporate governance and risk control are limited. In addition, further research providing empirical evidence of best practice in corporate governance and risk management is needed.

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BIOGRAPHY

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THE IMPACT OF GENDER ON STRATEGIC TYPOLOGY IN THE HOTEL INDUSTRY IN CANADA

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ABSTRACT

This research explores the impact of gender on managerial styles, especially the strategic typology employed by hotel managers in Canada during economic stressful times. Miles and Snow's strategic typology framework of defender, prospector, analyzer and reactor was employed and explored by gender. Also, performance was examined by strategic typology to determine any relationships. Findings in this study were women hotel managers used the defender strategy and men used the analyzer strategy. There were no statistically significant findings on which strategy was best for performance. Implications of this study and further research are discussed.

JEL: J1; J16; M1; M12

KEYWORDS: gender, management, strategy, hotels, Canada

INTRODUCTION

The environment may account for a certain degree of poor performance; however, quality of performance is primarily due to the strategy employed by the general manager. "Research has shown that industry conditions account for approximately 19 % of a firm's performance, while developing a sound competitive strategy is responsible for 32% of performance results" (McGahan & Porter, 1997, p.16). The past years of economic uncertainty for the hospitality industry in Canada presented a unique opportunity to capture strategies used to maintain operational viability.

As of 2004, consultants for the Hotel Association of Canada reported that the Canadian hotel industry consisted of 6,434 properties and 363,628 rooms. The resulting revenues generated were in excess of CDN $11 billion, employment included over 238,000 people with total salaries and wages estimated at $4.6 billion. Revenues generated for the government were approximately $4.03 billion (HAC, 2004, The Hotel Industry Fact Sheet).

The skills required of a hotel general manager are demanding due to the unique characteristics of the industry. This is because, typically, hotels operate 24 hours per day, seven days per week, and 365 days per year; occupancy levels fluctuate significantly by season; there are high labor costs; and unique management skills are required to motivate a highly diverse staff. Compared to managers in other industries, these job characteristics may exert increased daily management pressures on hotel managers (Rutherford, 2002).

The environment in the hotel industry during 2000 to 2006 was turbulent due to terrorism, public health concerns such as Severe Acute Respiratory Syndrome (SARS), Bovine Spongiform Encephalopathy (BSE or Mad Cow), forest fires, wide spread power outages, and severe weather and snowstorms (Hotel Association of Canada Annual Report, 2004). The resulting revenue loss created a challenging environment which has continued with the financial slide that started in 2008.

This quantitative research was designed to identify the strategies used by general managers during the adverse economic conditions that prevailed in the Canadian lodging industry from 2001 to 2006 and if there were any differences according to gender. This exploration will uncover any lessons that can be learned from managers who experienced this turbulent environment. This article discusses the current research on strategic typology and gender management styles and then presents the research hypotheses. This is followed by the results and a discussion of the findings and future research areas.

LITERATURE REVIEW

Strategy

The study of strategy is dependent on the idea that strategy should be aligned with the external environment for the best performance. One of the original researchers linking strategy, structure, and process to organizational adaptation resulted in the textbook *Organizational Strategy, Structure, and Process* (Miles & Snow, 1978). A strategy typology was defined to assist organizations in making changes to adapt to the environment. The strategy typology contains four types of strategic management categories: *prospectors, defenders, analyzers, and reactors.* Prospectors perceive the environment as dynamic and uncertain, and use innovation to manage the environmental change. Their success is based on finding and exploiting new products and market opportunities. They constantly seek new opportunities and will look at many diverse markets and tend to be aggressive. The opposite of prospectors are defenders who perceive the environment as stable and certain. Defenders seek stability and control and create a highly specialized and formalized organizational structure. Therefore, defenders have little capacity to adjust rapidly to new opportunities. Instead, they attempt to locate and defend a secure niche in the market place which is seen as stable and thus appear to be non aggressive. Analyzers are a unique blend of the prospector and the defender, minimizing risks and maximizing opportunities. They stress both stability and flexibility and try to capitalize on both by maintaining their traditional products but also, introducing new ones. Analyzers may follow the lead of the prospectors, thereby avoiding their own marketing research expenses. The fourth typology, *reactors,* lack consistency in their choice of strategy and therefore tends to perform poorly (Miles & Snow, 1978).

Research has linked strategy typology to performance. Aragon-Sanchez & Sanchez-Marin (2005) found small and medium enterprises (SMEs) in the manufacturing industry and in the construction industry that used prospector orientation performed better than defenders. Also, this research found the prospector strategy type outperformed the analyzers. Desarbo, De Benedetto, Song & Sinha (2005) suggest that prospectors perform better in dynamic environments as they tend to search and compete for opportunities and use innovation to bring new products to the market quickly. Defenders tend to find a niche and maintain it rather than search for new opportunities. If environmental changes do not affect this niche, their performance would remain stable; however, defenders are not equipped with high research and development resources and processes to react if the need arises.

In an environment such as the Canadian hotel industry faced in 2006 the decrease in revenues would have put the hotels into a crises mode. The Upper Echelon (UE) theory proposes that there is a very strong relationship between executives and the performance of their organization (Carpenter, Geletkanycz & Sanders, 2004). The executive in the hotel industry is the general manager who directs the team and "holds the key executive position in the hotel industry" (Ladkin, 1999, p. 167). This research postulates that the particular strategy chosen by the general manager would have an impact on the hotel's performance.

Performance in the hotel industry is measured by common financial metrics including occupancy which is a percentage calculated by dividing the number of rooms sold by the number of rooms available; average daily rate (ADR), calculated by dividing the revenue by the number of rooms sold, and revenue per available room (RevPAR), calculated by dividing the total revenue by the number of rooms available for sales. Revenue per available room, RevPAR is "often considered the most critical measure of operating performance and by definition encompasses an element of rate and rooms supply" (Enz, Canina & Walsh, 2001, p 27).

<u>Gender</u>

Men and women in managerial positions use different techniques and demonstrate different competencies as research indicates (Burgess, 2000; Powell, 1993; Schaap, Stedham and Yamamura, 2008; and Soehanovic et al, 2000). In Canada there is an absence of significant representation of women in management and the hospitality industry is one with a long established history of male dominancy (Maxwell, 1997). According to Wood and Viehland (2000) this "pink-collar ghetto still exists" (p. 51) and especially in hotels over 500 rooms where only 2.6 percent of the hotel managers in the United States were identified as women (p. 51).

Women in management in Canada represent 36.4% as of 2006. Only 26.4% of senior management occupations are female and only 14.4% hold a position as a Financial Post Corporate Officer. The percentage of Financial Post 500 board seats held by women is a mere 11.2% (Catalyst, 2008). This low representation exists when the overall labor force is 46.9% female. In the accommodation industry in Canada, the employed labor force is even greater at 60.5% female, with 52% of accommodation managers being female (Canadian Tourism Human Resource Council (CTHRC), 2004). Gender statistics of hotel general managers in the hotel industry in Canada, specifically, were not found.

The topic of diversity and its benefits to organizations has been well researched. Catalyst is a leading research organization working to advance women in business and has examined the connection between gender diversity and the financial performance of the organization. Catalyst examined 353 Fortune 500 companies, and found that there is a connection and "The group of companies with the highest representation of women on their top management teams experienced better financial performance" (Catalyst, 2008, p. 2). This performance was significant with Return of Equity at 35.1 percent higher and Total Return to Shareholders at 34.0 percent higher (p. 2).

There are more than just financial benefits in creating a more gender diverse workforce. The first of these is women's increasing managerial presence. They hold 35.3% of total managerial positions but hold only 30.5% of the senior management occupations (Catalyst, 2008). They also have an advantage in education as they earned 61.8% of bachelor's degrees, 51.8% of master's degrees and 44.0% of doctorate degrees (Statistics Canada, 2008). The second benefit is related to the increasing labor shortage that is forecasted for the hospitality industry in Canada "…models indicate that net immigration must reach a total of 2.0 million between 2003 and 2013 – or about 200,000 per year on average – if there are to be enough people between the ages of 15 and 64 in 2013 to permit Canada to fulfill its employment potential" (CTHRC, 2004, p. 39). Women represent 46.9% of the total labor force so hiring women will create a diverse workforce and allow employers to tap into a large talent pool. This diverse workforce leads to a third benefit that directly impacts hotels. New product developments and overall product improvements that would relate to the growing female business traveler would create a competitive advantage. In 2000 the Canadian Travel Survey reported that women took over 5.8 million domestic business trips in Canada and they are more likely to extend their trip while traveling on business (Smith, Carmichael, 2006, p. 65). Product and service extensions could substantially increase the length of stay per business traveler and directly affect the financial performance of a hotel. Also, specialized packages and value added activities could be created for this growing female market.

Differences on the characteristics of women managers as compared to male managers have been researched and indicate that differences do exist. Females were rated higher on interpersonal behaviors than were males at the middle and executive levels (Bartol, Martin & Kromkowski, 2003) and women were found to be more oriented toward supporting and maintaining relationships than men (Hisrich and Brush, 1994). Rosnener (1995) found women also tend to be strong in idea generation and innovation and discovered three differences in women's managerial styles compared to men. One, women encourage participation and share decision-making with others; two, women share information and power; and three, the combined participation and sharing enhances self-worth in others and creates an interactive management style. Soehanovic, Zougaj, Krizoman and Bojanic-Glavica (2000) researched characteristics of women managers in hotels and found in order to be successful they demonstrated knowledge in these areas: (1) organizational knowledge 97.14%, (2) manner with people 91.43%, (3) management knowledge (77.14%), (4) knowledge of the economy (71.43%) ,(5) financial knowledge (54.29%).

The career paths of women are also different from men. Women tend to progress through careers with less moves and number of positions. In the hotel industry in Canada, it was found that women manage the majority of the smaller and lower star rated properties (Blayney & Blotnicky, 2010). In New Zealand and Australia, research on women in the hotel industry found barriers to promotion that included "long hours" culture, the old boy's network, hiring practices and geographical mobility (Mooney & Ryan, 2008).

Which strategic typology will women chose most often? Will their focus on process and participation lead them to use the defender strategy as compared to the prospector strategy which entails searching for innovation and improvements? Does their career path, which is different from men, restrict their choices due to lack of experience with the more aggressive roles? Johansen (2007) found that women are more likely than men to use the defender or reactor strategy and men tend to use the prospector strategy. Further, Johansen (2007) found that women managers had more success with the prospector strategy when compared to male managers. This may be due to the fact that women are more interactive and use valuable input and advice rather than make decision on their own. Other studies have also found that men tend to be more concerned with positions of dominance and formal power and women like to use a more interactive style and are open to more feedback from colleagues and associates to find innovative ideas.

METHODOLOGY AND DATA

With the continued increase of women management positions and the increased focus on diversity, this timely research examined the strategy typology employed by women managers compared to men during economic stressful times in the hotel industry in Canada. Based on the literature review addressing strategic typologies and gender differences in management styles, the following hypotheses were created:

H1: There will be statistically significant differences for the strategic typology as measured by the Miles and Snow strategy typology by gender.

H2: There will be statistically significant differences for Revenue per available room (RevPAR) based on the Miles and Snow strategy typology used.

H3: There will be statistically significant differences for Occupancy (Occ) based on the Miles and Snow strategy typology used.

H4: There will be statistically significant differences for Average Daily Rate (ADR) based on the Miles and Snow strategy typology used.

A survey was directed to accommodation general managers of Canadian hotel properties with 30 rooms or more using a distribution list compiled from the Hotel Association of Canada membership directory, provincial hotel associations, membership lists and corporate hotel groups. The survey included basic demographics and the previously validated Miles and Snow 11-item strategic typology scale developed by Conant, Mokwa, & Varadarajan (1990). The survey was posted on a web page and emails were distributed to the general managers containing a hyperlink to the survey. See Appendix for typology instrument.

The hotel industry in Canada consists of 6,581 lodging establishments (Hotel Association of Canada, 2004) of which 3,464 operate on a year round basis and contain at least 30 rooms. This criterion is used by KPMG LLP, the consulting company that collects statistics on the Canadian hotel industry for the Hotel Association of Canada. This same criterion was used for this research.

Data were analyzed using t-tests and analysis of variance to test the hypotheses. There were slight deviations from normality in the data, however, the assumption of homoscedasticity was not violated. Repeated attempts to transform the data to make it normally distributed across variables were unsuccessful. Given that analysis of variance is robust to slight differences in normality and variable transformations were not successful in creating normally distributed data, the decision was made to keep the variables in their original form.

RESULTS

The hotel associations and corporate hotel groups that agreed to participate and circulate the survey to their managers involved a total of 952 general managers. The responses totaled 184 completed surveys of which 183 were usable and gave a response rate of 19.2%.

The sample consisted of 102 male general managers (61.5%) and 66 female general manager (38.5%). One respondent did not disclose their gender. Most were graduates of a two-year college program (39.7%), or university undergraduate degree (37.2%). Sixteen percent had completed a high school diploma, while 3.8% had postgraduate university degrees. Three percent had other forms of post secondary training. The average age was 43.9 years and they had been in management positions for an average of 16 years of in the position of general manager for an average of 6.9 years.

Most general managers were responsible for smaller properties which made up over half of the sample. Properties ranged from 30 to upwards of 475 rooms. Most properties were located in downtown areas, followed by suburban locations. Most employed between 11 and 300 staff members.

The responses were stratified according to the strategy typology. The association of gender with strategic typology was tested using t-tests. The association between the strategic typology and each of the performance measures (RevPAR, ADR, Occ) were measured using One-Way Analysis of Variance. The results revealed that there was a statistically significant relationship between the defender and analyzer strategy typologies. Males had higher average analyzer typology ratings and females had higher defender typology ratings. However, the analysis also revealed that there was no statistically significant difference between typology strategies and any of the performance measures: RevPAR, Occ, or ADR. The results are summarized in Tables 1 and 2.

DISCUSSION

Hypothesis 1 was confirmed in this research as there were significant statistical differences found on strategic typology according to gender. Men were found to use the analyzer strategic typology and women used the defender approach. Analyzers share the traits of both the defender and the prospector and will defend a limited range of products within the niche market. Analyzers will also initiate new product or market development but this would take time as most organizations do not have the resources to do both. Analyzers will come later to the market with a product that is already proven by the prospectors. The defender strategy used by the female general managers could have been the reaction to a decrease in resources that came about from the restricted revenue streams caused by environmental elements. They could have been attempting to decrease risk in an extremely unpredictable marketplace and protect their current customer base. This would lead them to use more of a defender strategy.

Table 1: Differences in Strategic Typology Rating by Gender

Variable	Number		Mean	Std. Deviation	t-value (df)
Analyzer	Male	102	3.10	1.93	1.959 (165)**
	Female	66	2.92	2.11	
Prospector	Male	101	3.59	1.48	0.549 (166)
	Female	66	3.11	1.70	
Defender	Male	102	2.44	1.45	-2.314 (110.5)*
	Female	66	3.10	1.96	
Reactor	Male	102	1.87	1.45	-0.028 (143.9)
	Female	66	1.88	1.38	

*T-test was used for the analysis. This table shows the differences in the strategic typology rating according to gender. The first column shows the typology category; the second and third column show the number of men and women responding; the fourth column shows the average rating for each gender by typology; the fifth shows the standard deviation for each gender by typology; the sixth column shows the t value. *Significant at the .10-level ** Significant at the .05-level. Males had a higher average analyzer typology rating and females had a higher defender typology rating.*

Table 2: Differences in Performance Measures by Strategic Typology

Strategic Typology x RevPAR	Number	Mean	Std. Deviation	F-Ratio (df)
Analyzer	52	$75.05	$23.65	0.716 (3/140)*
Prospector	44	83.06	33.05	
Defender	28	76.41	30.51	
Reactor	20	80.66	26.45	
Total	144	78.54	28.44	
Strategic Typology x ADR				
Analyzer	56	$108.82	$25.94	1.023 (3/149)*
Prospector	46	119.97	40.86	
Defender	28	110.36	37.36	
Reactor	23	112.59	26.87	
Total	153	113.02	33.36	
Strategic Typology x OCC				
Analyzer	60	67.2%	11.4%	0.679(3/156)*
Prospector	46	68.5	11.3	
Defender	30	68.3	10.8	
Reactor	24	71.2	13.2	
Total	160	68.4	11.5	

*Analysis of variance was used. The first column shows the strategic typology category; the second column shows the number of respondents per category; the third column shows the average revenue per available room. This table indicates the differences in performance by strategic typology and shows there are no statistically significant differences for occupancy (OCC), average daily rate (ADR) and revenue per available room (RevPAR) based on the Miles and Snow typology. *Significance > .10. Not statistically significant.*

The finding in this research of women tending to use the defender strategy agrees with those of Johansen (2007). The focus on process and participation leads them to use the defender strategy. However, the same research also indicated men tend to use the prospector strategy whereas the findings of this research found them using the analyzer strategy. Johansen (2007) also found that if women use the prospector strategy, they are more successful. The reasons are that women tend to be more interactive in their management styles and this allows them to collect more ideas from their colleagues and associates where as men tend to act on their own ideas. The reason for men using the analyzer strategy in this research may be explained by the manager's perception of the need to protect the current business base but at the same time, create some new products to find a competitive advantage in the tough marketplace. Current research on hotels in the United States was conducted from December 2009 to February 2010, a time of the Great Recession and found the number one strategy was discounting, followed by marketing initiatives, obscuring room rates and cutting costs. Rate obscuring tactics usually involved assembling value-added packages (Kimes, 2010). These tactics would fit under the strategic typology of analyzer as both new products and cost cutting show a blend of the defender and prospector strategic typologies.

Hypothesis 2, 3, and 4 were not confirmed in this research as no significant differences were found between the strategic typology and the performance as measured by revenue per available room, occupancy or average daily rate. This does not follow the theory in which "prospecting is likely to be advantageous in a turbulent or unpredictable environment because this strategy involves external scanning for new opportunities and flexible structures and processes that facilitate responses to constantly changing circumstances" (Meier et al, 2010, p. 165). Also, Miles and Snow (1978) original theory posited that any of the three strategic typologies of defender, prospector or analyzer would perform well as they tend to be a more stable type than the reactor. The reactor's frequent inconsistent ability to adapt to the environment would long term lead to lower performance compared to the other three strategies.

CONCLUSION

The primary goal of this paper was to explore if male or female general managers used different managerial strategies during stressful times in the hotel industry in Canada. Secondary goals were to explore whether different management strategies impacted hotel performance measures. A survey was conducted of 183 hotel managers across Canada. Results of *t*-tests revealed that male managers were more likely to use analyzer strategies than female managers and female managers were more likely to use defender strategies. There were no statistically significantly differences in the use of prospector or reactor strategies by gender. Analysis of variance showed that there were no statistically significant impacts on performance measures by management strategy as measured by hotel occupancy, average daily rate and revenue per available room.

Limitations of this study include a self-rating process of strategic typology and the respondents were limited to the Canadian market. Also, hotels of only 30 rooms or greater were included. A broader sample may reveal significant links between performance measures and management strategies. Larger hotels in Canada are dominated by corporate chains and in these properties general managers may not have the freedom to choose their strategies and this may impact the lack of significant relationship between strategic typology and performance.

Further research is required to explore the concept of women who use the prospector strategy and if it does correlate to better performance. As women have barriers in their careers to reach executive positions, do they also have barriers that lead them to use the defender strategy instead of the prospector strategy which is more aggressive in nature? There is a need to understand the framework of interactions of environmental factors, gender and strategy and the impact on performance.

APPENDIX Strategic Typology Instrument

Directions: Please read the following eleven questions carefully. For each one, select the one answer that best describes your organization and circle the letter for that answer.

1. In comparison to our competitors, the product/services which we provide to our customers are best characterized as:
    a. Products/services, which are more innovative, continually changing and broader in nature throughout the organization and marketplace.
    b. Product/services, which are fairly stable in certain departments and markets while innovative in other departments and markets.
    c. Products/services, which are well focused, relatively stable and consistently defined throughout the organization and marketplace.
    d. Products/services, which are in a state of transition, and largely based on responding to opportunities or threats from the marketplace or environment.

2. In contrast to our competitors, our organization has an image in the marketplace as a company which:
    a. Offers fewer, selective products/services, which are high in quality.
    b. Adopts new ideas and innovations, but only after careful analysis.
    c. Reacts to opportunities or threats in the marketplace to maintain or enhance our position.
    d. Has a reputation for being innovative and creative.

3. The amount of time my company spends on monitoring changes and trends in the marketplace can best be described as:
    a. Lengthy: We are continuously monitoring the marketplace.
    b. Minimal: We really don't spend much time monitoring the marketplace.
    c. Average: We spend a reasonable amount of time monitoring the marketplace.

  d. Sporadic: We sometimes spend a great deal of time and at other times spend little time monitoring the marketplace.

4. In comparison to our competitors, the increases or losses in demand which we have experienced are due most probably to:
   a. Our practice of concentrating on more fully developing those markets, which we currently serve.
   b. Our practice of responding to the pressures of the marketplace by taking few risks.
   c. Our practice or aggressively entering into new markets with new types of product/service offerings.
   d. Our practice of assertively penetrating more deeply into markets we currently serve, while adopting new products/services only after a very careful review of their potential.

5. One of the most important goals in my company, in comparison to our competitors, is our dedication and commitment to:
   a. Keep costs under control.
   b. Analyze our costs and revenue carefully, to keep costs under control and to selectively generate new products/services or enter new markets.
   c. Insure that the people, resources and equipment required to develop new products/services and new markets are available and accessible.
   d. Make sure that we guard against critical threats by taking whatever action is necessary.

6. In contrast to our competitors, the competencies (skills) which our managerial employees possess can best be characterized as:
   a. Analytical: Their skills enable them to both identify trends and then develop new products/services offerings or markets.
   b. Specialized: Their skills are concentrated into one, or a few, specific areas.
   c. Broad and entrepreneurial: Their skills are diverse, flexible and enable change to be created.
   d. Fluid: Their skills are related to the near-term demands of the marketplace.

7. The one thing that protects our organization from our competitors is that we:
   a. Are able to carefully analyze emerging trends and adopt only those, which have proven potential.
   b. Are able to do a limited number of things exceptionally well.
   c. Are able to respond to trends even though they may possess only moderate potential as they arise.
   d. Are able to consistently develop new products/services and new markets.

8. More so than many of our competitors, our management staff tends to concentrate on:
   a. Maintaining a secure financial position through cost and quality control measures.
   b. Analyzing opportunities in the marketplace and selecting only those opportunities with proven potential while protecting a secure financial position.
   c. Activities or business functions, which most need attention given the opportunities or problems we currently confront.
   d. Developing new products/services and expanding into new markets or market segments.

9. In contrast to many of our competitors, our organization prepares for the future by:
   a. Identifying the best possible solutions to those problems or challenges which require immediate attention.
   b. Identifying trends and opportunities in the marketplace, which can result in the creation of product/service offerings which are new to the industry or which reach new markets.
   c. Identifying those problems, which, if solved, will maintain and then improve our current product/service offerings and market position.
   d. Identifying those trends in the industry, which our competitors have proven possess long-term potential while also solving problems related to our current product/service offerings and our current customers' needs.

10. In comparison to our competitors, the structure of our organization is:
   a. Functional in nature (i.e., organized by department – marketing, accounting, personnel, etc.)
   b. Product/service or market oriented (i.e., individual units/departments have marketing or accounting responsibilities)
   c. Primarily functional (departmental) in nature; however, a product/service or market oriented structure does exist in newer or larger product/service offering areas.
   d. Continually changing to enable us to meet opportunities and solve problems as they arise.

11. Unlike many other similar companies, the procedures our organization uses to evaluate our performance are best described as:
   a. Decentralized and participatory encouraging many organizational members to be involved.
   b. Heavily oriented toward those reporting requirements, which demand immediate attention.
   c. Highly centralized and primarily the responsibility of senior management.
   d. Centralized in more established product/service area and more participatory in newer product/service areas.

Each of the multiple choice answers were linked to one of the four typologies (Prospector, Defender, Analyzer, Reactor). The typology scores were equal to the sum of the responses for each. For a complete discussion of the instrument refer to Conant, Mokwa & Varadarajan (1990) "Strategic types, distinctive marketing competencies and organizational performance: A multiple measures-based study*". Strategic Management Journal,* vol. 11(5): p. 749-778.

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BIOGRAPHY

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EMERGENT NEEDS OF DEPRESSION CARE FOR OLDER ADULTS: EVIDENCE FROM TAIWAN

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ABSTRACT

The over 65 age group continues to grow at an unprecedented rate. Few care delivery systems accommodate this expanding population through home and community-based services that enhance quality of life. With more and more aging people in the society, there are many issues that need to be addressed. Soaring competition among senior-care operators has led to escalating consumer demands on performances, driving the industry to become more customer-oriented. The purpose of this quantitative phenomenological study was to explore the lived experiences and generational-based perspectives of senior residents live in senior-care organizations in the southern Taiwan to examine current and future influences on senior care delivery systems. The authors examined the relationship based on Parasuraman, Zeithmal and Berry's SERVQUAL ten dimensions. Multiple regression was conducted to test the relationships. The statistical results showed that access, competence, courtesy, and responsiveness are significantly and positively related to customer satisfaction. This finding, among others, suggests that senior-care operators in the southern Taiwan might have overlooked the above mentioned four dimensions as factors leading to customer satisfaction and, ultimately, to a sustainable competitive edge.

JEL: M16; M5; I11

KEYWORDS: Elder care, satisfaction, assisted living facilities, emerging market

INTRODUCTION

Between 2011, when the first baby boomers turn 65, and 2030, when the entire cohort reaches that age, the population of the seniors in Taiwan is projected to increase dramatically (Ministry of Interior Taiwan Department of Social Affairs, 2007). Due to rapid progresses in health and technology, the life expectancy of Taiwan residents has extended. Council for Economic Development and Planning, a government agency affiliated to Administration Yuan estimates that the old-age population in Taiwan will continue to increase until 2020 (Chiu, 2002). As the older population becomes more diverse in ethnicity, dependence, health, economic status and education, services targeting older adults will need to be more flexible to meet their demands (Lee, 2002). There has been an apparent need for care, especially among the seniors living in rural southern Taiwan, where the young generations tend to leave homes (Ministry of Interior Taiwan Department of Social Affairs, 2007; Hung and Lee, 2004; Tsai, 2004).

Chiu (2002) finds that as the senior population in Taiwan grows, the demand of care for the healthy and independent seniors has increased. According to Huang's (2004) observation, the senior-care market has been on the rise in Taiwan. Many outsiders have been attracted into this market for profits. Insurance companies and private entrepreneurs are highly enthusiastic about getting into this field (Chiu, 2006; Lee, 2003). Currently, the Senior Care Organizations (SCOs) have been one of the best choices available to the elderly living in rural areas of Taiwan (Lee, 2007).

In a word, catching the senior customers' hearts is the key to winning the business in today's ever-competitive senior-care market. Senior-care organizations have to understand the level of customer satisfaction in order to improve its service quality (Parasuraman et al., 1985). Efforts to align marketing strategies with the goal of maximizing customer satisfaction have been embraced in earnest as a new marketing concept by product and service providers. A theoretical framework of customer satisfaction is a way of measuring the perceived quality of a service product. The present study employs Parasuraman et al's (1985) 10 service-quality dimensions in an attempt to develop an understanding of the perceived service needs of customers at SCOs in rural Taiwan.

LITERATURE REVIEW

In Taiwan, Senior Welfare Organizations (SWOs) can be divided into five categories: long-term care organizations, senior-care organizations (SCOs), retirement home organizations, senior culture organizations and services organizations (Ministry of Interior Taiwan Department of Social Affair, 2007). As of October 2007, Ministry of Interior Taiwan Department of Social Affair (2007) estimated the number of senior citizens in Taiwan at 3,085,275, which was about 10.2% of the total population.

The same agency revealed that, as of October 2007, about 1,015 SWOs were providing long-term care to the seniors with a total capacity of around 62,000 beds, while only 46,000 seniors actually lived in those facilities. The occupancy rate was 74.19%. On an extended time line, though, among the five types of SWOs, the occupancy rate in the SCOs reportedly increased from 1.04% in 1993 to 2.26% in 2005 (Ministry of Interior Taiwan Department of Statistic, 2008). When developing marketing strategies for SCOs, the company has to set up a market compartment before establishing its market position; the company, then, can target its clients in the market. A SWOT analysis is the best way to help organizations to develop their advancing and retreating strategies (Skeese, 2002). Table 1 presents a lay-out of the strengths, weaknesses, opportunities and risk factors of the senior-care industry in Taiwan as seen in scholarly works and governmental statistics.

According to several scholars' studies (i.e., Tsai, 1996; Chuang, 2000) the eighteen counties are the rural areas in Taiwan including villages and towns. Tsai (2004) mentions that most scholars believe that there exists an "urban bias" in Taiwan. Lipton (2005) explains, "Urban Bias Thesis (UBT) proposes that urban classes in poorer countries use their social power to bias (distort) a range of public policies against members of the rural classes." Lipton maintains that this bias involves (a) an allocation: to persons or organizations located in towns or (b) a disposition among the powerful urban classes to allocate resources in this way. Urban bias, so defined, is currently being witnessed in Taiwan's senior-care industry.

The latest investigation indicates that the number of SCOs in Taiwan stands at 948 (Minister of Interior Taiwan Department of Social Affairs, 2007). SCOs are mostly established in big cities of Taiwan. For example, there are about 172 senior-care organizations in Taipei County and 190 in Taipei City (Minister of Interior Taiwan Department of Social Affairs, 2007). Options are relatively limited for the rural seniors. More and more seniors living in rural areas, however, are asking for a greater supply of senior-care facilities (Tsai, 2004).

Table 1: SWOT Analysis of the Senior-Care Industry in Taiwan

Panel A: Strengths and Weaknesses	
Source	**Strengths**
Ministry of Interior Taiwan Department of Social Affairs, 2007	765 Senior Homes and SCOs existed in 2002, and the number jumped to 983 in 2007.
Hung and Lee, 2004; Ministry of the Interior of Taiwan Department of Social Affairs, 2007	Because of increasing demands for SCOs and other senior services, the government has started treating the related issues more seriously.
Chen, 2002; Hsieh, 1993	Living in SCOs, the elderly can help ease family burdens while receiving professional care.
Ministry of Interior Taiwan Department of Statistics, 1998; Tsai, 2004	The massive migration of young people to the cities has left an aging countryside in dire needs of professional care.
Hung and Lee, 2004	To meet senior-care needs and to ensure fairness in resource distribution, governments of many counties have proposed specialized appraisal standards with which to determine the appropriation of funds.
Source	**Weaknesses**
Liao, 2007; Shi, 1994	Because of the lingering traditional concept of “raising the children to protect against aging,” many seniors in Taiwan are still partial to living together with their off springs.
Tsai, 2004; Kong, 2004	Most scholars believe that there is an “urban bias” in Taiwan as most resources are available only in the big cities.
Department of Health, 2002; Lee, 2004	Several researches are targeting SWOs that have not registered with the government. Their studies indicate that at least 7,500 seniors are now living in those non-registered facilities, which usually offer low-quality services.
Hsieh, 1993; Kuo, 2003; Tsai, 2005	As organizations emphasize operational efficiency at the cost of service quality, staffs often provide unprofessional care or even maltreat senior customers.
Chen, 2005; Kuo, 2003; Lee, 1997	Lacking professional care ethic, some organizations, in order to increase the manpower and reduce personnel costs, employ foreign workers, leading to communication problems and poor service quality.
Chen, 2005; Yang, Wang, and Chiang, 2005	Intense competition has made it difficult for organizations to innovate their services.
Chen, 2005; Lee, 2004	Many investors joining the senior-care market today are ill-prepared and often focus on profits at the expense of quality and commitment.
Hsieh, 1993	The fact that society needs to supply abundant senior-care resources to cope with a steady expansion of the elderly population,has obliged the government to render financial aids.
Chen, 2005; Kuo, 2003	Overall, there has been a lack of service personnel, with the quality of operators being uneven.

Panel B: Treats and Opportunities (Chang, 2004)

Condition	Threats	Opportunities
Increase of elderly population	With increasing elderly annuity; personal capitals have decreased.	Recreational products and related services have increased, so has demands for smaller and more comfortable homes.
Emergence of multiple generations of seniors	With slow economic growth, there has been an increasing elderly dependence on societal resources and loss of balance between supply and demand.	As greater variety is needed for new products and services, there is still room for economic growth.
Seniors being autocratic	The decision-making power is on the seniors' hands, leading to generation conflict.	There are needs for recreational products and training programs.
Baby Boomer High income	Value clash among generations	As consumer spending increases, people demand quality life, thus creating room for investment and, ultimately, economic growth.
The population being increasingly more health-conscious	Changing needs in for health-care products.	While the pressure for elder annuity decreases, the demands for senior-care products are increasing.
Health-Conditions	Increase of social resources pressure on medical or manpower.	Demands for senior-care products/services are increasing.
The Physiology Ability Declines	Growing demands for assistance resources.	Both user-friendly products and senior-care services are increasing.
Technology	Emergence of gap between rich and poor in owning high-tech services or products.	Room for solving the problem and increasing service efficiency.
Societal Resources	Seniors immigrating to foreign countries due to a lack of local professional care.	Growing demands for senior-care services along with increasing needs for safe products and environment.

The SWOT Analysis shows that the current demand of the SCOs holds potential business in Taiwan both presently and in the future. Apparently, the SCOs will have to gird their loins for an intense senior-care business war.

Definition of Customer Satisfaction

Customer satisfaction has attracted a great deal of attention in the literature because of its potential influence on consumer behavioral intentions and customer retention (Cronin et al., 2000). The authors of the present study used the theory by Parasuraman et al. (1985), who developed a general list of ten dimensions on customer satisfaction (see Table 2). Several studies have shown that a high level of customer service quality can exert a positive influence on customer satisfaction (Cronin and Taylor, 1992; Zeithaml et al., 1996; Ramsaran-Fowdar, 2006).

Table 2: Parasuraman et al's 10 dimensions of service quality (Parasuraman et al., 1985, p. 6-7)

Dimension	Definition
Access	Ease of contacting service firm by telephone
Communication	Explaining service to customers in language they can understand
Competence	Knowledge and skill of customer-contact personnel
Courtesy	Friendliness of customer-contact personnel
Credibility	Trustworthiness of customer-contact personnel
Reliability	Performing dependable service
Responsiveness	Willingness and ability to provide prompt service
Security	Confidentiality of transactions
Tangibles	Appearance of physical facilities and personnel
Understanding the Customers	Effort to ascertain a customer's specific requirements

Service Quality and Customer Satisfaction

The relationship between service quality and customer satisfaction has been discussion during the past decade. According to Jun et al. (2004), some authors (e.g., Grönroos, 1983) argued that there is a significant overlap between these two concepts, and thus, they can be used interchangeably. Other researchers (e.g., Bitner et al., 1990; Carman, 1990; De Ruyter et al., 1997; Lee and Yoo, 2000), though, have attempted to differentiate between these two constructs. They argued that whereas service quality is an overall evaluation of the service under consideration, customer satisfaction is often viewed as the result of specific service transactions.

DATA AND METHODOLOGY

Based on the above-mentioned research findings, a quantitative analysis using survey and statistical methods was conducted to identify possible answers to the research question (listed below).

Instrument Development

The survey instrument was based on the combined designs by Nwankwo (2007) drawing on Parasuraman et al's (1985) service quality dimensions. The authors developed a questionnaire that asked the sample to evaluate SCOs' service quality as well as their customer satisfaction in rural areas of southern Taiwan. The questionnaire consisted of 21 Likert-scale items. Nearly half of the items are phrased positively, and half negatively. A positively worded statement is one for which a very satisfied participant would select "Strongly Agree." A negatively worded statement is one for which a very satisfied participant would check "Strongly Disagree". (Stamps, 1997).

The authors hired Focus Survey Research Company to conduct the questionnaire survey and collect the data. The target population was the 9,753 seniors living in 279 private SCOs in rural areas of southern Taiwan, where a random sample was selected to participate the survey through drop-off and face-to-face interviews. In order to obtain a reliable output, substantial consideration had to be given to the sample size (n) and the number of predictors (K). A recommended ratio is identified by Tabachnick and Fidell (1996), who put the simple rule of thumb as $n \geqq 50+8K$. Therefore, for the present study the sample size is 130 (K=10).

RQ: Is there a significant relationship between the senior customers' satisfaction and the ten dimensions of SCOs' service (i.e., access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles, and employee's understanding of their customers) in rural areas of southern Taiwan?

Null Hypothesis: The senior customer satisfaction is not highly correlated with the ten dimensions in rural areas of southern Taiwan's senior-care industry.

Hypothesis: The senior customer satisfaction is highly correlated with the ten dimensions in rural areas of southern Taiwan's senior-care industry.

RESULTS AND DISCUSSION

In the present study, data were gathered during the period of June to July 2008, from a total of effective 261 SCOs respondents in rural southern Taiwan by the Focus Research Company. Data collection for the present study was commissioned to a professional survey company, Focus Research Company, which operated under the authors' directions. Each participant was provided (a) letter of introduction, (b) an informed consent form, and (c) a survey questionnaire. A total of 285 surveys were returned. On the basis of the data set obtained during the initial collection phase, some modifications on the questionnaire design were made to reduce the response time and, thus, to increase the response rate. 261 out of the 285 people had responded to the inquiry, with the response rate being around 91%.

Pre-Analysis Data Screening

An evaluation of missing data and outliers (i.e., extreme values) led to the elimination of 47 cases, reducing the number of responses to 214 for further statistical analyses. The test of data normality, linearity, and homoscedasticity were also conducted in order to satisfy the general assumptions in multivariate statistical testing. Mertler and Vannatta (2005) suggested that "when the assumptions of linearity, normality, and homoscedasticity are met, residuals will create an approximate rectangular distribution with a concentration of scores along the center" (p.55). The scatterplots revealed that the residual plot created a rectangle shape with scores concentrated in the center, suggesting that the collected data set had satisfied the general assumptions of normality, linearity, and homoscedasticity in multivariate statistical testing.

Statistical Results and Discussions

Tables 3, 4 and 5 present three primary outputs of multiple regression. A review of the tolerance statistics presented in Table 5 indicated that all IVs were tolerated in the model (with the tolerance statistics exceeding 0.1). Mertler and Vannata (2005) state, **"**…if the tolerance value for a given IV is less than 0.1, multicollinearity is a distinct problem" (p. 169). Thus, collinearity is not a serious problem for the current data. The model summary (see Table 3) and the ANOVA summary (Table 4) indicate that the overall model of the ten IVs is significantly related to the customer satisfaction [Adjusted R^2 = .532, F (10, 203) = 25.203, p<0.05]. Therefore, the results supported the hypothesis that the 10 dimensions are significantly correlated with the senior customer satisfaction in the SCOs. In addition, the statistical results also showed that access, competence, courtesy, and responsiveness are particularly significantly and positively related to customer satisfaction. Although competence is a little higher than 0.05, it is still close to being significantly and positive related to customer satisfaction. Competence cannot be neglected. The statistical results here led to the development of a multiple regression function using beta weight (see Table 5).

Table 3: General Model: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	Df1	Df2	Sig. F Change
1*	.744(a)	.554	.532	.56255	.554	25.203	10	203	.000**

** Predictors: (Constant), Competence, Reliability, Understanding Customers, Security, Access, Credibility, Responsiveness, Courtesy, Communication, & Tangibles. Dependent Variable: Customer satisfaction.*
*** P≦0.05*

The coefficient of multiple determination is 0.554; therefore, about 55.4% of the variation in the customer satisfaction is explained by the 10 service quality dimensions for SCOs. The regression equation appears to be very useful for making prediction since the value of R square is more than half close to 1.

Table 4: General Model: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.**
1*	Regression	79.759	10	7.976	25.203	.000(a)
	Residual	64.241	203	.316		
	Total	144.000	213			

** Predictors: (Constant), Competence, Reliability, Understanding Customers, Security, Access, Credibility, Responsiveness, Courtesy, Communication, & Tangibles. Dependent Variable: Customer satisfaction ** P≦0.05: At the 5% significance level, determine if the model is useful for prediction the response.*

At the α = 0.05 level of significance, there exists enough evidence to conclude that the 10 service quality dimensions is useful for predicting customer satisfaction for SCOs; therefore the model is useful.

Table 5: General Model: Coefficients*

Model		Standardized Coefficients	t	Sig.**	Correlations			Collinearity Statistics	
		Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)		-1.812	.071					
	Access	.216	2.667	**.008**	.633	.184	.125	.336	2.976
	Communication	.057	.669	.504	.592	.047	.031	.307	3.260
	Competence	.132	1.899	**.059**	.585	.132	.089	.452	2.213
	Courtesy	.209	2.646	**.009**	.628	.183	.124	.351	2.852
	Credibility	-.020	-.234	.815	.591	-.016	-.011	.303	3.300
	Reliability	.025	.289	.773	.598	.020	.014	.297	3.370
	Responsiveness	.170	2.002	**.047**	.629	.139	.094	.306	3.268
	Security	.114	1.747	.082	.493	.122	.082	.519	1.929
	Tangible	.071	.924	.356	.576	.065	.043	.375	2.667
	Understanding the Customer	-.062	-.790	.431	.514	-.055	-.037	.356	2.809

** Dependent Variable: Customer satisfaction. **P≦ 0.05*

From the above output, the regression equation is:

Y (Customer Satisfaction) = 0.216X (Access) + 0.057X (Communication) + 0.132X (Competence) + 0.209X (Courtesy) - 0.020X (Credibility) + 0.025X (Reliability) + 0.170X (Responsiveness) + 0.114X (Security) + 0.071X (Tangibles) - 0.062X (Understanding the Customer).

CONCLUSION AND RECOMMENDATIONS

Competition in the SCOs for senior people has been upheld as a means of increasing efficiency, driving down prices and raising the quality. Choices are made available to meet user expectations of healthcare and to improve service provision. Optimizing the management and process of care transitions of senior peoples is important to senior-care providers. For senior service providers, it is important to reduce the complexity and fragmentation often observed of the care process system (Clarfield et al., 2001). It seems essential to encourage the SCOs either to provide a range of services across the care continuum or to develop partnerships with other providers whose services complement their own (Coleman et al., 2004; Cheek et al., 2006). This needs Senior Care Organization to adopt of its policies practicable. This strategy could also limit the number of agencies a senior resident customer has to deal with, thereby reducing the complexity of the care system. On the other hand, information technology available through the online comprehensive service may also be the best strategy to reduce the system complexity of the SCOs.

Survey result by Vuori and Holmlund-Rytkonen (2005) revealed that people older than 50 are the second fastest-growing group on the Internet, trailing only the 16-to-24-year-olds. A recent survey of people 55 years and older by Dell Corporation found that over 75% of respondents would be likely to purchase a personal computer if they know they had someone to help them use it (Mahoney, 1999). The Internet service is quickly becoming an ideal method to present information to an aging audience (Angel, 1999). It could improve service coordination while enhancing stakeholders' knowledge and understanding of available services.

Other regulatory and policy constraints, such as requirements for employees training, will also pose a block to future competition among senior-care providers (Knibb, 2006). Therefore, providing quality services to the seniors is a multidimensional activity; employees' qualities are the key to customer satisfaction of the service quality (Cheek et al., 2006). If SCOs did not expend money training their employees on new and improved methods of carrying out business simply lag behind. Companies that have an employee performance management system have developed an affordable way to keep staffs trained and educated on the best possible methods. Cheek (2004) suggests that senor health-care related education and training should focus on short term, curative, episodic care provides a limited basis for developing worker that can contribute to the provision of services prompting positive, long term outcomes for senior people. For the SCOs in rural southern Taiwan, education and training should emphasize access, competence, courtesy, responsiveness, and how these factors may be employed to enhance the senior-customer satisfaction.

The present study is a pioneer in conducting empirical studies to develop a diagnostic instrument for senior-customer satisfaction. This instrument may be an effective tool of evaluating ultimate customer satisfaction in way of developing future employee training programs. However, the limitation of the study is the lack of data on the senior residents' family members who might have a significant impact upon the senior customers' satisfaction. Future studies may need find out about these family members' views and satisfaction. Pairing the seniors' and their family members' responses may an interesting and useful approach to understanding the essence of senior-customer satisfaction.

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