Journal of Modern Accounting and Auditing

Volume 7, Number 4, April 2011 (Serial Number 71)



David Publishing Company www.davidpublishing.com

Publication Information:

Journal of Modern Accounting and Auditing is published monthly in hard copy (ISSN1548-6583) and online (ISSN1935-9683) by David Publishing Company located at 1840 Industrial Drive, Suite 160, Libertyville, Illinois 60048, USA.

Aims and Scope:

Journal of Modern Accounting and Auditing, a monthly professional academic journal, covers all sorts of researches on accounting research, financial theory, capital market, audit theory and practice from experts and scholars all over the world.

Editorial Board Members:

Benedetta Siboni, assistant professor, Italy. Haihong He, associate professor, USA. João Paulo Torre Vieito, Ph.D., dean, Portugal. Lindita Rova, Ph.D., Albania. Mohammad Talha, Ph.D., associate professor, Saudi Arabia. Narumon Saardchom, Ph.D., associate dean, Thailand. Peter Harris, Ph.D., USA. Philip Yim Kwong Cheng, senior lecturer, Australia. Thomas Gstraunthaler, associate professor, South Africa. Tumellano Sebehela, Ph.D., United Kingdom. Vintilescu Belciug Adrian, Ph.D., Romanian. Wan Mansor W. Mahmood, professor, Malaysia. Zevnep Özsov, Ph.D., Turkey.

Manuscripts and correspondence are invited for publication. You can submit your papers via Web Submission, or E-mail to accountant@davidpublishing.com. Submission guidelines and Web Submission system are available at http://www.davidpublishing.com.

Editorial Office:

1840 Industrial Drive, Suite 160, Libertyville, Illinois 60048 Tel: 1-847-281-9826; Fax: 1-847-281-9855 E-mail: accountant@davidpublishing.com, usaaccountant@gmail.com

Copyright©2011 by David Publishing Company and individual contributors. All rights reserved. David Publishing Company holds the exclusive copyright of all the contents of this journal. In accordance with the international convention, no part of this journal may be reproduced or transmitted by any media or publishing organs (including various websites) without the written permission of the copyright holder. Otherwise, any conduct would be considered as the violation of the copyright. The contents of this journal are available for any citation, however, all the citations should be clearly indicated with the title of this journal, serial number and the name of the author.

Abstracted / Indexed in:

Database of EBSCO, Massachusetts, USA Chinese Database of CEPS, Airiti Inc. & OCLC Chinese Scientific Journals Database, VIP Corporation, Chongqing, P.R.China Ulrich's Periodicals Directory Database of Summon Serials Solutions, USA

Subscription Information:

Price (per year): Print \$480; Online \$320; Print and Online \$600

David Publishing Company 1840 Industrial Drive, Suite 160, Libertyville, Illinois 60048 Tel: 1-847-281-9826. Fax: 1-847-281-9855 E-mail: order@davidpublishing.com



David Publishing Company www.davidpublishing.com

Journal of Modern Accounting and Auditing

Volume 7, Number 4, April 2011 (Serial Number 71)

Contents

Accounting Theory and Practice	
Sustainability Accounting Education: Scale, Scope and a Global Need	323
Tehmina Khan	
A New Approach to Predict Financial Failure: Classification and Regression Trees (CART)	329
Ayşe Gül Yılgör, Ümit Doğrul, Gülhan Orekici Temel	
Consequences of Tax Rate Decrease in Polish Tax System	340
Krzysztof Biernacki	
Accounting Policies of Companies Reporting According to IFRS	351
Lenka Krupová, Jaroslava Roubíčková	
Macro Economy	
The Asymmetric Response of Older Male Labour Force Participation Rates to Pension	
Reform and Labour Market Variables	358
Martin O'Brien	
Private Benefits of Politicians and Delayed Privatization	368
Michał Kałdoński, Jacek Mizerka	
Monthly Seasonality in the Top 50 Australian Stocks	380
Liu Benjamin, Li Bin	
Evaluation of the Conservatism Level in Kuwait Stock Exchange: By Using Basu Model	391
Allam Mohammed Mousa Hamdan	
Enterprise Management	
Successful Strategic Management for Growth-Oriented Timber Haulage Entrepreneurs	397
Juho Soirinsuo	
New Managerial Figures in the Process of Entrepreneurial Change and SME Flexibility	408
Francesco Scalera, Esmeralda Uruci	
Dysfunctional Audit Behaviour: The Effects of Employee Performance, Turnover Intentions	
and Locus of Control	418
Halil Paino, Zubaidah Ismail, Malcolm Smith	
Beyond Transformational Change: Incremental Transformational Change in Institutions	424
George Comodromos	



Sustainability Accounting Education: Scale, Scope and a Global Need

Tehmina Khan

RMIT University, Australia

Sustainability practice and reporting is gaining momentum due to the concerns and pressures arising from the Global Climate Change (GCC), limitation of resources, changed stakeholder preferences and expectations. Accounting degrees convey traditional, technical and narrowly defined knowledge with limited scope for non conventional approaches. Sustainability accounting education has the potential to allow departure from the conventional thinking and practice in accounting education. Sustainability educated graduates are being increasingly expected by business and industry as sustainability education allows the fostering of "soft skills" that conventional accounting courses do not address. In spite of these potentials and needs for sustainability accounting education, less than a quarter of Australian and United States accounting faculties are offering a stand alone sustainability accounting course. There is a degree of uniformity in relation to course content with majority of focus on internal and external sustainability reporting. Other areas such as sustainability history in the context of accounting are not included in the courses. Sustainability is a complex area that needs more serious attention in accounting schools in order to match graduate attributes with the increasing industry demands.

Keywords: sustainability, accounting, education

Introduction

Sustainability accounting courses offer the freedom to challenge illiteracies (Gough & Scott, 2001), including the established accounting frameworks and practice that are a part of the economic growth business system, with profit maximization as its primary objective. Weaknesses of the business as usual practices have been identified (Laszlo & Dunsky, 2010) including the problems of the traditional "bottom line approach" which focuses solely on profitability often at the expense of the external environment with finite resources.

Stakeholder consideration rather than shareholder and management gains (profits and management incentives are closely linked) is the primary imperative of sustainability supporting business thinking (Driscoll & Starik, 2004). Accounting involves the recording and reporting of business transactions and data for informed decision making by various parties. In industry, the scope of accounting (practice) has broadened to incorporate the stakeholder view rather than the narrower and traditional shareholder view (Moneav, Archel, & Correa, 2006). As a result the recording and reporting nature and content is also changing in order to incorporate this changing industry view.

As the industry view is changing towards sustainability, accounting education also needs to accommodate this change and incorporate a new pedagogy that entails sustainability accounting. Currently, most business

Tehmina Khan, Ph.D., RMIT University.

324 SUSTAINABILITY ACCOUNTING EDUCATION: SCALE, SCOPE AND A GLOBAL NEED

faculties are facing a lag and have not accommodated this trend towards sustainability in their courses (Bebbington & Thomson, 2001). Considering that education of corporate managers (including CFOs who are mostly accountants) is one of the dominant influences on sustainability and that sustainability reporting is now being demanded by various stakeholders, the lack of education in this area can cause barriers to implementation and/or understanding.

Further more, Collison, Dey, Hannah, and Stevenson (2010) have emphasized the point that accounting education does not focus enough on ethical and critical intellectual qualities' enhancement of students. The current accounting curriculum does not address topics and issues beyond a certain restricted rationality, frameworks and analysis of practice.

Sustainability accounting content opposes rationality, norms and the "business as usual" thinking and practice. It is in its early stages of evolution and cannot offer the "security" that exists in the current accounting curriculum. It requires departure from quantitative foci (majority of which form the basis of learning in accounting) and stresses upon the non quantitative and qualitative aspects of recording and reporting for thinking, decision making and action.

Due to the uncertainty relating to sustainability accounting due to lack of established frameworks, wide range of practice and reporting, various underlying reasons for implementing sustainability accounting, confusion in relation to teaching sustainability accounting is inevitable.

The Meaning of Sustainability Accounting Education

The meaning of sustainability accounting education can be derived from the three questions developed by Bebbington, Gray, Thomson, and Walters (1994) to identify and clarify the meaning of sustainability. These questions are applied to understanding the meaning of sustainability accounting education in Table 1.

Table 1

Bebbington et al.'s Questionnaire Proposal to Identify the Meaning of Sustainability Applied to Sustainability Accounting Education

Question	Sustainability course approach
Sustainability for what?	A study of relevant sustainability issues (problems with the deterioration of the environment and the nature of its finiteness, sustainability for mankind), in order to ensure its survival.
Sustainability for whom?	The concept of sustainability cannot be confused with the profit maximization objective (the bottom line being the assurance for business survival). It encompasses business thinking and actions that support the environment and the Communities, the stakeholder perspective.
Sustainability in what way?	A study of the development and application of the Triple Bottom Line approach including people, planet and profit, from business point of view.
Sustainability for how long?	Sustainability is about the long term survival of mankind. This is a major shift in approach as accounting is a short term and historical rather than long term and futuristic approach, with few exceptions.
Sustainability at what level of resolution?	Problems associated with sustainability are a global issue but can be considered at multiple levels, including a nationalistic and community views.

Some accounting academics are of the view that Business Ethics is sustainability accounting. This is clearly not the case as described in Table 2.

It can be ascertained that sustainability accounting is a complicated branch of accounting which supports and contradicts conventional accounting concepts. It is a long term perspective and requires a cross and multi disciplinary approach for its understanding. It is relevant at multiple levels of application, from individual to business, national, government and global scales.

Table 2

Course Content Analysis Based on Mangion's List (2000) Onited States					
	External reporting	Internal reporting	Theoretical framework	History	International comparison
Yes	8 (100%)	7 (87.5%)	7 (87.5%)	1 (12.5%)	5 (62.5%)
No	0	1	1	7	3
Total	8	8	8	8	8

Course Content Analysis Based on Mangion's List (2006) United States

Note. 13.79% of the accounting schools/ faculties offer a stand alone sustainability accounting course.

Sustainability Accounting Education in Australia and the United States: A Comparison

In this section, the offering of a stand alone sustainability accounting course, offered by the accounting faculties in Australian and American universities is considered. There were two hypotheses tested by conducting this research exercise.

Hypothesis 1: Majority of the accounting faculties do not offer a stand alone sustainability accounting course.

Prominent studies in the area have recommended the inclusion of sustainability accounting topics and content in mainstream and core accounting subjects (Hazelton & Haigh, 2010). Although this approach is ideal in that it allows exposure to the sustainability issue as a minimum, there is a risk of only superficial coverage of a sustainability topic (Owen, Humphrey, & Lewis, 1994). Mangion's (2006) survey found that using the inclusion of a sustainability topic in a mainstream accounting subject resulted in only a 10 percent time dedication to the topic. Any meaningful impact of such limited attention to a sustainability accounting topic is questionable.

Sustainability accounting education is different in approach and scope to other accounting courses where the underlying conventional accounting knowledge is required in order to apply it to various sustainability related topics in the business context. As Mathews (1994) has suggested sustainability accounting education to be "An examination of deficiencies in current accounting practices in favor of non traditional techniques...in the search for wider disclosure and accountability". It also appears from Mathew's recommendations that a stand alone sustainability accounting course will better address the complexity of the area. The requirements for it to be meaningful include the teaching methodology being comprehensive, including a historical and theoretical underpinning and not limited to a simplistic and narrow analysis (of business sustainability reporting for example).

Hypothesis 2: Most sustainability accounting courses cover the analysis of business sustainability reports with limited attention towards other sustainability accounting topics.

The assumption under this hypothesis is that the uniform approach adopted in the conventional accounting curriculum may also have been applied to the teaching of sustainability accounting.

Research Methodology

A random sample of 32 Australian and 58 U.S. universities were selected for analysis. Both the samples have business schools/faculties and offer business degrees including accounting degrees. Since the websites of these universities were searched for stand alone sustainability accounting courses on offer, the Webometrics website (ranking web of world universities) was selected as the source for the sample. The basic evaluation criteria used by Webometrics are based on the approach of quantitative analysis of the website contents of universities with the main focus on scholarly communications (Webometrics, 2010).

A content analysis and checklist approach was adopted. The checklist was developed based on the course

326 SUSTAINABILITY ACCOUNTING EDUCATION: SCALE, SCOPE AND A GLOBAL NEED

content analysis of existing sustainability accounting courses in Australia by Mangion (2006). Due to the commonality and uniformity of the topics on offer in a sustainability accounting course, specific topics derived from Mangion's list of topics were considered in relation to being offered.

Results

(1) Hypothesis 1 Findings

In this study, it was found that 14% of the accounting faculties in the United States and 22% of the Australian sample offered a stand alone sustainability accounting course. In comparison to Stevenson's (2002) findings in relation to a stand alone or a predominant sustainability driven accounting course (her sample comprised of Irish and British universities) with 24% of the sample accounting schools/faculties offering a stand alone sustainability accounting course, these results support the hypothesis, with a representation of a downward trend.

Mangion's study found a general perception (amongst accounting academics) that there might be an increased preference at the university level for a stand alone sustainability accounting course. In her findings, 10 percent of the sample Australian accounting schools offered a stand alone sustainability accounting course. In contrast to Owen's (1994, British sample) results of 11 percent of the sample accounting schools offering a stand alone sustainability accounting course, the results have not changed significantly in the United States. Although compared to Mangion's results there is an increase in offerings of the stand alone courses in Australia.

Never the less, less than a quarter of the accounting schools are offering a stand alone sustainability accounting course in both the United States and in Australia.

(2) Hypothesis 2 Findings

Table 3

The findings in relation to the course content (the topics covered) derived from Mangion's list (not comprehensive) are provided in Table 2 and Table 3 for Australia and the United States.

	External reporting	Internal reporting	Theoretical framework	History	International comparison
Yes	6 (85.7%)	6 (85.7%)	7 (100%)	0 (0%)	1(14.3%)
No	1	1	0	7	6
Total	7	7	7	7	7

Course Content Analysis Based on Mangion's List (2006) Australia

Note. 21.8 % of the accounting schools/faculties that offer a stand alone sustainability accounting course.

As observed in Table 2 and Table 3, majority of the U.S. and the Australian sustainability accounting courses consider external and internal sustainability reporting as a fundamental portion of the course. The theoretical framework is also covered in majority of the courses. This finding is consistent with Stevenson's (2002) observation that more of the sustainability accounting topics are covered in stand alone sustainability courses including the study of theoretical frameworks.

The absence of the history of sustainability accounting is prominent in both the U.S. and Australian sustainability accounting courses. The importance of a historical perspective for an accounting student cannot be understated. Williams and Shwartz (2002) have quoted Albin (1994) placing this importance into context by stating that accounting students would better understand the various impacts on accounting development if there is a basic understanding of historical accounting. Baldwin and Ingram (1991) in Williams and Shwartz

(2002) have also supported the same idea that giving a historical perspective to accounting would attract students who have more analytical and interpretive skills rather than just computational skills. Coffman, Tondkar, Previts, and Gary (1993) have mentioned the emphasis placed on accounting history by senior executives in major accounting firms as an important influence on capabilities for success.

In the context of sustainability accounting, students can look at the development of the triple bottom line concept from the emergence of the environmental reporting concept from the United Nations Conference on Environment in 1992 (Environment Australia, 2003) to the Global reporting Initiatives Sustainability Reporting Guidelines, first released in 2000.

Students may also consider the non accounting historical perspective of sustainability. There is prominent literature in this area that has had significant influence on multiple disciplines including accounting including books written by Hornaday (1913), Leopold (1949), Carson (1962), and the more recent developments such as the Brundtland's report (1987) (Wiersum, 1995).

Conclusions

In spite of the global recognition for incorporating sustainability in all disciplines of education (The United Nations Decade of Education for Sustainable Development), the accounting schools, globally, have been slow to respond to this call. There seems to be a lag between industry demand for sustainability educated accounting graduates and the scale and scope of sustainability accounting education on offer. Lamberton (2005) has pointed out that businesses cannot look at sustainability accounting and reporting under the business as usual assumption. The same concept needs to reflect in accounting education in order to bridge this expectation gap.

Garcia, Kevany and Huisingh (2006) have described sustainability education in its current state as the "simmering period" where new ideas and approaches are being tested but due to lack of wider application there is a degree of uncertainty. This has been demonstrated by the variance in the sustainability accounting topics on offer in the courses. Most academics seemed to have taken a conservative approach, focusing on specific sustainability accounting topics such as external and internal reporting. There is potential in this area to move beyond the uniform content, to incorporate cross disciplinary knowledge, to test and propose new frameworks for sustainability accounting.

The importance of sustainability accounting education can be encapsulated with Correia, Valle, Dazzani, and Malachias's statement that the role of higher education including revision of pedagogical strategies is to create conscious and emancipated citizens, as demanded by the global "knowledge society of the 21st century" (Correia, Valle, Dazzani, & Malachias, 2010). Sustainability education requires for this revision to occur and is in demand by the industry in order to deliver conscious and emancipated accounting graduates.

References

- Bebbington, J., Gray, R., Thomson, I., & Walters, D. (1994). Accountants' attitudes and environmentally-sensitive accounting: Study based on postal questionnaire. Accounting and Business, 24(94), 109-112.
- Bebbington, J., & Thomson, I. (2001). Commentary on: Some thoughts on social and environmental accounting education. *Accounting Education*, 10(4), 353-355.

Carson, R. (1962). Silent spring. Boston: Houghton Mifflin.

Albin, M. (1994). A cross cultural look at the origins and development of accounting. *Accounting Educator's Journal*, 6, 110-127.
 Baldwin, B. A., & Ingram, R. W. (1991). Rethinking the objectives and content of elementary accounting. *Journal of Accounting Education*, 9, 1-14.

328 SUSTAINABILITY ACCOUNTING EDUCATION: SCALE, SCOPE AND A GLOBAL NEED

- Coffman, E., Tondkar, R., Previts, & Gary, J. (1993). Integrating accounting history into financial accounting courses. *Issues in Accounting Education*, 8(1), 18.
- Collison, D., Dey, C., Hannah, G., & Stevenson, L. (2010). Anglo-American capitalism: The role and potential role of social accounting. *Accounting, Auditing and Accountability Journal*, 23(8), 956-981.
- Correia, P. R. M., Valle, B., Dazzani, M., & Malachias, M. E. (2010). The importance of scientific literacy in fostering education for sustainability: Theoretical considerations and preliminary findings from a Brazilian experience. *Journal of Cleaner Production*, 18, 678-685.
- Driscoll, C., & Starik, M. (2004). The primordial stakeholder: Advancing the conceptual consideration of stakeholder status for the natural environment. *Journal of Business Ethics*, 49(1), 55-73.
- Garcia, F., Kevany, K., & Huisingh, D. (2006). Editorial sustainability in higher education: What is happening? *Journal of Cleaner Production*, 14, 757-760.
- Gordon, I. (2001). Commentary on: Some thoughts on social and environmental accounting education. *Accounting Education*, 10, 261-364.
- Gough, S., & Scott, W. (2001). Curriculum development and sustainable development: Practices, institutions and illiteracies. Educational Philosophy and Theory, 33(2).
- Hazelton, J., & Haigh, M. (2010, February). Incorporating sustainability into accounting curricula: Lessons learnt from an action research study. *Accounting Education*, 19(1/2), 159-178.
- Hornaday, W. T. (1913). Our vanishing wild life, its extinction and preservation (p. 411). New York: New York Zool.
- Lamberton, G. (2005). Sustainability accounting: A brief history and conceptual framework. Accounting Forum, 29(1), 7-26.
- Laszlo, A., Laszlo, K., & Dunsky, H. (2010). Redefining success: Designing systemic sustainable strategies. Systems Research and Behavioral Science. 27(1), 3-21.
- Leopold, A. (1949). A sand county almanac: With other essays on conservation from round river (p. 269). New York: Oxford University Press.
- Mangion, D. (2006, September). Undergraduate education in social and environmental accounting in Australian universities. *Accounting Education*, 15(3), 335-348.
- Mathews, M. R. (1994). A comment on Lewis, Humphrey and Owen; Accounting and the social: A pedagogic perspective. *The British Accounting Review*, 26(1), 91-97.
- Moneva, J. M., Archel, P., & Correa, C. (2006). GRI and the camouflaging of corporate un-sustainability. Accounting Forum, 30 (2), 121-137.
- Norstar. (2002). Recycling benefits. Retrieved May 24, 2010, from http://norstar.com.au/
- Owen, D., Humphrey, C., & Lewis, L. (1994). Social and environmental accounting education in British universities. *Certified Research Report 39*. London: The Chartered Association of Certified Accountants..
- Stevenson, L. (2002). Social and environmental accounting teaching in UK and Irish universities: A research note on changes between 1993 and 1998. Accounting Education: An International Journal, 11(4), 609-628.
- Webometrics. (2010). Colleges and universities and open access initiatives. Retrieved November 2010 from http://www.webometrics.info/
- Wiersum, K. (1995). 200 years of sustainability in forestry: Lessons from history. Environmental Management, 19(3), 321-329.
- Williams, S., & Schwartz. (2002). Accounting history in undergraduate introductory financial accounting courses: An Exploratory study. *Journal of Education for Business*, 198-202.



A New Approach to Predict Financial Failure: Classification and **Regression Trees (CART)**

Ayse Gül Yılgör, Ümit Doğrul, Gülhan Orekici Temel Mersin University, Turkey

The increase of competition, economic recession and financial crises has increased business failure and depending on this the researchers have attempted to develop new approaches which can yield more correct and more reliable results. The classification and regression tree (CART) is one of the new modeling techniques which is developed for this purpose. In this study, the classification and regression trees method is explained and tested the power of the financial failure prediction. CART is applied for the data of industry companies which is trade in Istanbul Stock Exchange (ISE) between 1997-2007. As a result of this study, it has been observed that, CART has a high predicting power of financial failure one, two and three years prior to failure, and profitability ratios being the most important ratios in the prediction of failure.

Keywords: business failure, financial distress, prediction, classification and regression trees (CART)

Introduction

During the past decades there have been significant changes observed in both national and international environment in which businesses operate. Economic, political, legal, social, and industrial circumstances have changed rapidly, and businesses found themselves in a highly competitive climate. Whilst businesses that could keep up with the changes can survive, others that are unable to withstand the severe competition around them and to adapt to their environment incurred to financial failures which may well lead all the way to bankruptcy. It is seen that business failures are encountered especially during times of economic recession, high inflation, and lower growth rates as well as economic and financial crises. It has been witnessed that due to the recent economic crisis that has affected our country along with many others, many industries have been highly influenced, production has decreased, and many businesses have closed down, failing in their attempt to cope with this crisis.

Business failure is a general term and a situation in which a firm can not pay lenders, preferred stock shareholders, suppliers or the firm legally bankrupt (Lin, Yeh, & Lee, 2011). Financial failure leads to a decrease in profitability and equity problems in businesses (Türko, 1999). A business failure may happen as a result of poor management skills insufficient marketing and lack of ability to compete with other similar businesses (Wu, 2010).

The negative effects of financial failure are not only a concern of the groups with a direct relationship with

Ayse Gül Yılgör, associate professor, Faculty of Economics and Administrative Sciences, Mersin University. Ümit Doğrul, research assistance, Faculty of Economics and Administrative Sciences, Mersin University.

Gülhan Orekici Temel, Faculty of Medicine, Mersin University.

A NEW APPROACH TO PREDICT FINANCIAL FAILURE

businesses such as stockholders, owners, managers, bondholders, or creditors, but also have an influence on economic prosperity and employment. For this reason, financial failure has been an issue which requires close attention from the perspective of national economies and global economy. Determining financial failure as a rather serious matter, utilizing models built on objective criterion, and using it as a measurement tool becomes quite important not only in terms of enabling businesses to take precautions in advance, but also with regard to resource allocation, employment and investment levels which have an impact on a country's economy at a national level.

The increasing importance of financial failure, from both micro and macro perspectives, has forced researchers to find ways to develop early warning indicators, which enable the prediction of the failure in advance. Single and multivariate statistical models are being used for this purpose. The most important single variable statistical models are simple regression analysis, single discriminant analysis, and the Markov chain method. The multiple discriminant model, logistic regression model, and probit regression model are the main multiple variable statistical models used to predict financial failure. Increased competition and the increase in failed businesses as a result of circumstances related to economic crisis have led researchers to conduct financial failure prediction research that is more reliable and which can provide more accurate results by developing new models. One of the models developed for this purpose is the classification and regression trees method. The CART method has been used in studies that were conducted in other countries with considerably high prediction values attained in financial failure prediction. However, no such use of this particular method has been observed in Turkey. Therefore, in this study, the CART method will be explained and the accuracy of financial failure will be tested on industrial businesses with stocks listed on the Istanbul Stock Exchange (ISE) between 1997 and 2007.

Classification and Regression Trees Method in Prediction of Financial Failure

An Overview of Classification and Regression Trees

The CART method is based on decision trees. A decision tree is a predictive model. The decision trees method has been one of the most important classification and prediction methods used in recent years. CART is one of the most commonly used decision tree methods (Koyuncugil & Özgülbaş, 2008).

CART is a nonparametric statistical methodology developed for analyzing classification issues either from categorical or continuous dependent variables. If the dependent variable is categorical CART produces a classification tree. CART's major goal is to produce an accurate set of data classifiers by uncovering the predictive structure of the problem under consideration (Breiman, Friedman, Olshen, & Stone, 1993).

The CART method has many advantages compared to other prediction methods which are utilized to predict financial failure. These advantages can be categorized as follows:

(1) CART makes no distributional assumptions of any kind, either on dependent or independent variables. No variable in CART is assumed to follow any kind of statistical distribution;

(2) The explanatory variables in CART can be a mixture of categorical, interval and continuous;

(3) CART has a built-in algorithm to deal with the missing values of a variable for a case, expect when a linear combination of variables is used as splitting rule;

(4) CART is not at all affected by outliers, collinear ties, heteroscedasticity or distributional error structures that affect parametric procedures;

(5) CART has the ability to detect and reveal interactions in the data set;

330

A NEW APPROACH TO PREDICT FINANCIAL FAILURE

(6) CART's effectively deals with higher dimensionality, that is, from a large number of variables submitted for analysis, it can produce useful results using only a few important variables (Yohannes & Hoddinott, 1999);

(7) An important weakness of CART is that it is not based on a probabilistic model. There is no probability level or confidence interval associated with predictions derived from using a CART tree to classify a new set of data (Yohannes & Hoddinott, 1999).

Use of the Classification and Regression Trees Method in Prediction of Failure

The most important disadvantage of statistical models used in the prediction of financial failure is the inability to ensure the homogeneity in the data set in situations when the analyzed sample is too large. This problem is eliminated with the CART analysis which utilizes a compelling binary recursive algorithm splitting the data set into sub nodes and ensuring homogeneity (Kayrive & Boysan, 2007).

Classification trees is a statistical methodology that is improved nonparametric to analyze and to estimate the values of dependent variables. Even if the data set is very complex, the variables that affect dependent variable and the importance of these variables in the model can be done by visual presentation without setting a complex mathematical model. CART analysis is from of binary recursive partitioning (Bevilacqua, Braglia, & Montanari, 2003). A tree sample model can be given in Figure 1.





In the tree sample model, A and B are dependent variable groups, X_1 and X_2 are independent variables, t_1 and t_2 can be defined as a node. The decision points called node in tree models. The main purpose here is to reach more homogeneous subgroups by dividing into binary recursive partitioning from the beginning of node and to define the classification of dependent variable in decision points (Bremmer & Taplin, 2002).

While a classification tree is built, independent variables that experiment units in the node consist, and hypothesize the whole probable variables as criterion in spaces, which define the combinations of variables with each other, the whole probable separation is determined. For each possible separation, the separation which has got the maximum appropriateness degree is determined by counting the appropriateness degree of separation with the help of separation function. Separation function is shown in the diagram below as mathematical.

$$\Delta(\delta(t)) = i(t) - P_L \cdot i(t_L) - P_R \cdot i(t_R) \tag{1}$$

Here, from P_L and P_R , t nodes give the ratio of experiment units which are assigned to left and right child

node in a row; i(t) gives impurity measurement of t node and $i(t_L)$ and $i(t_R)$ give impurity measurement of left and right child node in a row (Breiman & Friedman, 1993).

After the appropriateness degree of each probable separation is counted with the help of separation function, $\delta(t)$ separation which has got maximum appropriateness degree is chosen as the best separation and t node is separated by this way. With the criterion that makes the best separation being applied to t node, the most appropriate class can be estimated for each of the left and right child nodes. This practice is repeated for each node which will appear then from the beginning of root node. At the end of the tree construction, the tree which is obtained at the end of the tree construction is called maximal tree. As maximal tree defines Learning Sample perfectly, every independent variable which is added decreases the faulty classification ratio. In this case, maximal tree serves the more over fitting estimation model than necessary for Learning Sample. However, maximal trees which are excessive harmonious to Learning Sample don't provide a good estimation when a different data set is discussed (Breiman, Friedman, Olshen, & Stone, 1993).

For the solution of these problems that maximal tree exposed in practical, the maximal tree should be pruned that is to say the smaller tree which is exposed from maximal tree should be chosen. The prunings of maximal tree expose series of the smaller tree and from this series, optimal tree is chosen. In this level, independent variables which explain the dependent variable the best have been determined. Cost-complexity pruning method which is used for selection of optimal tree provides the balance between faulty classification ratio and tree's complexity; it is expressed mathematically in this way:

$$R_{\alpha}^{(I)} = R(T) + \alpha T \tag{2}$$

Here, $R_{\alpha}^{(T)}$ shows cost-complexity measurement; R(T) shows the fault ratio which is counted for T tree; T shows the number of node on the tree and α shows punishment coefficient ($\alpha \ge 0$) which is determined for every terminal node (Put, Questier, Coomans, Massart, & Heyden, 2003).

According to cost-complexity pruning method, maximal tree is pruned until cost-complexity measurement reaches minimum value and then optimum tree is obtained. The increase of a value in cost-complexity measurement causes less terminal node to be located in optimal tree. In other words, the more α value increases, the more the pruning increases. R(T) which is located in cost-complexity measurement can be given Resubstitution Estimate, Test Sample Estimation, Cross Validation Test (StatSoft. classification and regression trees).

Literature Review

The CART method is often used in the fields of medicine, psychology, and biostatistics. However, it is a relatively new method in financial failure prediction. Therefore there are only a limited number of studies in which this method in this particular area has been used.

Chen, Marshall, Zhang, and Genesh (2006) used the CART method along with discriminant analysis, logistic regression analysis, and artificial neural networks in financial failure prediction. In their study, they aimed at predicting financial success or failure two years prior to failure. They used a sample consisting of failed and successful businesses listed in the Shanghai Stock Exchange. In order to conduct the analysis, they selected 56 failed and 739 successful business for the prediction sample, and 89 failed and 940 successful for the test sample. In this study, businesses that demonstrated continuous losses and which had their shares de-listed were considered unsuccessful. For the businesses involved, 34 financial ratios were calculated in the analysis. Following the analysis, the accuracy ratios of failure business were found to be 58.43% by disciminant analysis, 87.64% by logistic regression, 93% by artificial neural networks and 74.53% by CART. On the other hand, the accuracy ratios of both failure and successful business were found to be 77.67% by disciminant analysis, 87.37%

A NEW APPROACH TO PREDICT FINANCIAL FAILURE

by logistic regression, 77.84% by artificial neural networks and 92.87% by CART.

Lee, Chiu, Chou, and Lu (2006) aimed to explore the performance of credit scoring using logistic regression, artificial neural networks, CART, and multivariate adaptive regression splines (MARS) methods. In the study, credit information acquired from a local bank in Taiwan, and data that belonged to 4000 clients have been examined. They used the credit status (good-bad) as the independent variable in their analysis. The dependent variables consisted of variables such as gender of the client, age, marital status, educational level, occupation, resident status, annual income and loan amount. Following the analysis, the failed loans prediction ratios were found to be 70.9% using the logistic regression method, 73.85% using the artificial neural networks, 77.95% using the CART method and 77.75% using MARS method.

Lee (2008) calculated the prediction performance of the financial failure of each method by employing the logistic regression, artificial neural networks, the classification and regression trees, C5.0 and genetic algorithm decision trees. He took 55 failed and 110 successful businesses operating in Taiwan and determined eight different ratios belonging to the businesses as independent variables. He used 33 out of 55 unsuccessful businesses as learning sample, 22 as test sample; 67 out of 110 successful businesses as learning sample and 43 as test sample in his effort to perform the analysis. The CART method, C5.0 and genetic algorithm decision trees method predicted financially failed businesses a year in advance by ratios of 50%, 77.27%, and 92.91% respectively. All three methods of decision trees models correctly predicted financial failure with a high degree of accuracy.

Use of the Classification and Regression Trees Method in Failure Prediction of Industry Companies Listed on the Istanbul Stock Exchange

Sample Selection

The data referred in this study are based on companies of which the stocks are listed on the ISE between the years of 1997 and 2007. Firms in the sectors of service, finance, energy, transportation, holding, trade, and IT are excluded from the research sample as the statement of accounts of these companies and independent variables obtained using these statements are significantly different. The successful and failed firms included in the study were determined in light of the following criteria. The firms were identified as failed if they filed bankruptcy or had negative equity, made losses for three years in a row, listed in the watch list companies market because of financial difficulties and had stocks delisted by the ISE board of directors.

The balance sheet and income statements of enterprises are examined for the period between 1977 and 2007. Following the analysis, companies with negative equity and companies that had made losses for 3 years in a row were included in the research as financially failed companies. Firms that filed bankruptcy, listed in the watch list companies market, or delisted were identified by scanning through the information provided in the website of ISE (www.imkb.gov.tr). The third year of a three year trend for companies, the year in which they filed bankruptcy, they had negative equity and they listed in the watch list companies market was selected as the year of failure. However, companies demonstrating success from a financial perspective were selected as those which did not fit into any of the categories listed above.

In light of the scope and the criteria stated, 70 failed firms are identified and included in the sampling. Subsequently, by taking the assets, sector, and year of failure into consideration, 70 successful businesses were added to the sample and matched against the failed businesses. Businesses with success in the year of "t", and the sector of "x" were first determined in order to match them with the businesses that failed in the same year and sector, and businesses with the highest asset size were matched against the closest failed businesses.

Selection of Independent Variables

The independent variables used in the models of this study are composed of financial ratios that are widely used in financial failure prediction and are considered significant in the prediction of failure. In the analyses, 29 ratios in the categories of liquidity, financial structure, turnover and profitably are applied. Financial ratios used are presented in Appendix.

Twenty nine different ratios determined as independent variables were calculated taking in consideration annual balance sheet and income statements for 1, 2, and 3 years prior to failure time for both successful and failed companies. The analyses are conducted using the Statistic[®] 7.0 programme, with Gini index being used as the division criteria and a tenfold cross validation test being preferred as an accuracy prediction of the classification tree to determine the optimal tree following pruning. Prior probability is considered equal (0.5) as the number of businesses in each group was the same.

Findings of the Study

The findings of the study in predicting the financial condition of 140 businesses included in our data set one, two and three years prior to failure, using the CART can be summarized under three headings.

Financial failure prediction one year prior to failure with the CART method. The financial ratios of both successful and failed businesses' for the year prior to the year in which they had been determined successful or unsuccessful are used as independent variables in the CART method in an attempt to determine, one year in advance, which businesses would be financially unsuccessful.

In the first stage of the CART analysis, the 29 independent variables consisting of financial ratios of 140 firms are analyzed and a maximal tree indicating an elaborate correlation between variables is constructed. After the construction of the maximal tree, a new tree is constructed by gradually pruning it from bottom to top, beginning from the very bottom child node ensuring that the new tree has fewer nodes and a higher misclassification rate than the previous tree. The optimal tree, which assures the best balance between the decrease in the number of nodes with the increase in rates of misclassifications after the process of pruning using the tenfold cross validation test, is presented in Figure 1.

In this newly constructed tree, the two squares at the far bottom represent terminal nodes that are homogenous groups, and the square at the top corresponds to child node that is heterogeneous. Within the nodes, the belonging of the node to either classification (financially successful or failed) is stated. Within each node, the number of test companies is denoted as N placed on the right top corner and the node number as ID located on the left top corner. In addition, classes of each test companies within each node are presented in a bar graph and the class assignment of that particular node is stated (see Figure 2).

According to the optimal tree constructed, the net income/total liabilities + equity is the most important variable due to developing the best split, with income/total liabilities + equity ≤ 0.000515 indicating a failed business, and income/total liabilities + equity > 0.000515 indicating a successful one. In light of this criterion, the success of the CART predicting businesses' financial situation one year in advance is shown in Table 1.

As shown in Table 1, the CART method attained 92% accuracy in prediction failure of 65 out of 70 businesses one year prior to failure. Sixty-eight out of 70 businesses appear to be predicted accurately and the prediction rate of successful businesses is 97%. In more general terms, the classification rate of both successful and failed businesses one year prior is 95% by the model.



Figure 2. Optimal tree constructed for financial failure prediction one year in advance.

Table 1The Accuracy of CART Method in Prediction One Year Prior to Failure

Total comple	Number	Predict	ed group membership	Λ again pradiction (9/)	
i otar sample	INUITOEI	Failed	Successful	Accuracy in prediction (78)	
Failed	70	65	5	92	
Successful	70	2	68	97	
Total	140			95	

Financial failure prediction two years prior to failure with the CART method. In order to predict financially failed businesses two years in advance, the financial ratios calculated for businesses in the sample were used as independent variables in the CART analysis.

In the first stage of the CART analysis, the 29 independent variables consisting of financial ratios of 140 businesses were analyzed and a maximal tree indicating an elaborate correlation between variables was constructed. After the construction of the maximal tree, a new tree was constructed by gradually pruning it from bottom to top, beginning from the very bottom child node ensuring that the tree constructed had fewer nodes and a higher incorrect classification rate than the previous tree. The optimal tree, which assures the best balance between the decreases in the number of nodes with the increase in rates of incorrect classifications after the process of pruning using the tenfold cross validation test, is presented in Figure 3.

According to the constructed optimal tree, the income/total liabilities + equity was determined to be the most important variable with the best split with income/total liabilities + equity \leq -0.000420 indicating the business is failed and income/total liabilities + equity > -0.000420 indicating the business is successful. In light of this criterion, the accuracy of the CART method in predicting the financial situation two years in advance is shown in Table 2.

A NEW APPROACH TO PREDICT FINANCIAL FAILURE



Figure 3. Optimal tree constructed in an attempt to predict financial failure two years in advance.

Table 2							
The Accuracy of	CART Method	in Prediction	Two	Year	Prior	to	Failure

Total sample	Number	Predie	cted group membership	- Accuracy in prediction (%)
	Trumber	Failed	Successful	Accuracy in prediction (70)
Failed	70	66	4	94.3
Successful	70	8	62	88.6
Total	140			91.4

As can be seen in Table 2, the CART method accurately predicted financial failure of 66 out of 70 unsuccessful businesses two years prior with an accuracy of 94.3%, and 62 out of 70 successful businesses were predicted accurately at a rate of 88.6%. The classification rate of both successful and failed businesses two year prior is 91.4% by the model.

Financial failure prediction three years prior to failure with the method. The analysis was conducted using financial ratios of both successful and unsuccessful businesses three years prior to the year in which they had been determined successful or failed. In the first stage of the classification and regression analysis, independent variables were included in the analysis and the maximal tree was constructed. Subsequently, a new tree was constructed by gradually pruning it from bottom to top, beginning from the very bottom child nodes ensuring that the tree constructed had fewer nodes and a higher incorrect classification rate than the previous. Among all the trees obtained, the optimal tree, which assures the best balance between the decreases in the number of nodes with the increase in rates of incorrect classifications after the process of pruning using the 10 fold cross validation test, is presented in Figure 4.



Figure 4. Optimal tree constructed in an attempt to predict financial failure three years in advance.

According to the optimal tree constructed, due to developing the best split the Operating Income/Net Sales was the most important, with Operating Income/Net Sales ≤ 0.016040 indicating the business was unsuccessful and Operating Income/Net Sales > 0.016040 indicating the business was successful. The accuracy of the CART method in predicting the financial failure three years prior to failure is shown in Table 3.

Table 3The Accuracy of CART Method in Prediction Three Year Prior to Failure

Total sample	Number	Predicto	ed group membership	Λ courses in prediction (%)	
	Number	Failed	Successful	— Accuracy in prediction (76)	
Failed	70	63	7	90	
Successful	70	14	56	80	
Total	140			85	

As shown in Table 3, the model accurately predicted 63 out of 70 failed businesses with an accuracy of 90%, and 56 out of 70 successful businesses were predicted accurately at a rate of 85%, three years prior to failure time. In more general terms, the rate of the model's accuracy in classifying both successful and unsuccessful businesses was 85%.

Conclusions

Financial failure in businesses affects groups including stockholders, owners, managers, bondholders, creditors, and employees who are directly related to that businesses as well as the overall economy of the country and therefore the significance of developing early warning models that let us predict the financial failure have been accentuated. Single and multivariate statistical models have been used in financial failure

A NEW APPROACH TO PREDICT FINANCIAL FAILURE

prediction. Even though various methods used in financial failure prediction exist, as it is not possible to obtain one that would provide the best results in every circumstance and business environment resulted in a search for a new model. One of the new methods is the CART method.

The CART method fundamentally aims at developing a model which predicts the value of dependent variables by using independent variables in a nonparametric way.

In this study, the CART model which has seen greater use in recent times is explained, and its accuracy in prediction failure was tested on businesses whose stocks were listed on the ISE. The criteria that are used to determine failure were bankruptcy, negative equity, losses for three years in a row, listed in the watch list companies market for financial difficulties and being delisted. In light of these criteria, 70 financially failed businesses were identified and matched with the same number of successful businesses. In the analyses, 29 ratios of liquidity, financial structure, turnover and probability are applied as independent variables.

With such an analysis, the CART model accurately predicted the failure of 65 out of 70 unsuccessful businesses (92%) one year prior to failure, and 68 out of 70 successful businesses (97%). The predictive accuracy of successful and unsuccessful businesses is 95%. The probability ratios constitute the most effective measure when compared to other ratios in determining successful and failed businesses one year in advance.

The predictive accuracy for failed businesses is found to be 94.3%, successful businesses 88.6% and overall 91.4% according to analysis conducted for a period two years prior to financial failure. It is stated that the probability ratios were once again the most effective in determining successful and failed businesses during this term.

As a result of the analysis conducted in order to predict financial failure with the CART method 3 years prior to failure, 63 out of 70 unsuccessful and 56 out of 70 successful businesses are predicted accurately. The accuracy rate of the model is 90% for unsuccessful businesses, 85% for successful businesses, and 85% overall, and appears to be that the probability ratios were also more effective, when compared to other ratios, in differentiating successful and unsuccessful businesses during this term.

The CART method managed to accurately predict successful and failed businesses one, two and three years prior to failure with a high level of accuracy. Prediction power decreases linearly as the number of years prior to failure increase. The probability ratios are the most effective measure in identifying successful and failed companies.

References

- Bevilacqua, M., Braglia, M., & Montanari, R. (2003). The classification and regression tree approach to pump failure rate analysis. *Reliability Engineering and System Safety*, *79*, 59-67.
- Breiman, L., Friedman, J. H., Olshen, R. A., & Stone, C. J. (1993). *Classification and regression trees*. Chapman & Hall, pp.32-104.
- Bremmer, A. P., & Taplin, R. (2002). Modified classification and regression tree splitting criteria for data with interactions. *Australian Statistical Publishing Association, 44*(2), 169-176.
- Chen, J., Marshall, B. R., Zhang, J., & Genesh, S. (2006). Financial distress prediction in China. Review Of Pacific Basin Financial Markets and Politics, 9(2), 317-336.
- Kayri, M., & Boysan, M. (2007). Using chaid analysis in researches and an application pertaining to coping strategies. *Ankara* University Journal of Faculty of Educational Sciences, 40(2), 133-149.
- Koyuncugil, A. S., & Özgülbaş, N. (2008). Strengths and weaknesses of SMEs in Istanbul stock exchange: An application of chaid decision tree. *Journal of Faculty of Economics and Administrative Sciences*, 23(1), 1-21.
- Lee, T., Chiu, C., Chou, Y., & Lu, C. (2006). Mining the customer credit using classification and regression tree and multivariate adaptive regression splines. *Computational Statistics & Data Analysis, 50*, 1113-1130.

- Lee, W. (2008). An empirical comparison of bankruptcy models: Evidence from Taiwan. Retrieved December 6, 2009 from Http://www.if.lib.au.edu
- Lewis, R. (2000). An introduction to classification and regression tree (CART) analysis. 2000 Annual Meeting of the Society for Academic Emergency Medicine, (310), 14.
- Lin, F. A., Yeh, C. C., & Lee, M. Y. (2011, February). The use of hybrid manifold learning and support vector machines in the prediction of business failure. *Knowledge-Based System*, 24(1), 95-101.
- Put, R., Questier, F., Coomans, D., Massart, D. L., & Heyden, Y. (2003). Classification and regression tree analysis for molecular descriptor selection and retention prediction in chromatographic quantitative structure-retention relationship studies. *Journal* of Chromatography A, 988, 261-276.

StatSoft. Classification and regression trees. Retrieved October 18, 2010 from http://www.statsoft.com/Textbook/scart. Html Türko, M. (1999). *Financial management*. İstanbul: Alfa Publication.

Wu, W. W. (2010, March). Beyond business failure prediction. Expert System with Application, 37(3), 2371-2376.

Yohannes, Y., & Hoddinott, J. (1999). Classification and regression trees: An introduction. Retrieved May 24, 2009 from Http://www.ifpri.org/themes/mp18/techquid/tg03.pdf

Liquidity ratios					
X_1	Current ratio (Current asset/Current liabilities)				
X ₂	Acid-Test ratio (Current asset-Inventories)/Current liabilities				
X ₃	Cash ratio (Liquid assets + Marketable securities)/Current liabilities				
X_4	Inventories to total assets				
X_5	Total short term receivables/Total assets				
X_6	Current liabilities/Equity				
Financial structure ratios					
X ₇	Current liabilities + Long term liabilities/Total liabilities.				
X_8	Current liabilities/Total liabilities				
X9	Long term liabilities/Total liabilities.				
X ₁₀	Long term liabilities/(Long term liabilities + Equity)				
X ₁₁	Fixed assets/Equity				
X ₁₂	Current assets/Total liabilities + Equity				
X ₁₃	(Current liabilities + Long term liabilities/Equity				
Turnover ratios					
X ₁₄	Net sales/(Cash + Marketable securities)				
X ₁₅	Net sales/Tangible assets				
X ₁₆	Net sales/(Short term receivables + Long term receivables)				
X ₁₇	Net sales/Fixed assets				
X ₁₈	Net sales/Equity				
X ₁₉	Net sales/Current assets				
X ₂₀	Net sales/Total assets				
X ₂₁	Cost of good sold/Inventories				
Profitability ratios					
X ₂₂	Net Income/Equity				
X ₂₃	EBIT/Total liabilities + Equity				
X ₂₄	Net Income/Total liabilities + Equity				
X ₂₅	Operating income/Net sales				
X ₂₆	Net income/Net sales				
X ₂₇	Gross profit or loss/Net sales				
X ₂₈	Earnings before tax/Net sales				
X ₂₉	EBIT/Interest expenses				

Appendix Financial ratios used in financial failure prediction models



Consequences of Tax Rate Decrease in Polish Tax System

Krzysztof Biernacki

Wrocław University of Economics, Poland

After a transition from the central planning into a market economy, Poland was compelled to implement a new tax system. It was based on income taxes and turnover (especially value added) taxes. Primarily income taxes had high tax rates. In corporate tax the rate was proportional and at the beginning amounted to 40%. For natural persons the taxation had a progressive tendency. The tax rates amounted to 21%, 33% and 45% respectively with very low limits of income, which resulted in changing the rate. Since the beginning of 1991 and 1992 till now the tax rates have been decreased significantly. Now the tax rates amount to 18% and 32% respectively with high level of income, which results in changing the rate. The question arises whether such changes were really effective for the central budget. The article formulates and verifies a hypothesis assuming that lowering the rates was justified by the contemporary "fashion" rather than economic reasons. According to financial aspects, the impact of lower rates on the central budged will be examined.

Keyword: tax system, tax rate, income taxes

Introduction

After the socio-economic transformation at the beginning of the 1990's of the 20th century, Polish tax system also required a change. Previously income and turnover taxes were imposed only on firms in private sector, while neither enterprises in the public sector nor employees paid practically any taxes (Szczodrowski, 2007). The tax reform consisted in implementing new form of income taxes (respectively personal income tax—PIT and corporate income tax—CIT) and turnover tax calculated on the net value of goods and services—VAT(value added tax). Income taxes based on the German system of taxation, which is why Polish tax system was at the beginning similar to the German one (Homburg, 1996).

The implementation of new taxation was especially hard to accept by natural persons. They were obliged not only to pay a new tax but also to prepare a yearly declaration. For all employees these were completely new obligations, and because the income tax reduced the monthly remuneration, many people opposed to these changes.

At the beginning nominal tax rates in income taxes were quite high. The effective taxes were lower because of many exemptions and exclusions from taxation. Till now the rates have been significantly reduced. The article presents the effects of such reductions for the central budget. It is possible to assume that the global tax income was dependent more on changes in the Gross National Product ratio (GNP), than on reductions in tax rates. In order to verify this hypothesis, the paper presents the general information about the tax system in Poland, focuses on the revenue of PIT and CIT and compares it with the GNP changes. Finally, there are a few comments on the influence of diminishing tax rates on the effectiveness of exemptions in the PIT and CIT taxes.

Krzysztof Biernacki, Ph.D, senior lecturer, Finance Faculty, Wrocław University of Economics.

Tax System in Poland

Poland has a central tax system. It means that most of public fiscal income flows through the central budget. In 2008 and 2009, the budget expenditures amounted to 280 billion PLN and 300 billion PLN respectively (approx. 70-75 billion EUR). Most of the revenue comes from taxes. Figure 1 presents the general structure of the central budget revenue.



Figure 1. The sources of revenue for the central budget in Poland. Source: The statistical data provided by the Ministry of Finance (http://mf.gov.pl).

The part of tax income in the budget has diminished constantly. Short after the transformation the taxes brought more than 90% of the total budget revenue. Now it is about 80% and the downward trend is visible. That is one of the reasons why Polish government decided to raise tax rates starting from the beginning of 2011. But this increase refers to VAT rates, because of importance of this tax for the budget (see Figure 2). Those tax rates are increased by 1 percentage point (the main tax rate increases from 22% to 23%).



Figure 2. Taxes' shares in Polish central budget. Source: The statistical data provided by the Ministry of Finance (http://mf.gov.pl).

CONSEQUENCES OF TAX RATE DECREASE IN POLISH TAX SYSTEM

Since Poland became an EU member state, the EU transfers have become an important part of the budget inflow. Also the internal debt creates a considerable part of budget revenue. Nowadays the nominal relation of the whole public debt to GNP amounts to 50%. What's more, the interests consume about 45 billion PLN every year. If we compare this value to the yearly deficit (the planned deficit for the 2010 amounts to 30 billion PLN), it can be said that without the public debt, the budget could generate surplus. Of course it is only a theoretic assumption because every country declares its own public deficit which is hard to decrease in a short period of time.

The tax system in Poland consists of nine taxes paid directly to the central budget and about seven other taxes paid to local governments (Gomułowicz & Małecki, 2004). This figure changes because of seeking new subjects for taxation. For example in 2004 a new subject was introduced, which taxed the profit from public trade of bonds and stocks. In practice there is a deep imbalance between the central value of tax revenue and the local one. It results in special tax transfers going from the central budget to local authorities. It means that local authorities, apart from the revenue from local taxes, received a fixed part of central income taxes.

Despite the number of various taxes, in practice only a few of them bring significant amount of money. The most important are two groups of central budget taxes: income and turnover taxes. The first group encompasses PIT and CIT taxes. The second one consists of VAT, excise and duties. The structure of the central budget taxes in Poland is shown in Figure 2.

As it can be seen, these four groups of taxes bring almost 97% of total tax income, what stresses their importance for the budget. It is significant that about 3/4 of the total tax income is generated by the turnover taxes. There is a hypothesis that this structure is typical of developing countries, where relatively low income per capita is not able to generate high tax revenue. The turnover taxes' revenue is generated by society's "catch up" on the consumption. The lack between high consumption and low income may be explained in two ways. Firstly, the consumption is financed by bank loans. Secondly, the money is generated outside of the tax system, in the black economy. In Poland both explanations are true.

There is a continuous process of adjustment of contemporary taxes to the present market conditions. It means that the government is still finding new subjects and objects for taxation. Another visible tendency was the reduction of existing taxes rates. Up to now such a reduction has related only to income taxes in Poland. It must be also mentioned that starting from 2011, the tax rates of VAT will be raised. While this article is being prepared, there is no information about future changes of income taxes rates.

Personal Income Tax

This tax covers an income generated by natural persons. It is a very broad group of taxpayers, including both employees and entrepreneurs. People who perform a business activity are taxpayers also when they are sole proprietorships and when they are partners in partnerships. In Polish tax system the partnership is not taxed, but the partners are subject to taxations as individual taxpayers. The partnership is taxed as one subject only for VAT purposes.

The calculation of PIT is based on the sources of revenue (Mastalski, 2000). The article 10 of Polish Personal Income Tax Act enumerates nine sources, where the income is calculated separately. If a taxpayer has more than one source of income, the method of calculation may influence the final tax to pay. The consequences are presented in Table 1.

342

Cuculation of 111 Together with Income in Every Source				
	1	2		
Revenue	= 100	= 100		
Cost	= 50	= 50		
Income	=(100-50)=50	=(100-50)=50		
Tax rate	= 20%	= 20%		
Tax to pay	= 10	= 10		
Final tax to pay	= 10 + 10 = 20			

Table 1

Table 2

Calculation of PIT Together with Income in Every Source

Note. Source: Author's own analysis.

As Table 1 shows, if there is income from every source, the joint taxation of income brings the same amount of tax as the separate one. But if there is a loss, the income on other sources cannot be reduced by this loss, because it refers to another income. It is presented in Table 2.

Calculation of P11 with the Loss in One Source					
	1	2			
Revenue	= 100	= 100			
Cost	= 200	= 50			
Income	=(100-200)=-100	=(100-50)=50			
Tax rate	= 20%	= 20%			
Tax to pay	= 0	= 10			
Final tax to pay	= 0 + 10 = 10				

Calculation of PIT with the Loss in One Source

Note. Source: Author's own analysis.

The sources of income have been defined for taxation purpose in the tax law. According to the article 10 of the Polish PIT Act the source are (examples):

- (1) Employment contract, retirement or disability pension;
- (2) Personally performed activities;
- (3) Non-agricultural commercial activities;
- (4) Financial investments and property rights.

The source should be perceived as a cash flow or receivable, which a taxpayer receives from a particular legal base. It means that taxpayers theoretically can choose a convenient relationship, in which the remuneration is paid. For example a taxpayer may replace a contract of employment by a sole proprietorship if the services that are provided allow such a conversion. Such a decision may optimize the taxation of the generated income.

In practice many taxpayers have at least two sources of income. The most common structure is to have an employment relationship and run business parallelly, which is classified as a non-agricultural commercial activity (agricultural activities are excluded from the PIT). The usage of these two sources allows also to optimize the social insurance contributions. But in the field of taxation, if the private business generates loss, the tax of employment remuneration will not be reduced (as it was shown in Table 2). This loss may be cleared in the future with other income from this commercial activities source.

CONSEQUENCES OF TAX RATE DECREASE IN POLISH TAX SYSTEM

Such a method of PIT calculation stabilizes the budget revenue. The statistic data show that only 10% of natural person generate the income individually, within their own business. The remaining group receives the remuneration, where the tax is calculated, collected and paid by the tax remitters (mostly the employers). The deductible costs of employment relationship's source are very small. It is a fixed amount of about 111 PLN (25 EUR) monthly, irrespective of the remuneration value. It may be assumed that such revenue will always bring tax. On the contrary, the definition of deductible costs associated with running a business is very broad. All expenditures are treated as costs if they are directly or indirectly connected with the revenue. In practice such a definition makes it possible to generate a tax loss in an easier way.

The global tax revenue in the period of 1995-2008 in relation to GNP is presented in Figure 3. To make the diagram more readable, the GNP has been shown in 1/10 of the real value, while the tax revenue is visible in real values. The left scale presents billions of PLN.



Figure 3. Relation between PIT revenue and nominal GNP in Poland within the period of 1995-2008. Source: Statistical data available on the Internet, at the Central Statistical Office (http://stat.gov.pl).

Besides the methods of tax calculation, the PIT has also a few tax rates. It provides progressive taxation, which is contrary to the optimal taxation assumptions (Salanié, 2003). At the beginning there were three rates. Since 2009 there have been only two. Moreover, since the beginning of 2003 a separate tax rate of 19% has been introduced, which refers to those who run their own business. The idea was to tax the commercial income with the same rate as the CIT is. Nowadays the entrepreneurs who clear with the PIT have two possibilities to tax their income: with the progressive rates or with the 19% rate. For 2009 and 2010 the change from the progressive taxation into a flat rate of 19% is more profitable for those, whose yearly income is higher than 100.000 PLN (about 25.000 EUR). Because many people receive less than the mentioned value, not many taxpayers have chosen the flat tax rate. It is also important that those who calculate the tax with the 19% rate cannot minimize the income or tax burden with the tax deduction or exclusions. Such a regulation does not encourage to choose the flat rate in PIT.

The changes of tax rates in PIT are presented in Figure 4.



Figure 4. Tax rates in PIT. Source: PIT Acts form the period of 1995-2008.

Comparing the tax revenue with changes in tax rates clearly shows there is no relation between reducing the tax rate and the tax revenue. The change of all the rates in the period of 1997-1999 can serve as an example. In the same time the tax revenue raised significantly (1997-1998) and then decreased (1998-1999). There was no correlation between those changes.

But there is a strong correlation between the GNP and tax revenue. The correlation ratio amounts to 0.8268. It is visible in the period of 2004-2008, where the GNP raised and the tax revenue followed this tendency. It may be concluded that the small changes in the tax rates do not affect the final tax flow. The change of GNP is more important for developing countries.

At this point it should also be stressed that within the period of 2002-2008, there was a phenomenon of so called cold progression (Grądalski, 2004). Figure 3 presents nominal value of GNP and PIT revenue, but there was also inflation amounted to 2%-4% yearly. Nominally the remuneration (tax base) raised, however in reality the taxpayers had at their disposal less value of money. Because the tax thresholds remained at the same level, the amount of tax to be paid raised, and many people were obliged to pay higher taxes. Finally the nominal tax revenue was higher. Generally the state does not adjust the tax threshold every year, so the only reliable relation is that of tax revenue to other indicators.

Corporate Income Tax

Corporate income tax relates to income of a legal person, as a limited company or a joint-stock company. The tax base (income) is defined as the excess of the sum of revenues over deductible costs generated in the tax year. This method allows combining all incomes, irrespective of the sources, and reducing them by the global sum of the costs (Lux, 2002). The calculation model with two sources of revenue is shown in Table 3.

	1	2	
Revenue	= 100	= 100	
Cost	= 50	= 50	
Income	=(100+100) - (50+50) = 100		
Tax rate	= 20%		
Tax to pay	= 20		
Final tax to pay	= 20		

The Method of Calculation Cit in Poland

Table 3

Note. Source: Author's own analysis.

CONSEQUENCES OF TAX RATE DECREASE IN POLISH TAX SYSTEM

The method shown above is used to tax a so-called increase of company's pure property. Compared to PIT calculation, if there is an income on every source, this method still results with the same tax to pay. But when one of the sources brings a tax loss, the CIT method allows clearing the loss with the income from other sources. This calculation is shown in Table 4.

Table 4

The memory of curemanon on the orange the source concludes a boss				
	1	2		
Revenue	= 100	= 100		
Cost	= 200	= 50		
Income	=(100+100) - (50+200)	=(100+100) - (50+200) = -50		
Tax rate	= 20%			
Tax to pay	= 0			
Final tax to pay	= 0			

The Method of Calculation Cit in Poland When One Source Generates a Loss

Note. Source: Author's own analysis.

The opportunity to clear the loss with temporary income from other sources results with higher fluctuations of the budget revenue. Deductible costs are defined in the same way as it is in the PIT for entrepreneurs, so the possibility to optimize the tax base in CIT is more apparent. The usage of this method in CIT is one of the arguments to choose a legal person as a preferable form of conducting business in Poland.

CIT has been introduced into the Polish fiscal system in 1992 with the tax rate of 40%. Since 1998 the tax rate has been annually reduced. Nowadays the tax rate is 19% and since 2004 it has not changed. The yearly reductions for the period of 1997-2005 are shown in Figure 5.



Figure 5. Nominal rates of CIT in Poland. Source: CIT Acts form the period of 1997-2005.

Since 2005 the tax rate has been constantly at the amount of 19%. That is the reason, why the new form of taxation for entrepreneurs in the PIT was covered by the 19% tax rate.

Having the tax rate decreased at the beginning of 2004, nowadays Poland has one of the lowest CIT rates among the EU member states. The attempt of income taxes harmonization in European Union has failed as well as providing the Common Consolidated Corporate Tax Base (CCCTB). The countries can still individually determine their income taxes. This situation leads to a kind of competitiveness among tax systems of EU members. For example France and Germany claimed that the differences cause a wrong allocation of resources in the Community. The reduction of tax rates in these countries is also impossible in their opinion, because of potential deep loss in budget revenue. This last argument may be controversial.

Since 1998 the reduction of the CIT rate in Poland has had various influences on budget revenue.

346

Although the GNP growth in this period was constantly rising, the tax revenue decreased in the period of 2000-2002. Figure 6 shows the relation between CIT revenue (right scale, in billion PLN) and the nominal GNP growth (left scale, in billion PLN). As it was in the PIT chart, the GNP is presented as a 1/10 of its real value. Also 2003 did not bring any important growth of the tax revenue. The time between 2004-2008 brought the visible rise of the tax revenue, but the tax rate was constant.

If we compare the rate reduction between 1999 and 2000, or between 2001 and 2002, the cut to the tax rate has brought larger revenue. Similarly, in the period 2003-2004 the cut has brought significant rise of the revenue (see Figure 6).

Before we try to start with the explanations, it must be stressed that correlation ratio between GNP and CIT revenue is larger than in PIT. It amounts to 0.9204. It shows that CIT revenue is strictly connected with the value and change of the GNP.

Because of many changes in the CIT rate, it is possible to set the relation of tax rate and tax revenue for the same periods. These numbers are presented in Figure 7. The left scale shows the tax revenue in billions of PLN and the bottom scale presents the tax rates.



Figure 6. Relation between CIT revenue and nominal GDP in Poland in the period of 1997-2009. Source: Statistical data available on the Internet, at the Central Statistical Office (http://stat.gov.pl).



Figure 7. The combination of tax revenue and tax rate in CIT. Source: The statistical data provided by the Ministry of Finance (http://mf.gov.pl).

CONSEQUENCES OF TAX RATE DECREASE IN POLISH TAX SYSTEM

If we skip these years when the tax rate was at the same level for longer than two years, it may be pointed out that the highest tax return was in 2001, where the tax rate amounted to 30%. Comparing these data to changes in the yearly GNP, there are no arguments, which confirm that the reduction tax rate by 4 percentage points (p.p.) from 2000 to 2001 positively influenced the central budget. The nominal value of the tax revenue diminished in this period.

As in the PIT case, tax revenue in CIT is closely related to GNP growth. There is no evidence that tax reduction will always provide higher or lower tax revenue. Such changes make the Laffer curve idea questionable.

The Laffer Curve

Analysing the influence of reducing tax rates on the tax revenue always brings the Arthur Laffer curve in the scope. Based on the presented data, it arises a question, whether the reduction of tax rates may confirm the relation described by this curve. The answer requires short description of Laffer's idea presented in the curve and application of this relation to Polish income taxes.

Arthur Laffer was a representative of a tax school in economy (Samuelson & Nordhaus, 2002). He tried to prove that high tax rate restrains the economy growth. The curve was an answer to the question, whether the reduction of tax rates is always associated with diminishing budget revenue. In the theoretical curve the maximum point to which the budget revenue increases, is the 50% of the tax rate. Above this point, although the tax rate grows, the income shrinks. This case is shown in Figure 8. A conclusion can be drawn that if the tax rate is above 50%, its reduction would increase the budget revenue. In practice, the Laffer curve was examined by Fullerton (1982). As Figure 8 shows, in the USA this curve is steeper and the maximum point is at 80%. Considering that tax rate in this county is quite low, the diminishment in it will lead to the decline in budget revenue.



Figure 8. Theoretical and practical Laffer curve in the USA tax system. Source: Samuelson (2002).

Trying to apply the Laffer's idea to Polish income taxes, it must be pointed out that the concept refers to the whole tax system, not to particular taxes only. Thus it is hard to adopt this idea to income taxes only.

A general view shows that between 1995 and 1997 the tax revenue increased, but the tax rate was stable. The result of GNP growth was obvious. From 1997 to 2000 the tax rate was finally reduced by10 p.p., but the budget revenue was still increasing. After this time, the further tax rate reductions brought the decline of this revenue. For the period of 2000-2001 the tax rate was reduced by 4 p.p. and the revenue diminished by about 22%. But after this, in the period of 2003-2004 the reduction was identical and the revenue raised by 20%. For

the first period the change of GNP was 2.5%, while for the second the GNP growth amounted to almost 6%. If we also consider the correlation ratio between GNP and CIT amount 0.9204, it is clear that Laffer curve idea cannot serve as an explanation for such changes. What's more, the Laffer's idea has been more and more criticized in the literature (Stiglitz, 2004). Primarily the background concept of applying Laffer curve was to justify the reduction of tax rates. But as it was analyzed in the USA, where the taxes were also cut down, the budget revenue diminished. Finally, the Laffer curve has not been confirmed in long-run in any economy.

The reduction of tax rates results in lower impact of tax exemptions in the tax system. In practice taxpayers have no incentives to make use the exemptions because the "tax gain" is too small. It requires separate description.

The Influence of Reducing Tax Rate on the Tax Exemption Impact

The nominal and effective tax rate must be set apart. The first one is set up by the legislator, while the second one reflects the relation between tax base and the finally paid tax burden. The conversion from nominal to effective tax rate in the income taxes is based on the exemptions. The more exemptions, the higher difference between these two variables will be. Such relation leads to a question, whether the tax system should have high nominal rates with many exemptions, or maybe the lower tax rate without exemptions is better.

Generally the exemptions are perceived negatively. It is underlined that such a solution promotes only one particular group of taxpayer, who may take advantage of these exemptions. As a result they set taxpayers against one another and hence distort the safety of the whole system. Beside this, at the international level tax systems with many exemptions are hardly comparable. Thus for foreign entrepreneurs, it is hard to evaluate how the tax burden will be shaped.

Tax exemptions are also a tool which may be used to shape the money flows in the economy (Żyżyński, 2009). For example, if the legislator would like to improve a flat building, tax exemptions from money invested in new houses can be introduced. In this case the income is diminished by the investment, which directly performs a specific function. Although the budget theoretically receives less tax return, the whole tax system is used to support the particular sector of the economy. Finally exemptions are substitutes for direct subsidies for entrepreneurs.

Regardless of the way in which the exemption is calculated from the tax base or the tax to pay, it can be assumed that the higher tax rate (and also the tax to pay), the more exemptions influence the behaviour of taxpayers. The calculations are shown in Table 5.

	High tax rate	Low tax rate	
Income to tax	1000	1000	
Tax rate	40%	19%	
Tax to pay	400	190	
Exemption (reduced the income)	600	600	
Tax to pay after the exemption	160	114	
"Profit" on the tax exemption	240	76	

Table 5The Impact of Tax Exemption on the Final Tax to Pay

Note. Source: Author's own analysis.

It is visible that in the first case a taxpayer may reduce the tax burden by 240 (units), while in the second

CONSEQUENCES OF TAX RATE DECREASE IN POLISH TAX SYSTEM

case only by 76 (units). However, it doesn't mean that this money remains with entrepreneurs, but it may be decided if the money is paid as a tax or treated as an investment. If taxpayers are the ones to decide, it may lead to optimization of the cash flow in the economy. If in the future taxpayers have the possibility to decide how they invest their money, the tax resistance decreases. It may be also the argument to shape the tax system with the broad set of exemptions.

Conclusions

The above presented data proved that the tax rate reduction does not always lead to decline in budget revenue. Irrespective of the tax rate changes, the most important for the tax revenue is the change of GNP. It can be said, that with strong GNP growth, the small reduction of tax rate will lead to higher tax revenue. The "small" means not larger than 4 p.p.. In fact, such conclusions refer only to those tax rates, which are between 40% and 19%. It is hard to assess if such changes in tax revenue appear also in other values of tax rate. It is assumed that with the high tax rate the reduction may lead to rise of the tax revenue with strong growth of the GNP. Low tax rates result in small changes in the global tax revenue.

It must be underlined that Laffer curve cannot be applied to describe the above changes. According to both national and international data, the idea is rather "wishful thinking", than an instrument to assess changes in the tax revenue if the tax rates are changed.

Finally it must be pointed out that tax rates reduction minimize the possibility to use tax system as a tool to encourage the national economy. In case of trouble in any given sector of economy, there is a need to implement direct payments. In case of low tax rate, the exemptions may not sufficiently cover the need for extra investments. This should be considered if the European Commission tries to provide a CCCTB.

References

Fullerton, D. (1982). Relationship between tax rates and government revenue. *Journal of Public Economics*, *19*(4), 3-22.
Gomułowicz, A., & Małecki, J. (2004). *Taxes and tax law* (p. 507). Warsaw: Lexis Nexis Publishing.
Grądalski, F. (2004). *Introduction to the taxation theory* (p. 86). Warsaw: SGH Publishing.
Homburg, S. (1996). *Tax law for economics*. Muenchen: Franz Vahlen Publishing.
Lux, L. G. (2002). *Forms of taxation* (p. 63). Writer Club Press.
Mastalski, R. (2000). *Tax law* (p. 295). Warsaw: C H Beck Publishing.
Salanié, B. (2003). *The economics of taxation* (pp. 103-104). MIT Press.
Samuelson, P. A., & Nordhaus, W. D. (2002). *Economics* (pp. 274-275). Warsaw: PWN Publishing.
Stiglitz, J. E. (2004). *Economics of the public sector* (p. 846). Warsaw: PWN Publishing.
Szczodrowski, G. (2007). *Polish tax system* (p. 68). Warsaw: PWN Publishing.
Żyżyński, J. (2009). *Budget and budget policy* (p. 258). Warsaw: PWN Publishing.



Accounting Policies of Companies Reporting According to IFRS

Lenka Krupová, Jaroslava Roubíčková University of Economics in Prague, Czech Republic

The article deals with accounting policies of companies reporting in accordance with International Financial Reporting Standards (IFRS). Despite of being in accordance with corresponding standards, there are some particular accounting policies that are not being used by companies. The article aims to highlight some of these areas and point out to accounting policies that are prevalent in IFRS's accounting practice.

Keywords: IFRS, accounting policies, valuation models, borrowing costs, income statement, hedge accounting, depreciation models

Introduction

Companies adopting International Financial Reporting Standards (IFRS) for the first time often have to solve the problem of selecting appropriate accounting policies. Companies already using IFRS can contemplate a change in their accounting policy with respect to reporting specific types of assets or liabilities. This paper brings an analysis, which clearly shows that there are certain accounting policies that are not being used, despite of being in accordance with the corresponding standard. The objective of this paper is to draw attention to these areas and in this way to reduce the issues that companies face when selecting accounting policies while preparing IFRS financial statements.

The paper is based on a survey of 410 annual reports of non-financial companies prepared in accordance with IFRS from various countries. The survey was conducted by the students at University of Economics in Prague in winter of 2009 and in spring of 2010. The analysis brings clear evidence that certain accounting policies are preferred by companies, while others are not used at all or there is a minority of companies using them.

The analysis had several objectives: (1) To teach the students to work with real financial statements complied according to IFRS; (2) To draw attention to selected standards, where a possibility of a company choice of the accounting policies exists; (3) To find out if some chosen accounting policies are prevalent in practice.

The analysis was performed by more than 100 students on the sample of 410 non-financial companies reporting according to IFRS. The students analyzed the annual reports for the period 2008. The source of the data was Internet.

The analysis was focused on the following areas: (1) Application of International Accounting Standard (IAS) 16—Property, plant and equipment in the areas of the measurement models and of the depreciation

Lenka Krupová, Ph.D., associated professor, Department of Financial Accounting and Auditing, University of Economics in Prague.

Jaroslava Roubíčková, CSc., associated professor, Department of Financial Accounting and Auditing University of Economics in Prague.

methods; (2) Application of IAS 38—Intangible Assets in the area of measurement model selection; (3) Application of IAS 40—Investment Property in the area of measurement model selection; (4) Application of IAS 23—Borrowing costs in the question of the borrowing costs accounting within the framework of the previous standard version (i.e., before the amendment effective from January 1, 2009 came into force); (5) Application of IAS 1—Presentation of Financial Statement in the area of the format of the income statement; (6) Application of IAS 39—Financial Instruments: Recognition and Measurement in a question of hedge accounting.

Analysis Results

Application of IAS 16—Property, Plant and Equipment

IAS 16 comprises the possibility of policy selection in the area of measurement of property, plant and equipment. The companies can choose either the cost model or the revaluation model. Therefore, the objective of the analysis was to find out to what extent the companies chose the revaluation model. The reason was, that within the IAS 16, relatively big attention is paid to the revaluation model. This model could therefore seem to be used frequently in practice. However, its disadvantage is complexity and inconvenience from the point of view of the reported results in the area of depreciated assets and also impossibility (or limited possibility) to recognize the profit from the sale of an asset in the income statement. The tax impact of the model is also inconsiderable from the point of view of its complexity.

The results of the analysis are shown in the following Figure 1.



Figure 1. Measurement of property, plant and equipment.

From the figure it is evident that the revaluation model is not often used in practice. There were only eight firms found in the sample analyzed. Companies that used the revaluation model had never applied it for all property, plant and equipment. They used the possibility mentioned in IAS16—Property, plant and equipment, which allows assets revaluation within the corresponding classes of assets. The mentioned companies used the revaluation model mostly for land only, some of them also for buildings.

Depreciation Methods

Various depreciation methods are described in IAS 16, paragraphs 60-62. The standard neither defines nor prefers any one of the depreciation methods, it states only: "The depreciation method used shall reflect the

pattern in which the asset's future economic benefits are expected to be consumed by the entity".

Paragraph 62 explicitly describes three examples of suitable depreciation methods: straight-line method, diminishing balance method and the unit of production method.

The depreciation methods used for companies analyzing are presented in Figure 2.

From Figure 2, it is clear, that the majority of companies use the straight-line method. Among the companies that do not use the straight-line method (five companies only within our sample), two use the accelerated depreciation and three companies use the unit of production method.



Figure 2. Depreciation methods.

Application of IAS 38—Intangible Assets

IAS 38 (similarly to IAS 16) comprises the possibility of accounting policy choice in the measurement of intangible assets. The companies can choose either the cost model or the revaluation model. One specification that applies to intangible assets but is not required for property, plant and equipment is how the fair value under the revaluation model is to be measured—it must be determined by reference to an active market.

The analysis objective was to find out to what extent the companies chose the revaluation model under a condition in IAS 38 (i.e., existence of the active market for intangible assets).

The results are presented in the following Figure 3.



Evidently, the revaluation model is not used in practice. Within our sample this model was not found in any

354 ACCOUNTING POLICIES OF COMPANIES REPORTING ACCORDING TO IFRS

case. Under the examined companies, 22 companies reported no intangible assets; all other companies measured the intangible assets by using the cost model. The reasons for not using the revaluation model are in our opinion too: nonexistence of an active market for most intangibles and complexity of the revaluation model.

Application of IAS 40—Investment Property

IAS 40 gives companies the possibility to choose the measurement model for investment property between the cost model and the fair value model. Under the fair value model, a gain or loss arising from a change in the fair value of investment property is recognized in profit or loss.

The objective of our analysis was to find out to what extend the mentioned models are used in practice. Of course, investment property is not reported by each company. In our sample, 278 companies reported investment property and 132 companies did not (see Figure 4).



Figure 4. Recognizing of investment property.

Figure 5 comprises only the companies recognizing the investment property and therefore IAS 40—Investment property was relevant to them.

It is evident from the results that the fair value model for measurement of investment property is used in practice. It can be said that unlike the revaluation model applied to property, plant and equipment (IAS 16) and to intangible assets (IAS 38) which can hardly be found in practice, the fair value model for measurement if investment property was used approximately by a third of companies recognizing the investment property.



Figure 5. Measurement of investment property.
Application of IAS 23—Borrowing costs

On January 1, 2009 an amendment of IAS 23 came into force. Within the amendment the previous benchmark treatment of recognizing borrowing costs (that were directly attributable to the acquisition, construction or production of a qualifying asset) as an expense was withdrawn. This amendment was a clear result of the Convergence project between IFRS and the American standards US Generally Accepted Accounting Principles (GAAP). The amendment was accepted with considerable quandaries in Europe, both by companies reporting according to IFRS and by accounting experts. For the companies, that had expensed all borrowing costs according to the former benchmark treatment, the amendment brought a change in their accounting policy. However, the transition provisions of the new version of IAS 23 did not require a retrospective application. This regulation gave on one hand a certain relief to companies; on the other hand it brought discontinuity into measurement of the fixed assets and into the results reported by companies.

The subject of the analysis was to find out how many companies from the sample examined used the former benchmark treatment (i.e., expensed all borrowing costs directly attributable to qualifying assets) and how many companies capitalized the borrowing costs at the time before the amendment of IAS 23, which means at the time when the possibility of a choice still existed (our survey focused on the 2008 annual reports).

The results are presented in Figure 6.



Figure 6. Borrowing costs before the amendment of IAS 23.

It is evident from the results, that for a lot of companies, the amendment of IAS 23 brought an essential change in their accounting policy, and a result of this already mentioned discontinuity. The results also show another fact: some companies (9%) did not disclose their borrowing costs policy at all. These are alarming findings in view of the fact that according to previous version of the IAS 23, paragraph 29, this disclosure was compulsory. It is of course possible that the problem does not pertain to some of these companies, because they do not have any interest bearing loans, but this variant decidedly does not concern all those companies that have not provide this disclosure.

Income Statement Format

According to IAS 1—Presentation of financial statement a company shall present in the income statement an analysis of expenses using a classification based on either their nature or their function within the company. The object of analysis was therefore to find out, if one of the possible formats is prevalent in practice.

The results are presented in Figure 7.



It is evident from Figure 7 that the classification of expenses by function is prevalent in practice.

Figure 7. Income statement format.

Hedge Accounting

Entities enter into hedge arrangements for various economic reasons—to protect themselves from currency risk, interest rate risk, price risk and so on. An existence of a hedge relationship can cause mismatching between the balance sheet and the profit or loss. Hedge accounting generally protects the income statement from volatility, but the rules in IAS 39 financial instruments: Recognition and measurement are very rigorous. According to IAS 39, hedge accounting is voluntary, an entity can decide to go in for, or not.

The object of analysis was therefore to find out, how many non-financial entities use hedge accounting, despite its complexity and strict disclosure requirements.

It is evident from Figure 8 that despite of its complexity, 70% of analyzed entities decided for hedge accounting.



Figure 8. Hedge accounting.

Conclusions

The analysis performed by the students of University of Economics in Prague which pertained to the accounting policies at the companies reporting in compliance with IFRS, has shown following results:

(1) Under IAS 16—Property, plant and equipment the companies nearly always choose the cost model of measurement;

(2) The straight-line method predominates as a depreciation method;

(3) No revaluation model under IAS 38-Intangible assets was found in the sample. Companies always

356

chose the cost model;

(4) Under IAS 40—Investment property the Fair value model is applied by approximately one third of companies recognizing the investment property;

(5) Under the terms of the previous version of IAS 23—Borrowing costs (i.e., before the amendment effective from January 1, 2009) predominated the expensing of borrowing costs directly attributable to the qualifying assets;

(6) Both formats of the Income statement (nature and functions) were represented in a sample, but a classification based on their function within the company was prevalent;

(7) Despite of its complexity, 70% of non-financial companies from a sample analyzed decided for hedge accounting.

References

IFRS 2011, IASB, 30 Cannon Street. (Publication No. ISBN 9-781907-877001). London: Foundation Publication Department. 410 annual reports of companies reporting in accordance with IFRSs. Source: Internet Web pages of particular companies.



The Asymmetric Response of Older Male Labour Force Participation Rates to Pension Reform and Labour Market Variables

Martin O'Brien

University of Wollongong, Australia

Increasing the labour force participation rates of older workers is a fundamental component of most OECD (Organization for Economic Cooperation and Development) countries' response to the fiscal pressures associated with ageing populations. Both pension reform and employment policies are key elements to achieving such increases in participation and reversing the early retirement trends of recent decades. Econometric modeling results from a panel of 12 OECD countries indicate that labour market variables have a greater influence than social security pension value or the standard age of retirement on the labour force participation rates of males aged 55-64 years. Further results from modeling the potential asymmetric response of participation rates to unemployment rates indicate that a decrease in unemployment rates has a greater impact upon increasing the labour force participation rates of older workers compared to the effect of an increase on unemployment rates has on discouraging participation. We found mixed results for the asymmetric response of participation to an increase or decrease in pension value. Findings thus emphasize the importance of labour market oriented policies to reduce unemployment rates in the developed economies in coming years to address ageing population concerns.

Keywords: older workers, labour force participation, discouraged workers

Introduction

The average age of most western countries' populations is increasing as a result of declining fertility rates and increased life expectancy (OECD, 2009). While the latter is a positive reflection on better health and standards of living, this demographic phenomenon has been identified as placing increasing strain on government budgets due to their traditional financing of healthcare and pensions. As such, a number of governments have introduced pension reforms aimed at increasing retirement age and reducing the financial incentives for early retirement, with such policies being supported by influential international institutions such as the World Bank and the OECD. Further policy reforms recommended by the OECD are generally supply side in nature, being aimed at improving older workers' job search skills or "employability". The International Labor Organization (ILO) stands apart from the OECD and World Bank by recommending a policy of full employment to increase the participation of older workers in the labour market.

In this paper a panel model of older male labour force participation rates for those aged 55-64 is estimated

Martin O'Brien, doctor, associate head of School of Economics, University of Wollongong.

as a function of variables capturing both supply and demand influences. Namely, pension value, standard age of retirement, cyclical discouraged worker effects and other long term are crowding out of older workers from the labour market. In addition, the potential asymmetric influence of pension value and unemployment rate variables upon labour force participation is incorporated into the models. That is, does an increase in pension value or unemployment rate have the same impact upon labour force participation as a decrease? The findings have important implications for alternative policies to increase older worker labour force participation in the context of ageing populations.

The paper is organized as follows. The policy background to addressing ageing populations is presented in section 2. An examination of the trends evident in labour force participation rates of males aged 55-69 years in OECD countries over time is provided in section 3 followed by an exploration of competing theories in section 4. The methodology employed in this research is presented in section 5 followed by empirical results in section 6. Section 7 concludes with a summary of findings and policy implications.

Policy Background

Three international institutions have recognized the policy challenges associated with ageing populations and have recommended policy platforms to address such. First, the World Bank recommends pension reforms aimed at reducing unfunded publically managed pay-as-you-go pension schemes. Instead, they advocate a multiple pillar retirement income system, consisting of a mandatory publicly managed unfunded scheme supported by a privately managed funded scheme, and supplemented by voluntary savings schemes (World Bank, 1994; Holzmann, 1998).

Similarly, the OECD policy reform research focuses predominantly on supply side issues associated with the availability and value of pensions for older workers and its evolution could originally be described as a three part process. First, the identification of the future budget exposure posed by an ageing society, especially from publicly funded pensions was established (Leibfritz, Roseveare, Fore, & Wurzel, 1995; Roseveare, Leibfritz, Fore, & Wurzel, 1996). Second, the quantitative role of the availability and financial value of pensions available to those aged 55-64 for explaining the decline in older labour force participation was presented (OECD, 1995; Blöndal & Scarpetta, 1997, 1998; Duval, 2003). Finally, this research was used to justify the primary role of pension reform for reversing early retirement trends via restrictions to eligibility and lower social security pension value, thereby justifying a diminishing role for public pension financing. Specifically, the OECD pension reforms consist of: (1) removal of pensions that allow early retirement; (2) a move toward actuarial neutrality of pension systems; (3) convergence of retirement ages from a current standard of 65 for most countries to 67 years. These three reforms were adopted by most OECD countries in the 1990's and early 2000's (Burniaux, Duval, & Jaumotte, 2004).

More recently, the OECD declared that pension reform alone was not sufficient to address the policy challenges associated with ageing populations and established a policy review of the barriers to the employment of older workers in various countries called the Ageing and Employment Policies Project (OECD, 2006). The chair of this review, Bruno Tobback (Belgium Minister for Pensions) insisted that "Improving the employment prospects of older people aged 50-64 is the key to meeting this (ageing population) challenge" (Tobback, 2005). The intent of the OECD's Ageing and Employment Policies Project was thus to broaden the ageing population reform agenda to include hiring and firing procedures for older workers in firms, employment services for older jobseekers, working conditions and wage and training practices.

A summary of country specific policy recommendations from this project is contained in Table 1. The OECD's reform agenda was ambitious and out of character with previous policy, but the final recommendations have been somewhat lacking in substance. The proposed policies for improving employment prospects of older workers, such as providing employment services and training, remain focused only on the supply side of the labour market. Such policies also imply that both employment and job search skills of older workers are relatively deficient. They also convey the message that older workers are incapable or unwilling to work. Wage "reform" of older workers was only identified in the recommendations of two countries only, and merely consisted of policy to reduce tax paid by employers. Hiring and firing practices consist of awareness campaigns of the benefits of retaining older workers within a diversified workforce and promotion of best practice firms. The issue of age discrimination legislation was avoided by most countries. Therefore, the apparent change in policy stance toward employment policies is largely rhetoric, with later retirement age and the removal of early exit avenues remaining at the forefront of recommended strategies. The notion of employment creation remains absent from OECD policy.

	Later retirement	Remove or restrict Early retirement/ Disability pension	Awareness campaigns/Prom ote best practice	Increase training, employability or employment services	Employer tax cut /Wage subsidy	Combine pension and income
Australia	✓	✓		\checkmark		
Austria	✓	✓		✓	✓	
Canada			✓	✓		✓
Denmark		✓	✓	\checkmark		
Finland		✓	✓			✓
France	✓	✓	✓	✓		
Germany	✓			✓		
Netherlands	✓	✓	✓	✓		
UK	✓	✓	✓	✓		
US	✓			\checkmark	\checkmark	

Recommended Further Reforms from the OECD Ageing and Employment Policies Project

Note. Source: OECD (2006).

Table 1

The ILO has had a longer association with older worker interests than the other international institutions, being instrumental in improving invalid pensions for older workers in the 1930's, promoting policies for early retirement, training and placement of older workers in the 1960's, and supporting job protection for older workers in the 1970's. The ILO Older Worker Policy Recommendations established in 1980 included older workers being placed within a strategy of full employment and ensuring unemployment is not shifted from one group to another; anti age discrimination legislation and access to employment that takes into account their skills, experience and qualifications; measures to enable older workers to continue in employment under satisfactory conditions; and a gradual transition to retirement and flexible age of old age pension receipt (ILO, 1995, 2003; Auer & Fortuny, 2000).

Therefore, it is clear that the ILO policies stand apart from the other international institutions, with a greater focus on the role of job availability, unemployment prevention and government responsibility for older worker participation. In contrast, the World Bank and OECD place greater responsibility on the individual and only indirectly encourage participation in the labour force by addressing the financial incentives for retirement,

and more recently, job search and employment skills. However, it is apparent that governments have thus far mostly adhered to OECD recommendations, with aggregate demand stimulus policies to prevent unemployment only utilized by many governments after 2008 to combat the global financial crisis, not to address older worker labour force participation and ageing populations.

Older Worker Labour Force Participation Rates

Average labour force participation rates over time for older males aged 55-59, 60-64 and 65-69 for the OECD are displayed in Figure 1. As expected, the labour force participation rates for older males decline with age group. A trend decline in participation rates existed up until around the year 2000, associated with the so called early retirement phenomenon. However, this decline in participation was also prominent for those at or over the standard age of retirement of 65 years. An increase in participation is notable in more recent years.

An obvious major challenge for the proposed policy to increase retirement age to 67 years is that currently less than 30% of males work past the age of 65 years, and only around a half of older males aged 60-64 participate in the labour market. The remainder of this paper will focus on early retirement issues associated the 55-59 and 60-64 age groups only.



Figure 1. Average OECD labour force participation rates for males aged 55-69 from 1967 to 2008. Source: OECD (2010).

Competing Explanatory Theories

Both labour supply and demand forces can potentially explain labour force participation trends of older workers. Financial incentives for labour force exit or disincentives for continued labour force participation within various pension schemes have been used by the majority of economists to explain the early retirement phenomenon (e.g., Boskin, 1977; Parsons, 1980; Fields & Mitchell, 1984; Hausman & Wise, 1985, to name just a few). More recently, Gruber and Wise (1998, 2004), along with the OECD research of Blöndal and Scarpetta (1997) and Duval (2003), argued that there is an implicit tax on continued work at older ages as the additional pension contributions outweigh expected future benefits in early and standard age retirement schemes. Gruber and Wise (1998) showed that differences in this implicit tax rate explained the majority of the differences between the developed economies' older worker participation rates. They also pointed to evidence that changes in social security provision preceded changes to labour force participation. This in turn implied that early retirement trends could be reversed by changes to social security programs that had induced these

early retirement trends. Subsequent research using micro simulation showed how much labour force participation rates in a number of countries would increase with changes to reduce this tax (Gruber & Wise, 2004). Similar research using panel econometric models published by OECD researchers Blöndal and Scarpetta (1997), and Duval (2003) was used to justify their policy stance to reduce implicit taxes and thereby the availability and value of social security pensions. In particular, Duval (2003) estimated that around a third of the trend decline in older worker labour force participation could be attributed to increase in the implicit taxes on continued work.

Other researchers have argued that elements left exogenous to the labour supply choice model are fundamental to explain older male labour force participation patterns. That is, labour market conditions and government policy intervention. Older workers tend to be particularly vulnerable to employment separation and structural changes to industry employment, as well as changes to employer labour use strategies within industries (e.g., Standing, 1986, 1997; O'Brien, 2005). Once separated from employment, older workers tend to experience greater difficulties obtaining employment and are particularly vulnerable to long term unemployment and becoming discouraged workers. Hidden unemployment and a statistical relationship between older worker labour force participation rates and unemployment rates in the aggregate labour market have also been established in the literature (e.g., Bowen & Finegan, 1969; Rones, 1983; Beatty, Fothergill, & MacMillan, 2000; O'Brien, 2001).

Laczko and Phillpson's (1991) findings also challenged the orthodox labour supply of work and leisure. Instead, they described the prevalence for "early exit", representing an indeterminate status between the traditional two states of work and leisure, during the intermediate period between employment and the traditional retirement age of 65. Early exit was distinguished from early retirement, being associated with unemployment, especially for the low skilled and low educated in declining employment industries. Ultimate reliance on unemployment and disability pensions, as well as occupational pensions, was a common outcome. However, this was the outcome from pressure from governments and employers to remove older workers from the labour force particularly in periods of mass unemployment, rather than a reaction to generous financial incentives. As such they suggested that the governments manipulate the older worker labour force as a "reserve army of labour" in the face of aggregate labour market conditions, a phrase originally coined by Marx.



Figure 2. Average OECD implicit taxes on continued work and prime age male unemployment rates from 1967 to 2004*. Source: OECD (2010) and Duval (2003); * Implicit taxes data only available up until 2004.

In summary, the implicit tax on continued work inherent in pension schemes and aggregate labour market

conditions appear to be the main influences on older worker labour force participation identified in the literature. The implicit tax on 5 years continued work for males aged 55 and 60 years in early retirement pensions is presented in Figure 2, along with prime aged (25-54 years) male unemployment rates. Implicit taxes on continued work are greater for those aged 60 compared to 55, with both increasing up until the mid 1990's. The dramatic decline in implicit taxes after this point was the result of aforementioned pension reforms encouraged by the OECD aimed at actuarial neutrality and removal of pensions allowing early exit from the labour market. Similarly, prime age male unemployment rates tended to increase up until the mid 1990's before falling, albeit with cyclical fluctuations. Therefore, an inverse relationship between both major influences on labour force participation is apparent.

Methodology

Fixed effects panel econometric models of labour force participation rates for older males aged 55-59 and 60-64 are be specified as a function of variables capturing social security value and labour market influences as in O'Brien (2010). This specification is intended to capture the main variables of interest suggested by the literature as well as the policy variables of the OECD and ILO. Equation (1) shows the basic specification:

 $LFPR_{kit} = f(ITAX_{kit}, RETAGE_{it}, UNEMP_{it}, PRIME_{it})$ (1)

where *LFPR* represents labour force participation rates for the age groups 55-59 and 60-64, *ITAX* is the implicit tax on 5 years continued work for males aged 55 and 60 years, *RETAGE* is a country's normal or standard retirement age, *UNEMP* is the prime aged male unemployment rate, and *PRIME* is the percentage of prime aged males within the labour force aged (15-64 years) population.

The implicit tax (*ITAX*) on continued work is calculated as the percentage change in net pension wealth (contributions minus benefits) from an additional 5 years work in each country's "typical early retirement" routes such as early retirement pensions, disability pensions, and unemployment related pensions. It is calculated for males aged 55 and 60 for inclusion in their respective models. We would expect a negative relationship if additional contributions outweigh additional benefits and therefore impose an implicit tax on continued work. The country's standard retirement age (*RETAGE*) is also included to capture any effect from the age of receipt of the retirement pension, as opposed to early retirement related pensions. We would expect lower participation rates for the 60-64 age group if standard retirement age is below 65 years in particular countries and time periods. Furthermore, we may be able to simulate an increase in standard retirement age from 65 to 67 years as prescribed by OECD policy. Both variables were obtained directly from Duval (2003).

Discouraged worker effects and the cyclical relationship between older worker labour force participation and labour market conditions is captured with the prime age male unemployment rate (*UNEMP*). We can simulate the effects of unemployment rate reductions associated with the ILO's recommended policy of full employment using the coefficient from this variable. Note that we cannot use the older age unemployment rate as it is codetermined with their labour force participation rate. Furthermore, as established in earlier research, the older age unemployment rates conceal relatively high levels of hidden unemployment, making this measure misleading for capturing the state of the labour market for older males.

As first proposed by Blöndal and Scarpetta (1998), the percentage of prime aged males within the working age male population (*PRIME*) is also included in this specification as an additional aggregate labour market constraint. This influence is similar to the long-run rather than cyclical labour force discouragement concept proposed by Standing (1978), the BLMR (1983) and Peck (1996). The hypothesis that any increase in the

proportion of prime aged males in the labour force will crowd out older workers from participation implies a negative coefficient.

All data is first checked for stationarity with a range of unit root tests at both the panel and individual country level. All are standard practices in stationarity testing, and all variables are first tested in their level form. If a unit root is present the test is then repeated on the first differenced data. If the first differenced data is stationary, then it is deemed integrated of order 1, I(1). This non-stationary data may only be modeled in level format if a linear combination of the variables, as found in the residual term, is stationary (Engle & Granger, 1987).

The novel feature of the present research is to test for possible asymmetry in the relationship between labour force participation rates and implicit taxes and unemployment rates. The basic model is re-estimated using the following specifications for the implicit tax and unemployment in Equations (2) to (5):

$$ITAX_{kit}^{+ve} = \begin{cases} ITAX_{kit}^{+ve} = ITAX_{kit} \text{ if } (ITAX_{kit} - ITAX_{kit-1}) > 0 \\ \text{and} \\ ITAX_{kit}^{+ve} = 0 \text{ if } (ITAX_{kit} - ITAX_{kit-1}) \le 0 \\ ITAX_{kit}^{-ve} = ITAX_{kit} \text{ if } (ITAX_{kit} - ITAX_{kit-1}) < 0 \\ \text{and} \\ ITAX_{kit}^{-ve} = 0 \text{ if } (ITAX_{kit} - ITAX_{kit-1}) \ge 0 \\ ITAX_{kit}^{-ve} = 0 \text{ if } (ITAX_{kit} - ITAX_{kit-1}) \ge 0 \\ UNEMP_{it}^{+ve} = \begin{cases} UNEMP_{it}^{+ve} = UNEMP_{it} \text{ if } (UNEMP_{it} - UNEMP_{it-1}) > 0 \\ \text{and} \\ UNEMP_{it}^{-ve} = 0 \text{ if } (UNEMP_{it} - UNEMP_{it-1}) \le 0 \end{cases}$$
(4)
$$UNEMP_{it}^{-ve} = \begin{cases} UNEMP_{it}^{-ve} = UNEMP_{it} \text{ if } (UNEMP_{it} - UNEMP_{it-1}) < 0 \\ \text{and} \\ UNEMP_{it}^{-ve} = 0 \text{ if } (UNEMP_{it} - UNEMP_{it-1}) \le 0 \end{cases}$$
(5)

The rationale for the inclusion of variables to capture possible asymmetry in the effects of implicit taxes and unemployment rates is to test whether the quantitative effect of an increase in implicit taxes or unemployment rates on labour force participation is the same as a decrease in such. This can be achieved by testing whether the coefficients attached to $ITAX_{ikt}^{+ve}$ and $ITAX_{ikt}^{-ve}$, or $UNEMP_{it}^{+ve}$ and $UNEMP_{it}^{-ve}$, are statistically different using an *F* test. The results will have implications for the relative efficacy of recommended policies to address ageing populations and older workers, with the OECD specifically recommending decreases in implicit taxes and the ILO decreases in unemployment rates.

Estimation Results

Annual data was obtained for 12 OECD countries covering a maximum time period 1967 to 2004 from OECD (2010) and Duval (2003). Countries were chosen on the basis of data availability with only those with at least 25 years of observations of all variables chosen for modeling. This left us with the 12 countries of Australia, Canada, Finland, France, Germany, Italy, The Netherlands, Norway, Portugal, Spain, Sweden and the US. Unit root tests showed that all variables were I(1), however, residuals from the regressions are stationary thus indicating that the variables are indeed co-integrated.

Estimation results from Table 2 show that a ten percentage point decrease in implicit taxes would increase labour force participation by only 0.8 percentage points for males aged 55-59 and 1.8 percentage points for

those aged 60-64. There is only a marginal difference in the $ITAX_{ikt}^{+ve}$ and $ITAX_{ikt}^{-ve}$ coefficients which is significant only at the 10% level. Surprisingly, an increase in implicit taxes has a larger impact on decreasing labour force participation than a decrease has on increasing participation for those 55-59, but the opposite is true for those aged 60-64. Findings imply that pension reform has a relatively small role to play for those aged 55-59. In another blow for the effectiveness of pension reforms on older worker labour force participation, the coefficient attached to standard retirement age is insignificant in all specifications. We are therefore unable to simulate the effect of an increase in retirement age to 67 years.

Variables	Ma	les aged 55-59	Males aged 60-64				
Intercept ITAX _{ii}	147.045 [0.000] -0.081 [0.000]	142.637 [0.000]	217.429 [0.000] -0.177 [0.000]	196.416 [0.000]			
$ITAX_{it}^{+ve}$		-0.082 [0.000]		-0.164 [0.000]			
$ITAX_{it}^{-ve}$		-0.068 [0.000]		-0.188 [0.000]			
RETAGE _{it}	0.007 [0.971]	0.039 [0.842]	-0.683 [0.189]	-0.462 [0.366]			
UNEMP _{it}	-0.879 [0.000]		-2.163 [0.000]				
$UNEMP_{it}^{+ve}$		-0.848 [0.000]		-1.923 [0.000]			
$UNEMP_{it}^{-ve}$		-0.984 [0.000]		-2.306 [0.000]			
PRIME _{it}	-1.011 [0.000]	-0.975 [0.000]	-1.636 [0.000]	-1.538 [0.000]			
No. of observations	406	402	382	378			
R^2	0.857	0.860	0.838	0.844			
\overline{R}^2	0.852	0.854	0.832	0.837			
F statistic	156.874 [0.000]	139.232 [0.000]	135.851 [0.000]	121.955 [0.000]			
LLC	-5.343 [0.000]	-5.627 [0.000]	-7.359 [0.000]	-8.639 [0.000]			
ADF	56.834 [0.000]	59.677 [0.000]	91.723 [0.000]	105.183 [0.000]			
РР	59.141 [0.000]	59.225 [0.000]	67.639 [0.000]	102.059 [0.000]			
$ITAX_{it}^{+ve} - ITAX_{it}^{-ve} = 0$		3.113 [0.078]		2.971 [0.086]			
$UNEMP_{it}^{+ve} - UNEMP_{it}^{-ve} = 0$		5.864 [0.016]		11.551 [0.001]			

Labour Force Participation Rate Model Results

Table 2

Notes. Source: Authors calculations. p values in square brackets.

In contrast, strong results are shown for the labour market variables UNEMP and PRIME. Findings indicated that a one percentage point decrease in prime age unemployment will increase labour force

participation of males aged 55-59 by nearly one percentage point and over two percentage points for those 60-64. Therefore, a labour market policy to decrease unemployment by one percentage point would have a larger impact on increasing labour force participation rates than pension reform consisting of a ten percentage point decrease in implicit taxes. Magnifying this result, is the finding from the model incorporating asymmetric effects, which shows that a decrease in unemployment rates has a greater impact on labour force participation than an increase. The $UNEMP_{it}^{-ve}$ coefficient is greater than $UNEMP_{it}^{+ve}$ by approximately 16% and 20% for males aged 55-59 and 60-64 respectively. Testing indicates that this difference is statistically significant at the 1% level. This indicates that ILO inspired policy of full employment or at least unemployment reduction would be a very effective tool to increase labour force participation in ageing societies. Further aiding this policy is the effect from the *PRIME* variable, which will continue to gradually decrease in value over time as populations' age, and reduce crowding out pressures on older workers.

Conclusions

Model results demonstrated the dominance of labour market related variables over pension reform for explaining older male labour force participation rates. In addition, an important finding from this research is the asymmetry in the relationship between unemployment rates and labour force participation. A decrease in unemployment rates has a significantly larger impact on increasing older male labour force participation than an increase in unemployment rates has on discouraging participation. Findings are therefore supportive of policy to improve aggregate labour market conditions and target unemployment rates.

Even though the OECD has recently signaled a change in policy stance toward addressing employment barriers faced by older workers, their recommended policies do not contain any initiatives to directly increase older worker employment or to reduce unemployment rates. This research thus supports ILO policy to stimulate employment and target unemployment as the most effective policy to increase older worker labour force participation to address ageing population policy concerns.

References

- Auer, P., & Fortuny, M. (2000). Ageing of the labour force in OECD countries: Economic and social consequences. ILO Employment Paper, Geneva.
- Beatty, C., Fothergill, S., & MacMillan, R. (2000). A theory of employment, unemployment and sickness. *Regional Studies*, 34(7), 617-630.
- Blmr. (1983). Retired, unemployed or at risk: Changes in the Australian labour market for older workers. *Bureau of Labour Market Research Report*, (4). Australian Government Publishing Service, Canberra.
- Blöndal, S., & Scarpetta, S. (1997). Early retirement in OECD countries: The role of social security systems. *OECD Economic Studies*, 2(29).
- Blöndal, S., & Scarpetta, S. (1998). The retirement decision in OECD countries. Ageing Working Paper 1.4, OECD, Paris.
- Boskin, M. J. (1977, January). Social security and retirement decisions. Economic Inquiry, 15, 189-210.
- Bowen, W. G., & Finegan, T. A. (1969). The economics of labor force participation. Princeton University Press, Princeton.
- Burniaux, J., Duval, R., & Jaumotte, F. (2004) Coping with ageing: A dynamic approach to quantify the impact of alternative policy options on future labour supply in OECD countries. *Economics Department Working Papers*, (371). OECD, Paris.
- Duval, R. (2003). The retirement effects of old-age pension and early retirement schemes in OECD countries. *Economics Department Working Papers*, (370). OECD, Paris.
- Engle, R. F., & Granger, C. W. J. (1987). Co-integration and error correction: Representation, estimation and testing. *Econometrical*, 55(2), 251-276.
- Fields, G. S., & Mitchell, O. S. (1984). Retirement, pensions, and social security. Cambridge, Mass: MIT Press.

- Gruber, J., & Wise, D. (1998). Social security and retirement: An international comparison. *American Economic Review*, 88(2), 158-63.
- Gruber, J., & Wise, D. (2004). Social security programs and retirement around the world: Micro-estimation. University of Chicago Press.
- Hausman, J. A., & Wise, D. A. (1985). Social security, health status and retirement. In D. A. Wise (Ed.), *Pensions, labor, and individual choice* (pp. 131-151). Chicago: University of Chicago Press.
- Holzmann, R. (1998). A World Bank perspective on pension reforms. Workshop on Pension Reform, ILO-OECD Paris.
- ILO. (1995). World labour report 1995. ILO, Geneva.
- ILO. (2003). Promoting decent work for an ageing population: Actors, partners and corporate social responsibility. Retrieved October 5, 2009 from http://www.ilo.org/public/english/employment/skills/older/download/g8report.pdf
- Laczko, F., & Phillipson, C. (1991). *Changing work and retirement: Social policy and the older worker*. Open University Press, Philadelphia.
- Leibfritz, W., Roseveare, D., Fore, D., & Wurzel, E. (1995). Ageing populations, pension systems and government budgets: How do they affect saving? *Economics Department Working Paper*, (156). OECD, Paris.
- O'Brien, M. J. (2001). Older male labour force participation: The role of social security and hidden unemployment. *Australian Journal of Labour Economics*, 4(3), 206-223.
- O'Brien, M. J. (2005). Industry representation, structural change and the older male worker in Australia (1985 to 2005). *Australian Bulletin of Labour, 31*(3), 270-294.
- O'Brien, M. J. (2010). Older male labour force participation in OECD countries, pension reform and the reserve army of labour. International Labour Review, 149(3), 239-259.
- OECD. (1995). The transition from work to retirement. OECD Social Policy Studies, (16). OECD, Paris.
- OECD. (2006). Live longer, work longer. OECD, Paris.
- OECD. (2009). Society at a glance 2009. OECD Social Indicators, (6), 1-135.
- OECD. (2010). OECD. Stat extracts. Retrieved June 30, 2010 from http://stats.oecd.org/index.aspx?r=792351
- Parsons, D. O. (1980, February). The decline in labor force participation. Journal of Political Economy, 88, 117-134.
- Peck, J. (1996). Work-place: The social regulation of labor markets. New York: The Guilford Press.
- Rones, P. L. (1983, May). The labor market problems of older workers. Monthly Labor Review, 3-21.
- Roseveare, D., Leibfritz, W., Fore, D., & Wurzel, E. (1996). Ageing populations, pension systems and government budgets: Simulations for 20 OECD countries. *Economics Department Working Papers*, (168), OECD, Paris.
- Standing, G. (1978). Labour force participation and development. International Labour Office, Geneva.
- Standing, G. (1986). Labour flexibility and older worker marginalization: The need for a new strategy. *International Labour Review*, *125*(3), 329-348.
- Standing, G. (1997). Globalization, labour flexibility and insecurity: The era of market regulation. *European Journal of Industrial Relations*, *3*(1), 7-37.
- Tobback, B. (2005). High-level forum on ageing and employment policies, Brussels, 17-18 October 2005 chair's conclusions, Bruno tobback, Belgian minister for pensions. Retrieved June 30, 2010 from http://www.oecd.org/document/45/0,3343,en _2649_34487_35520621_1_1_1_0.html
- World Bank. (1994). Averting the old age crisis: Policies to protect old and promote growth. New York: Oxford University Press.



Private Benefits of Politicians and Delayed Privatization*

Michał Kałdoński, Jacek Mizerka University of Economics, Poland

The aim of this paper is to consider the problem of politicians' control of state-owned enterprises in a transforming economy. The control of a company can be treated as a choice of a strategy pursued by this company. In order to present politicians' influence on a company's strategy, we consider the case of a firm controlled by the State Treasury (i.e., by politicians) and a company outside politicians' control, both functioning in a favorable and an unfavorable state of the economy. We propose the option-to-switch valuation model as a method of measuring politicians' private benefits of control. We illustrate the considerations using data concerning Poland's printing industry.

Keywords: political control, private benefits, privatization, real options

Introduction

A control exercised by politicians over state-owned enterprises is likely to be a source of inefficiency in these enterprises' operation. A negative effect of this control is benefits appropriated by politicians. Private benefits of control of company resources are one of the key issues dealt with by today's corporate-finance researchers, which is reflected in the subject literature. In particular, publications devoted to investor protection and its significance for financial market development laid special emphasis on the value of private benefits gained by the party in control of the company.

The most up-to-date research in this field suggested that private benefits of control account for 14% of the equity value (Dyck & Zingales, 2004). However, the research concerns only private companies. Relatively little of the subject literature is devoted to private benefits which can be gained if one owns shares in state-owned enterprises. The problem gains special significance in an economy undergoing transformation and finds its expression in unfinished privatization process.

Difficulties with the identification and measurement of the value of private benefits of control are gained by politicians resulted from the nature of the phenomenon. So far, no complete catalogue of manifestations of private benefits of control has been made. Financing election campaigns and buying people's votes are the most common forms of benefit derived by politicians and enjoyed at the expense of both the State Treasury and private investors.

In this paper, we continue the research started by Boycko, Shleifer and Vishny concerning the influence of politicians on the company's strategy and the process of privatization (Shleifer & Vishny, 1994; Boycko,

^{*} This paper is a continuation of a research project the results of which have been presented in our paper Private Benefits of Politicians and Value Destruction, published in W. Frąckowiak, C. Kochalski, (eds.), Modern Managerial Finance, New Trends and Research Areas, Poznan University of Economics Press, Poznań 2010, pp. 200-214.

Michał Kałdoński, Ph.D., Department of Management, University of Economics.

Jacek Mizerka, Ph.D., professor, Department of Management, University of Economics.

Shleifer, & Vishny, 1996). To present the implications of politicians' benefits for a company's strategy, we propose a simple model. For the purpose of measuring these benefits we recommend a real-options approach.

The article is divided into four sections. Section two presents the idea of private benefits of control. Section three is devoted to consequences of delaying privatization. We present results achieved by firms under politicians' control and firms without such control. The data, supplemented with reservations made by inspectors of the Supreme Chamber of Control (SCC), were taken from a special report devoted to the Polish printing industry. To explain the worse performance of state enterprises we use the previously mentioned approach by Boycko, Shleifer, and Vishny (1996). In section four we show how a political control reduced to the choice of a strategy pursued by the company can influence the results obtained by that company. In the last section we recommend using the switch option valuation model in order to assess the value of politicians' benefits of control.

The Idea of Private Benefits of Control

In the subject literature, the idea of private benefits of control is very often understood as the "psychological" value which shareholders attribute to the possession of power. Advocates of this view include Aghion and Bolton as well as Harris and Raviv (Aghion & Bolton, 1992; Harris & Raviv, 1998). Another more palpable source of private benefits of control is perquisites. According to Jensen and Meckling, a manager possessing shares in a company can derive two types of benefits (Jensen & Meckling, 1976). The first type of benefits, whose size is directly proportional to the shares possessed, results from an increased company value and has the form of dividends and capital gains. Benefits of the second type are various perquisites (luxurious offices, company cars, attractive personnel, prestige and respect among employees, etc.) to which only managers are entitled.

Exploiting company resources in order to obtain perquisites is a much more measurable way of gaining private benefits of control than running one's company "in one's own way". This does not mean, however, that it is the most significant way. Expropriation of minority shareholders (tunneling) by the party in control of the company can be carried out on a considerably larger scale and in a considerably more refined way (Johnson, La-Porta, Lopez-de-Silanes, Shleifer, & Tunneling, 2000). According to Johnson, La-Porta, Lopez-de-Silanes and Schleifer, we can distinguish two basic forms tunneling. The first one consists in transferring company resources by means of self-dealing. This type of transaction covers both activities which are illegal by definition, such as theft or fraud, and activities which are ostensibly legal. The latter includes the purchase or sale of products and assets at prices different from market prices, higher than "fair" transfer price, managers' remuneration, loan repayment guarantees or taking over the company's investment opportunities for one's own purposes. Another method of tunneling is transactions leading to dilution. The party in control increases its share through dilutive share issues, minority freeze-outs, insider trading, creeping acquisitions or other financial transactions which result in discrimination against minority shareholders.

The psychological aspect of private benefits of control is much more difficult to define, and thus to quantify. An example of such benefits, given by Demsetz and Lehn, is amenities enjoyed by sports club and media owners in the form of the ability to influence competition results or the public opinion (Demsetz & Lehn, 1985). Other authors pointed to social prestige, family traditions, the opportunity to promote one's relatives (i.e., issues connected with reputation broadly understood) (Holmen & Hőgfeldt, 2000).

PRIVATE BENEFITS OF POLITICIANS AND DELAYED PRIVATIZATION

Taking into account all these considerations, it should be stated that private benefits of control can concern any situation in which a value, irrespective of its origin, is not shared among shareholders proportionally to the shares owned, but its only beneficiary is the party in control (Dyck & Zingales, 2004). At the same time, it should be noted that private benefits of control can take the form of pecuniary or non-pecuniary benefits. Differences among private benefits of control can concern the degree of their transferability. The basic kinds of private benefits of control are listed in Table 1.

Table 1

Basic Kinds of Private Benefits of Control

Degree of transferability/Form	Pecuniary benefits	Non-pecuniary benefits
High transferability	1. Self-dealing	3. Amenities
Low transferability	2. Dilution of claims	4. Reputation

Notes. Source: On the basis of Erhardt and Nowak (2001).

For the purpose of this paper, the distinction between private benefits that occur at the expense of other shareholders and those that do not is more important.

The nature of private benefits of control makes it difficult, or even impossible, to measure them. This is reflected in the methods used in practice to measure private benefits of control. Two such methods can be found in the literature.

The first one has been put forward by Barclay and Holderness (Barclay & Holderness, 1989). Its starting point is the assumption that the share price paid by the purchaser of controlling interest corresponds with the sum of the benefits he obtains in the form of a certain part of the cash flow generated by the company and private benefits of control. The first kind of benefits results from the possession of an adequate number of company shares, while the other results from one's position. However, the market price of shares after control has been gained corresponds with a minority shareholder's share in the cash flow generated by the company when run by the new managers. The difference between the share price in a transaction leading to the acquisition of controlling interest and the market price quoted after the sale of a shareholding is announced determines the value of private benefits of control.

The second method of estimating the value of private benefits of control is based on the distinction between shares according to the number of voting rights. Rydquist, Zingales and Nenova argued that the value of private benefits of control corresponds with the difference between the prices of shares with different voting rights (Rydqvist, 1987; Zingales, 1994; Zingales, 1995; Nenova, 2000). It was pointed out in the literature that the two methods presented above are by no means perfect. Estimations of the value of private benefits of control (Dyck & Zingales, 2004).

It should be emphasized that private benefits of control are by their nature difficult to identify and quantify. Otherwise, the possibility that minority shareholders will take legal action to assert their rights would mean that they may lose their private character for these benefits.

Consequences of the Lack of Restructuring

The problem of private benefits of control takes on a special significance in the case of privatization

370

processes which have taken place in Central Eastern Europe. In these countries, company privatization is usually understood as a transition from state to private ownership. The privatization of state enterprises has always been one of the major tasks facing the economies of Central and Eastern Europe. However, the process runs into various difficulties. The privatization process takes longer than it might be expected. The consequences of neglect in the area of privatization are illustrated by data concerning the situation of state-owned enterprises in the Polish printing industry. We present publicly available data from a report by the Supreme Chamber of Control concerning Poland's printing industry.¹ Table 2 contains data on net sales by seven state-owned printing enterprises in Poland.

Table 2

Net Sales by Polish State Enterprises and in the Printing Sector (In Pln000'S)

Enterprise\Year	2005	2006	2007	2008	2009 (1st half)
Olsztyn graphic company	40,247	42,761	42,857	44,995	21,076
Bialystok graphic company	24,624	24,193	22,463	23,070	9,337
Poznan graphic company	12,367	10,515	10,379	8,677	3,659
Graphic company "Dom słowa polskiego"	10,453	11,165	11,314	10,350	5,609
Rzeszow graphic company	26,547	22,036	20,723	21,310	6,992
Cracow printing company	8,447	10,627	12,926	19,445	8,916
Lodz graphic company	9,914	8,313	7,421	6,588	2,765
Average net sales by state enterprises	18,943	18,516	18,298	19,205	8,336
Net sales in the Polish printing sector	5,176,657	5,989,618	6,314,312	6,127,319	6,113,488

Notes. Source: Information about the results of an audit of restructuring and privatization in the printing sector, Supreme Chamber of Control, Warsaw 2010.

The data presented in Table 3 concerns the financial results (net profits or losses) obtained by state-owned companies.

Table 3

Net Profits (Losses) Obtained by Polish State Enterprises (In Pln000'S)

	-		1		
Enterprise\Year	2005	2006	2007	2008	2009 (1st half)
Olsztyn graphic company	2,245.00	1,517.90	112.70	1,215.00	762.00
Bialystok graphic company	841.10	415.50	36.20	-243.10	-1,571.50
Poznan graphic company	170.20	251.10	-1,031.20	-2,037.90	-1,215.00
Graphic company "Dom słowa polskiego"	-3,488.60	-504.60	-6,391.70	-3,621.20	-2,213.20
Rzeszow graphic company	90.50	-1,634.30	138.60	-30.70	-1,680.50
Cracow printing company	-887.30	8,185.00	-1,454.60	2,251.60	-384.50
Lodz graphic company	242.00	249.00	65.00	75.00	-169.00
Average net profit (loss)	-112.44	1,211.37	-1,217.86	-341.61	-924.53
Net sales in the polish printing sector	364,502	476,162	473,100	234,630	141,455

Notes. Source: Information about the results of an audit of restructuring and privatization in the printing sector, Supreme Chamber of Control, Warsaw 2010.

The data collected in Tables 2 and 3 helped formulate the conclusion that the situation of the enterprises

¹ Retrieved from http://www.nik.gov.pl/kontrole/wyniki-kontroli-nik.

PRIVATE BENEFITS OF POLITICIANS AND DELAYED PRIVATIZATION

surveyed deteriorated gradually. Even a one-time increase in revenues in 2008 cannot change this conclusion. The relative weakness of state-owned enterprises in the printing industry compared to all the companies in this sector may indicate that the rate of growth in all enterprises in the period of 2005-2008 is 18.4%, while in state-owned enterprises it is only 13.8 %. It can be assumed that the financial crisis could have contributed to decreased sales in the printing industry in 2008. In the same year, revenue growth was observed in the group of state enterprises. This increase, however, was not caused by increased revenues from core activities, but by the sale of properties belonging to state-owned enterprises. Generally, in each year of the period under investigation, company activity within the printing sector was profitable. The exception was state-owned enterprises. The only company whose operations were profitable in each year of the period of 2005-2008 was Olsztyn graphics company. The average earnings of state enterprises each year were negative. According to a report by the Supreme Audit Chamber, profits obtained occasionally by the other state-owned enterprises were the result of extraordinary events, unrelated to the firms' core activity. The events include debt relief and, as we have mentioned earlier, the sale of real estate. In order to compare the results of state-owned enterprises with the results of the printing sector as a whole, Table 4 presents the values of some basic financial ratios calculated separately for state-owned and other companies in the printing industry.

Table 4

Performance of State Enterprises Compared to the Industry

Enterprise/Year		2005	2006	2007	2008	2009
ROS	Average in the printing industry	9.8%	8.8%	9.0%	6.2%	3.3%
	Average in the group of state enterprises	-1.4%	-3.8%	-6.2%	-9.2%	-18.1%
Net profit margin	Average in the printing industry	6.7%	7.7%	7.2%	3.7%	2.2%
	Average in the group of state enterprises	-4.4%	10.8%	-10.8%	-6.3%	-17.2%
ROA	Average in the printing industry	8.5%	9.9%	9.9%	7.6%	5.1%
	Average in the group of state enterprises	-33.8%	12.1%	-4.0%	0.1%	-4.7%
ROE	Average in the printing industry	35.4%	7.7%	16.4%	8.3%	5.6%
	Average in the group of state enterprises	0.0%	7.6%	-11.1%	-2.7%	-9.2%
Current ratio	Average in the printing industry	1.3	1.4	1.3	1.2	1.3
	Average in the group of state enterprises	1.6	2.3	1.6	1.7	1.7

Notes. Source: Information about the results of an audit of restructuring and privatization in the printing sector, Supreme Chamber of Control, Warsaw 2010.

A noticeable deterioration in profitability ratios over time has been observed in all state-owned enterprises. Despite the deteriorating profitability, the liquidity ratio remains at a fairly good level. As we have mentioned before, the relatively high values of liquidity could be due to the sell-off of company assets. However, the lack of profitability and the fact that possibilities of selling assets have been exhausted result in the loss of financial liquidity.

Considering the situation of state enterprises against the background of all companies in the printing industry, one must agree with the comments contained in the report by the Supreme Chamber of Control. The Chamber is critical of the way the restructuring of state-owned enterprises was carried out within the printing industry. The scope of the restructuring was insufficient to enable the companies to meet the demands of a competitive market. The actions taken were occasional and ineffective, particularly in reducing the costs of excessive employment.

Both successive ministers and managers of state enterprises showed a passive attitude towards the deteriorating financial situation of these enterprises. Lack of restructuring also manifested itself in the fact that state enterprises did not sell large properties situated in urban centers where production was burdensome for the environment. Considering the fast development of technology, the real estate proved to be too large for publishing business. Consequently, it should be sold. No state-owned enterprise with a majority share owned by the Treasury has decided to sell this real estate. Only companies privatized earlier have sold properties of this type. An inspection found many anomalies in the sale of other fixed assets. The Supreme Chamber of Control has expressed reservations about the price suppression of the assets sold. As a result of mistakes and omissions during the restructuring process, state-owned enterprises in the printing industry were not adequately prepared for privatization. Since 2006 all attempts of privatizing state-owned enterprises within the printing industry have failed. One could ask, therefore, "why did the Treasury not care about its subordinate enterprises?"

The State Treasury's involvement in privatized companies can be explained in various ways (Schindele, 2003). One of them concerns self-interested politicians, who control enterprises and allow their inefficient operation since excessive employment and delayed privatization, may bring them political benefits. In other words, politicians can gain private benefits without having a personal share in the company.

Boycko, Shleifer, and Vishny (1996) argued that there is a conflict of interests between managers and politicians. Because of potential political benefits, politicians allow companies to be overstaffed and to pay high wages. On the other hand, managers predicting the acquisition of some shares are interested in improving the company's effectiveness. Both sides of the conflict play a game of sorts over the size and costs of employment.

Boycko et al. (1996) illustrated the issue of politicians' control of companies with a model according to which the company determines labour spending (*E*). It is also assumed that managers represent the interests of private shareholders. The participation of private owners in the company's profits amounts to α , whereas the State Treasury's participation is $(1-\alpha)$. The interest of politicians who do not have shares comes down to receiving the employees' support in elections. To achieve this, they exert pressure on the company to increase labour spending. Politicians' marginal benefit of an extra dollar designed for remuneration equals q (q<1). Increased labour spending results in the company's lower profits. The possible occurrence of potential losses causes politicians to take into account the State Treasury's sanctions. The cost a politician pays because of the State Treasury's loss of a profit of the firm amounts to m. Since the politician cares more about his own income than the State Treasury's revenue, the values of m are less than 1. The compromise between the benefits and costs associated with excessively increased labour spending is expressed by the following equation.

$$U_{p} = qE - m(1 - \alpha)E \tag{1}$$

The manager (shareholder) objective function reflects only benefits from participation in the company's profits.

$$U_m = -\alpha E \tag{2}$$

A key role in the model is played by the entity in control of labour spending. In the case of companies with a dominant shareholding owned by the State Treasury, labour spending is determined by politicians. Politicians' propensity to increase remuneration is expressed by the following condition:

$$m(1-\alpha) < q \tag{3}$$

It follows from condition (3) that politicians' benefits per dollar of extra spending on labour are higher

PRIVATE BENEFITS OF POLITICIANS AND DELAYED PRIVATIZATION

than the costs which the politicians suffer when the State Treasury consequently loses a revenue unit. Politicians' control of companies gives rise to a lower effectiveness of the economy, which benefits politicians at the expense of the State Treasury and the other shareholders.

Excessive employment and higher wages are not the only source of politicians' benefits, which can also take the form of cheap loans given by state companies to political parties to finance election campaigns. Another method of winning peoples' votes is to influence decisions to locate company investment projects in economically unviable areas. People's votes can be bought by selling selected products (e.g., train tickets, food) at prices lower than the marginal production cost (Shleifer & Vishny, 1994).

Another question to be answered is how to account for the difference between the value of a company controlled by a private investor and the value of a company under politicians' control. It seems that the lower price of a company controlled by politicians results from its limited strategic flexibility. A symptom of this limitation is the relatively small scale of restructuring in state-owned companies in a changing economic situation, as was shown in the example of state-owned enterprises within the printing industry.

Political Control of a Company and the Restructuring Process

Restructuring implies a change in strategy. Figure 1—which illustrates the payoffs of private investors, the State Treasury and politicians, depending on whether or not restructuring takes place—provides justification for such an approach (Kulatilaka, Lin, & Patel, 2007).

The model concerns a company with a large number of employees. Two states of the economy can be distinguished: A favorable and an unfavorable one. In each of these states we consider two cases related to the company's situation: The presence and the absence of politicians' control. Politicians' control is possible thanks to the State Treasury's ownership of a majority shareholding or a "golden share".

In the case of a company both under and without politicians' control, we consider the capability of restructuring and its absence. Restructuring means cutting employment, the sale of redundant assets and consequently reducing fixed costs. Let x mean a private investor's stake in a company, and 1-x the State Treasury's stake. Let H mean the company's value in a favorable state of the economy and without restructuring. S is the company's value after restructuring. Let us note that S does not depend on the state of the economy L, in turn, means the company's value in an unfavorable state of the economy and without restructuring. Additionally, C means the cost of restructuring. It is assumed that the following inequalities take place:

H > S > L

and

$$C > 0 \tag{5}$$

(4)

If the company is not controlled by politicians, the decision about restructuring is made when:

$$S - C > L \tag{6}$$

Politicians' control over a company may result in the decision being changed. Abandoning restructuring has a double consequence. The lack of restructuring means a decreased value of the assets of all shareholders, including the State Treasury and indirectly also politicians. Compensation for the negative effects of the decreased value of the State Treasury's assets is private benefits (*PB*) related to politicians' increased popularity. However, politicians' immediate benefits are accompanied by postponed costs. Maintaining a high

level of employment and fixed costs in an unfavorable state of the economy results in a decreased company value, and consequently in lower tax revenues and a higher budget deficit. An increased budget deficit, in turn, means the need to limit spending or to increase taxes, which leads to lower politicians' popularity².

The above model suggests that the difference between the value of a company controlled by a private investor and capable of restructuring and the value of a company controlled by politicians where large-scale restructuring is often impossible can be treated as the value of private benefits of control. The ability to conduct or abandon restructuring is a sign of flexibility in decision making. Flexibility can be valued by means of the option approach.



Figure 1. Payoffs of a private investor, the State Treasury and politicians in the context of restructuring. Source: The authors' own study.

 $^{^2}$ We could describe in a similar way the benefits drawn by politicians who put pressure for economically unjustified increases in labor costs when the economic situation improves.

Estimating the Value of the Politicians' Private Benefits

In our model of valuing private benefits of control we assume two scenarios concerning cash flow formation. Each scenario corresponds to a particular strategy. For the sake of simplicity, we assume that restructuring concerns only one factor, namely employment.

Scenario A concerns a company with long-term contracts between the employer and employees. The contracts on the one hand guarantee employees long-term employment, but on the other hand protect the employer against excessive pay rises. An effect of these contracts is a high operating leverage, and consequently high cash flow volatility. The lack of long-term contracts in scenario B implies higher variable costs, and consequently low cash flow volatility. The lack of contracts enables the reduction of employment in case of a downturn in the economy. An improvement in the economic situation may, in turn, result in high pay rises. In the subsequent parts of the paper, scenarios A and B will be referred to as a high operating leverage strategy and a low operating leverage strategy, respectively.

Using a binomial model and assuming that the time horizon is one period, Figure 2 presents the formation of the cash flow achieved by the company, depending on the company's strategy characteristics.



Figure 2. Formation of cash flow values achieved by the company, depending on the company's strategy characteristics. Source: The authors' own study.

A change in the strategy in the event of an economic depression (moving from scenario A to scenario B) will imply breaking the long-term contracts between the employer and employees and paying due compensation. Similarly, during an upturn, signing long-term contracts (moving from scenario B to scenario A) will involve additional costs. The compensation paid is expected to be higher than the cost of signing new contracts.

The description of a decision situation presented here enables us to find an analogy between this situation and the situation of an option holder. An option to change the strategy of the company can thus be categorized as a switch option. The occurrence of switch costs (compensation costs, costs of entering into contracts) causes the option to become a compound option (Kulatilaka & Trigeorgis, 2001). This is because the current decision to change the strategy, or the lack of it, has an impact on the strategy of the company in future periods. As a consequence, it also influences the future costs of a change of the strategy (the exercise price of future options) and, as a result, future decisions to change the strategy. In the case of options to change the strategy, we talk of the occurrence of nested options. It follows from the above that underlying assets are the values of companies in particular scenarios³. The exercise price of an option in a given node is the value of a company in an appropriate node, in an alternative scenario, minus costs of switching from a given strategy to an alternative strategy.

The calculation of the company value with an option to change the strategy is made simultaneously, first assuming that the firm follows high operating leverage strategy, then assuming that it follows low operating leverage strategy. The valuation procedure is recurrent in character. We commence it by starting from possible company values, at the last moment, a change or a strategy (i.e., an option exercise) may occur. At this moment the company value corresponds with the higher of the two values: The company value in a given scenario and the company value in an alternative scenario, minus outlays connected with a strategy change. The company value in state *s* at moment *t*-1 can be determined on the basis of the company value in state *s*, and state *s*-1 means that the company value has increased in relation to its value in state *s*, and state *s*-1 means that the company value has decreased in relation to the value in state *s*. The formula showing the company value in state *s*, at moment *t*, with the assumption of following a given strategy, *m* (*m* = *A*, or *m* = *B*), $V_{t-1}^{s}(m)$ is as follows (Kulatilaka & Trigeorgis, 2001):

$$V_{t-1}^{s}(m) = \max_{i} \left\{ CF_{t-1}^{s}(i) + \frac{\left[q \cdot V_{t}^{s+1}(i) + (1-q) \cdot V_{t}^{s-1}(i)\right]}{e^{r_{f}}} - I(m \to i) \right\}$$
(7)

While hedging probabilities, q and 1-q are given as the following formulas:

$$q = \frac{e^{r_f} - d}{u - d} \tag{8}$$

$$1 - q = \frac{u - e^{r_f}}{u - d}$$
(9)

where,

 $CF_{i-1}^{s}(i)$ —Flow achieved by the owner in the case of following strategy *i*, in state *s*, at moment *t-1*;

 $V_{\iota}^{s+1}(i), V_{\iota}^{s-1}(i)$ —Company values at moment *t*, with the assumption that in relation to state *s* there has been an increase (decrease) in the company value;

 $I(m \rightarrow i)$ —Costs of changing the strategy; and if m = 1, then $I(m \rightarrow i) = 0$;

 r_f —Interest rate of risk-free securities;

u, *d*—Indicators of an increase and a decease in the company value, respectively.

The process of option valuation starts at the last moment (N) the option can be exercised. At this moment the valuation formula takes the following form:

$$V_N^s(m) = \max_i \left\{ CF_N^s(i) - I(m \to i) \right\}$$
(10)

What follows is the formula for estimating the value of a company which implements a certain strategy taking into account the possibility of "switching" from one strategy to the other (i.e. a change in the operating leverage level):

For a high operating leverage strategy:

$$V_0(A) = PV(A) + I(A \to B)$$
(11)

For a low operating leverage strategy:

$$V_0(B) = PV(B) + I(B \to A)$$
(12)

³ By company value we mean an appropriately defined sum of the present values of income earned by the owner at each node of the tree.

PRIVATE BENEFITS OF POLITICIANS AND DELAYED PRIVATIZATION

and

$$V(F) = \max[V_0(A); V_0(B)]$$
(13)

where,

 $V_0(A)$, $V_0(B)$ —current value of a company implementing high and low operating leverage strategy, respectively, with the flexibility to change the strategy;

PV(A), PV(B)—current values of a company implementing high and low operating leverage strategy, respectively, without the flexibility to change the strategy;

 $I(A \rightarrow B)$, $I(B \rightarrow A)$ —value of flexibility to change from a high to low operating leverage company, with the assumption that the company implements high operating leverage strategy, and from a low to high operating leverage company, with the assumption that the company implements low operating leverage strategy, respectively.

Consequently, it is possible to establish the value of the right to change the strategy, with the assumption that the strategy chosen is optimal for the company value. The value of flexibility to change from a high to low operating leverage, $F(A \rightarrow B)$, is given as Equation (15):

$$F(A \to B) = V(F) - PV(A)$$
(15)

Whereas the value of the flexibility to change from a low to high operating leverage, $F(B \rightarrow A)$, can be estimated on the basis of the formula below:

$$F(B \to A) = V(F) - PV(B)$$
⁽¹⁶⁾

It should be noted that the above approach can be used to establish the optimal operating schedule. For every node of the binomial tree, the model generates a value maximizing the strategy.

Conclusions

In an economy in transition, a large proportion of company value comes from the options inherent in the company. In order to realize this value, managers have to optimally exercise these real options. Financial options involve legally binding contracts. Real options often arise out of implicit opportunities for management flexibility. The absence of formal contracts and the presence of political control can lead to suboptimal options exercise decisions. The problem appears when shareholders (private investors and/or the State Treasury) and politicians have payoff asymmetries that cause the parties to prefer different strategic choices.

The nature of politicians' private benefits makes them difficult to measure. This paper has explored the possibility of using the option-to-switch valuation model to value these benefits. Although our model concerns a company under political control, the results can be broadly interpreted in terms of private benefits of control, described already by the subject literature.

The results can help explain some empirical phenomena and suggest several empirically testable hypotheses. Our results are consistent with the observation that in an economy in transition like Poland's, politicians still control many companies. Our model suggests that the State Treasury mostly retains control over labor-intensive companies. According to our approach, in an unfavorable state of the economy we should observe differences in the decrease in comparable companies' market value, under or without the State Treasury control.

References

Aghion, P., & Bolton, P. (1992). An incomplete contract approach to financial contracting. *Review of Economic Studies, 59.* Barclay, M., & Holderness, C. (1989). Private benefit of control of public corporations. *Journal of Financial Economics, 25.* Boycko, M., Shleifer, A., & Vishny, R. W. (1996). A theory of privatization. *Economic Journal, 106.*

378

Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, 93.

- Dyck, A., & Zingales, L. (2004). Private benefits of control: An international comparison. Journal of Finance, 59.
- Erhardt, O., & Nowak, E. (2001). Private benefits and minority shareholder expropriation-empirical evidence from ipos of german family-owned firm. *CFS Working Paper, 10.*
- Harris, M., & Raviv, A. (1998). Corporate governance: Voting rights and majority rules. Journal of Financial Economics, 20.
- Holmen, M., & Högfeldt, P. (2000). A law and finance analysis of initial public offerings. Stockholm School of Economics Working Paper.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3.

Johnson, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2000). Tunneling. American Economic Review, 90.

- Kulatilaka, N., & Trigeorgis, L. (2001). The general flexibility to switch: Real options revisited. In E. S. Schwartz, & L. Trigeorgis (Eds.), *Real options and investment under uncertainty*. MIT Press, Cambridge.
- Kulatilaka, N., Lin, L., & Patel, J. (2007). Post-IPO governance: Venture capitalists' role in strategic decision. Proceedings from the 11th International Annual Conference "Real Options Theory Meets Practice", Berkeley CA, June 6-9.
- Nenova, T. (2000). The value of corporate votes and control benefits: A cross-country analysis. NBER working paper.

Rydqvist, K. (1987). Empirical investigation of the voting premium. Northwestern University Working Paper, 35.

Schindele, I. (2003). Theory of privatization in Eastern Europe: Literature review. Fondazione Eni Enrico Mattei.

Shleifer, A., & Vishny, R. W. (1994). Politicians and firms. Quarterly Journal of Economics, 109.

Zingales, L. (1994). The value of the voting right: A study of the Milan stock exchange experience. Review of Financial Studies, 7.

Zingales, L. (1995a). Insider ownership and the decision to go public. Review of Economic Studies, 62.

Zingales, L. (1995b). What determines the value of corporate votes. Quarterly Journal of Economics, 110.



Monthly Seasonality in the Top 50 Australian Stocks

Liu Benjamin, Li Bin

Griffith University, Australia

We studied monthly seasonality in the top 50 Australian stocks across different industry sectors. Unlike other Australian studies, we examined monthly seasonality using stock return data of individual companies for the period of January 1980 through to August 2010. We found that stock returns of over half of the 50 companies are significantly positive in April and December, and most companies have low stock returns in October. Seven companies have higher returns in April than in other months of the year, most of which are banking and financial services companies, while six companies have lower returns in February than in other months. Although Australia has a July-June taxation cycle, we found that only three stocks have a July anomaly. The findings are inconsistent with the tax-loss selling hypothesis and other studies on the Australian equity markets (e.g., Brown, Keim, Kleidon, & Marsh, 1983; Brailsford & Easton, 1991). However, our findings are generally consistent with Bonin and Moses (1974) on individual stock seasonality.

Keywords: Australian stock market, market efficiency, market anomaly, monthly effect, January effect, seasonality

Introduction

Seasonal anomalies in equity markets (over specific days, weeks, months, and even years) have attracted a widespread attention and considerable interests among both practitioners and academics. Over the last hundred years, a great number of economics and finance literature from both the practitioner and academic fields well document monthly seasonality of returns on various assets, such as stocks, debt securities, futures, foreign currencies and even commodities. More than 150 articles on monthly effects have been published worldwide by 2010, using different data, methods and time periods in different countries, suggesting the existence of monthly anomaly in stock markets.

Anomalous seasonality relies on the assumption that a certain pattern of stock markets, formed on the basis of the past stock price, can be used to predict the future stock price. If the anomalous pattern is fixed for a specific month, informed investors can utilize the pattern to earn a risk-free profit by trading these stocks. Therefore, the study of seasonality implies that investors could employ the anomaly findings to predict the future behavior of prices (Fama, 1965). Certainly, seasonal anomalies are in contradiction to any form of efficient market hypothesis, particularly the weak-form efficiency.

Over the last four decades, however, many researchers have well documented evidence on monthly seasonality of stock markets around the world. Extensive research on U.S. stock markets found that stock return in January is significantly greater than in other months of the year, referred to as "the January effect", "the

Liu Benjamin, lecturer, Griffith Business School, Griffith University.

Li Bin, lecturer, Griffith Business School, Griffith University.

turn-of-the-year effect" or "the monthly seasonality/anomaly" (e.g., Wachtel, 1942; Bonin & Moses, 1974; Ariel, 1987; Heston & Sadka, 2008; Bentzen, 2009; Dzhabarov & Ziemba, 2010). International evidence further supported the existence of monthly anomalies (e.g., Officer, 1975; Brown et al., 1983; M. Gultekin & B. Gultekin, 1983; Yakob, Beal, & Delpachitra, 2005; Li & Liu, 2010). However, most of the research was limited to the use of various index or portfolio data.

Although Australia has a high level of share ownership, both institutionally and individually, compared to other developed countries, monthly anomalies in the equity market are obviously under-researched. Studies on the Australian stock market seasonality are very limited, for example, Officer (1975), Brown et al. (1983), and Worthington (2010). Their findings were mixed as the results are sensitive to the sample period and the portfolios used. However, all the studies were limited to the use of portfolio data and none of them used individual stock data. As Bonin and Moses (1974) found that only a part of individual stocks in the Dow Jones Industrial Average has January anomalies in the US, it is unclear whether individual stocks in Australia have different monthly anomalies from the indexes other researchers used. To address this question, in this study we investigated Australian seasonality of the top 50 companies' stocks for the period of January 1980 through to August 2010.

We found that more than half of the 50 company stock returns are statistically significant in April and December, while most of the 50 companies have low stock returns in October. This finding is inconsistent with Worthington (2010), who found that the lowest return occurs in September. The possible reason for the difference is that he used a market index and much longer sample period.

We also found that there is no "January effect" in the top 50 stock returns in Australia. In fact, for two companies stock returns are lower in January than in other months. For most companies, stock returns in one month are not significantly different from those in other months of the year. This result suggests that the stock market in Australia might generally be weak-form efficient. However there are two notable findings. First, 7 companies have higher returns in April than in other-than-April months and most of them are banking and/or financial services companies. Second, 6 companies have lower returns in February than in other-than-February months. The findings are inconsistent with the tax-loss selling hypothesis as Australia has a July-June taxation cycle and with the existing studies on Australian equity markets, such as Brown et al. (1983) and Brailsford and Easton (1991). Our findings generally are consistent with Bonin and Moses (1974) on different seasonality between individual stocks and indices.

The rest of the paper is structured as follows: Section 2 offers a description of the data and its summary statistics. Section 3 describes empirical approaches and discusses empirical findings. Section 4 concludes this paper.

Data

The data employed in this study are monthly closing prices of the top 50 companies traded on the Australian Stock Exchange (ASX) over the period from January 1980 to August 2010. The prices are adjusted by dividend distribution, new equity issuance and share buyback. The data are sourced from DataStream. These 50 companies are constituent companies in the ASX/S&P50 index as of September 2010. The detailed description of the companies and their associated industry category can be found in Table 1. Eight companies started to list their stocks on ASX in and after 2000, and therefore the sample starting periods for these companies are different from January 1980 (see Table 1 for the details). For example, the sample starting

month for CWN is December 2007. For most companies, the sample starting month is January 1980, as shown in Table 1. There are 16 out of 50 companies that do not have return observations more than 15 years.¹

Table 1

Summary Statistics

ASX code	Industry	Mean (×100)	Std. Dev. (×100)	Median (×100)	Min (×100)	Max (×100)	Skewness	Kurtosis	Jacque-Bera	ρ(1)	Starting month
AGK	Utilities	0.94	8.09	0.95	-49.67	32.79	-0.39	5.81	527	0.05	1980M01
AIO^\dagger	Transportation	-4.08	27.51	-0.33	-86.91	67.04	-0.59	2.66	13	0.03	2007M07
AMC	Materials	0.53	6.69	0.67	-37.05	23.72	-0.40	3.79	229	-0.05	1980M01
AMP^{\dagger}	Insurance	-0.66	9.61	-0.21	-56.74	36.14	-1.17	8.73	497	-0.05	1998M07
ANZ	Banks	0.79	6.99	1.04	-25.19	22.78	-0.41	1.19	32	0.03	1980M01
ASX^\dagger	Diversified financials	1.29	9.63	1.31	-28.37	55.73	0.87	7.30	333	0.12	1998M12
AXA^{\dagger}	Insurance	0.68	9.32	0.84	-59.32	32.72	-1.25	10.17	759	-0.11	1996M11
BHP	Materials	0.99	7.56	0.73	-28.14	24.43	-0.08	0.59	6#	0.05	1980M01
BSL^\dagger	Materials	0.04	12.01	0.82	-45.00	31.79	-0.67	1.95	23	0.10	2002M08
BXB	Commercial service	0.75	8.09	0.85	-44.73	25.09	-0.87	4.58	367	0.00	1980M01
CBA	Banks	0.88	6.03	1.30	-24.53	19.45	-0.64	2.11	57	0.11	1991M10
CCL	Food beverage	0.96	8.57	1.18	-62.47	28.61	-1.65	11.00	2023	0.08	1980M01
CFX	Real estate	0.37	4.34	0.67	-14.75	10.87	-0.45	1.05	16	-0.17	1994M05
CPU	Software & services	2.14	11.66	1.79	-46.94	39.92	0.06	2.25	41	-0.01	1994M06
CSL	Pharmaceuticals, biotechnology & life sciences	1.90	9.10	1.69	-25.44	40.39	0.40	3.02	79	-0.02	1994M06
CWN^{\dagger}	Consumer services	-1.56	12.75	-0.50	-45.68	26.94	-0.85	3.91	25	-0.08	2007M12
FGL	Food beverage	0.73	7.92	0.85	-57.41	48.66	-0.83	13.22	2721	-0.10	1980M01
FMG^\dagger	Materials	3.54	25.07	3.45	-87.55	89.61	0.30	1.70	24	-0.10	1996M02
GPT	Real estate	-0.11	7.22	0.44	-71.79	25.86	-3.67	31.03	15595	0.02	1980M01
IAG^\dagger	Insurance	0.16	6.04	0.29	-19.09	13.66	-0.26	0.38	2#	-0.01	2000M09
IPL^\dagger	Materials	1.82	12.04	1.82	-40.29	29.93	-0.29	1.60	10	0.21	2003M08
LEI	Capital goods	1.08	11.46	1.24	-65.01	51.92	-0.68	5.39	473	0.01	1980M01
LLC	Real estate	0.59	8.31	1.16	-61.35	23.54	-1.27	8.36	1171	-0.04	1980M01
MAP^{\dagger}	Transport	0.92	10.85	1.36	-45.45	29.98	-0.98	3.84	74	0.06	2002M09
MGR^\dagger	Real estate	-0.55	12.15	0.56	-96.30	32.25	-4.34	31.24	5871	-0.12	1999M07
MQG^{\dagger}	Diversified financials	1.01	9.87	1.69	-45.00	51.65	-0.04	6.10	262	0.09	1996M08
NAB	Banks	0.75	6.42	0.94	-26.42	17.46	-0.60	1.89	77	-0.01	1980M01
NCM	Materials	0.69	12.00	1.00	-38.65	41.51	0.08	0.69	5#	-0.02	1988M07
NWS	Media	1.31	11.99	1.83	-75.61	36.41	-0.90	5.85	574	0.10	1980M01
ORG	Energy	0.97	7.82	0.95	-41.32	43.52	-0.24	5.73	507	0.00	1980M01
ORI	Materials	0.82	8.03	1.20	-44.74	36.63	-0.32	3.76	223	0.04	1980M01
OSH	Energy	0.94	13.81	0.72	-53.60	75.82	0.16	3.29	167	-0.04	1980M01
OST^\dagger	Materials	1.07	10.25	1.66	-40.04	19.93	-0.99	2.63	53	0.16	2000M11
QAN	Transportation	0.10	9.25	0.00	-45.70	32.76	-0.42	3.70	108	0.09	1995M08

¹ The results for these companies may not be reliable as they contain fewer observations.

MONTHLY SEASONALITY IN THE TOP 50 AUSTRALIAN STOCKS

ASX code	Industry	Mean (×100)	Std. Dev. (×100)	Median (×100)	Min (×100)	Max (×100)	Skewness	Kurtosis	Jacque-B	era $\rho(1)$	Starting month
QBE	Insurance	1.36	8.61	1.52	-57.80	26.55	-1.72	10.17	1767	-0.06	1980M01
RIO	Materials	0.83	10.04	0.42	-70.28	36.24	-1.64	11.43	2166	-0.02	1980M01
SGP	Real Estate	0.43	5.78	1.03	-31.35	17.03	-1.14	5.54	500	0.01	1982M11
SHL^\dagger	Health care equipment & services	1.52	8.35	1.17	-31.37	28.11	0.15	2.07	32	0.05	1996M02
STO	Energy	0.61	9.41	0.79	-41.14	48.50	-0.01	3.73	214	0.09	1980M01
SUN	Insurance	0.77	6.80	0.50	-39.49	22.53	-0.75	4.93	269	-0.03	1990M06
TAH	Consumer services	0.52	5.79	0.31	-21.87	16.27	-0.12	0.79	5#	0.06	1994M09
TCL^\dagger	Transportation	0.82	7.75	0.98	-28.47	22.31	-0.56	1.98	37	0.05	1996M04
TLS	Telecommunication service	0.02	6.74	-0.29	-18.67	29.86	0.60	2.15	39	-0.02	1997M12
TOL	Transportation	1.44	9.72	2.08	-27.77	30.12	-0.28	0.65	6	0.04	1993M11
WBC	Banks	0.66	6.97	0.71	-33.64	23.43	-0.33	1.77	55	-0.09	1980M01
WDC	Real estate	1.34	8.86	1.66	-55.30	54.76	-0.74	11.18	1951	0.09	1980M01
WES	Food & stapling retailing	1.11	7.21	0.96	-25.13	23.06	-0.02	0.73	6#	0.06	1988M02
WOR [†]	Energy	2.69	12.57	3.97	-63.71	28.96	-1.87	7.69	284	0.22	2002M12
WOW	Food & stapling retailing	1.12	5.32	0.69	-15.09	16.06	0.14	0.37	2#	-0.14	1993M08
WPL	Energy	0.85	9.47	0.95	-33.95	44.47	0.14	2.08	68	0.17	1980M01

Notes. The firms are: AGK-AGL Energy, AIO-Asciano Group, AMC-Amcor, AMP, ANZ-ANZ Bank, ASX, AXA-AXA Asia, BHP-BHP BLT, BSL-Bluescope, BXB-Bramble Ltd, CBA-Commonwealth Bank, CCL-Coca Cola Amatil, CFX-CFS Retail Property Trust, CPU-Cshare, CSL, CWN-Crown, FGL-Fosters, FMG-Fortescue, GPT, IAG-Insurance Australia, IPL-Incitec PV, LEI-Leighton, LLC-Lend Lease Group, MAP-Airport Investment Fund, MGR-Mirvac Group, MQG-Macquarie Group, NAB-National Australian Bank, NCM-Newcrest, NWS-News Corporation, ORG-Origin Energy, ORI-Orica, OSH-Oil Search, OST-Onesteel, QAN-Qantas, QBE-QBE Insurance, RIO-Rio Tinto, SGP-Stockland, SHL-Sonic Health, Sun-Sun Metway, TAH-Tabcorp, TCL-Transurban, TLS-Telstra, TOL-Tollholdings, WBC-Westpac, WDC-Westfield, WES-Wesfarmer, WOR-Worleypars, WOW-Woolworths, and WPL-Woodside. Jarque-Bera statistic for normality that is not significant at the 5% level is denoted with [#]. The ASX code of the firm that does not have more than 15 year data is denoted with [†]. The samples are monthly and end in August 2010.

The monthly market return at month *t* is calculated as:

$$R_{it} = \ln(P_{it+1} / P_{it})$$
(1)

where $P_{i,t}$ is the price of stock *i* on the first day of month *t*, and $P_{i,t+1}$ is the price of stock *i* on the first day of month t+1.

Table 1 presents summary statistics of the monthly returns. The sample means, standard deviations, medians, minimums, maximums, skewness, kurtosis, Jacque-Bera statistics, and the first-order autocorrelation coefficients are reported. The mean returns vary across companies with the largest of 2.69% per month and the lowest of -4.08% per month. Consistent with the properties of the daily data studied by Liu and Li (2010), we found that the return distributions for most companies are non-normal. Most Jacque-Bera statistics for normality test are significant at the 1% level, suggesting the rejection of the null hypothesis. Furthermore, the kurtosis for more than half of the return series is significantly larger than 3, suggesting fat-tail distributions for these companies. Finally, the first-order autocorrelation coefficients vary across companies, with the largest of 0.22 and the lowest of -0.17, which is in contrast with the finding using daily data by Liu and Li (2010), who

found that most of first-order autocorrelation coefficients are less than 0.1.

Empirical Approaches and Results

We used usual *t*-tests to test the monthly effect hypothesis. We investigated the monthly effect by calculating returns during that month. To be specific, we calculated mean return in each month and mean return in other 11 months of the year. Then we calculated the difference of mean returns and used *t*-tests to test the statistical significance of the difference. For example, to test the January effect, the *t*-statistic is calculated as follows:

$$t = \frac{R_{Jan} - R_{NonJan}}{\sqrt{\frac{S_{Jan}^2}{n_{Jan}} + \frac{S_{NonJan}^2}{n_{NonJan}}}}$$
(2)

where \overline{R}_{Jan} is the mean return in January, \overline{R}_{NonJan} is the mean return in the months other than January, S_{Jan}^2 is the variance of January returns, S_{NonJan}^2 is the variance of Non-January returns, and n_{Jan} and n_{NonJan} are the observation numbers of January returns and non-January returns, respectively.

Before the *t*-tests, we presented the mean returns of 50 companies in each month (from January to December) and their associated standard errors of mean in Table 2. We also reported the mean and median returns, the numbers of statistically significant positive and negative returns of all the companies in each month in the bottom four rows of Table 2. The US studies document that returns appear to be abnormally high in January. The early Australian studies found that stock returns in Australia are highest in both January and July (Brown et al., 1983; Brailsford & Easton, 1991). Table 2 shows that the mean and median returns of all 50 companies are highest in January in the Australian market². Nevertheless, the volatility of returns in January is also high. In fact, only 3 out of 50 companies have significant positive returns in January while 6 companies have significant negative returns in that month.

Table 2 also shows that stock returns for more than half of the companies are statistically significant in April and December. In contrast, many companies have low stock returns in October. This finding is inconsistent with Worthington (2010), who found that the lowest return occurs in September. The reason for the difference is that he used a market index and much longer sample period.

Table 3 reports the *t*-testing results of Equation (2) for all the 50 companies. Table 3 shows that there is no "January effect" in the top 50 stock returns in Australia. None of the 50 companies has statistically significant larger returns in January than in other months. In fact, for two companies (AXA & ORI), stock returns are lower in January than in other months.

There is also no strong evidence of monthly effect other than the January effect in the sample. For most companies, stock returns in one month are not significantly different from those in other months. This result suggests that the stock market in Australia might generally be weak-form efficient.

However, there are two notable features as shown in Table 3. First, 7 companies have higher returns in April than in other-than-April months (ANZ, BXB, CBA, NAB, QBE, WBC, & WPL) and most of them are banking and/or financial services companies. Second, 6 companies have lower returns in February than in other-than-February months (AGK, GPT, MQG, SGP, STO, TCL). The findings are inconsistent with the tax-loss selling hypothesis as Australia has a July-June taxation cycle and they also contradict the existing

² The result is driven by a few companies.

studies on the Australian equity market, such as Brown et al. (1983) and Brailsford and Easton (1991).

Table 2

Mean Returns on Months

ASX code	Ja	ın.	F	eb.	Μ	lar.	А	pr.	Ν	lay	Ju	ın.
	Mean	Standard	Mean	Standard	Mean	Standard	Mean	Standard	Mean	Standard	Mean	Standard
	return	error of	return	error of	return	error of	return	error of	return	error of	return	error of
AGK	0 577	(1.254)	-2 515	(1.765)	0.675	(1.079)	3 168**	(1.362)	0 540	(1.580)	-0 534	(1.272)
AIO [†]	-20 425**	(8 190)	-34 896	(27, 445)	18 310	(24 921)	13 411	(15.918)	0.405	(3, 272)	-1 564	(11736)
AMC	1 091	(0.190) (1.414)	-0.241	(1 369)	-0.694	(0.814)	2 512**	(13.310) (1.220)	0.920	(1.089)	-1.059	(1.094)
	-5 183**	(1.414) (2.568)	-5 151*	(3.065)	3 279**	(0.014) (1.543)	1 759	(1.220) (2.445)	-7 171	(4.755)	0.156	(1.0)+)
ANZ	0.153	(2.500) (1.112)	0.304	(1.354)	0.480	(1.3+3)	3 178**	(2.775)	0.483	(1 363)	1 3/18	(1.077)
ANZ	-0.133	(1.112) (3.800)	2.684	(1.334) (3.320)	0.480	(1.254)	0.162	(1.000)	2 980	(1.303)	-1.546	(1.123)
ADA	1 666**	(3.809)	2.004	(3.329)	2 022	(2.030)	-0.102	(1.010)	-2.980	(3.498)	2.600	(1.999)
	-4.000	(1.600)	-2.639	(4.004)	2.935	(2.212)	2 025**	(1.700)	0.208	(1.000)	-2.009	(2.493)
DUL DUL	-0.455	(1.408)	2.050	(1.303)	2 701	(1.308)	1 427	(1.032)	2.442	(1.555)	0.081	(0.924)
BSL	0.924	(4.0/1)	-5.950	(3.378)	5.791	(4.033)	-1.42/	(3.646)	5.656	(4.797)	-0.040	(2.338)
БАВ	0.549	(1.517)	-1./40	(2.034)	1.023	(0.940)	4.05/**	(1.555)	-0.300	(1.280)	-1.324	(1.118)
CBA	0.732	(1.416)	-0.168	(1.867)	0.519	(1./81)	3.990**	(0.954)	-0.072	(1.303)	-0.055	(1.188)
CCL	2.419**	(1.135)	-0./49	(1.490)	0.648	(1.247)	3.358**	(1.401)	-0.561	(1.185)	0.236	(1.015)
CFX	-0.907	(0.899)	-0.375	(1.470)	0.328	(0.798)	0.097	(0.999)	0.925	(1.019)	-2.789**	(1.198)
CPU	-2.906	(3.984)	-2.680	(1.844)	4.162	(3.437)	2.277	(2.405)	-0.576	(2.221)	4.104	(3.144)
CSL *	-1.262	(2.197)	3.485	(2.384)	1.050	(1.343)	0.894	(1.911)	-0.768	(2.556)	3.320	(3.035)
CWN	-7.928**	(1.821)	-4.680	(4.474)	5.595	(8.261)	5.006**	(1.968)	-2.095	(2.436)	-4.354	(4.046)
FGL	2.171	(1.923)	-0.818	(1.047)	0.237	(1.597)	1.622	(1.283)	0.368	(0.882)	0.366	(0.909)
FMG'	11.381**	(5.586)	2.433	(6.004)	7.965	(7.646)	-7.262	(8.157)	8.844	(5.987)	0.564	(4.741)
GPT	0.098	(0.775)	-4.913*	(2.569)	0.596	(0.712)	1.817**	(0.800)	1.250	(1.331)	-1.461	(1.212)
IAG [†]	-0.615	(1.343)	-0.889	(2.853)	1.130	(1.258)	1.866	(1.634)	-0.818	(1.790)	-1.007	(2.323)
IPL^{\dagger}	0.679	(2.403)	2.218	(5.174)	1.772	(3.536)	1.120	(4.098)	8.670*	(5.158)	-0.326	(4.376)
LEI	1.355	(2.494)	0.698	(3.023)	0.914	(1.937)	3.658**	(1.279)	2.355	(2.140)	-1.786	(1.329)
LLC	0.106	(1.505)	-1.560	(1.679)	0.437	(1.434)	3.293**	(1.170)	-1.252	(1.308)	0.069	(1.258)
MAP^{\dagger}	0.592	(2.339)	-6.499	(6.137)	-0.053	(3.345)	2.935	(2.360)	4.093	(4.108)	-4.796	(4.601)
MGR^\dagger	-3.711**	(1.802)	-5.302	(5.894)	1.636	(1.956)	0.476	(2.409)	-1.746	(3.446)	-0.185	(1.759)
MQG^\dagger	-0.480	(2.107)	-6.589*	(3.947)	5.591	(3.677)	4.356*	(2.445)	-0.428	(2.203)	2.420	(2.770)
NAB	1.811*	(1.068)	-1.411	(1.279)	1.184	(1.063)	4.080**	(0.846)	1.264	(1.400)	-2.578**	(0.854)
NCM	-2.082	(2.686)	-0.575	(1.961)	2.228	(3.158)	-2.256	(1.795)	2.050	(3.072)	4.182**	(1.982)
NWS	2.849	(2.042)	2.090	(2.533)	2.656	(1.777)	3.633**	(1.620)	1.165	(1.651)	-1.246	(2.373)
ORG	1.143	(1.375)	0.089	(1.694)	-0.779	(1.317)	4.292**	(1.786)	1.209	(1.519)	0.107	(0.952)
ORI	-2.112*	(1.177)	-1.074	(1.309)	1.126	(1.385)	4.075**	(1.385)	1.062	(1.523)	-0.623	(1.036)
OSH	2.037	(2.407)	-2.115	(2.682)	0.659	(2.440)	5.895**	(2.389)	-0.527	(2.659)	-1.266	(2.086)
OST^\dagger	2.147	(3.262)	0.300	(3.821)	4.781*	(2.810)	-1.305	(3.473)	2.917	(3.238)	3.000	(1.994)
QAN	-0.329	(2.004)	-4.240	(4.251)	-3.634	(2.259)	2.779	(2.923)	-0.093	(1.261)	0.301	(1.888)
QBE	1.339	(1.420)	0.220	(2.027)	0.588	(1.221)	5.208**	(1.187)	-0.607	(1.108)	-1.004	(1.531)
RIO	-0.311	(2.018)	1.412	(1.220)	2.746	(1.752)	4.218**	(1.732)	0.906	(1.624)	-1.230	(0.979)
SGP	0.115	(0.944)	-2.838*	(1.498)	1.839*	(1.018)	1.143	(0.753)	0.252	(1.019)	-1.588**	(0.804)
SHL^\dagger	-0.139	(2.209)	0.963	(3.107)	-0.974	(1.802)	0.672	(1.457)	-2.059	(2.606)	3.485**	(1.577)
STO	-1.188	(1.352)	-3.763**	(1.807)	3.643*	(2.142)	4.251**	(1.852)	4.327**	(2.110)	0.007	(1.058)
SUN	1.392	(1.563)	-2.590	(2.604)	1.061	(1.597)	1.736	(1.135)	-0.011	(1.350)	-0.127	(1.435)
ТАН	0.393	(1.779)	0.739	(1.857)	1.712	(1.220)	2.202	(2.281)	-0.616	(1.078)	-0.542	(1.260)

MONTHLY SEASONALITY IN THE TOP 50 AUSTRALIAN STOCKS

ASX code	Jan.		F	Feb.		ar.	А	pr.	May		Jun.	
	Mean return	Standard error of mean										
TCL^{\dagger}	1.543	(3.202)	-3.408*	(1.740)	1.251	(1.011)	1.887	(1.559)	-1.369	(2.014)	-1.303	(2.432)
TLS	1.838	(1.901)	-2.559	(1.982)	-1.021	(1.475)	0.975	(1.393)	-2.051	(1.369)	0.560	(2.583)
TOL	3.235	(2.671)	1.865	(2.829)	2.266	(2.621)	0.687	(2.463)	0.771	(2.089)	-0.848	(2.607)
WBC	1 983	(1.280)	-0 595	(1.226)	0.909	(1.182)	2.973**	(0.775)	-0.810	(1.607)	-2 517**	(0.958)
WDC	0.310	(1.200)	0.503	(1.666)	3 171	(2.111)	3 492**	(1.193)	-0.383	(2.136)	0.825	(1.247)
WES	0.500	(1.120) (1.357)	3 723*	(1.000)	-0.655	(2.111) (1.354)	2 106	(1.155)	0.193	(1.328)	1.677	(1.217)
WOR [†]	-3 593	(1.337) (5.127)	5 865	(1.913) (3.637)	/ 98/**	(2.163)	2.100	(1.507)	6 390*	(1.526) (3.456)	-0.924	(2.941)
WOW	-0.511	(3.127) (1.578)	3 636**	(1.478)	-1 729	(2.103)	2.154	(2.0)1)	0.390	(0.817)	0.157	(2.941) (1.443)
WDI	1.622	(1.570)	0.348	(1.978)	3.062	(1.000)	5 645**	(1.327) (2.120)	3 167*	(0.017) (1.722)	0.157	(1.178)
WFL Maan	-1.022	(1.542)	-0.546	(1.926)	1.604	(1.805)	1 215	(2.129)	0.176	(1.722)	-0.364	(1.176)
Madian	0.322		-1.411		1.094		1.213		0.170		-0.285	
Median	0.393		-0.475		1.050		1.143		-0.011		-0.256	
# with + ve	3		2		5		25		5		2	
# with - ve	6	1	6		0		0	lat	0		4	122
ASX code	J	ui.	A	ug.	56	ер.			IN	ov.	L	
	Mean return	Standard error of mean										
AGK	3.756**	(1.571)	2.093**	(1.022)	0.948	(1.538)	-0.626	(2.189)	0.242	(0.991)	2.983**	(1.354)
AIO^\dagger	8.371	(6.798)	1.964	(4.824)	-10.094	(14.212)	-17.745	(11.451)	-23.999	(25.097)	11.124	(11.915)
AMC	1.265	(1.106)	2.647**	(1.345)	-2.148**	(1.062)	-0.339	(1.812)	-0.250	(0.900)	2.623**	(0.701)
AMP^{\dagger}	-0.430	(2.032)	6.097*	(3.231)	-4.666**	(1.575)	-0.114	(2.269)	1.099	(2.177)	1.772	(2.244)
ANZ	1.690	(1.182)	0.881	(1.598)	2.164*	(1.315)	0.768	(1.353)	0.312	(1.430)	1.421*	(0.748)
ASX^{\dagger}	1.348	(1.657)	1.421	(1.667)	-3.606	(2.823)	4.243*	(2.173)	7.038	(4.685)	4.326**	(1.604)
AXA^{\dagger}	-2.146	(1.883)	5.337**	(2.334)	0.416	(2.177)	0.449	(1.519)	1.820	(2.865)	5.793**	(2.217)
BHP	2.185	(1.557)	0.655	(0.999)	-0.574	(1.490)	-1.367	(1.482)	0.399	(1.339)	2.196**	(0.938)
BSL^\dagger	8.025*	(4.752)	0.009	(3.278)	-2.417	(3.064)	-5.300	(6.754)	-3.889	(3.791)	0.904	(3.171)
BXB	1 896	(1.395)	1 847	(1.650)	2.574**	(1.136)	-0.782	(1.511)	-2.654	(1.815)	3 272**	(0.983)
CBA	1 857	(1.180)	-0.570	(1.336)	0.911	(1.453)	2.137*	(1.108)	-0.805	(1.632)	2.133*	(1.102)
CCL	-0.019	(2,338)	0.602	(2.002)	0.071	(1.02)	1 891	(2, 207)	-0.612	(1.322)	4 339**	(1.102)
CEX	2 431**	(2.350) (0.858)	1 229	(0.971)	1 690*	(0.893)	0.273	(2.207) (0.980)	2 628**	(0.741)	-1.072	(1.377) (1.351)
CPU	1 1 3 2	(0.050)	6 909**	(3.152)	1 209	(1.806)	5 261*	(2.980)	3.091	(3, 132)	3 36/*	(1.331) (1.773)
CSI	1.022	(3.407)	5 130	(3.132)	2.814*	(1.300)	0.050	(2.960)	1 3 2 2	(3.152) (2.352)	1 537**	(1.773)
CWN	3 567	(1.037) (7.274)	0.668**	(3.210)	2.615	(1.700)	13 574**	(2.200)	23.087	(2.332)	7 174	(10.056)
EGI	-3.307	(7.274)	1.520	(2.873)	0.202	(1.397)	2 267	(4.342)	-23.087	(22.369)	1.060**	(10.050)
	7.1(0	(1.023)	1.320	(1.110)	0.292	(1.801)	-2.207	(2.323)	1.425	(1.227)	0.024	(0.852)
FMG	1.014	(0.012)	0.022	(2.912)	-0.394	(3.339)	-4.0/2	(8.991)	0.514	(8.049)	-0.024	(0.301)
GPT	1.014	(1.305)	0.023	(1.092)	0.752	(0.985)	-2.998*	(1.721)	0.314	(0.710)	1.988**	(0.078)
IAG'	0.6/1	(1.785)	0.618	(2.0/1)	-0.594	(1.387)	-1.490	(2.573)	-0.227	(1./83)	3.311*	(1.969)
IPL'	4.111	(4.620)	0.890	(1.922)	-2.592	(7.244)	-3.998	(4.3/4)	2.946	(6.146)	6.469	(4.925)
LEI	2.191	(2.008)	6.368**	(1.724)	-0.886	(1.431)	-2.788	(3.194)	-1.398	(1.590)	2.062	(1.278)
LLC	2.628**	(1.093)	2.322	(1.551)	-0.457	(1.285)	-1.475	(2.583)	1.170	(1.248)	1.737	(1.305)
MAP'	9.573**	(4.015)	4.128*	(2.252)	-0.649	(3.742)	-4.290	(4.173)	0.066	(2.485)	5.908**	(2.847)
MGR	0.593	(2.130)	4.166**	(1.561)	-0.163	(1.786)	-9.137	(8.849)	5.079*	(2.828)	1.190	(0.841)
MQG [†]	0.900	(2.505)	1.320	(1.929)	2.163	(2.331)	-0.523	(3.067)	0.257	(1.505)	3.068**	(1.448)
NAB	1.579	(1.148)	1.238	(1.185)	1.325	(1.069)	0.690	(1.319)	-1.300	(1.344)	1.057	(0.865)
NCM	-3.065	(2.091)	-1.245	(1.925)	2.592	(3.264)	-1.520	(2.946)	0.834	(2.718)	7.364**	(2.089)
NWS	1.759	(1.759)	2.570	(1.779)	-1.682	(2.446)	-2.687	(3.457)	2.308	(2.394)	2.165	(1.504)

386

MONTHLY SEASONALITY IN THE TOP 50 AUSTRALIAN STOCKS

ASX code	J	ul.	A	ug.	Se	ep.	(Det.	Nov.		Dec.	
	Mean return	Standard error of mean										
ORG	1.357	(1.298)	0.272	(1.495)	1.929*	(1.141)	-0.794	(1.920)	-0.523	(1.135)	3.325**	(0.748)
ORI	3.063**	(1.400)	-0.952	(1.118)	2.438**	(1.196)	-2.583	(2.043)	1.160	(1.939)	4.367**	(1.134)
OSH	2.893	(1.787)	1.189	(3.409)	1.773	(2.426)	-1.876	(2.925)	-0.625	(1.891)	3.181	(2.424)
OST^{\dagger}	4.967*	(2.587)	4.067	(2.583)	-2.264	(5.188)	-3.014	(2.361)	-6.182	(4.384)	2.738	(1.912)
QAN	2.306	(1.747)	-1.253	(1.672)	1.667	(2.429)	1.679	(2.778)	-1.103	(2.165)	3.242*	(1.816)
QBE	-0.686	(1.197)	4.066**	(1.193)	1.505	(2.332)	2.717	(2.280)	-0.831	(1.135)	3.877**	(1.023)
RIO	2.892*	(1.631)	0.502	(1.552)	-0.533	(1.706)	-2.361	(2.759)	-0.428	(2.656)	2.011	(1.356)
SGP	2.393**	(0.938)	1.300	(1.379)	1.770**	(0.885)	-1.490	(1.632)	0.806	(0.714)	1.414*	(0.856)
SHL^\dagger	-1.633	(1.155)	5.019*	(2.596)	5.786**	(2.598)	1.301	(2.174)	2.332	(1.840)	3.883**	(1.906)
STO	0.341	(1.635)	2.053	(1.500)	1.436	(1.530)	-3.563*	(2.061)	-1.524	(1.121)	1.155	(1.153)
SUN	2.147	(1.376)	1.417	(1.112)	0.380	(1.677)	1.987	(1.483)	0.277	(1.297)	1.574	(1.043)
TAH	-1.238	(1.420)	1.876	(1.173)	0.754	(1.112)	0.829	(1.517)	0.396	(1.310)	-0.300	(1.087)
TCL^{\dagger}	1.340	(2.294)	2.708	(1.704)	2.875**	(1.416)	-0.990	(2.226)	3.637	(2.254)	1.671	(1.682)
TLS	1.684	(1.219)	-4.300**	(1.678)	-1.419	(1.700)	3.380	(2.695)	1.260	(1.867)	2.151	(1.889)
TOL	1.040	(1.783)	3.707*	(2.157)	1.337	(2.340)	0.068	(2.285)	1.188	(2.563)	1.833	(2.385)
WBC	3.494**	(1.144)	0.316	(1.272)	1.102	(1.115)	-0.061	(1.622)	-0.163	(1.423)	1.255	(1.059)
WDC	2.262*	(1.289)	1.306	(1.184)	1.917	(1.627)	-1.256	(2.194)	2.074	(1.585)	1.875*	(1.064)
WES	1.814	(1.525)	2.411*	(1.277)	-0.416	(1.448)	-1.403	(1.713)	-0.135	(1.685)	3.293**	(1.260)
WOR^{\dagger}	3.674	(4.411)	8.601**	(4.272)	1.668	(4.491)	-4.091	(11.273)	-0.531	(4.329)	6.747**	(1.377)
WOW	-0.917	(1.022)	4.362**	(1.324)	1.771*	(1.016)	1.281	(1.381)	0.060	(1.051)	2.151**	(0.910)
WPL	-1.043	(1.713)	2.551**	(1.065)	3.105*	(1.781)	-2.346	(1.830)	-2.250	(1.868)	0.468	(1.063)
Mean	1.174		1.174		-0.024		-1.485		-0.734		2.274	
Median	1.303		1.238		0.380		-1.123		0.242		1.737	
# with + ve	12		15		11		3		3		27	
# with - ve	0		1		2		3		0		0	

Notes. Mean returns and their associated standard errors of mean are expressed in percentages. Mean returns which are statistically significant different from zero at the 5% and 10% levels are denoted with ** and *, respectively. The samples are monthly, starting from January 1980 for most firms and ending in August 2010 for all firms. "# with + ve" and "# with - ve" refer to the number of companies with statistically significant positive and negative returns, respectively.

Table 3

Test of Mean Difference

ASX code	Jan	Non Jan.	FebN	Non Feb.	Mar1	Non Mar.	AprN	on Apr.	MayN	on May.	JuneN	on June.
	Mean difference	Standard e error	Mean difference	Standard error	Mean difference	Mean difference	Standard error	Standard error	Mean difference	Standard error	Mean difference	Standard error
AGK	-0.400	(1.934)	-3.776*	(2.259)	-0.293	(1.835)	2.430	(1.995)	-0.440	(2.140)	-1.613	(1.943)
AIO^{\dagger}	-17.745	(18.139)	-33.456	(30.871)	24.310	(29.034)	18.991	(22.431)	4.871	(16.848)	2.733	(20.096)
AMC	0.608	(1.843)	-0.845	(1.812)	-1.340	(1.475)	2.161	(1.709)	0.423	(1.630)	-1.739	(1.631)
AMP^{\dagger}	-4.924	(3.779)	-4.889	(4.105)	4.296	(3.233)	2.641	(3.720)	-7.090	(5.366)	0.894	(3.420)
ANZ	-1.028	(1.686)	-0.529	(1.841)	-0.337	(1.775)	2.937*	(1.665)	-1.389	(1.846)	-2.334	(1.690)
ASX^{\dagger}	-1.371	(4.659)	1.526	(4.309)	-2.046	(3.504)	-1.583	(3.380)	-4.661	(4.414)	0.261	(3.478)
AXA^{\dagger}	-5.836*	(3.091)	-3.841	(5.105)	2.463	(3.348)	2.915	(3.092)	-0.448	(3.023)	-3.591	(3.518)
BHP	-1.556	(1.993)	-0.756	(1.925)	1.058	(2.021)	3.216	(2.115)	1.586	(1.906)	-0.993	(1.670)
BSL^\dagger	0.965	(5.909)	-4.348	(6.937)	4.089	(5.884)	-1.598	(5.768)	4.141	(6.378)	-0.086	(5.060)
BXB	-0.217	(2.098)	-2.717	(2.460)	0.301	(1.763)	4.269**	(1.980)	-1.216	(1.951)	-2.262	(1.852)
CBA	-0.166	(1.981)	-1.148	(2.295)	-0.399	(2.233)	3.390**	(1.695)	-1.043	(1.908)	-1.025	(1.837)
CCL	1.589	(1.937)	-1.870	(2.145)	-0.345	(2.001)	2.615	(2.087)	-1.665	(1.964)	-0.795	(1.877)
CPU	-5.499	(4.861)	-5.253	(3.497)	2.200	(4.477)	0.147	(3.815)	-2.961	(3.705)	2.150	(4.210)
CSL	-3.439	(3.162)	1.732	(3.291)	-0.921	(2.700)	-1.090	(2.996)	-2.901	(3.403)	1.561	(3.702)
CWN^\dagger	-7.001	(7.830)	-3.429	(8.833)	7.874	(11.016)	7.226	(7.856)	-0.586	(8.079)	-3.070	(8.643)

MONTHLY SEASONALITY IN THE TOP 50 AUSTRALIAN STOCKS

ASX code	JanNon Jan.		FebNon Feb.		MarNon Mar.		AprNon Apr.		MayNon May.		JuneN	on June.
	Mean difference	Standard e error	Mean difference	Standard error	Mean difference	Mean difference	Standard error	Standard error	Mean difference	Standard error	Mean difference	Standard error
FGL	1.575	(2.360)	-1.689	(1.789)	-0.537	(2.129)	0.975	(1.926)	-0.394	(1.709)	-0.397	(1.722)
FMG^\dagger	8.521	(8.778)	-1.213	(8.871)	4.838	(9.951)	-11.817	(10.282)	5.799	(8.850)	-3.257	(8.141)
GPT	0.229	(1.544)	-5.243*	(2.788)	0.773	(1.516)	2.106	(1.552)	1.487	(1.856)	-1.473	(1.781)
IAG^{\dagger}	-0.848	(2.374)	-1.148	(3.382)	1.055	(2.330)	1.858	(2.531)	-1.070	(2.630)	-1.276	(2.987)
IPL	-1.243	(5.284)	0.435	(6.877)	-0.051	(5.843)	-0.762	(6.172)	7.466	(6.817)	-2.338	(6.340)
LEI	0.298	(3.208)	-0.419	(3.599)	-0.183	(2.836)	2.814	(2.469)	1.391	(2.965)	-3.132	(2.492)
LLC	-0.527	(2.119)	-2.346	(2.232)	-0.165	(2.075)	2.953	(1.911)	-2.010	(1.994)	-0.568	(1.968)
MAP^{\dagger}	-0.354	(4.592)	-8.091	(7.071)	-1.059	(5.132)	2.201	(4.596)	3.464	(5.608)	-6.232	(5.926)
MGR^\dagger	-3.446	(4.187)	-5.179	(6.807)	2.379	(4.256)	1.115	(4.467)	-1.305	(5.052)	0.395	(4.180)
MQG^{\dagger}	-1.620	(3.411)	-8.282*	(4.630)	4.999	(4.452)	3.652	(3.603)	-1.564	(3.466)	1.541	(3.821)
NAB	1.161	(1.576)	-2.358	(1.710)	0.475	(1.574)	3.638**	(1.438)	0.563	(1.798)	-3.632**	(1.442)
NCM	-3.019	(3.700)	-1.377	(3.262)	1.679	(4.029)	-3.209	(3.169)	1.486	(3.969)	3.810	(3.267)
NWS	1.678	(2.975)	0.849	(3.303)	1.467	(2.817)	2.535	(2.727)	-0.160	(2.747)	-2.794	(3.189)
ORG	0.191	(1.969)	-0.961	(2.183)	-1.908	(1.930)	3.629	(2.242)	0.262	(2.063)	-0.941	(1.726)
ORI	-3.205*	(1.873)	-2.072	(1.955)	0.330	(2.005)	3.550*	(1.997)	0.260	(2.094)	-1.579	(1.802)
OSH	1.200	(3.463)	-3.334	(3.639)	-0.305	(3.485)	5.412	(3.441)	-1.600	(3.627)	-2.407	(3.266)
OST^{\dagger}	1.172	(4.608)	-0.846	(4.986)	4.049	(4.311)	-2.600	(4.742)	2.013	(4.590)	2.104	(3.886)
QAN	-0.471	(3.145)	-4.735	(4.757)	-4.074	(3.285)	2.918	(3.740)	-0.214	(2.770)	0.216	(3.078)
QBE	-0.024	(2.109)	-1.246	(2.520)	-0.844	(1.992)	4.201**	(1.962)	-2.149	(1.928)	-2.583	(2.175)
RIO	-1.248	(2.694)	0.634	(2.215)	2.091	(2.517)	3.699	(2.500)	0.082	(2.440)	-2.251	(2.100)
SGP	-0.341	(1.454)	-3.565**	(1.819)	1.540	(1.496)	0.780	(1.348)	-0.192	(1.499)	-2.201	(1.370)
SHL^\dagger	-1.806	(3.143)	-0.612	(3.726)	-2.730	(2.829)	-0.930	(2.648)	-3.917	(3.345)	2.146	(2.706)
STO	-1.965	(2.186)	-4.777*	(2.457)	3.311	(2.696)	3.975	(2.491)	4.058	(2.670)	-0.659	(2.035)
SUN	0.672	(2.179)	-3.667	(2.943)	0.311	(2.202)	1.047	(1.921)	-0.856	(2.045)	-0.987	(2.068)
TAH	-0.135	(2.277)	0.242	(2.333)	1.304	(1.908)	1.838	(2.651)	-1.236	(1.829)	-1.155	(1.933)
TCL^{\dagger}	0.792	(3.752)	-4.595*	(2.707)	0.474	(2.368)	1.173	(2.568)	-2.391	(2.837)	-2.320	(3.121)
TLS	1.985	(2.665)	-2.820	(2.713)	-1.139	(2.409)	1.042	(2.365)	-2.265	(2.346)	0.589	(3.149)
TOL	1.964	(3.545)	0.469	(3.658)	0.905	(3.513)	-0.818	(3.407)	-0.726	(3.171)	-2.494	(3.500)
WBC	1.446	(1.788)	-1.369	(1.753)	0.274	(1.727)	2.527*	(1.497)	-1.604	(2.014)	-3.467**	(1.586)
WDC	-1.129	(2.144)	-0.917	(2.300)	1.996	(2.610)	2.347	(2.011)	-1.886	(2.629)	-0.566	(2.045)
WES	-0.659	(2.063)	2.860	(2.405)	-1.924	(2.031)	1.093	(2.167)	-0.998	(2.018)	0.625	(2.165)
WOR^{\dagger}	-6.877	(6.724)	3.471	(5.799)	2.508	(5.085)	-0.611	(5.063)	4.046	(5.692)	-3.956	(5.422)
WOW	-1.775	(2.020)	2.747	(1.944)	-3.103*	(1.672)	1.792	(1.983)	-1.012	(1.556)	-1.046	(1.928)
WPL	-2.694	(2.303)	-1.303	(2.557)	2.420	(2.512)	5.240*	(2.685)	2.535	(2.417)	-1.343	(2.102)
Mean	-1.018		-2.196		1.329		1.619		-0.108		-0.988	
Median	-0.436		-1.230		0.474		1.848		-0.517		-1.046	
# with + ve	0		0		0		7		0		0	
# with - ve	2		6		1		0		0		3	
ASX code	Jul	Non Jul.	AugN	lon Aug.	Sep1	Non Sep.	OctN	on Oct.	NovN	lon Nov.	DecN	on Dec.
	Mean	Standard e error	Mean difference	Standard error	Mean difference	Mean difference	Standard	Standard	Mean difference	Standard error	Mean difference	Standard error
AGK	3 072	(2.128)	1 256	(1.804)	0.005	(2.130)	-1 708	(2, 598)	-0.763	(1.809)	2.221	(2.010)
AIO [†]	13.917	(15.774)	6.756	(15.231)	-6.529	(21.526)	-14.835	(19.796)	-21.625	(29.233)	16.508	(20.017)
AMC	0.799	(1.640)	2.308	(1.791)	-2.920*	(1.622)	-0.950	(2.151)	-0.853	(1.537)	2.275	(1.435)
AMP [†]	0.257	(3.401)	7.422*	(4.113)	-4.360	(3.247)	0.600	(3.622)	1.921	(3.567)	2.654	(3.601)
ANZ	0.984	(1.729)	0.100	(2.012)	1.497	(1.829)	-0.022	(1.856)	-0.520	(1.908)	0.689	(1.510)
AXA^{\dagger}	-3.084	(3.156)	5.087	(3.406)	-0.284	(3.408)	-0.249	(3.062)	1.247	(3.778)	5.586*	(3.329)
BHP	1.305	(2.054)	-0.366	(1.710)	-1.703	(2.024)	-2.566	(2.017)	-0.644	(1.927)	1.313	(1.696)
BSL^\dagger	8.704	(6.299)	-0.032	(5.239)	-2.677	(5.314)	-5.819	(7.830)	-4.280	(5.719)	0.943	(5.378)

ASX code	JulNon Jul.		AugNon Aug.		SepNon Sep.		OctNon Oct.		NovNon Nov.		DecNon Dec.	
	Mean	Standard	Mean	Standard	Mean	Mean	Standard	Standard	Mean	Standard	Mean	Standard
	difference	e error	difference	error	difference	difference	error	error	difference	error	difference	error
BXB	1.254	(2.018)	1.200	(2.186)	1.989	(1.882)	-1.666	(2.110)	-3.703	(2.313)	2.749	(1.799)
CBA	1.062	(1.833)	-1.587	(1.926)	0.029	(2.034)	1.367	(1.790)	-1.843	(2.124)	1.363	(1.787)
CCL	-1.073	(2.750)	-0.394	(2.497)	-0.972	(1.911)	1.010	(2.667)	-1.715	(2.077)	3.674*	(2.088)
CFX	2.253*	(1.362)	0.937	(1.437)	1.434	(1.414)	-0.109	(1.470)	2.456*	(1.323)	-1.574	(1.714)
CPU	-1.106	(4.438)	5.222	(4.202)	-1.016	(3.498)	3.397	(4.163)	1.034	(4.270)	1.331	(3.482)
CSL	-0.956	(2.788)	3.554	(3.833)	1.001	(2.878)	-1.030	(3.215)	-0.624	(3.272)	2.878	(2.844)
CWN^\dagger	-2.205	(10.434)	12.354	(7.916)	5.544	(11.772)	-12.786	(10.073)	-22.913	(23.737)	9.611	(12.289)
FGL	1.195	(1.778)	0.864	(1.825)	-0.475	(2.333)	-3.261	(2.841)	0.756	(1.911)	1.340	(1.714)
FMG^{\dagger}	3.967	(9.253)	-2.241	(7.317)	-4.278	(8.780)	-9.145	(11.072)	12.957	(10.362)	-3.876	(9.268)
GPT	1.230	(1.840)	0.147	(1.710)	0.941	(1.667)	-3.142	(2.139)	0.681	(1.534)	2.286	(1.516)
IAG^{\dagger}	0.555	(2.628)	0.496	(2.814)	-0.825	(2.397)	-1.803	(3.167)	-0.426	(2.627)	3.434	(2.729)
IPL^\dagger	2.498	(6.497)	-1.025	(4.836)	-4.806	(8.410)	-6.338	(6.307)	1.228	(7.577)	5.068	(6.684)
LEI	1.211	(2.880)	5.773**	(2.691)	-2.142	(2.574)	-4.213	(3.747)	-2.700	(2.657)	1.068	(2.501)
LLC	2.227	(1.872)	1.893	(2.147)	-1.138	(2.002)	-2.247	(2.930)	0.633	(1.982)	1.251	(2.014)
MAP^{\dagger}	9.442*	(5.472)	3.503	(4.538)	-1.709	(5.376)	-5.681	(5.633)	-0.929	(4.661)	5.445	(4.817)
MGR^{\dagger}	1.252	(4.200)	5.178	(3.942)	0.419	(4.191)	-9.358	(9.267)	6.130	(4.658)	1.893	(3.907)
MQG^{\dagger}	-0.116	(3.651)	0.344	(3.241)	1.261	(3.543)	-1.667	(4.023)	-0.817	(3.108)	2.248	(3.078)
NAB	0.907	(1.628)	0.535	(1.652)	0.628	(1.593)	-0.063	(1.757)	-2.230	(1.770)	0.336	(1.476)
NCM	-4.108	(3.281)	-2.115	(3.195)	2.076	(4.105)	-2.406	(3.879)	0.160	(3.727)	7.279**	(3.306)
NWS	0.488	(2.807)	1.374	(2.818)	-3.260	(3.265)	-4.354	(4.011)	1.084	(3.233)	0.928	(2.699)
ORG	0.424	(1.921)	-0.761	(2.047)	1.046	(1.846)	-1.919	(2.362)	-1.624	(1.841)	2.565	(1.647)
ORI	2.446	(2.010)	-1.938	(1.844)	1.758	(1.908)	-3.708	(2.474)	0.366	(2.404)	3.858**	(1.865)
OSH	2.134	(3.101)	0.274	(4.160)	0.909	(3.508)	-3.064	(3.837)	-1.702	(3.192)	2.442	(3.504)
OST^{\dagger}	4.253	(4.180)	3.270	(4.185)	-3.614	(6.121)	-4.427	(4.201)	-7.928	(5.344)	1.817	(3.849)
QAN	2.402	(2.996)	-1.488	(2.896)	1.706	(3.406)	1.719	(3.642)	-1.314	(3.240)	3.423	(3.028)
QBE	-2.235	(1.976)	2.953	(1.971)	0.157	(2.768)	1.477	(2.727)	-2.387	(1.963)	2.739	(1.905)
RIO	2.250	(2.442)	-0.359	(2.397)	-1.486	(2.513)	-3.475	(3.253)	-1.370	(3.179)	1.285	(2.310)
SGP	2.145	(1.446)	0.952	(1.741)	1.460	(1.434)	-2.087	(1.941)	0.412	(1.329)	1.076	(1.402)
SHL^\dagger	-3.451	(2.496)	3.824	(3.338)	4.635	(3.390)	-0.240	(3.123)	0.881	(2.918)	2.566	(2.951)
STO	-0.295	(2.357)	1.574	(2.273)	0.898	(2.314)	-4.545*	(2.654)	-2.324	(2.086)	0.592	(2.105)
SUN	1.502	(2.030)	0.703	(1.879)	-0.430	(2.255)	1.321	(2.127)	-0.542	(2.014)	0.870	(1.873)
TAH	-1.915	(2.028)	1.482	(1.881)	0.259	(1.849)	0.340	(2.096)	-0.132	(1.964)	-0.892	(1.835)
TCL^\dagger	0.574	(3.029)	2.072	(2.647)	2.241	(2.546)	-1.964	(3.033)	3.070	(3.046)	0.931	(2.695)
TLS	1.817	(2.271)	-4.722*	(2.500)	-1.563	(2.600)	3.645	(3.274)	1.343	(2.704)	2.327	(2.655)
TOL	-0.432	(2.996)	2.479	(3.208)	-0.108	(3.384)	-1.486	(3.348)	-0.271	(3.474)	0.433	(3.357)
WBC	3.097*	(1.696)	-0.374	(1.785)	0.483	(1.703)	-0.783	(2.041)	-0.895	(1.901)	0.649	(1.670)
WDC	1.003	(2.067)	-0.041	(2.010)	0.624	(2.295)	-2.831	(2.688)	0.796	(2.268)	0.579	(1.970)
WES	0.774	(2.142)	1.426	(1.987)	-1.657	(2.117)	-2.730	(2.287)	-1.351	(2.272)	2.381	(2.001)
WOR^\dagger	1.075	(6.281)	6.465	(6.157)	-1.107	(6.570)	-7.335	(11.914)	-3.485	(6.459)	4.437	(4.812)
WOW	-2.218	(1.658)	3.558**	(1.804)	0.713	(1.661)	0.180	(1.887)	-1.153	(1.679)	1.128	(1.603)
WPL	-2.062	(2.412)	1.862	(2.045)	2.460	(2.477)	-3.475	(2.507)	-3.370	(2.532)	-0.411	(2.071)
Mean	0.947		1.519		-0.312		-2.381		-1.132		2.144	
Median	0.984		0.945		0.029		-1.919		-0.644		1.590	
# with + ve	3		3		0		0		1		4	
# with - ve	0		1		1		1		0		0	

Notes. Mean differences and their associated standard errors are expressed in percentages. Mean differences which are statistically significant different from zero at the 5% and 10% levels are denoted with ** and *, respectively. The samples are monthly, starting from January 1980 for most firms and ending in August 2010 for all firms. "# with + e" and "# with - ve" refer to the number of companies statistically significant positive and negative different in mean returns, respectively.

MONTHLY SEASONALITY IN THE TOP 50 AUSTRALIAN STOCKS

Conclusions

During the last four decades, many researchers have documented evidence on monthly seasonality of stock markets around the world. The findings of monthly anomalies on the Australian stock market are mixed, depending on the sample period and the portfolios used. However, all these studies are only limited to the use of portfolio data and none of them use individual stock data. Stock returns of individual companies may have different monthly anomalies. To address this problem, we investigated Australian stock seasonality using the top 50 companies' stocks for the period of January 2001 through to August 2010.

We found that stock returns for more than half of the companies are statistically significant in April and December. By contrast, many companies have low stock returns in October. This finding is inconsistent with Worthington (2010), who found that the lowest return occurs in September. The possible reason for the difference is that he used a market index and much longer sample period.

We also found that there is no "January effect" in the top 50 stock returns in Australia. None of the 50 companies has statistically significant larger returns in January than in other months. In fact, for two companies, stock returns are lower in January than in other months. There is also no strong evidence of a monthly effect in the sample. For most companies, stock returns in one month are not significantly different from those in other months. This result suggests that the stock market in Australia might generally be weak-form efficient.

References

- Ariel, R. A. (1987). A monthly effect on stock returns. Journal of Financial Economics, 17, 161-174.
- Bentzen, E. (2009). Seasonality in stock returns. Applied Financial Economics, 19, 1605-1609.
- Bonin, J. M., & Moses, E. A. (1974). Seasonal variations in prices of individual Dow Jones industrial stocks. *Journal of Financial and Quantitative Analysis*, 9, 963-991.
- Brailsford, T., & Easton, S. (1991). Seasonality in Australian share price indices between 1936 and 1957. *Accounting and Finance*, *31*, 69-85.
- Brown, P., Keim, D., Kleidon, A., & Marsh, T. (1983). Stock return seasonalities and the tax-loss selling hypothesis: Analysis of the arguments and Australian evidence. *Journal of Financial Economics*, *12*, 105-127.
- Dzhabarov, C., & Ziemba, W. T. (2010). Do seasonal anomalies still work? Journal of Portfolio Management, 36, 93-104.
- Fama, E. F. (1965). The behavior of stock market prices. Journal of Business, 38, 34-105.
- Gultekin, M., & Gultekin, B. (1983). Stock market seasonality: International evidence. *Journal of Financial Economics*, 12, 469-482.

Heston, S. L., & Sadka, R. (2008). Seasonality in the cross-section of stock returns. Journal of Financial Economics, 87, 418-445.

- Li, B., & Liu, B. (2010). Monthly seasonality in the New Zealand stock market. *International Journal of Business Management* and Economic Research, 1, 9-14.
- Liu, B., & Li, B. (2010). Day-of-the-week effects: Another evidence from top 50 Australian stocks. European Journal of Economics, Finance and Administrative Sciences, 24, 78-87.
- Officer, R. (1975). Seasonality in Australian capital markets: Market efficiency and empirical issues. *Journal of Financial Economics*, 2, 29-51.
- Wachtel, S. B. (1942). Certain observations on seasonal movements in stock prices. Journal of Business, 15, 184-193.
- Worthington, A. C. (2010). The decline of calendar seasonality in the Australian stock exchange: 1958-2005. *Annals of Finance*, *6*, 421-433.
- Yakob, N. A., Beal, D., & Delpachitra, S. (2005). Seasonality in the Asia Pacific stock markets. *Journal of Asset Management*, 6, 298-317.


Evaluation of the Conservatism Level in Kuwait Stock Exchange: By Using Basu Model^{*}

Allam Mohammed Mousa Hamdan Ahlia University, Kingdom of Bahrain

This study aims to evaluate the level of accounting conservatism when preparing financial statements by companies listed in Kuwait Stock Exchange (KSE). In addition, the study examines the factors that affect the level of accounting conservatism in those companies with regard to company sizes, debt contracts, and the type of sector the company belongs to. To achieve these goals, the Basu (1997) model was used to measure conservatism level and the factors influencing it. The sample of the study comprises of 225 companies listed in KSE. Findings of the study showed that the KSE succeeded in forcing Kuwait companies to present a reasonable level of accounting conservatism. The study also found out that the financial statements of small companies were conservative, while those of the big ones were not. In addition, the debt contracts left an impact upon financial reports of accounting conservatism. Thus, companies with lower debts were more conservative than those of higher ones. Moreover, the financial statements of the financial sector in KSE were the most conservative.

Keywords: accounting conservatism, company size, debt contracts, type of sector, financial reporting, Basu (1997) model

Introduction

The need for conservatism appeared together with the Agency Theory (Basu, 1997) to solve the problem that might emerge between managers and stockholders on the separation between management and ownership. Suppose that the financial reports issued by the management were conservative (Ball, 2001; Watts, 2003), stockholders might resort to reduce management salaries to compensate for the difference attributed to the manager's care for their personal interests. To avoid such a situation, managers might resort to present more conservative numbers as an indication of not caring for their personal interests (Watts & Zimmerman, 1983), thus shunning legal responsibility (Givoly & Hayn, 2000). Ahmed and Duellman (2007) found out that accounting conservatism helps reduce agency costs. Finally, Hamdan (2011) found that accounting conservatism contributes to the improvement of quality of financial reporting through an external auditor for clean opinion. This study helps in establishing a relationship between the high level of accounting conservatism in improving the efficiency of debt contracts, studies of the last period ascertained that

^{*} Acknowledgment: I would like to thank professor Abdulla Al-Hawaj, president of the Ahlia University and professor Wajeeh Elali, Vice President of Administration & Finance for their support to the efforts of scientific research.

Allam Mohammed Mousa Hamdan, assistant professor, Department of Accounting, College of Business and Finance, Ahlia University. P.O.Box: 10878 Manama, Bahrain. E-mail: ahamdan@ahliauniversity.edu.bh.

³⁹² EVALUATION OF THE CONSERVATISM LEVEL IN KUWAIT STOCK EXCHANGE

accounting conservatism helped in improving the efficiency of the debt contracts by increasing the ability of accounting information to predict the future. (Watts, 2003; Ball & Shivakumar, 2005; Ball, Robin, & Sadka, 2008). Accounting conservatism secures, for the debtors, more strict policies in declaring profits and consequently limits profit distribution as this provides the company with a better opportunity to meet its liabilities. But Gigler, Kanodia, and Sapra (2009) saw that accounting conservatism reduces the efficiency of debt contracts because it changes the content of accounting, thus reducing the possibility of future prediction. The significance of this study stems from being the first to measure the level of accounting conservatism in the financial statements issued by companies listed in KSE and the factors that affect it. In search for the factors influencing the level of accounting conservatism, many studies considered the distinction between companies regarding accounting conservatism in their financial reports. Hamdan (2010) and Yaseen (2008) found out that banks were the most conservative in their accounting policies. But Al-Sehli (2009) disagreed with them as he found that the banking sector in Saudi Arabia was the least conservative in its accounting policies. As for the relation between the size of company and accounting conservation, Hamdan, (2010) found that big companies adopt conservative accounting policies to avoid political costs, but Al-Sehli (2009) did not find any relation between the size of the company and the degree of accounting conservatism. Contrary to what expected, Hamdan (2010) found that the low-debt companies were the most conservative in their accounting policies. Al-Sehli's (2009) study did not find any effect of debt size on accounting conservatism, but found that establishing Saudi Stock Exchange had an effect on accounting conservatism in financial reporting and that agreed with what the study of Labo and Zhou (2006) reached at. The demands of U.S. Securities Exchange Commission helped in increasing accounting conservatism in financial reporting. The accounting conservatism also helps in Quality Disclosure (Paprocki & Stone, 2004; Yaseen, 2008). Accounting conservatism also plays a role in Earnings Quality, being continuous (Penman & Zhang, 2002). The Sarbanes-Oxley act is considered the most important legislation in reinforcing corporate governance which helps increase accounting conservatism (Labo & Zhou, 2006). This was ascertained by the study of Lara, Osma, and Penalva (2007), which found that corporate governance helped increase accounting conservatism. Krishnan and Visvanathan (2007) discovered that experience of the Audit Committee, one of the pillars of corporate governance, affected the degree of accounting conservatism. Yaseen (2008) did not find any influence of the corporate governance on the relation between accounting conservatism and the improvement of quality of disclosure. Accounting conservatism is one of the active tools in the corporate governance which managers can use to improve the level of corporate governance in the company (Lara et al., 2007). This study differs from previous studies in being the first to measure accounting conservatism in the financial statements issued by public-joint companies listed in KSE, using Basu (1997) model. Thus, it tries to discover the factors affecting the level of accounting conservatism in these companies. The study is expected to present important information for decision makers and regulators of accounting profession in Kuwait.

Research Methodology, Sample and Hypothesis Development

Basu (1997) model will be adopted here. It is based on the fact that accountants usually tend to admit unrealized losses before the unrealized earnings (Al-Sehli, 2009). The present realized earnings which include future losses, not the earnings expected to be more sensitive to the bad news than the good ones (Basu, 1997). This means that conservatism did not allow simultaneous admissions of economic events when reporting earnings (Yaseen, 2008) because bad news will be more effective on earnings than good ones. It is then expected that earnings will be more related to stock trading through the period of bad news than the good ones. Thus, conservatism measurement is the difference between stock trading and earnings' indicator during the period of bad news and its relation to periods of good news (Givoly & Hayn, 2000). Basu's (1997) model used reverse regression for the earnings $X_{i,t}$ divided by closure share price at the end of last year ($P_{i,t-1}$) on the return $R_{i,t}$ according to the following regression model:

$$X_{i,t} / P_{i,t-1} = \alpha_0 + \alpha_1 D R_{i,t} + \beta_0 R_{i,t} + \beta_1 (R_{i,t} \times D R_{i,t})$$
(1)

393

where,

 $X_{i,t}$: Means earnings per share of the company *i*, during period *t*.

 $P_{i,t-1}$: Share price of the company *i*, at the beginning of period *t* or closure of the year *t-1*.

 $R_{i,t}$: Returns (net income) of the company *i* during period *t*.

 $DR_{i,t}$: Dummy variable which equals 1 if $R_{i,t}$ is less than zero (net loss) and equals 0 if $R_{i,t}$ is more than zero (net profit).

The study sample included all the companies listed in KSE, the sample comprises of the 225 companies, which published their financial statements for the year of 2009.

Hypothesis Development and Methodology

The study posed four null hypotheses are the following:

H1: There is no acceptable level of accounting conservation in financial statements issued by the companies listed in KSE.

Basu (1997) model will be used to test the first hypothesis whose goal is to measure the level of accounting conservatism as parameters of this model are assessed. If the R-squared is higher regarding the negative return ($R_{i,t}$ < 0) which represents bad news—expected loss—than the positive return ($R_{i,t}$ > 0) which represents good news, then the earnings are more in concurrence with bad news (Al-Sehli, 2009). Then, financial reports will eventually be more conservative, for earnings are more sensitive to bad news, than good ones, then the (β) will be higher for the negative earning than the positive one (Basu, 1997). Therefore, the presence of a suitable level of accounting conservatism means that the variable ($R_{i,t} \times DR_{i,l}$) will be statistically important in the model of Basu (1997).

H2: There is no statistically significant impact of the company size on the level of accounting conservation in the financial statements issued by the companies listed in KSE.

The aim of the second hypothesis is to measure the influence of the company size on the level of accounting conservatism. In other words, it tries to test what past studies concluded that big companies are more conservative than the small ones. It also tries to know how to use Basu (1997) model in measuring the effect of size on the level of conservatism. The mean of total assets of all the companies was taken as well. If the total assets of the company through the study period were more than the general mean, the company was then considered big, but less than that, it was then considered of small size. The number of big companies was 58 and the number of small ones 167. Afterwards, Basu (1997) model would be used to evaluate big and small companies individually. To measure the degree of conservatism of any company, the ($R_{i,t} \times DR_{i,t}$) should be statistically significant. To compare big companies with small ones regarding conservatism, the Adjusted R^2 used in comparing models should be considered. The higher this parameter was, the higher the degree of accounting conservatism would be.

H3: There is no statistically significant impact of the debt contracts on the level of accounting conservation in the financial statements issued by the companies listed in KSE.

Several past studies examined the influence of debt contracts on the level of accounting conservatism in

³⁹⁴ EVALUATION OF THE CONSERVATISM LEVEL IN KUWAIT STOCK EXCHANGE

financial reports and whether or not the debtors could force the company to have a high level of conservatism in its financial reports. This is what the third hypothesis of this study aims at. To use Basu (1997) model in measuring the influence of debt contracts on the level of conservatism, the study used the financial leverage in considering the 225 company sample for the year of 2009 by dividing the total liabilities of the company on the shareholders' equity. Afterwards, the mean of financial leverage for all companies was taken into consideration. If the financial leverage of the company through the period of study was found to be more than the general average, then the company was regarded a high-debt one, less than that a low-debt one. The high debt companies were 113 and the low-debt ones 112. After classifying sample companies with regard to debt size, Basu (1997) model will be used to evaluate every category comparing all, with reference to the decision previously taken.

H4: The economic sectors listed in KSE are similar, with regard to the level of conservatism, in their financial statements.

The fourth hypothesis examines the impact of the type of the sector of the company on the level of conservatism in its financial statements. There are seven sectors in KSE which are: banks, investment, insurance, real estate, industrial, service, and food. To get along with past studies and to make comparison easier, companies were divided into three sectors: financial (including banks, investments, and insurance), industrial (including industrial, real estate and food), and finally, the services sector. The number of the companies in the financial sector was 77, services 60, and industrial the biggest among them was 88. After classifying the sample companies from the economic sectors, Basu (1997) model would be used to asses every sector and then compare them all, with reference to the decision taken previously.

Discussion of Findings and Conclusions

We measured the level of accounting conservatism in the financial statements of all Kuwait companies through using the Basu (1997) model (Table 4). It was clear from the results that the financial statements issued by those companies were conservative. Such a result did not agree with the results of past studies that conducted in similar environments, like the study of Hamdan (2010), which disclosed that the financial reports of Jordanian companies never had accounting conservatism. So did Al-Sehli's (2009) study which also showed that Saudi companies never presented any accounting conservatism when preparing financial results. Many studies were conducted in other environments (Ball, Robin, & Sadka, 2008). Accounting conservatism in KSE showed an increasing demand for: accounting information in KSE, more powerful censorship by owners, more financial analysts, and more governmental bodies.

Variable	Big corporations $(n = 58)$			Small corporations ($n = 167$)			
	Coefficient (β)	t-Statistic	<i>p</i> -value	Coefficient (β)	t-Statistic	<i>p</i> -value	
$DR_{i,t}$	-0.262	-5.210	0.000	-0.355	-5.763	0.000	
$R_{i,t}$	0.000	3.893	0.000	0.000	0.636	0.526	
$R_{i,t} \times DR_{i,t}$	0.000	0.258	0.797	0.000	-2.432	0.016	
Adjusted R ²	0.213			0.446			

Table 1

The Effect of Corporations Size on Accounting Conservatism Using Basu Model

Table 2

The Effect of Debt Contracts on Acc	ounting Conservatism	Using Basu Model
-------------------------------------	----------------------	------------------

Variable	High f	High financial leverage ($n = 113$)			Low financial leverage $(n = 112)$		
	Coefficient (β)	t-Statistic	<i>p</i> -value	Coefficient (β)	t-Statistic	<i>p</i> -value	
$DR_{i,t}$	-0.325	-8.429	0.000	-0.388	-3.628	0.001	
$R_{i,t}$	0.000	1.504	0.136	0.000	-2.981	0.004	
$R_{i,t} \times DR_{i,t}$	0.000	-0.285	0.776	0.000	-2.008	0.048	
Adjusted R^2	0.154			0.417			

Table 3

The Effect of Sector Type on Accounting Conservatism Using Basu Model

Variabla		Financial sector (n =	= 77)	
variable	Coefficient (β)	t-Statistic	<i>p</i> -value	
$DR_{i,t}$	-0.371	-4.232	0.000	
$R_{i,t}$	0.000	0.474	0.637	
$R_{i,t} \times DR_{i,t}$	0.003	3.595	0.001	
Adjusted R^2	0.211			
Variable		Services sector (n =	= 60)	
v arrable	Coefficient (β)	t-Statistic	<i>p</i> -value	
$DR_{i,t}$	-0.211	-4.959	0.000	
$R_{i,t}$	0.000	-3.149	0.003	
$R_{i,t} \times DR_{i,t}$	0.000	-1.307	0.197	
Adjusted R^2	0.455			
Variable		Industrial sector (n	= 88)	
v allable	Coefficient (β)	t-Statistic	<i>p</i> -value	
$DR_{i,t}$	-0.285	-6.074	0.000	
$R_{i,t}$	0.000	-2.683	0.009	
$R_{i,t} \times DR_{i,t}$	0.000	-1.711	0.091	
Adjusted R ²	0.425			

Table 4

Basu Model for All Corporations

Variable	Coefficient (β)	t-Statistic	<i>p</i> -value	
$DR_{i,t}$	-0.348	-6.913	0.000	
$R_{i,t}$	0.000	3.238	0.001	
$R_{i,t} \times DR_{i,t}$	0.000	-3.280	0.001	
Adjusted R^2	0.247			

Regarding the influence of company size on the level of accounting conservatism, Table 1 shows testing of the second hypothesis. It was obvious that the company size had an influence on the level of accounting conservatism (i.e., the financial statements of the small companies were more conservative than those of the big ones). Despite the fact that large companies should be even more conservatism, in order to avoid the political costs that might emerge from disclosing great earnings or values of big assets and to avoid the increasing censorship of government, financial analysts, and the more governance over them than over the small companies. This result does not agrees with the study of Hamdan (2010), which proved the influence of the size on the level of conservatism in Jordanian companies, and showed that the large companies are more conservatism. Regarding the influence of debt contracts on the level of accounting conservatism in the financial

³⁹⁶ EVALUATION OF THE CONSERVATISM LEVEL IN KUWAIT STOCK EXCHANGE

statements of the Kuwaiti company, from Table 2, it was clear that the debt contracts had an influence on the level of accounting conservatism (i.e., the financial statements of the low debts companies were more conservative than those of the high debts companies). This result agrees with Hamdan's (2010) study which found out that debt contracts had an effect on the level of accounting conservatism, and agreed with it in that companies of low debts in Kuwait were more conservative, as well as Hamdan's revealed that the low-debt companies in Jordan were more conservative. Al-Sahli's (2009) study did not find any influence of debt on the level of accounting conservatism in the Saudi corporations. Finally, in the fourth hypothesis, the economic sectors in KSE were put into comparison regarding the level of accounting conservatism (Table 3). The financial sector was found to be more conservative than the services and industrial. The findings of this study reflect the success of KSE in obliging the companies to present a reasonable level of accounting conservatism. The regulating and supervising authorities should force these companies to increase their commitment to accounting conservatism and to force, as well, the other sectors to have a reasonable level of conservatism.

References

- Ahmed, A., & Duellman, S. (2007). Accounting conservatism and board of director's characteristics: An empirical analysis. *Journal of Accounting and Economics*, 43, 411-437.
- Al-Sehli, M. (2009). Accounting conservation in corporate financial reporting in Saudi Arabia: An empirical study. *Arab Journal of Administrative Sciences*, 16(1), 5-22.
- Ball, R. (2001). Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. *Brookings-Wharton Papers on Financial Services*, 127-182.
- Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39, 83-128.
- Ball, R., Robin, A., & Sadka, G. (2008). Is financial reporting shaped by equity markets or by debt markets? An international study of timeliness and conservatism. *Review of Accounting Studies*, 13, 168-205.
- Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, 24, 3-37.
- Gigler, F., Kanodia, C., & Sapra, H. (2009). Accounting conservatism and the efficiency of debt contracts. *Journal of Accounting Research*, 47(3), 767-797.
- Givoly, D., & Hayn, C. (2000). The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative? *Journal of Accounting and Economics*, 29, 287-320.
- Hamdan, A. (2010). Factors affecting accounting conservatism when preparing corporate financial reports: Evidence from Jordan. *Jordan Journal of Business Administration*. Accepted Paper.
- Hamdan, A. (2011). The impact of accounting conservatism on the enhancement of the quality of financial reporting: An empirical study from the Jordanian industrial corporations. *Dirasat of Administrative Sciences*, 38(2).
- Krishnan, J., & Visvanathan, G. (2007). Does the SOX definition of an accounting expert matter? The association between audit committee directors' accounting expertise and accounting conservatism. *Contemporary Accounting Research*, 25(3), 827-857.
- Lara, J., Osma, B., & Penalva, F. (2007). Accounting conservatism and corporate governance. Rev Account Stud, 14, 161-201.
- Lobo, G., & Zhou, J. (2006). Did conservatism in financial reporting increase after the Sarbanes-Oxley Act? Initial evidence. *Accounting Horizons*, 20, 57-74.
- Paprocki, C., & Stone, M. (2004). Is the quality of critical accounting policy disclosures lower for companies with high information asymmetry. Available at: www.ssrn.com
- Penman, S., & Zhang, X. (2002). Accounting conservatism, the quality of earnings, and stock returns. *The Accounting Review*, 77(2), 1-33.
- Watts, R. (2003). Conservatism in accounting part I: Explanations and implications. Accounting Horizons, 17, 207-221.
- Watts, R., & Zimmerman, J. (1983, Oct). Agency problems, auditing and the theory of the firm: Some evidence. *Journal of Law and Economics*, 26.
- Yaseen, M. (2008). Measure the level of conservatism in accounting light of corporate governance and its impact on the disclosure quality of the financial statements of the Jordanian commercial banks. Arab Academy for Banking and Financial Sciences (Unpublished dissertation).



Successful Strategic Management for Growth-Oriented Timber Haulage Entrepreneurs^{*}

Juho Soirinsuo University of Helsinki, Finland

The aim of this study was to investigate the growth of a timber haulage company and the entrepreneur behind the growth. The purpose of the study was to find out what kind of impact strategic management has on the growth of profitability. Entrepreneurs' financial and strategic objectives were studied, as well as growth strategies and their implications. Studied companies were all located in Finland. The research material was collected by personal interviews in 2008 from 23 entrepreneurs. Their financial statements from 2001 to 2007 were also taken into account. The study found that the role of management seems to be crucial in profitable growth and much more meaningful than, for example, the financial situation. Strategic objectives and chosen growth strategy seem especially to be key elements for successful growth. Particularly in low profit sectors, management should not focus growth purely on current conditions, but also on seeking other ways to exploit the company's resources.

Keywords: Finland, growth, long-term objectives, low profit sectors, strategic management, timber haulage entrepreneurs

Introduction

Timber has been delivered by trucks since the beginning of 20th century in Finland. Forests have always been very important for the national economics of Finland and timber haulage has always been part of it and will be in the future also. Nowadays, trucks are the most important timber transportation means. Nearly all of the round wood used by these industries spends some time on wheels during transportation.

Timber haulage companies are large employers in rural areas of Finland and very important employers in forestry. They are often very important employers and job creators at the local level. The volume of round wood and forest residual energy wood harvested by forest machine entrepreneurs in Finland was 57.7 million cubic meters in 2007—an increase of 8% since 2001 (Finnish Forest Research Institute, 2008). A relatively new trend in the sector has been the decreasing number of entrepreneurs and the increasing amount of large companies (MetsäTrans, 2008). In 1998 there were 26 companies owning more than 4 trucks each, but ten years later the number was 57. According to MetsäTrans (2008), in 1998 there were 1,164 timber haulage companies in Finland and in 2008 only 850. However, the sector is still driven by small entrepreneurs and 79% of the entrepreneurs own fewer than 3 trucks. Most of these companies are family-owned.

The timber haulage sector has suffered from low profitability throughout its history (Mäkinen, 1997; Väkevä,

^{*} Acknowledgement: The present study was financed by the Metsämiesten Säätiö Foundation and by The Rural Policy Committee of the Ministry of Agriculture and Forestry, within a research project Kasvun eväät.

Juho Soirinsuo, Department of Economics and Management, University of Helsinki.

2004). Delivering timber from forests to mills demands skills from the drivers, but otherwise the sector is a bulk-service sector (Soirinsuo & Mäkinen, 2011). This emphasizes the importance of management in order to keep the business profitable. According to Fransson and Frendberg (2008), many factors controlled the success of an organization, including its markets, products, capital, technology and government regulations. To what extent these factors will provide a competitive advantage for the organization depends on what people do with them.

The single-most important factor in the growth and sustainability of the firm is the senior management team (Penrose, 1959; Barney, 1991; Mahoney, 1995), in this case the owner-manager (entrepreneur). However, Penrose (1959) also stated that a firm's existing management team provides the limits to the growth of that firm. The competitive advantage of firms is based upon the development of distinctive capabilities shaped by the firm's managerial resources (Teece, Pisano, & Shuen, 1997).

The aim of this study was to investigate the largest growth-oriented timber haulage companies and the entrepreneurs behind their growth. The purpose of the study was to find out what kind of impact strategic management has on growth profitability, while keeping in mind, that growth itself is a very important strategic decision. The study emphasizes the importance of the entrepreneur and the chosen growth strategy. Overall, strategy forms a basis for success of the firm (White, 1998; Moreno & Casillas, 2008). Therefore management is the number one focus in this study. In this paper, we propose that strategic management (and strategic planning) can be considered an important factor from the point of view of successful growth. In recent growth studies, it has been stated that there is a reason to study management's effects on growth (Moreno & Casillas, 2008), as well as to focus more on employed growth strategies (Pasanen, 2006). Davidsson, Achtenhagen, and Naldi (2005) stated that surprisingly few studies have investigated the crucial relationship between growth and profitability.

Literature View

Soirinsuo and Mäkinen (2011) studied growth and economies of scale in the timber haulage sector, and found that the sector may be polarized and growth is profitable to a certain point, after which costs start to rise. However, the study did not cover the human factors of growth deeply. Mäkinen (1993; 1997; 2001) has investigated the profitability and competitive strategies of timber haulage companies. He examined the relationship between strategy and competiveness; further success and profitability were studied, but growth was not included in those studies. At Metsäteho Ltd, Väkevä (2004) studied factors affecting the productivity of the timber haulage sector. Högnäs (2001) compared timber haulage costs between Great Britain and Finland in order to find out the key reasons for variations in efficiency.

Corsi, K. Smith, and R. Smith (1991) conducted a study on the strategies employed by motor haulage companies engaged in the general freight sector before and after deregulation and found that a strategy aiming at cost leadership was the weakest alternative. Scheraga (2005) conducted a wide study about blending of strategic dimensions and customer satisfaction in the LTL (less-than-truckload) motor carrier industry. A study by Armstrong (2006) discussed the profitability in the timber haulage sector in the United Kingdom and suggested that while minimizing costs is a key factor in increasing profitability, a wider scale of services and offering a niche or specialised service also contributed to profits.

It was interesting to notice that more focus has been given to small companies recently in the field of strategic management studies. Many articles and empirical studies have discussed the growth of small companies. Surprisingly few studies, however, have investigated the relationship between strategic management and the growth of small firms in terms of empirical analysis in recent years. Also, studies concerning small rapidly

growing companies have been conducted more in recent years than studies focusing on only small growing companies, new ventures and long-lived companies (Pasanen, 2006). Rapid growth is usually defined as a stage of market development where annual competitor growth exceeds 50%. These figures can be found more commonly in the ICT sector. In many traditional small business sectors, rapid growth is not an option for many. One aim of this study was also to awake more interests in the field of small firm research in traditional SME sectors.

Theoretical Framework: Strategic Management

Two types of objectives are especially common in organizations—financial and strategic objectives. Financial objectives include those associated with growth in revenues, growth in earnings, higher dividends, larger profit margins, greater return on investment, higher earnings per share, and so on; while strategic objectives include things such as a larger market share, quicker operation, lower costs as rivals, higher product quality than rivals, and so on (Fred, 2005).

Chandler (1962) was among the first scholars to study strategic management. In his book, Chandler alluded to the impact that strategies have on the internal organisational environment. According to Davidsson et al. (2005), it is essential to study companies' internal factors during their growth because it would be an unwise oversimplification to assume that nothing else but size changes.

Strategic management can be seen as a plan of how an organization can achieve its goals and objectives (Davies, 2000; Mintzberg, 1996). Without long-term objectives, an organization would drift aimlessly toward some unknown end (Fred, 2005). A company has future expectations and goals, as well as and present resources. Strategic management is a certain "commitment" on how to pursue them. Furthermore, the strategies developed provide a base for managerial decision making (Browne, 1994; Porter, 1980; Robbins, Bergman, Stagg, & Coulter, 2000). From the entrepreneurial viewpoint, the core issue of entrepreneurship is the discovery of hitherto unexploited opportunities (Kirzner, 1973). Strategy helps the firm in the purposeful search for opportunities (Drucker, 2001).

The development of a business plan is an important element in the success of the entrepreneurial venture (Stevenson, Roberts, Grousbeck, & Bhide, 1998; Timmons & Spinelli, 2003). Strategic planning and systematic decision-making can be considered as a key determinant of the survival and success of small firms (Zimmerer & Scarborough, 1996). Indeed, Wiklund's (1998) study identified a firm strategy as the strongest, most direct driver of firm growth. Therefore it is essential to study strategic management when focusing on firm growth. Davidsson (1991) stated that there are three main preconditions affecting firm growth: (1) entrepreneur's growth orientation; (2) adequate firm resources for growth; and (3) the existence of market opportunity for growth.

Daft and Marcic (2008) stated that identifying problems is an important part of strategic management and planning, and a key leadership skill. Problem identification enables the organization on continue to experiment, improve, and increase its capability. The role of managers is not to make decisions, but to create learning capability, in which everyone is free to experiment and learn what works best.

Materials and Methods

The study focuses on the largest limited companies in the sector which have had a growth in turnover from the year 2001 to 2006. Growth of a company can be measured in many different ways, but there is general agreement that growth in sales is the most universally applicable one (Davidsson et al., 2005). The research

sample included large timber haulage limited companies in Finland. Only limited companies were chosen because they often have more easily accessible material and because small one-machine companies are not necessarily even interested in growth. In this way, the sample included a significant number of the largest growth-oriented companies in the sector.

The sample consisted of 30 entrepreneurs, of which 23 agreed to being interviewed, for a 77 per cent response. The research sample is rather small because not all the entrepreneurs wanted to be interviewed, or had the time. In addition, timber haulage companies are widely scattered all over Finland and personal interviewing is quite expensive. While these 23 companies represent only about 3% of the entrepreneurs in the sector, they accumulate about 19% of the sector's total turnover of EUR 330 million.

Entrepreneurs were personally interviewed in autumn 2008. The questionnaire included about 85 questions in nine different sections that covered companies' resources, entrepreneurs' abilities and motivation, business and competition environment, strategy, growth and future plans. Most of the questions were open-ended. Financial statements of the 23 interviewed companies were also taken into account from the years 2001 to 2007 to determine the financial success of their growth.

Three groups were formed, based on their success in growth. Success ratio was calculated on the basis of companies' net profit and equity ratio and their development during growth from 2001 to 2007. The selection criteria for these groups were as follows:

(1) Highly successful. Companies were able to keep their equity ratio at a good level or were able to clearly improve it. These companies were also able to keep their net profit positive or to clearly increase it. Growth was clearly profitable for these companies.

(2) Moderately successful. Companies' equity ratio or net profit weakened, and growth's effect on profitability was non-existent. Growth harmed some parts of the companies, but also benefited other parts. Growth did not harm these companies much, nor did it benefit them either in financial terms.

(3) Less successful. Companies' equity ratios were weak or weakened significantly. These companies' net profit weakened significantly or they made losses. Growth was clearly non-profitable for these companies.

Salmi (2006) radically defined the base values for equity ratio of over 40 as being good and under 20 as weak. When considering net profit, it is generally agreed that it is positive. These parameters have also been widely used in entrepreneurship literature (Murphy, Trailer, & Hill, 1996). In addition, the whole growth period from 2001 to 2007 was studied. Further, the use of only first year and end year data for growth calculations has been criticized because it models growth as one giant leap (Davidsson & Wiklund, 2000).

Results

Research Sample

The average age of the entrepreneurs interviewed was 52 years and the length of time as an entrepreneur 29.6 years. The newest companies were established in the 1990s and the oldest in the 1920s. On average, the companies were established in 1965. From the 23 companies, 20 were family businesses. The education level of the entrepreneurs was rather low: 17 entrepreneurs had no further education after basic schooling, and none had a university degree. All entrepreneurs were male.

A median-sized company increased its turnover from EUR 1.2 million in 2001 to EUR 2.5 million in 2007 (105.7% or 12.8% p.a.). On average, the turnover grew by 83.7% from 2001 to 2007, reaching EUR 2.8 million (see Figure 1). Median net profit fell from 4.6% in 2001 to 3.5% in 2007. Net profit decline was the most

dramatic in the upper quartile companies. A paper mill strike in 2005 can be seen as a steep temporary drop. Median equity ratio dropped from 32.7% in 2001 to 23.9% in 2007. The decrease was quite large, but median companies' equity ratio was still at a tolerable level.



Figure 1. Development of net profit ratio and turnover, 2001-2007.

The companies owned on average 9.4 trucks, totaling 216. The 23 companies employed a total of 465 employees and they paid salaries and bonuses as much as EUR 14.4 million in 2007. This emphasizes their importance as meaningful rural employers. The average fiscal period ended in July and eight companies used the calendar year as a fiscal period. The amount of money spent in external services clearly increased. These 23 companies used EUR 1.9 million (4.6% of their average turnover) in external services subcontracting in 2001 and EUR 9.2 million (11.7%) in 2007. However, the usage of subcontracting varies greatly: 10 companies used more than EUR 100 000 in subcontracting whereas 10 companies did not use subcontracting at all in 2007. For some companies, subcontracting was the most important part of their business and its share of their turnover was significant.

Financial Development of the Groups

The three groups were comprised of nine highly successful, seven moderately successful and seven less successful companies. Between those three groups, the differences were very clear (Table 1). Highly successful companies were on average the smallest companies at the beginning of the period, but second largest at the end of the period. They grew most aggressively by an average of 113 per cent from 2001 to 2007. Moderately successful companies were clearly the largest during the whole period. Less successful companies grew quite steadily to 2005, after which their growth-rate lowered. This is shown in the financial numbers in that year: in 2005 their net profit plummeted to -3.3% from around zero in 2004, and the equity ratio declined from 14.6 in 2004 to 5.7 in 2005 (Figures 2 and 3). It was interesting to notice that those who grew the fastest also grew the most profitable.

Table 1

	Turnover in 2007, millions of Euros	Change since 2001 (%)	Net profit in 2007 (%)	Change in net profit since 2001 (%)	Equity ratio in 2007 (%)	Change in equity ratio since 2001 (%)
Highly successful	2.7	113.3	6.1	-17.1	51.0	7.3
Moderately successful	3.4	76.8	2.8	-56.3	30.0	-35.0
Less successful	2.2	49.5	0.4	-87.6	-0.8	-103.6

Average Financial Figures of the Growth

During the whole period, highly successful companies managed much better, and their financial situation and profitability developed surprisingly steadily, despite the strong growth. Highly successful companies generated on average of 6.7% of net profit from 2001 to 2007, whereas moderately successful companies generated 3.4% and less successful companies only 0.6% (Figure 2).



Figure 2. Development of net profit, 2001-2007.

The equity ratio developed quite steadily in all three groups from 2001 to 2004, after which it started to decline among moderately successful and less successful companies (Figure 3). Among highly successful companies, the equity ratio remained at a very good level and it grew during the growth period by over 7%. The worst situation was among less successful companies, as their average equity ratio fell below zero in 2007.



Figure 3. Development of equity ratio, 2001-2007.

It can be seen from Figure 3 that in 2001 the highly successful group's and the moderately successful group's financial situation were somewhat the same. Differences in their financial situation started to appear after 2004.

Long-Term Objectives

In the present research sample, the companies' most important financial objectives were to improve their profitability, financial situation and incomes. The most important strategic objectives were cost-efficiency and keeping equipment in good shape (see Table 2). Many answered succession also as a strategic objective. The most important financial objectives among the highly successful group were related to profitability. Six

moderately successful entrepreneurs had profitability as their main financial objective and one answered "to keep everything as they are now". Less successful entrepreneurs had increased profitability as their main financial objective.

Table 2

Companies' Long-Term Financial and Strategic Objectives

	Financial objectives	Strategic objectives		
	Generating sufficient profits	Succession		
Highly successful Moderately successful	Profitability, by maximization of incomes	Adapting to "world-politics"		
	Profitability	Succession		
	Keeping balance sheet in good shape and positive profitability	-		
Highly successful	Keeping business profitable	Increasing subcontracting and maintaining the number of trucks		
	Profitability	Retirement, to change ownership, keep trucks in good shape		
	Maintaining profitability	Succession and market leadership		
	Increasing profitability	Growth, cost efficiency		
	Improving profitability	Renewal investments, to stay in development		
Moderately successful	Profitability	-		
	Increasing profitability and prices	Maintaining company's size, cost efficiency		
	Profitability	Existence		
Moderately	Profitability	Keeping jobs attractive, showing positivity to outside		
successiui	Profitability	Existence, perseverance and reliability		
	Keeping everything as they are now	Getting through legal obligations		
	Profitability	-		
	Profitability	Succession, growth		
Highly successful Moderately successful Less successful	Increasing productivity	Succession		
	Increasing profits	Renewal investments and cost-cutting		
Less	Profitability	Adapting to market changes, succession		
successiui	Generating profits	-		
	Increasing profitability	Steady employment		
	Improving financial situation	-		

It can be also noticed from Table 2 that companies reported more financial objectives than strategic objectives. Five entrepreneurs reported having no strategic objectives. Financial objectives were quite similar in all three groups but successful entrepreneurs more often mentioned more specific objectives. There were more differences in the companies' strategic objectives. From the less successful group, two entrepreneurs had no strategic objectives, three mentioned successful group, the situation was rather similar: Two entrepreneurs had no strategic objectives and only two mentioned a relevant strategic objective. From the highly successful companies, one entrepreneur had no strategic objective, two mentioned succession and five had a specific strategic objective about what business development was possible.

Growth Strategies

From the present research sample, organic growth, subcontracting and diversification were the most common growth methods. Actually, all but one company grew organically. Growth by mixing diversification and organic growth was used in nine companies. Eight companies grew also by subcontracting (see Table 3).

Table 3

Growth strategy* Problems Advantages Own stake in driving decreases, hurry, problems in Org. maintenance Interpersonal problems, more complex controlling, Org., div. transportation customer service weakens Org. Too much labour when it is quietbut better situation in negotiations Size and scope Org., subc. Labour shortage Highly Entrepreneur has no time to drive, too much other successful Org., div. work, conflicts, costs, financial risks increase Org., div. Truck maintenance, labour shortage Possibility for larger contracts Economies of scale in transport Org., div. Labour shortage optimization Org., div. Size of investments needed yearly, labour shortage More work and better customer Org., div., subc. Labour shortage satisfaction Org. Increased costs Increased reliability More possibilities, more stable business Org. Labour shortage cycles, good employment Economies of scale in purchasing spare Org. Profitability has suffered parts Moderately Better situation in negotiations, larger successful Org., subc. Labour shortage volume, economies of scale in purchases Labour optimization, more challenges Org., subc. Possibility for larger contracts Org., subc. Economies of scale: less "empty driving" More stable business cycles, increased Org., div., subc. Labour shortage and conflicts flexibility Org. Rising costs "growth is necessary" Increased reliability trucks). (more Org., div. Labour shortage optimization is easier Merge, div. Less "empty-driving", optimization Less Org., div., subc. successful Investments in new larger maintenance garage More efficient Org. More responsibility and work, freedom, Org., subc. Labour shortage better reliability and stability Profitability weakens, labour shortage Org.

Problems	and Adv	antages	of	Chosen	Growth	Strategi	es
			~./			~	

Notes. * Org. = Organic growth; Div. = Diversification; Acq. = Acquisition, Merge; Subc. = Subcontracting.

There are clear differences in growth strategies between those three groups. From Table 3 it can be seen that highly successful companies used diversification more than other groups, whereas moderately successful companies quite commonly used subcontracting. In the less successful group, growth strategies varied considerably and no clear trend can be identified.

In Table 3, there is also a list of problems and advantages that entrepreneurs experienced during growth and due to it. Two main problems can be identified from the list: rising costs and labour shortage. Three entrepreneurs reported no problems in growth and seven reported no advantages in growth.

In the highly successful group, personnel-related problems were most common, and four entrepreneurs mentioned labour shortage as a problem during growth. The highly successful entrepreneurs reported most problems in growth. Their advantages were mainly related to larger size, but they also reported the fewest advantages in growth. In the moderately successful group, problems were mainly related to personnel and

weakening profitability. Advantages were related to larger size, as it brings economies of scale, possibilities for larger contracts and more stable business cycles. Moderately successful entrepreneurs reported most advantages in growth. Many entrepreneurs in less successful companies were not able to mention specific problems or advantages in growth. However, less successful companies' problems were mainly related to profitability, and labour shortage was also mentioned. The biggest advantages were increased reliability and increased optimization possibilities.

Discussion

Growth is one of the most important strategic decisions for an entrepreneur after start-up, and growth remains a very important part of entrepreneurship. Fast changes and new opportunities in the timber haulage sector have boosted growth for many entrepreneurs. However, as we can see here, decisions on growth should not be made lightly. Planning, placing objectives, strategy and continuous learning are closely included in the process of growth.

When examining the three groups, it can be seen that their growth varied significantly. The role of management in growth seems to be crucial and much more meaningful than, for example, the financial situation. This is shown by the fact that the starting points of highly successful group and moderately successful group were quite similar in financial terms (net income and equity ratio), but growth resulted in different outcomes. A wrong kind of growth strategy can erode many years' worth of work. These results support results by De Geus (1997), who stated that those companies where knowledge rather than finance is emphasized have the potential to become great and to endure for decades.

According to the results, when setting financial and strategic objectives, more focus should be put on strategic objectives of growth. Setting up financial objectives is rather easy, but implementing them is another matter. All three groups had quite similar financial objectives, but strategic objectives varied more. From the whole sample, only nine entrepreneurs had some kind of relevant strategic objective. It was also interesting to notice that entrepreneurs in this study did not state any specific financial objectives in terms of target numbers, but rather directional objectives, such as keeping business profitable. Therefore, financial objectives seem to be poor explanatory variables in this study.

According to the results, growth strategies also played an important role in the success of growth. Highly successful entrepreneurs grew mostly by combining organic growth and diversification. It is possible that the strengths of this combination refer to a common problem in Finland: Spring rosputto season (the term "rosputto" is Finnish, meaning bad road conditions, when non-paved roads turn into mud), when it is usually not possible for these companies to deliver timber. Trucks and men are on a very expensive hold (or on a holiday) for several weeks. A company that has diversified to another transport sector, where rosputto season has no impact, can use its experienced staff for transporting other goods. Rosputto season and its length have generally a great impact on timber haulage companies' finance and profitability. These findings support those of Armstrong (2006) who stated that one key factor for increasing profitability is to broaden the range of services offered.

It also became clear that highly successful entrepreneurs use more effort in identifying problems in growth. Less profitable entrepreneurs were most commonly not able to mention any problems or advantages of growth. Generally, it is hard to try to develop a business or its profitability if it is not known where the problem is. Highly successful entrepreneurs had clearly more of a business development way of looking at things.

Identifying problems is one key element in business development. It was also surprising that as many as 11 entrepreneurs mentioned labour shortage as a major problem in growth. This is a high figure for such a traditional sector and it may be attributed to the difficulty of finding skilled labour in the small villages where these companies operate. It is hard for an entrepreneur to make a difference in this area, which is rather a matter for policy makers regarding urbanization.

The strong correlation between high growth rates and profitability may be questioned. Does high growth rate guarantee profitability? Growth rate does explain the relationship with the profitability of growth. Those companies that were able to maintain or increase profitability in growth were probably encouraged to grow more. Growth rate mainly reflects the effects of a chosen growth strategy.

There are a lot of growth opportunities in this sector. It is also possible to become profitable through growth—even quite fast. Demand for these timber haulage services is high, but profit margins from delivering raw wood from forests to mills are low. This makes it easy to increase sales and market share, but as there are no possibilities for scale economies (or they are very limited because of high variable costs), growth does not guarantee better profitability. Profitable growth demands more strategic management than increasing the amount of work. These companies own a lot of know-how about trucking and there are no doubts about all of these companies' expertise. It was surprising that many entrepreneurs were so attached to timber haulage that they did not seek other growth opportunities in trucking. Even when all of these entrepreneurs have the equipment, skilled employees and knowledge of the problems of spring rosputto, only a few developed their business to service another sector, or increased the variety of services offered. This seemed to result in profitable growth even at high growth rates.

Conclusions

The study found that the role of management seems to be crucial in growth in terms of profitability. Even a good financial situation does not cover for bad implementation of growth, or a strategy that is derived from poor arguments. There is no reason to assume that these findings could not be associated with other sectors as well, where the demand for low profit services is high. The results showed that in this kind of market situation, entrepreneurs should focus on increasing profitability by developing a business model in terms of resources (machinery, employees, capital and know-how). As the primary sector offers a lot of low profit growth opportunities, management should not focus purely on growth, but also on seeking other ways to exploit the company's resources. Strategic management in low profit sectors is crucial, but at the same time highly challenging, because of the broad scope needed. The existence of market opportunity for growth should not be limited to the primary sector, but over sector boundaries in order to increase the value of services offered.

References

- Armstrong, S. (2006, October). Transport—The profit and loss of forestry, forestry engineering group symposium—Land use, new markets and transport. *Newton Rigg Campus, Cumbria.* 24, 6.
- Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17, 99-120.
- Browne, M. (1994). The evolution of strategic management thought. Principles of Strategic Management, 21(32).
- Chandler, A. D. Jr. (1962). Strategy and structure: Chapters in the history of industrial enterprise. Cambridge, MA: MIT Press.
- Corsi, T. M., Smith, K., & Smith, R. (1991). Deregulation, strategic change, and firm performance among LTL motor carriers. *Transportation Journal*, *31*(1), 4-13.

Daft, R., & Marcic, D. (2008). Understanding management (6th ed.) (p.720). Cincinnati: South Western Educational Publishing.

- Davidsson, P. (1991). Continued entrepreneurship: Ability, need, and opportunity as determinants of small firm growth. *Journal* of Business Venturing, 6(6), 405-429.
- Davidsson, P., & Wiklund, J. (2000). Conceptual and empirical challenges in the study of firm growth. In D. Sexton, & H. Landström (Eds.), *The Blackwell handbook of entrepreneurship* (pp. 26-44). Oxford, MA: Blackwell Business.
- Davidsson, P., Achtenhagen, L., & Naldi, L. (2005, September 12-13). Research on small firm growth: A review. Proceedings from: *The Barcelona EISB Conference*.
- Davies, W. (2000). Understanding strategy, strategy & leadership, 28(5), 25-30.
- De Geus, A. (1997). The living company. Boston: HBR Press.
- Drucker, P. F. (2001). Management challenges for the 21st century. New York: Harper Business.
- Finnish Forest Research Institute. (2008, November 18). Finnish statistical yearbook of forestry (p.456). Vantaa.
- Fransson, T., & Frendberg, G. (2008). Motivational aspects, benefits and pitfalls of a reward system in a small shop-floor business unit: A case study of a car-dealership service unit (p. 48). Jönköping International Business School, Jönköping University.
- Fred, R. D. (2005). Strategic management: Concepts and cases (10th ed.). Prentice Hall.
- Högnäs, T. (2001, May). A comparison of timber haulage in Great Britain and Finland (p. 31). Forestry publications of Metsähallitus 39. Vantaa.
- Kirzner, I. M. (1973). Competition and entrepreneurship. Chicago: University of Chicago Press.
- Mahoney, J. (1995). The management of resources and the resource of management. Journal of Business Research, 33, 91-101.
- MetsäTrans. (2008). The biggest forest machine companies in 2007 (pp. 6-32).
- Mäkinen, P. (1993). Strategies used by timber truck transport companies to ensure business success (Doctoral dissertation). Acta Forestalia Fennica, 238.
- Mäkinen, P. (1997). The profitability of the timber transport business before and after deregulation. Scandinavian Journal of Forest Research, 12(2), 209-215.
- Mäkinen, P. (2001). Competitive strategies applied by Finnish timber carriers following deregulation. *Silva Fennica*, 35(2), 341-353.
- Mintzberg, H. (1996). Five Ps for strategy, in the strategy process: Concepts, contexts, cases (pp. 12-19). In H. Mintzberg, & J. B. Quinn (Eds.), *Upper saddle river*. New York: Prentice Hall.
- Moreno, A. M., & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs: A causal model. *Entrepreneurship Theory and Practice*, 507-528.
- Murphy, G., Trailer, J., & Hill, R. (1996). Measuring performance in entrepreneurship-search. *Journal of Business Research*, 36 (1), 15-23.
- Pasanen, M. (2006, July 12-14). SME growth strategies: A comparison of young and long-lived firms. Proceedings from: International Conference on Business and Information 2006: Academy of Taiwan Information Systems Research. Singapore.
- Penrose, E. (1959). The theory of the growth of the firm. New York: Oxford University Press.
- Porter, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competitors. New York: Free Press.
- Robbins, S., Bergman, R., Stagg, I., & Coulter, M. (2000). Management. New Jersey: Prentice Hall.
- Salmi, I. (2006). What does financial statement reveal? Helsinki: Edita Prima Oy.
- Scheraga, C. A. (2005). The relative efficiency in the blending of strategic dimensions utilized in the generation of customer satisfaction in the LTL motor carrier industry. *Journal of the Transportation Research Forum*, 44(1), 75-88.
- Soirinsuo, J., & Mäkinen, P. (2011). Growth and economies of scale among timber haulage companies. *Journal of Small Business* and Enterprise Development, 18(1), 170-184.
- Stevenson, H., Roberts, M. J., Grousbeck, H. I., & Bhide, A. (1998). *New business ventures and the entrepreneur* (5th ed.). New York: McGraw-Hill.
- Teece, D., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18, 509-533.
- Timmons, J., & Spinelli, S. (2003). New venture creation: Entrepreneurship for the 21st century (6th ed.). New York: McGraw-Hill/Irwin.
- Väkevä, J. (2004, December). Profitability of timber haulage companies in Finland during the years 1999-2002 (pp. 6-7). Working paper (4/2004), Metsäteho review, Helsinki.
- White, J. (1998). Small and medium enterprise strategy–a small business necessity, not a large firm luxury. *Long range planning*, *31*(6), 813-814.
- Wiklund, J. (1998). Small firm growth and performance: Entrepreneurship and beyond (Doctor's Dissertation, Jönköping International Business School).
- Zimmerer, T., & Scarborough, N. (1996). *Entrepreneurship and new venture formation*. In H. Mintzberg, & J. B. Quinn (Eds.), *Upper Saddle River*. New York: Prentice-Hall.



New Managerial Figures in the Process of Entrepreneurial Change and SME Flexibility

Francesco Scalera University of Bari Aldo Moro, Italy Esmeralda Uruci Aleksandër Moisiu University, Albania

The world entrepreneurial scenery, being under constant evolution because of globalization and the current international crisis, has changed corporate competition, requiring companies to meet such key-factors to success as increased organizational flexibility and innovative development of their structures and products. Thus "NTBF" (New Technology Based Firms) are increasingly developing, that are able to act both as a major player in the innovation process, and as a link between the market and the production world and that need not only venture capital to cope with the large initial investment, but also such figures that, with their leadership qualities, are able to anticipate the market development. As a result, the emergence of the knowledge society has increasingly driven companies to search for new business figures, playing both the role of financing partners and of valuable support to the entrepreneur in running a business. Such distinguishing characteristics appear to be peculiar to the figure of the business angel that, thanks to the know-how and international contacts, acts not only as a simple partner but also as a leading force within the company, who is able to simplify the decision process of the business and drive it to plan profitable investment and winning strategies. Therefore, the present work is aimed at understanding how such a figure is crucial to the development of new companies operating in emerging economies being, as well, technologically advanced, as it is the case for Estonia, which is called the "Silicon Valley of the Baltic Sea". Thus, the work will first focus on the functions, organization and the benefits resulting from the involvement of business angels and, secondly, on the reasons why this figure is preferable to other operators involved in venture capital, namely venture capitalists. Finally, the good practices implemented in Europe by the various associations of business angels will be analyzed, paying particular attention to the Italian context, in order to consider the opportunity to develop, even in the Baltic Republics area, a similar institution being able to ensure, by promoting contact between entrepreneurs and business angels, the proper development of businesses, especially starting-up companies.

Keywords: SME (small medium enterprise), business angels, Baltic republics

Introduction

The international financial crisis that, in recent times, has been increasingly affecting the economies of the Euro area (Greece in the lead), led the ECB (European Central Bank) to ask member countries for fiscal manoeuvring aimed at balancing the national public accounts in order to prevent the slump of other economies in the area from causing the total collapse of the system.

Francesco Scalera, lecturer, Faculty of Economics, University of Bari Aldo Moro.

Esmeralda Uruci, professor, deputy dean of Economics and Administration Faculty, Aleksandër Moisiu University.

However, despite the alarming international scene, among emerging economies the Estonian one, though affected by the current economic crisis (which caused 13% shrinkage in GDP in 2009), is a good example of a "virtuous" country as regards tax accounts (with a public debt equal to 7.2% of GDP in 2009 and below 10% in 2010 according to the current estimations) so as to get approval by ECOFIN (Economic and Financial Affairs Council) for adopting the single currency in 2011 (Chiellino, 2010), thus anticipating the other Baltic Republics (Lithuania and Latvia, that are expected to adopt the single currency in 2013-2014).

A deeper analysis shows that Estonia is currently considered one of the most attractive countries in Europe for international entrepreneurs, ranking the 6th (behind Cyprus, Ireland, Switzerland, Malta and Finland).

This remarkable result is explained by two main factors.

The first is the improvement of the business climate in the country, thanks to the reforms implemented that led to streamlined taxation, greater clarity in regulation, low tax rates (21% taxation of the revenues generated by natural and legal persons) as well as to tax exemption for the reinvested profits, thus ranking the country the 24th for the business climate¹ and the 12th among the most liberal economic activities out of the 183 economies examined.

In particular, an innovation (at the moment for some countries like Portugal, Lithuania and Belgium) implemented in 2008 has made it easier to start up a new company in the country, allowing the Internet access with one's own identification card for such procedures as incorporating a company, drawing up the form for tax return as well as changing the data involving the company itself.

The analysis of the available indexes shows how this innovation has helped to reduce both the number of days needed to complete the whole procedural process to start up a business, reaching 7, which is well below the average value of 17.4 involving the countries of Eastern Europe and Central Asia, and the costs to start up a new company that, as a percentage on per capita income reached 1.7, against 8.3 average value for the area, thus ranking the country the 37th for the indicator starting a business, in 2010, out of the 183 economies examined (World Bank, 2010a, 2010b).

The second factor relating to the attractiveness of the country for international investors involves the objectives that the government has set to develop innovation and growth of entrepreneurship in the country, achieved through the exchange of technology and know-how with the most industrialized countries.

To do this, the state has allocated 597.3 million Euros to promote the development of creative economy, to support the promotion of innovative business ideas and their implementation, to encourage the internationalization of Estonian firms and, at least as an intention, to allow businesses to have access to the capital needed to finance massive investment in high technology sectors.

Among these, the ones that were mostly supported were energy (to develop renewable energy sources in order to halve, over the next 15 years, the use of oil shale, representing currently, with a rate of 65%, the primary source of energy as well as to reduce pollutants emission into the air), the environment (to improve drinking water supply and waste disposal), the information system (aimed at strengthening information connections between companies and private customers) and transport (in order to improve public transport, to encourage the use of environment-friendly means of transport, to increase the safety of the railway system and

¹ Among the three Baltic Republics, Estonia is the best placed country in the list analyzing the business climate. In fact, it precedes Lithuania and Latvia ranking 26th and 27th respectively, out of the 183 economies examined. Source: World Bank, (2010). Available at http://www.doingbusiness.org/economyrankings/.

410 NEW MANAGERIAL FIGURES IN THE PROCESS OF ENTREPRENEURIAL CHANGE

to improve air and sea connections with the islands).

However, the competitive scenario that has just been outlined, though favourable to the development of new businesses, especially in high-tech sectors, witnessed a shrinkage in FDI (Foreign Direct Investment) that slumped, in the 2nd quarter of 2009, with about 52 million, to its lowest level in the last 15 years (forty times lower as compared to the same period in 2008), due to high dissolution rate that affected many start-up companies.

Among the causes of dissolution, it is to be noted that, in general, many companies have not resisted the international crisis, owing to two main factors. The first one relates to poor managerial skills by some entrepreneurs adopting unsuccessful market strategies (due to scant originality of the plans, insufficient data and information, wrong business plans, unreliable working teams). The second one concerns the great difficulties faced by Estonian start-ups in getting credit from institutional investors, whose banking activities are handled, for 95%, by credit institutions controlled by financial groups in Sweden and Denmark, that are not so likely to finance projects which are often full of uncertainties, due to poorly convincing business plans carried out by "slapdash" managers.

Therefore, a possible solution, to avoid start-ups dissolution at a time of international recession like the present one, might be to include into the business organization as well as in the social structure of the Baltic Republics a figure that would fill an important gap in the chain of venture capital activities in the area, namely the business angel (BA) or informal venture capital investors. They are individuals who have a bent for risk and hold capital to be invested, provide companies with financing as well as with their own experience, their managerial skills and their contacts to allow the businesses to stand out in highly innovative sectors bearing great potential for profit and development.

Profile, Role and Organization of Business Angels (BA)

The BA, a figure first appeared in the U.S.A. in the 1980s, has developed, later on, in the main European countries (in the order the United Kingdom, France, Spain and Italy), working either individually (about 60%) or gathering in networks.

Generally, BAs are men or women aged 35-65, who are greatly experienced in the entrepreneurial sector, investing in start-up companies (mainly Ltd.) to be helped, owing to their experience, in the initial phase of development, and to be favoured, afterwards, with the financing of venture capital.

Thus, they both play the role of minority shareholders (contributing capital to acquire a stake lower than 30% in the business) and have an active part in the company (through their managerial experience and the network capital used to make winning corporate choices).

The invested capital can range from 25,000 Euros to 250,000 Euros, but it can reach 400,000 Euros, as it is the case in the United Kingdom.

The investment European average equals 80,000 Euros, while in Italy, it ranges from about 120,000 Euros to 150,000 Euros (EBAN, 2006).

Nevertheless they also have to get a profit for the investments made.

Thus, they usually finance a truly innovative idea, by staying in the business for an average period of 3 years and 3 months, after which they get, on average, a profit higher than 25-30%.

However, these investments are not always successful, in fact, statistics show that only 1/3 of the BA involved are allowed to gain up to 500% of the capital invested, 1/3 of them manage to balance the books and for the remaining 1/3 the transaction will turn out to be a failure (Quaglini, 2008).

The sensitive role played by the BA within start-up companies is highly appreciated and encouraged by the European Commission aiming at improving the business climate in the member countries, through introducing the figure of the BA as well.

In fact, about 50 BAN (Business Angel Network) including regional networks and national federations of about 20 European countries, among which Italy with IBAN (Italian Business Angels Network),² gathered to set up EBAN (European Association of Business Angels Networks) having their seat in Brussels (Figure 1).

These networks are often established on a private initiative that, in some cases, can benefit from a public aid.

Such aid can take the form either of annual grants or of a prize awarded on a research project submitted to one of the network BAs; it plays a primary role in supporting the regional and local networks bearing operating costs approaching 50,000 Euros to 250,000 Euros per year.



Figure 1. EBAN Structure. Source: IBAN, (2006).

With regard to this, the competitiveness and Innovation Framework Programme (2007-2013), is particularly worth noticing, allocating 1 billion Euros in favour of entrepreneurs, and aiming at achieving the target of yielding, thanks to its lever effect, more than 30 billion Euros, intended for at least 350,000-400,000 SMEs.

A significant example is supplied by the "Invest' Essor 92" French BAN that, within 3 years, from 1998 to 2001, thanks to barely 50,000 earmarked grants, allowed about 3.5 billion Euros to be collected to start up businesses, namely about 70 times as much as the financing granted (EBAN, 2006).

The Business Angel Network (BAN): Functions and Benefits Coming from Their Action

The main task of the BAN is that of promoting contacts between entrepreneurs on one side, and BAs on the other side, at a reasonable cost, in order to set up a profitable partnership for both of these two economic operators.

Other important aims are the following: promoting the acknowledgement of BA networks as well as of the economic role played by BAs, implementing local plans aimed at favouring BAs activities and encouraging exchanging experience between networks to allow a transfer of the best initiatives taken.

However, the BAN also provides a number of additional high value added services, both for entrepreneurs and for angels, such as:

² The IBAN was established in 1999-2000 from the merging of various regional networks.

412 NEW MANAGERIAL FIGURES IN THE PROCESS OF ENTREPRENEURIAL CHANGE

(1) The implementation of "investment readiness" plans (aimed at training entrepreneurs in establishing relations with investors) in order to increase the demand for capital;

(2) Favouring the setting up of an angels' "union" allowing them to collect more financial resources to be invested in significant plans;

(3) The setting up of BAs' schools and academies so that they can be increasingly trusted by the various venture capital market sectors;

(4) The creation and handling of co-investment funds to allow public partners to invest in funds on the same terms as BAs.

The analysis carried out shows the importance of informal venture capital for businesses, especially start-up companies that often run into problems in raising funds from institutional investors, at a time where credit is highly reduced, due to the serious international crisis involving particularly the world banking system.

After analyzing and highlighting the role played by the BA within a company, as well as their importance in reviving the world economy, it is suitable to understand the possible advantages coming from their activity in the companies (IBAN, 2006).

They can be identified as follows:

(1) Investing in companies, mainly during their starting up, without requiring safe revenue;

(2) Being considered "value added" investors, playing both the role of financial backers and of intellectual capital bearers;

(3) Orienting investment towards such sectors bearing high potential for growth;

(4) Securing a lever effect over other sources of financing, thus creating greater appeal of the company on the market, due to the personal prestige that the BA contributes to the businesses;

(5) Making fund-raising less onerous for the company;

(6) Financing technological projects that are particularly innovative as well;

(7) Providing collateral security to get a loan;

(8) Allowing higher flexibility in making decisions as regards venture capital funds.

So, in the light of what stated above, the main differences between the BA and venture capital funds can be pointed out that lead start-up SMEs to choose the former as the main financial backer of venture capital.

The first difference can be identified as follows: the BA is mostly an entrepreneur investing small-scale personal capital in innovative start-up companies working in those sectors bearing great potential for growth, while venture capital funds are supplied by financial analysts that, using the money invested in the fund, finance, through huge capital, developing medium/big-sized companies, even quoted on the Stock Exchange (Figure 2).

Other important differences concern the following: the lower cost of the due diligence carried out by BAs, a more widespread geographical distribution of their presence as compared to venture capitalists thus favouring better contacts and relationships, a simplified contract and finally a more active monitoring of the investment, which is totally different from formal venture capitalists', usually of a strategic nature.

Finally, the weight put on investment return by the BA turns out to be definitely lower than formal venture capitalists', due to the lower investment costs of the process.



Figure 2. Quantity of venture capital by companies' development phase. Source: IBAN, (2006).

The Context of the Italian BA and the European Best Practices

After examining the main advantages that the businesses and the economy of a country can take from the presence and activity of the BA, when considering the various networks set up in Europe, it is important to focus attention on the Italian IBAN, at present the leading network in the European context, so that to be awarded a prize by EBAN, in 2009, for the best "lobbying" activity of the year.³

In fact, this initiative provides for definite tax remission on capital gain involving the profits made which have been reinvested, within two years from the date of their accrual in a start-up company, into another business that, however, has to carry the same activity and should not have been built up for more than three years, so that to make capital profitable and limit financial speculating.

The appreciation of this initiative from sectoral operators is mainly due to the huge involvement of private and public institutions as well as of professionals, to the innovative nature of the Italian legislation, the strong consequent fiscal impact on small investment in the informal venture capital and to the opportunity to reproduce such initiative in the whole Europe, considering the fact that a lot of investment transactions are cross-borders, developing beyond the national Italian borders.

The impetus given by that law to the informal venture capital market was soon evident.

In fact, recent census data relating to 2009 record a total value of 31,460,000 Euros for investment in the country, thanks to the activity of BAs (increasing by 1.2% as compared to 2008), with 179 angel investing

³ Law No. 112/2008 sec. 3 (followed by the recent enforcing memorandum No. 15/E from the Revenue Agency). For further information: IBAN, (2009). Credit. Business Angels are Booming in Italy. Available at: http://www.iban.it/audio/intervista27.htm.

414 NEW MANAGERIAL FIGURES IN THE PROCESS OF ENTREPRENEURIAL CHANGE

transactions (increased by 49.16% as compared to 2008) and with an average investment of 176,000 Euros (Salvioli, 2010).

The analysis carried out draws a profile of the Italian BA, showing that he is, generally, a man about forty, residing in the North of the country, graduated, deeply experienced as a business manager, who, prudently, invests about 10% of his personal assets equalling, on average, 500,000 Euros, in a start-up Limited company (Ltd.), where he acquires minority stakes which are lower than 30% in such sectors as energy, telecommunications or information technology.

In addition, the previous exam of at least 6 projects before making the investment helps us to understand how the financial investment made is carefully weighed up.

In 2009, 1,394 projects were examined, mostly in such sectors as ICT (Information and Communication Technology), biotechnology, medical technology and clean tech (which recorded the strongest growth trend in the last three years, especially as regards water management, waste collection and optimization of geothermal plants).

Finally, he is willing to move well beyond national borders in at least 60% of cases to make the investment and he remains an average of three years in the company, making an average profit of 17% (up to 40%).

As for his withdrawal from the company, four different strategies can be identified (Vitali, 2009a, 2009b):

(1) The so-called Sell Back, generally the most common one, implying the repurchase, by the entrepreneur or the management who had proposed the investment, of the stake held by the BA;

(2) The sale of the stake to another financial investor (usually a venture capitalist);

(3) The Sale Trade, consisting in the sale of one's own stake to another company;

(4) Quotation on the Stock Exchange.

Among the several successful cases involving businesses that have been developed, thanks to the valuable contribution of the BA, the most significant ones are those concerning Achtoons Ltd. Company, seated in Bologna, dealing with any kind of cultural activity, such as cinema, television, the web, advertising, documentary and educational films (Poli, 2006), Minteos Company Ltd., seated in Turin involved in the development of innovative technological products for environmental monitoring as well as for preventing natural disasters (Di, 2008) and Roadrunner foot Engineering Ltd., seated in Milan, producing and selling aid devices for disabled persons, such as orthopaedic prostheses.⁴

Therefore, all of these companies, though operating in completely different sectors, share high technology in order to meet innovative requirements, thus making us understand the high versatility of the BA as well as his adaptability to many different contexts.

Entering the specific market of Estonia, the Italian BA could, for example, set up interesting partnerships with local entrepreneurs, especially in the field of mechatronics, by combining the mechanical specialization of Italian firms with the Estonian expertise in the field of electronics, in order to create innovative applications in the sectors of plants and machinery for woodworking and textiles, capital goods and electromechanical systems.

Instead, when considering the best initiatives favouring the development of the informal venture capital in Europe, that could turn out to be as useful suggestions to create a network of BAs in Estonia and, more generally, in the Baltic Republics, it can be noticed that such initiatives are of various kinds, all of which allowing the growing development of the BAN, above all in the Anglo-Saxon countries of the Old Continent

⁴ For a more detailed analysis on the subject, see: Vita.it (2008). Milan, The Workshop of Magic Feet. Available at: http://www.vita.it/news/view/82589.

(EBAN, 2006).

As an example, in the United Kingdom, the Enterprise Investment Scheme initiative provides 20% tax reduction, exempting from taxation those investors that, having obtained capital gains on an investment, are allowed to keep their holding in the business for a period of at least five years.

Particularly worth noticing, the interesting initiative from the "Exemplas" BA network, operating in the Hertfordshire region, in England, which concerns the implementation of an "investment readiness" plan (Fit4 Finance) proposed to investors and involved three phases: the first phase of presentation to the different kinds of backers, of what is expected from the entrepreneur business plan; the second one, where the entrepreneur presents the real project and the last one, where professionals give their advice in order to improve the final result of the Business Plan.

In Scotland, on the other hand, the Scotland LINC network allowed their BAs to operate together through the Scotlish Co-Investment Fund, to invest from 10,000 Pounds to 500,000 Pounds in business deals ranging from 20,000 Pounds to 2 million Pounds.

And again, in Catalonia (Spain), the BA local association (CIDEM) aims at sensitizing entrepreneurs, investors and managers through a number of campaigns, in order to make them understand the important role played by the BA for the country economy.

The agreement made between the Belgian Sowalfin Company and BAs networks is particularly worth noticing as well, and it provides for a decreasing guarantee ranging from 25,000 Euros to 300,000 Euros, for each business.

Finally, in France, each investment plan suggested by the Ile-de-France region network to an angel, is awarded a prize of 1,000 Euros, up to a maximum of 30,000 Euros per year (corresponding to a maximum of 30 projects), by the Regional Council.

Conclusions

The analysis showed that, despite the current international crisis that has deeply affected some economies such as the Greek one, there are countries like Estonia considered as "virtuous", due to the steadiness of public debt (in 2010 it is expected to be lower than 10% of GDP), allowing the country to become the 17th State to adopt the Euro as its currency in 2011.

This goal, that ranked the country the 24th out of the 183 economies examined, was the result of improved business climate, thanks to a series of reforms aimed at attracting international investors (for innovation and transfer of know-how in the area) among which are, in particular, a reduction in tax rates, greater clarity of regulation, the streamlining of taxation as well as bureaucratic procedures allowing faster setting up of new businesses.

Thus, in recent years, new technology-based companies have developed in sectors bearing high potential for growth, such as energy, the environment, telecommunications, information technology, which allowed the country to become a leading force, at an international level, thanks to some innovative initiatives (such as Skype).

However, it is to be noticed that it is not easy for start-ups to operate in these sectors that are highly dynamic and under constant evolution, mainly because of the high technological complexity distinguishing them, if they are lacking in both huge financial resources to make costly investment, and in skilful managers to make decision making more flexible and fast, in order to achieve significant competitive advantages.

Unfortunately, the great difficulty in raising funds on the market by unknown start-ups, that are often just able to bring in a highly innovative project, but not the collateral securities needed to get credit, together with

416 NEW MANAGERIAL FIGURES IN THE PROCESS OF ENTREPRENEURIAL CHANGE

an entrepreneurial management paying little attention to the budget balancing, have led, despite the improved business climate in the country, to businesses dissolution, a trend which is strengthened by a drop in FDI, that slumped, in 2009, to its lowest value in the last 15 years.

According to the analysis carried out, a possible solution to the problem could be the introduction of the figure of the BA in Estonia and more generally within the financial market of the Baltic Republics. This key-figure, that has already developed successfully in the USA. and in the major Western European markets, could meet the challenges outlined above, both by providing highly technological start-up businesses with venture capital and by assisting entrepreneurs in business management to implement successful strategies, by contributing their know-how, their managerial experience and international contacts.

The research showed the main advantages coming from the BA's activity within companies.

The most significant ones seem to be those related to the following: lower costs in raising capital, promoting the development of innovative SMEs, mainly start-up companies operating in sectors bearing high potential for growth, improving flexibility in the decision-making process, better distribution on the territory as compared to venture capitalists, the lever effect they produce over other forms of investment due to the personal prestige contributed by BAs, as well as the guarantees provided to be granted a loan, the former being sometimes difficult to be found.

However, it seems that the time is not ripe yet for the BA to play a role in the cultural fabric as well as in the organizational structure of Estonian "NTBFs" (New Technology Based Firms) so that to allow these companies, to act as a crucial player in the innovation process in the country.

Thus, the emergence of an informal venture capital market is definitely linked to the development of a campaign aimed at sensitizing two parties to the matter. On one side, the public authorities, in order to make them understand the important economic role played by BAs, (with the aim of raising state grants so that to keep the national network to be set up); afterwards, on the other side, the local BAN that have to use a share of their budget (as it is the case in Spain, where 10% of the total outlay, namely 130,000 Euros, is allocated for this purpose), to lead the prospective BAs as well as those companies that already involve some of them in their organizational structure, to enter this market.

A primary condition is represented by the need for creating, for start-up companies, a regional chain of access to funding, allowing the entrepreneur to be informed both about all the possible forms of funding available, which he will be able to benefit from along the different stages of the business activity and about the co-financing funds as well as public and private venture capital security systems.

Another important factor is ensuring continuity in the implementation of tax benefits (such as privileges in the case of capital gain or loss), particularly for investment in companies that are not quoted on the Stock Exchange, and that should be applied either when investing or when liquidating capital.

Among the other necessary requirements that should be met, two of them are worth mentioning. The one involving the recruitment and training of angels (that should be mainly chosen among entrepreneurs that sold their businesses, university students and managers of big companies) as well as that relating to the conclusion of contracts between BAs and entrepreneurs, which have to be characterized by the following elements: easy access, transparency and high quality.

Last but not least, the creation of co-investment funds together with angels, invest to increase the overall financial resources available as well as the setting up of an angels' "union" to allow angels to have access to high-tech sectors needing huge investment of capital to be developed.

Ultimately, it would be advisable to create an Estonian BAN (or rather, with the involvement of the other Baltic Republics), allowing, on one hand, an easier process of matching the capital demand by the entrepreneur and the capital supply provided by the BA; on the other hand, giving start-up businesses managerial advice so that they can benefit from the huge European Structural Funds allocated for the period 2007-2013, promoting the take off of such sectors as energy, the environment, telecommunications and information technology that are going to be in the lead, both in the Estonian and in the world economy of the future.

References

Chiellino, G. (2010). More power to Eurostat against those who rig public accounts, Estonia in the Euro. Retrieved from http://www.ilsole24ore.com/art/economia/2010-06-08/poteri-eurostat-contro-trucca-161200.shtml?uuid=AYJNpywB

Di Maio, A. (2008). University and innovation: Minteos. Retrieved from http://fire.rettorato.unito.it/blog/?id=8809

EBAN. (2006). The role of business angels and of their networks. Information for institutional interlocutors, entrepreneurs and prospective angels. The best European practices. Retrieved from http://www.riditt.it/documenti/EBAN%20nota%20sintetica%20business%20angels_final5.pdf

Governale, S. (2009). SME, guardian angels are coming. Retrieved from http://www.bancampania.it/ban_campania.pdf

IBAN. (2006). Business Angels. A resource for the business development. Retrieved from http://www.liaison.unisi.it/w2d3/v3/ download/liaison/notizie/allegati/upload/IBAN.pdf?__savedir=256

Poli, S. (2006, September). The region in network for cartoons. Econerre.

Quaglini, M. (2008). How can you become an angel? Mamy's vision, patrimony. Retrieved from http://www.iban.it/audio/index.htm

Salvioli, L. (2010). In Italy the business angel holds up, innovative SMEs are growing. Retrieved from http://www.ilsole24ore.com/art/SoleOnLine4/Finanza%20e%20Mercati/2010/04/business-angel ibanitalia.shtml?uuid=08bce318-53c9-11df-aa0b-e7dd342ffe1a&DocRulesView=Libero

Vitali, A. (2009a). The advantages of Ltd. companies and relevant setting up costs. Retrieved from http://www.claudiovitali.it/2009/01/30/principali-aspetti-fiscali-legati-all%e2%80%99attivita-del-ba-e-delle-srl/#more 176

Vitali, A. (2009b). Strategies concerning the business angel's withdrawal from the company. Retrieved from http://www.claudiovitali.it/2009/02/17/1%e2%80%99uscita-del-business-angel-dall%e2%80%99impresa/#more 194

World Bank. (2010a). Retrieved from http://www.doingbusiness.org/economyrankings/

World Bank. (2010b). Retrieved from http://www.doingbusiness.org/ExploreEconomies/?economyid=65



Dysfunctional Audit Behaviour: The Effects of Employee Performance, Turnover Intentions and Locus of Control

Halil Paino Universiti Teknologi MARA Pahang, Malaysia Zubaidah Ismail, Malcolm Smith Edith Cowan University, Australia

Dysfunctional audit behaviour (DAB) and staff turnover are associated with decreased audit quality (Public Oversight Board, 2000). This study develops and tests a theoretical model that identifies employee performance, turnover intentions and locus of control as antecedents of attitudes toward DAB. Using a path analysis technique, survey results from 225 auditors support the theoretical model.

Keywords: dysfunctional audit behaviour (DAB), employee performance, turnover intentions, locus of control

Introduction

The panel on audit effectiveness was established by AICPA's Public Oversight Board to examine the issue of audit quality (Public Oversight Board, 2000). The panel gathered information from peer reviews and survey of financial executives, internal auditors, and external auditing professionals. Their findings indicate that DAB is a continuing concern for the auditing profession. DAB can adversely affect the ability of public accounting firms to generate revenue, complete professional quality work on a timely basis and accurately evaluate employee performance. The purpose of this study is to investigate individual or personal factors contributing to individual auditor differences in acceptance of DAB. Identifying the factors that contribute to an auditor's attitudinal acceptance of DAB can be regarded as an important first step in ascertaining the determinants of actual DAB. To this end, the explanatory or theoretical model was developed that relates to locus of control, employee performance, and turnover intentions to auditors' acceptance of DAB.

This study makes contribution in both the auditing literature and the behavioural literature in organizational aspect. The study advances Malaysian auditing research by examining the specific factors that contribute to this behaviour including locus of control, employee self-rated performance and turnover intentions. In early 2007, the MIA (Malaysian Institution of Accountants) Practice Review Committee issued the first ever Practice Review (PR) report undertaken by MIA, for the period of 2003 to 2006, highlighted some audit quality problems when judging against International Standards on Auditing (ISA), Malaysia Standards on Auditing (MSA) and Company Act 1965 requirements. This study was carried out to coincide with that report (publicly available at the MIA website as http://www.mia.org.my/dept/prw/circulars.htm). A survey of specific DAB from all level of auditors in 2007 confirms the existence of DAB within Malaysian practices. Fifty-seven percent of respondents admitted to engaging in some form of DAB such premature sign-off, and seventy-two

Halil Paino, senior lecturer, Universiti Teknologi MARA Pahang.

Zubaidah Ismail, senior lecturer, Edith Cowan University.

Malcolm Smith, professor, Edith Cowan University.

DYSFUNCTIONAL AUDIT BEHAVIOUR

percent of respondents admitted to engaging "at least sometimes" in one or more of the specified behaviours (Paino, 2008).

These concerns have not been ignored in the academic literature. The underlying premise of much academic research has been that DAB is a dysfunctional reaction to environment (i.e., the control system). These behaviours can, in turn, have both direct and indirect impacts on audit quality. Behaviours that directly affect audit quality include premature signing-off of audit steps without completion of the procedure (Otley & Pierce, 1996), gathering of insufficient evidential materials (Alderman & Deitrick, 1982), processing inaccuracy, and the omission of audit steps (Margheim & Pany, 1986). Underreporting of audit time has also been shown to have an indirect impact on audit quality (Kelly & Margheim, 1990; Lightner, Adam, & Lightner, 1982). Underreporting time leads to poor personnel decisions, obscure the need for budget revisions, and result in unrecognized time pressures on future audits (Donnelly, Quirin, & Bryan, 2003).

Theoretical Model

Benefits and Challenges of the System-Oriented Approach

Auditor acceptance of DAB is likely to contribute to an environment in which DAB occurs more frequently. To further our understanding of the underlying factors contributing to DAB, this section develops a theoretical model linking to locus of control (LOC), self-rated performance (EP), and turnover intentions (TI) to auditor acceptance of DAB. These linkages are referred to as the direct associations. Additional indirect effects are also discussed followed by a formal presentation of the research hypotheses. The full theoretical model appears in Figure 1. Each link in the model is labeled with its respective hypothesis and discussed subsequently.



Figure 1. Theoretical Model.

Direct Association with DAB

Auditor acceptance of dysfunctional behaviour is likely to contribute to an environment in which dysfunctional behaviour occurs more frequently. The literature suggests that dysfunctional behaviour occurs in situations where individuals see themselves as less capable of achieving the desired or expected outcome through their own efforts (Gable & Dangello, 1994). Thus, dysfunctional behaviour is viewed as necessary in situations where organisations and/or personal goals cannot be achieved through typical means of performance (Donnelly et al., 2003). This relationship is considered stronger in an environment perceived by the employee to have high structure or supervisory control (Gable & Dangello, 1994). The use of audit programs, time budgets and close supervision could cause the audit process to be perceived as a highly structured environment.

There is no conclusive evidence on the association between performance and dysfunctional behaviour in general. This is expected given that the purpose of the dysfunctional act is to manipulate the performance measure, making it difficult to obtain a true performance indicator. Lightner, S. M., Adams, and Lightner, K. M. (1982) suggested that personal beliefs impact on auditor's willingness to engage in dysfunctional behaviour. Therefore, the following hypothesis was suggested to be tested:

H1: There is a positive association between employee self-rated performance (EP) and acceptance of dysfunctional audit behaviour.

Locus of control has been used extensively in behavioural research to explain human behaviour in organisational settings. Donnelly, Quirin and Bryan (2003) suggested that individuals develop generalised expectations of whether success in a given situation will be contingent on their own personal behaviour or controlled by external forces. On one hand, individuals with an internal locus of control are more likely to rely on their own determination of what is right and wrong and are more likely to accept responsibility for the consequences of their behaviours. On the other hand, individuals with an external locus of control believe that results are attributable to things beyond their control, and are less likely to take personal responsibility for the consequences (Shapeero, Koh, & Killough, 2003). Thus, the following hypothesis was tested:

H2: There is a positive association between external locus of control (LOC) and acceptance of dysfunctional audit behaviour.

Malone and Roberts (1996) suggested that auditors with intentions to leave the firm could be more willing to engage in dysfunctional behaviours due to the decreased fear of possible termination if the behaviours were detected. Furthermore, individuals' intending to leave their organisations may be less likely to be concerned with the potential adverse impact of dysfunctional behaviour on performance appraisal and promotion. Thus, with the development of code of conducts for the auditors as well as the rising concern over the ethics in auditing profession, the following hypothesis was tested:

H3: There is a negative association between turnover intention (TI) and acceptance of dysfunctional audit behaviour.

Indirect Association with DAB

Incorporating the interrelationships among external locus of control (LOC), employee self-rated performance (EP) and turnover intentions (TI) can provide a better understanding of the complex causes of dysfunctional behaviour.

H1a: Employee performance has an indirect effect on acceptance of dysfunctional audit behaviour through external locus of control.

H1b: Turnover intentions have an indirect effect on acceptance of dysfunctional audit behaviour through external locus of control.

Research Method

Surveys were distributed to all audit managers registered with MIA. Respondents returned a total of 225 usable surveys for an effective response rate of 36.23 percent. The average respondents were in age group of 35 to 39 years old and had audit experience for 10 to 14 years. Females' respondents represented approximately 72 percent of the returned instruments. Locus of control was measured using a summed total of 16-item (Spector, 1988). The Cronbach Alpha for the current study was 0.72. Employee self-rated performance was measured using a modified version used in Donnelly et al.'s (2003) multi-dimensional nine-item scale. The Cronbach

Alpha for the current study was 0.40. A summed three-item turnover intentions scale assessed the respondent's immediate turnover intentions (within two years), middle term turnover intentions (within five years), and long term intentions (until retirement). A 12-item, three part dysfunctional audit behaviour instrument was used to measure how accepting an auditor was to the various forms of dysfunctional behaviour (Donnelly et al., 2003). The Cronbach Alpha was 0.76.

Results and Discussion

Path analysis was used to evaluate the proposed hypotheses. It was used because the theoretical model presented in this study is viewed as an antecedent monological framework for DAB. Table 1 presents the results of the main analysis and lists each hypothesis and its corresponding path coefficient.

Table 1

Path Analysis Results

Dependent variable	Independent variable	Associated hypothesis	Path coefficient	<i>t</i> -statistic (bootstrapping)	Results
DAB	EP	H1	0.274***	2.798	Supported
DAB	LOC	H2	0.211*	1.106	Supported
DAB	TI	H3	-0.348*	2.964	Supported

Notes. p < 0.10, p < 0.05, p < 0.01.

H1 predicts that there is a positive association between self-rated performance (Employee Performance/EP) and acceptance of dysfunctional behaviour (Accept DB). The path coefficient linking these two variables is 0.274 and is significant at the p < 0.01 level (bootstrap t-statistic 2.798). Therefore the acceptance of this hypothesis is supported. A notable finding was the fact that employee performance was a significant variable (p = 0.011 at the 5 percent level) for an acceptance to underreporting of time (Accept URT). This finding appears to suggest that underreporting of time (URT) is acceptable when high employee self-rated performance is concerned. The results from this hypothesis indicate that self-reported, high performance is associated with higher acceptance of dysfunctional behaviour. This result is inconsistent with Donnelly et al. (2003), in which they found the negative association relationship between EP and acceptance of dysfunctional audit behaviour (conditioned by LOC and organisational commitment). Dysfunctional audit behaviour is viewed as necessary in situations where organisational and personal goals cannot be achieved through typical means of performance. This relation is considered stronger in environments perceived by the employee to have high structure or supervisory control (Gable & Dangello, 1994). The use of audit programs, time budgets, and close supervision could cause the audit process to be perceived as a highly structured environment. As there is no conclusive evidence on the association between EP and acceptance of dysfunctional behaviour in general, this study suggests that auditors having a higher perception of their performance level are expected to exhibit a higher acceptance of dysfunctional audit behaviour as hypothesised.

The result of H2 implies that external locus of control is more likely to be accepting of dysfunctional audit behaviour. On the other hand, auditors with the strongest internal locus of control traits were less likely to accept dysfunctional behaviour. Results of this study also suggest that external locus of control may play a significant role in auditor behaviour. This result is consistent with the study by Donnelly et al. (2003). In addition to that, the result of a positive association provides a support for the studies by Gable and Dangello (1994) and Comer (1985) in which they found that the positive correlation between external locus of control

DYSFUNCTIONAL AUDIT BEHAVIOUR

(LOC) and a willingness to use deception or manipulation in order to achieve personal objectives. H3 predicts that there is a negative association between turnover intentions (TI) and acceptance of dysfunctional behaviours. While the accounting turnover literature has focused almost exclusively on the negative aspects of turnover, this study supports that turnover is negative. From the statistical tests for the path coefficient, the turnover intention (TI) is negatively correlated with the dependent variable of acceptance of dysfunctional behaviour (Accept DB) (i.e., at the 0.01 significance level (beta coefficient -0.348, *t*-statistic 2.964)). Therefore, the results suggest that this hypothesis should be supported and accepted. This association points to the existence of potentially negative attrition for the firm and profession. Auditors with lower turnover intentions are more accepting to dysfunctional behaviour, so their voluntary departure to another profession potentially improves audit quality. There is no doubt that any turnover is costly in terms of the lost investment in training and development, but this must be balanced against the possible benefits of higher audit quality and the resulting lower costs of avoiding audit failures (Donnelly et al., 2003). Another notable finding was the fact that turnover was a significant variable (at 1 percent level) for acceptance of underreporting of time (Accept URT) and acceptance of altering or replacing audit procedures (Accept ARAP).

The indirect association as per H1a and H1b were then measured using the criterion suggested by Baron and Kenny (1986). The decomposition of correlations between variables is presented in Table 2. The indirect effects of employee performance on DAB are calculated on the values of EP-LOC-DAB (0.278 \times 0.211 = 0.059) for H1a. According to Bartol (1983), a path coefficient of 0.050 and greater is important and significant. Thus providing support for H1a. Note however, that only a partial mediation has occurred as zero-order correlation between EP and DAB, which remains significant after controlling for the mediating effect. The results may reflect the influence of locus of control has on employee performance concerning dysfunctional audit behaviour. The indirect effect of turnover intentions on DAB are calculated on the values of TI-LOC-DAB (-0.067 \times 0.211 = -0.014) for H1b. As this is less than 0.050, H1b is not supported. The study was unable to incorporate this indirect effect and suggest this for future research.

 Table 2

 Decomposition of Observed Correlations

beeomposition of e						
Relations	Observed correlation	Direct effect	Indirect effect			
EP-DAB	0.168**	0.274***	0.059			
EP-LOC	0.030	0.278*				
LOC-DAB	0.334**	0.211*				
TI-DAB	-0.421***	-0.348***	-0.014			
TI-LOC	-0.022	-0.067				
LOC-DAB	0.334**	0.211*				

Notes. p < 0.10, p < 0.05, p < 0.01.

Conclusions

The present study makes a contribution in the area of dysfunctional audit behaviour by focusing on the combined effect of the group of individual factors. When assessing the implications of this study, it is necessary to understand that the findings are subject to a number of limitations. First, survey studies are subject to both lack of control limitations and potential bias associated with self-reporting. Second, problems of omitted and uncontrolled intervening or moderating variables may exist. Third, this study focused only on the auditing

environment. Future research is needed to determine whether the variables examined in this study also lead to dysfunctional behaviours in other accounting settings.

References

- Alderman, C. W., & Deitrick, J. W. (1982). Auditors' perception of time budget pressures and premature sign offs: A replication and extension. Auditing: A Journal of Practice and Theory, 1(2), 54-68.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable: Conceptual, strategic and statistical consideration. *Journal of Personality and Social Psychology*, 26(10).
- Bartol, K. M. (1983). Turnover among DP personnel: A causal analysis. Communications of the ACM, 26, 807-811.
- Comer, J. M. (1985). Machiavellianism and inner vs. outer directedness: A study of sales managers. *Psychological Reports*, 56, 81-82.
- DeAngelo, L. E. (1981). Auditor size and auditor quality. Journal of Accounting and Economics, 3, 183-199.
- Donnelly, D. P., Quirin, J. J., & Bryan, D. O. (2003). Auditor acceptance of dysfunctional audit behaviour: An explanatory model using personal characteristics. *Behavioural Research in Accounting*, 15, 87-110.
- Gable, M., & Dangello, F. (1994). Locus of control, Machiavellianism, and managerial job performance. *The Journal of Psychology*, 128, 599-608.
- Kelley, T., & Margheim, L. (1990). The impact of time budget pressure, personality and leadership variables on dysfunctional audit behavior. *Auditing: A Journal of Practice and Theory*, 9(2), 21-42.
- Lightner, S. M., Adams, S. J., & Lightner, K. M. (1982). The influence of situational, ethical and expectancy theory variables on accountants' underreporting behaviour. *Auditing: A Journal of Practice and Theory*, 2, 1-12.
- Malaysian Institute of Accountants (MIA). *Practice review committee report for 2003 to 2006*. Retrieved December 21, 2008 from http://www.mia.org.my/dept/prw/circulars.htm
- Malone, C. F., & Roberts, R. W. (1996). Factors associated with the incidence of reduced audit quality behaviours. Auditing: A Journal of Practice and Theory, 15(2), 49-64.
- Margheim, L., & Pany, K. (1986). Quality control, premature sign offs and underreporting of time. Auditing: A Journal of Practice and Theory, 5(2), 50-63.
- Otley, D. T., & Pierce, B. J. (1996). The operation of control systems in large audit firms. Auditing: A Journal of Practice and Theory, 15(2), 65-84.
- Paino, H. (2008). Proceedings from the 17-19, August National Human Resource Management Conference: *Dysfunctional Audit Behaviour: Malaysian Incidence*. Malaysia.
- Public Oversight Board. (2000). AICPA's public oversight board: Panel of audit effectiveness. American Institute of Certified Public Accountants (AICPA).
- Shapeero, M., Koh, H. C., & Killough, L. N. (2003). Under-reporting and premature sign-off in public accounting firm. *Managerial Accounting Journal*, 18(6/7), 478-489.
- Spector, P. E. (1988). Development of the work locus of control scale. Journal of Occupational Psychology, 11, 118-125.



Beyond Transformational Change: Incremental Transformational Change in Institutions

George Comodromos Victoria University, Melbourne, Australia

Much has been written and researched about transformational change and the exogenous events that result in radical institutional transformation (Di Maggio & Powell, 1983; Hannan & Freeman, 1989; Fligstein, 1996; Zorn, Dobbin, & Kwok, 2006). Accounts are provided of external agents disturbing the existing stasis of the institution and transforming the institution into something else that reflect a new paradigm or set of interests. Often, what is neglected in these accounts is what fractures exist in the original institution that would make them vulnerable and allow penetration by exogenous influences. Mahoney and Thelen (2010) went beyond a general model of change that described the collapse of one set of institutional norms to be replaced by another. The model of change they propose takes into account both exogenous as well as endogenous factors as being the source of institutional change. They went on to state a view that transformation change as being a result of abrupt, wholesale breakdown needs to be rethought to include incremental, endogenous shifts in thinking that can often result in fundamental transformations.

Keywords: transformational change, change management, incremental change in institutions, institutional change

Introduction

Before beginning an analysis of institutional, transformational change may be apposite to begin with a definition of institutions. There are many definitions of institutions, one that was posited by Mahoney and Thelen (2010) is institutions are building blocks of social order that involve mutually related rights and obligations thereby organizing behaviour into predictable and reliable patterns. From their inception institutions do not entirely embrace homogenous values but remain an arena of on going debate and struggle over different interests. Knight (1992) posited the idea that institutional development is "a contest among actors to establish rules which structure outcomes to those equilibria most favorable to them". Moe (2003) went on to comment on the significance of cooperation and stated that "cooperation makes possible the exercise of power, and the prospect of exercising power that motivates cooperation".

Politics and Power

The political coalitions and conflicts that characterize institutions and how theey change the institutional climate are pivotal to gain a comprehensive understanding of how institutions progress and change in the future. The makeup of internal institutional political coalitions and the external socio/economic environment begin to explain why institutions reconfigure to help them survive in the future. According to Thelen (2004) an

George Comodromos, fellow of the Centre for International Corporate Governance Research (CICGR), School of Management and Information Systems, Victoria University.

BEYOND TRANSFORMATIONAL CHANGE

institution's multiple and simultaneous functional and political demands may lead to power reversals. Schickler (2001) notes that diverse internal institutional coalitions, created to muster political support, may have been spurred on by opposing perspectives. The power reversals that have been seen in the Australian University sector since 2000 may be considered as an apposite example. Government legislation introduced to make universities more economically autonomous has led to dramatic power reversals that have seen a more managerialist rather than the traditional collegial perspective prevail. The new demands placed on universities have impacted on academic resources and have had marked effects on academic staff (Clarke, 1997). Higher performance measures with fewer resources are taking their toll on academics (Harman, 2003). Academics feel less in control of their own destinies (Ramsden, 1998) and they are losing control over the balance between teaching, research and administration (Bellamy, Morley, & Watty, 2003). Anecdotally the degree of employee involvement by academics in the Australian higher education sector has diminished markedly over the period of transformational institutional change.

Formal rules and legitimate, normative expectations are also characteristics of Institutions. These relations of authority, obligation and enforcement help differentiate the rational choice view of institutions and voluntarism. Streeck and Thelen (2005) emphasized enforcement and obligation in order to differentiate institutions that adopt a voluntarist approach, namely consensual agreement from those that have actors with different or conflicting interpretations that may result in seeds of change. Institutional policies can count as examples of enforcement and obligation in the sense that they constitute necessary rules for actors to abide by and if necessary be legitimately lead to prosecution if these rules are flouted. Streeck and Thelen (2005) went on to define institutions as social regimes in the sense that the rules and expectations that the regime (institution) represents are enforced by the society or third parties in which the regime is embedded. Defining institutions as regimes enables a heightened focus on different players that may be the catalyst for institutional change. The enactment of social rules is fraught with difficulties and these difficulties can mark the stark differences between what was intended and reality. With respect to Australian Universities, the government lead changes that were instigated in 2000 may be considered as the policy changes that were imposed by external society forces, that affected university regimes in such a way that they were forced to comply or face the penalties of reduced funding. The enforcement of new government policies had unpredicted ramifications on academic staff attesting to the notion that the interpretation of social rules in the course of their enactment is never self evident and is fraught with misunderstanding.

Shared Understanding

The concept of shared understanding is at the heart of a normatively ordered community. In order to arrive at this shared understanding, there needs to be an on-going commitment by all parties to what constitutes the common good. Institutions that share a strong cultural bond would be more likely to arrive at a shared understanding than one that didn't have strong cultural norms. Where there is ambiguity in shared beliefs, legitimate or even subversive intervention can occur. Suffice to say that rule makers in social institutions generally have a tenuous hold over their institution. More often that not, there will be constant debate between those who make the rules and those who have to abide by them. Issues to do with interpretation of the rules will be at the fore front of minds of those who have vested interests that they wish to protect. Those rule makers who understand that rule making is a process that requires continuous adjustment and revision will be the ones who will see to their institutions surviving into the future. Social

BEYOND TRANSFORMATIONAL CHANGE

interaction whether it be in an institution or else where requires continuous creation and recreation by those who are directly affected by its presence. Institutional change cannot be controlled by a single entity nor is it manifest in the same way in all institutions.

Transformational change can occur in institutions when players in that institution band together and begin to redefine existing structures or functions (Jackson, 1984). This type of change does not have to be preempted by an exogenous upheaval; it can occur gradually and continuously and can have the same effect as a significant external shock (Djelic & Quack, 2003). Transformative endogenous change can be produced as a result of new change being slighted, ignored or even tolerated. Pierson (2004) posited that significant change can emerge as a result of ambiguities in understanding formal institutional processes and their actual enactment. Contestable areas of institutional function, structure or policy may later become fertile ground for future dramatic change. The political is made up of institutions, characterize them as arenas of continuous, on going debate and battlefields where subversion of formal processes and rules occurs in the pursuit of vested interests. A point in case that illustrates a polemic work environment is the Australian university sector. The workload changes made to Australian academics has adversely affected their inability to balance the demands of research, teaching and administration duties. The changes have had a significantly negative impact on academics' autonomy in the work place and their working conditions. Autonomy is a measure of the amount of control, employees have over their work and remains a significant buffer against work related stress (Miller, Ellis, Zook, & Lyles, 1990; Ray & Miller, 1991). The increased work demands creating an imbalance of time spent on research, teaching and administration and can have adversely impacted on morale. Academics are becoming increasingly dispirited, demoralised and alienated from their organization (Halsey, 1992; McInnis, 1992) and as a result, they are in constant battle with management to arrive at more equitable solutions. The university climate is in constant upheaval because, as Deeg (2005) posited, change is happening from within and players are trying to make the most of ambiguities in the existing process by applying innovative interpretations.

New Model for Change

Mahoney and Thelen (2010) provided a model for gradual transformative change that examines five broad modes: displacement, layering, drift, conversion, and exhaustion. It would be a worthwhile topic for further research to apply this model to the Australian university sector.

Displacement

Traditionally change through displacement emanates from a shift in power (R. Collier & D. Collier, 1991; Skowronek, 1995; Huber & Stephens, 2001). Existent power is undermined or discredited in favour of new paradigms. This may happen as a result of increasing numbers of players rediscovering, activating or cultivating new systems. Kuran (1991) posited that the increasing number of players defecting to a new paradigm relies heavily on the tipping point concept. Endogenous displacement changes that can occur through activation and rediscovery, are most effective if players are prepared to spend to meet the expenditure costs associated with funding the new requisite resources (Deeg, 2005). Radical change can occur through displacement not as a result of a radical event but by gradual endogenous shifts in power within what may appear as stable institutions. Endogenous evolution may be activated by interested players, as a response to external stimuli, and lead to new types of institutions.
BEYOND TRANSFORMATIONAL CHANGE

Layering

According to Schickler (2001), layering occurs when change is imposed on top of existing systems, that prove to be intractable to change. New processes are introduced alongside immoveable old ones, and although the new processes, they were not introduced to supplant the old ones the combined effect starts a dynamic in motion that ultimately leads to transformational change. Streeck and Thelen (2005) refered to this phenomenon as differential growth.

Drift

Institutions cannot survive by remaining statistics, they need to continue to refocus their attention on the political and economic changes that occur in their environment. Drift can occur as a result of ambiguities in processes that cause some players to abrogate or alter their previous duties or responsibilities. Drift need not be manifest through political machinations but simply through subtle changes in the environment. Although these changes are subtle and not directly confronting, they do still have an impact and if cultivated politically, can fuel dramatic change.

Conversion

According to Thelen (2004), different from layering and drift, institutions subject to conversion are redirected to new goals, functions or purposes. This redirection can eventuate as a result of environmental changes or changes in political dynamics. The point of differentiation with conversion is that the institution not its actors, changes and adapts to a new paradigm. Conversion is manifest by institutions redirecting their resources to serve new goals and this may result in some political contest in what functions or purposes should be served. Institution building and political contest can lead to compromise as a strategy to contend with the ambiguities in rules definitions, interpretation and application.

Exhaustion

Exhaustion is the process that often leads to institutional breakdown rather than change, although once again the change is gradual rather than abrupt. Institutions may in time become blind to what is happening around them, namely the economic/political changes to their immediate environment, and so do not prepare themselves to cope with the future. An integral facet of time related exhaustion is age and an institution that has been around for a long time may be subject to self consumption. In such a case, the normal working of an institution undermines its external preconditions and further expansion destroys, or uses up resources that they require for their continued operation (Trampush, 2005).

To complete the model for change Mahoney and Thelen (2010) provided further insight into the identification of change agents, their association with a particular mode of change, and finally their preferred strategy for change. Insurrectionaries, those who reject the status quo, prefer displacement. Symbionts, there are two types, parasitic and mutualistic. Parasitic symbionts exploit institutions for their own gains and prefer industrial drift. Mutualistic symbionts, also exploit the institution for their own gain but prefer to maintain the status quo. Subversives, those who wish to displace the institution by surreptitious means, work form within the system and prefer layering as a strategy. Finally opportunists, those who employ what ever possibilities exist within the existing system to achieve their own ends, prefer conversion as a strategy.

The model for change that, Mahoney and Thelen (2010) proposed that do not focus on exogenous disruptions to bring about transformational change, but to the contrary incremental endogenous shifts in power and thinking that occur over long periods of time. Piecemeal and subtle changes that unfold over time can have

BEYOND TRANSFORMATIONAL CHANGE

the same dramatic consequence on institutions as single dramatic events. Recent research in this area reinforces the idea that institutions can evolve with metamorphic results over extended periods of time (Clemens & Cook, 1999; Mahoney, 2000; Thelen, 2009; Pierson, 2004). The challenge in researching incremental institutional change is trying to locate the source of the change and how this source manifests endogenously and whether there have been external environmental influences that have fuelled this source. In addition to this, the nature of the institution needs to be examined to reveal what institutional characteristics allow for change actors to appear and in what kinds of circumstances allow them to flourish. A possible application of this model to the Australian university sector would be to ask:

(1) What particular work life factors of academics have a bearing on the acceptance of transformational organizational change?

(2) Do the career aspirations and work life history of academics have any bearing on their likely acceptance of transformational change?

(3) Does the balance of research, teaching and administration and other working conditions for academics have an effect on the acceptance of dramatic organizational change?

(4) Does the context of the work environment namely the shift from collegial to managerial management style have an impact on the acceptance of transformational change.

Institutions are laden with power implications (Hall, 1986; Skocpol, 1995; Mahoney, 2010) and it is these power implications that provide institutions with the dynamic that permits change. Management style and the way managers use people in the organization have a significant impact on employees' motivation and morale and employees expressing their voice in the workplace (Marchington & Wilkinson, 2005). Purcell, Kinnie, Swart, and Rayton's (2007) research looked at the links between people performance management and organizational performance. Zeffane (1994) and Deery, Iverson, and Erwin (1994) argued that a harmonious industrial relations climate represented a feature of management style and is related to organizational commitment. There has been significant research completed on "top down" management style that examines the effect managers have on employees but there has been little research completed on the "bottom up" effect of why employees respond to particular management styles and not others particularly with respect to transformational change. Australian Universities have undergone recent transformational change and one outcome of this change is the movement from a collegial to a more managerialist style of organizational control. A collegial management style is participative and inclusive whereas a managerialist style has a more narrow decision making focus (Miliken, 2001). This has had a negative impact on the working environment of most academics, but others have embraced this change. The tensions and pressures that are constantly raised because of resource allocation are the fuel that fires the motivation to change existing power structures. Power struggles do not only end in winners and losers, but often in compromises that require on going political support if they continue in the future (Thelen, 2004). Compliance also needs to be considered in the change process as in the battle for winners and losers compliance often blurs the lines between this simple dichotomy (Thelen, 2009). The political alliances that can result due to compliance are challenging areas of research that will lead to a more in depth understanding of incremental endogenous change.

Conclusion

Institutions are subject to change and this change need not only be described as either gradual and insidious or dramatic and transformational. The purpose of this paper is to show that institutional change can be

BEYOND TRANSFORMATIONAL CHANGE

gradual, endogenous and in time transformational. Gradual, incremental changes that may have been spurred by endogenous events, such as political ideological shifts, opportunistic ventures to gain more resources or gaps or ambiguities, in process interpretation may lead to significant institutional change. There is quite a body of literature that analyzed transformational change resultant from a critical event, but there is not as much that examines gradual transformations that ultimately lead to a reinvention of institutions. The model for change that Thelen and Mohoney (2010) proposed is a good start, in that it tries to link modes of incremental change to different institutional contexts and institutional properties that allow for specific types of change strategies and change agents. They proposed that depending on the characteristics or properties of an institution, different change strategies can be employed which are linked to particular change agents and different kinds of incremental change. Mohoney and Thelen (2010) provided a general model of change that tries to address both the endogenous and exogenous sources of change.

References

- Bellamy, S, Morley, C & Watty, K. (2003). Why business academics remain in Australian universities despite deteriorating working conditions and reduced job satisfaction: An intellectual puzzle. *Journal of Management Studies*, 25(1), 13-28.
- Clarke, B. R. (1997). Creating entrepreneurial universities: Organisational pathways of conversion IAU Press/Pergamon. Paris.
- Clemens, E., & Cook, J. (1999). Politics and institutionalism: Explaining durability and change. *Annual Review of Sociology*, 25, 441-446.
- Collier, R., & Collier, D. (1991). Shaping the political arena. Princeton, NJ: Princeton University Press.
- Deeg, R. (2005). Change from within: German and Italian finance in the 1990s. In Streeck, W., & Thelen, K. (Eds.), *Beyond Continuity*. Oxford: Oxford University Press.
- Deery, S. J., Iverson, R. D., & Erwin, P. J. (1994). Predicting organisational and union commitment: The effect of industrial relations climate. *British Journal of Industrial Relations*, 32(4), 581-597.
- Djelic, M. L., & Quack, S. (2003). Conclusion: Globalization as a double process of institutional building. In Djelic, M., & Quack, S. (Eds.), *Globalization and insitutions* (pp. 3023-3033). Cheltenham, UK: Edward Elgar.
- Di Maggio, P., &Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organisational fields. *American Sociological Review*, 48, 147-160.
- Fligstein, N. (1996). Markets as politics: A politcal-cultural approach to market institutions. *American Sociological Review*, 61, 656-673.
- Fligstein, N. (2008). Fields, power and social skills: A critical analysis of the new institutionalism. *International Public Management Review*, 9(1), 227-253.
- Hall, P. (1986). *Governing the economy: The politics of state intervention in Britain and France*. New York: Oxford university Press.
- Halsey, A. H. (1992). Decline of donnish dominion. Oxford: Clarendon Press.
- Hannan, M., & Freeman, J. (1989). Organisational ecology. Cambridge, MA: Harvard University Press.
- Harman, G. (2003). Australian academics and prospective academics: Adjustments to a more commercial environment. *Higher Education Mangement and Policy Journal*, 15(3), 105-122.
- Huber, E., & Stephens, J. (2001). *Development and crisis of the welfare states: Parties and politcs in global markets*. Chicago, IL: University of Chicago Press.
- Jackson, R. (1984). The formation of craft labor markets. New York: Academic Press.
- Knight, J. (1992). Institutions and social conflict. Cambridge: Cambridge University Press.
- Kuran, T. (1991). Now out of never: The element of surprise in the East European Revolution of 1989. *World Politics*, 44(1), 7-48.
- Mahoney, J. (2000). Path dependence in historical sociology. Theory and Society, 29, 507-548.
- Mahoney, J. (2010). *Colonialism and postcolonial development: Spanish America in comparative perspective*. New York: Cambridge University Press.
- Mahoney, J., & Thelen, K. (2010). A theory of gradual institutional change. In Mahoney, J., &Thelen, K. (Eds.), *Explaining insitutional change: Ambiguity, agency and power.* Cambridge: CUP.

- Marchington, M., & Wilkinson, A. (2005). Direct participation and involvement. In Bach, S. (Ed.), *Managing human resource: Personnel management in transition* (4th ed.). Oxford.
- McInnis, C. (1992). Changes in the nature of academic work. Australian Universities' Review, 35, 9-12.
- Milliken, J. (2001). Surfacing the micropolitics as a potential management change frame in higher education. *Journal of Higher Education Policy and Management*, 23(1), 75-84.
- Miller, K. I., Ellis, B. H., Zook, E., & Lyles, J. S. (1990). An integrated model of communication, stress and burnout on the workplace. *Communication Research*, 17, 300-326.
- Moe, T. (2003). Power and political institutions. Paper presented at *Conference on Crafting and Operating Institutions*, April 11-13 at Yale University.
- Moe, T. (2005). Power and politcal institutions. Perspectives on Politics, 3, 215-233.
- Pierson, P. (2004). Politics in time: History, institutions and social analysis. Princeton: Princeton University Press.
- Purcell, J., Kinnie, N., Swart, J., & Rayton, B. (2007). People management and performance. New York: Routledge.
- Ramsden, P. (1998). Managing the effective university. Higher education research & development, 17(3), 347-370.
- Ray, E. B., & Miller, K. I. (1991). The influence of communication structure and social support on job stress and burnout. *Management Communication Quarterly*, 4, 506-527.
- Schickler, E. (2001). *Disjointed pluralism: Institutional innovation and the development of the U.S. congress.* Princeton: Princeton University Press.
- Skocpol, T. (1995). Why I am an historical institutionalist. Polity, 28, 103-106.
- Skowronek, S. (1995). Order and change. Polity, 28(1), 91-96.
- Streeck, W., &Thelen, K. (2005). Introduction: Change in advanced political economies. In Streeck, W., & K. Thelen (Eds.), *Beyond continuity*. Oxford: Oxford University Press.
- Thelen, K. (2004). *How institutions evolve: The political economy of skills in Germany, Britain, the United States and Japan.* New York: Cambridge University Press.
- Thelen, K. (2009, September). Institutional change in advanced political economies. *British Journal of Industrial Relations* 47, 471-498.
- Trampusch, C. (2005). Institutional resettlement: The case of early retirement. In Streeck, W., & K. Thelen (Eds.), *Beyond continuity*. Oxford: Oxford University Press.
- Zeffane, R. (1994). Patterns of public and private sector employees. Human Relations, 47(6), 977-1010.
- Zorn, D., Dobbin, J., & Kwok, M. (2006). The new firm: Power and sense-making in the construction of shareholder value. *Nordic Organization Studies*, *3*, 41-68.