STUDIA UNIVERSITATIS
BABEŞ-BOLYAI

OECONOMICA

1/2012

YEAR (Volume 57) 2012
MONTH APRIL
ISSUE 1

STUDIA
UBB
OECONOMICA
1

EDITORIAL OFFICE OF OECONOMICA:
Teodor Mihali str. no. 58-60, s. 231, 400591 Cluj-Napoca,
Phone: 0040-264-41.86.52, oeconomica@econ.ubbcluj.ro,
http://studiaoeconomica.ubbcluj.ro/

SUMAR – SOMMAIRE – CONTENTS – INHALT

M. MATTHEE, W. KRUGELL

BARRIERS TO INTERNATIONALISATION: FIRM-LEVEL EVIDENCE FROM SOUTH AFRICA 3

A. TODEA, A. PLEŞOIANU

LONG MEMORY AND THIN-TRADING : EMPIRICAL EVIDENCES FROM CENTRAL AND EASTERN EUROPEAN STOCK MARKETS 21

K. JAMES, A. SY, T. TINKER, C.J. TOLLIDAY

ACCOUNTING, CAPITALISM AND POPULAR CULTURE: IRISH NATIONALISM, TRANSCENDENCE AND CONTROL IN 2000s PUNK ROCK ………………………………………………………………………….. 28

R. PETRUSEL

DECISION-PROCESS MINING: A NEW FRAMEWORK FOR KNOWLEDGE ACQUISITION OF BUSINESS DECISION-MAKING PROCESSES …………………………………………………………………….. 55

A. BERTONCELJ, K. KAVČIČ

TAKT-TIME MODEL OPTIMISATION ON BASIS OF SHOP-FLOOR APPROACH 72

C.A. STEFANESCU

GOVERNANCE TRANSPARENCY IN ROMANIAN BANKING SYSTEM BY COMPARISON WITH U.K. LISTED BANKS 84

A. DEACONU, A. BUIGA, J. STROUHAL

SMEs FINANCIAL REPORTING : ATTITUDES TOWARDS IFRS FOR SMEs ………………………………………... 101

BARRIERS TO INTERNATIONALISATION: FIRM-LEVEL EVIDENCE FROM SOUTH AFRICA

Marianne MATTHEE [*], **Waldo KRUGELL**
North-West University, South Africa

Abstract. The internal resource barriers that firms experience influence their capability to export. This, in turn, influences the export performance of the country and the extent to which exports contribute to economic growth. The aim of this paper is to analyse the impact of resource barriers, more specifically firm size, productivity, firm-specific capital and labour market constraints, on South African firms' decision to internationalise. From the overall results of the model, it is clear that the unobserved factors that make export more likely tend to be associated with lower levels of exports. The main findings are that firm size and productivity matter for exports. Furthermore, barriers to doing business, such as electricity supply and transportation and the use of imported inputs influence exporting firms' supply-side capabilities.

JEL Classification: F23

Keywords: internationalisation barriers, firms, exports, South Africa

1. Introduction

Exports are considered good for economic growth. The benefits of exports for growth include knowledge spillovers, economies of scale, accumulation of foreign exchange and efficient allocation of resources (Foster, 2006). Exports, as a generator of economic growth, are therefore always included in government policy. South Africa is no exception (Edwards et al., 2008). In 2010, the South African government launched its new strategy for economic growth and development. The New Growth Path sets forth a plan to increase the economic growth rate to 7% per annum over a 20-year period, thereby eliminating the persistent and large-scale unemployment that the country faces. One component of the New Growth Path is to grow South Africa's market through increased exports to the Southern African region and other fast-growing economies (South African Government, 2010). Alongside the New Growth Path, and the emphasis on exports, is the much-debated topic of the overvalued rand exchange rate.Recently, there have been

[*] Corresponding author. Address: School of Economics, Faculty of Economic and Management Sciences, Private Bag X6001, North-West University (Potchefstroom Campus), Potchefstroom, 2520, South Africa. E-mail: Marianne.Matthee@nwu.ac.za. Tel: +27 18 299 1362. Fax: +27 18 299 1398

calls from business and trade unions for the South African Reserve Bank to weaken the value of the rand, stating that the overvalued rand is the reason for South Africa's inadequate export performance (Creamer, 2010).

Export performance is, however, not only influenced by macro-economic factors such as the exchange rate. It is also influenced by the exporting firms' supply-side capabilities and the barriers they experience in both the entry into foreign markets and in expandingtheir exporting activities(Hollensen, 2007). It is therefore imperative that both private and public sector decision-makers understand the extent of exporting firms' capabilities and the barriers that they face (Ramaseshan and Soutar, 1996). Edwards et al. (2008) emphasise that in order to understand exporting firms in South Africa, one needs to examine the dynamic nature of firms over time. Considering firms over time allows for insights that are not gained from cross-sectional analyses. It is herein that this paper makes a contribution. A panel constructed from the World Bank Enterprise Survey data for 2003 and 2007 is used in the analysis.The main findings are that firm size and productivity matter for exports. The exporters in this dataset perceive more obstacles (in doing business) as their export levels increase. These include electricity supply and transportation, which influence exporting firms' supply-side capabilities.These constraints do not, however, lower their export levels. Removing these constraints is important in improving the business environment in which the firms operate. Such a business environment enhances a firm's ability to trade internationally and for other firms to enter the export market.

The aim of the paper is to analyse the impact of firm size, productivity, firm-specific capital and labour market constraints onSouth African firms' decision to internationalise. Ultimately, internal resource barriers influence a firm's capability to export, which in turn influences the export performance of the country and the extent to which exports contribute to economic growth.The paper is structured as follows: section 2 provides a brief overview of the literature on export barriers, section 3 describes South African firm-level evidence, section 4 contains the empirical analysis, which includes descriptive statistics, the regression and the results, and finally, section 5 concludes with recommendations.

2. Literature review on export barriers

A country's exports (and thereforeits export performance) are in effect the aggregate sum of all firm-level exports. Firm-level exports are the result of firm internationalisation. Internationalisation can be defined as a strategic manner in which entrepreneurial firms can achieve growth (Suárez-Ortega, 2003), especially those firms whose business scope has been restrained geographically or firms that are experiencing competition on both local and international front (Lu and Beamish, 2001). Benefits of firm internationalisation include the improvement of a firm's financial position by generating more revenues and funds that could be used for reinvestment and growth, efficiently allocating and utilising production capabilities, and improving management skills (Leonidou, 2004; Arteaga-Ortiz and Fernández-Ortiz, 2010). Originally, internationalisation implied that a firm either participated in foreign markets by exporting or through foreign direct investment. Nowadays, a firm can choose to undertake international activities through exporting, licensing and franchising, joint ventures or the establishment of foreign subsidiaries. Of these, exporting is the most common and usually the norm, especially for smaller firms (Czinkota and Ronkainen, 2002; Szabó, 2004; Mtigwe, 2005). In the process of internationalisation, however, barriers exist that obstruct successful export operations and cause firms not to be able to reap the above-mentioned benefits (Leonidou, 2004). Export barriers can be defined as "*all those factors – external or internal – that serve to dissuade a firm from exporting or which hinder its actual export activity*" (Suárez-Ortega, 2003:403). In other words, export barriers (also called problems or obstacles) occur at various stages in the internationalisation process–theycould either deter export initiation or hamper the process of internationalisation (Hollensen, 2007). Also, firms experience the barriers differently, depending on their size, whether or not they are interested in internationalising and the stage in which they are duringthe internationalisation process (Morgan, 1997; Jaeger, 2008). Since Bilkey and Tesar (1977) and Bilkey (1978) pioneered the first studies, export barriers have been investigated extensively in various contexts and countries (Arteaga-Ortiz and Fernández-Ortiz, 2010). The aim of such research is to identify the barriers to firm internationalisation and to subsequently provide recommendations on how to reduce or eliminate them. Research has also been focused on smaller firms, as these firms experience more barriers than their larger counterparts that have more resources to their disposal do (Jaeger, 2008).

In the literature, a wide range of barriers have been identified (Arteaga-Ortiz and Fernández-Ortiz, 2010). In order to explain them logically, different classifications have been used to group export barriers. A brief overview of all the various classifications follows in the paragraphs below. Leonidou (2004: 283) classifiesexport barriers as either internal or external. Internal barriers relate to the firm's capabilities, resources and capacity to operate internationally. They are grouped as informational, functional and marketing barriers. External barriers are those factors over which the firm has no control and are a result of the environment in which the firm operates and are grouped into procedural, governmental, task and environmental barriers. Fillis (2002), for example, investigated UK micro-enterprises' internal and external barriers to internationalisation.A further refinement of this classification is to organiseinternal and external barriers into four groups according to domestic or foreign location (Leonidou, 1995, Morgan, 1997; Crick et al., 1998). The first group is internal-domestic problems, which are problems that arise within the firm and are experienced in the home country. Examples include lack of qualified personnel (Yang et al., 1992), insufficient production capabilities (Yaprak, 1985) and management focusing on the domestic market (Rabino, 1980). The second group is internal-foreign problems, i.e. problems within the firm, but experienced in the foreign country. Barriers included here are high transportation costs and logistical difficulties, international payment problems (Morgan and Katsikeas, 1997) and limited knowledge of foreign markets (Barrett andWilkinson, 1985). The third source of export barriers is problems that arise from the external environment, but experienced within the home country (i.e. external-domestic problems).Here the complexity of the documentation required (Rabino, 1980) and the high cost to finance export activities (Korth, 1991) cause export barriers. The fourth group consists of external-foreign problems, which are uncontrollable problems found in international markets. Examples include foreign government restrictions and rules (Hook and Czinkota, 1998), language and cultural differences (Westhead et al., 2002) and the intensity of foreign competition (Ramaswamiand Yang, 1990).

A third type of classification was presented by Morgan and Katsikeas (1997), where export obstacles are also clustered into four groups, namely strategic obstacles, operational and logistical obstacles, informational obstacles and process-based obstacles. Limited resources create strategic obstacles, whereas inaccuracies regarding pricing, promotion, distribution and product create operational (and logistical) obstacles. Westhead et al. (2002) and Jaeger (2008) further explain thata lack of reliable information or knowledge about the foreign market creates informational obstacles and finally the inability to maintain interactions with key stakeholders in export activities and distribution channels create process-based obstacles.

A fourth classification of export barriers is where the barriers are bundled into the knowledge, procedural, exogenous and resource categories (Ramaswami and Young, 1990). Knowledge barriers are broadly defined as the lack of information on the exporting activity, or ignorance on the matter. Internal resource barriers are due to a lack of finances, productive capacity or external aid. Procedure barriers are elements in the process of exporting that make the activity difficult,e.g. logistics and the documentation required. Finally, exogenous barriers include any obstacles that arise as a result of uncertainty in the international market place or other role-players, such as governments and competitors (Suárez-Ortega, 2003; Arteaga-Ortiz and Fernández-Ortiz, 2010; Okpara and Koumbiadis, 2011).

The focus of this paper, depending on the type of classification,is oninternal (functional) barriers, internal-domestic barriers, strategic obstacles or internal resource barriers.Okpara and Koumbiadis (2011) summarise that resource barriers such as the high cost of labour, lack of production capacity and lack of personnel with suitable export experience and knowledge hamper a firm's capability to internationalise. This draws on the theoretical framework of the resource-based view of the firmand explains why firms (especially smaller firms) decide to export or not (Westhead et al., 2002; Dhanaraj and Beamish, 2003). A firm's resources can overcome, or cause difficulties in internationalisation. Firms with resources are more likely to engage in exporting than those who do not possess resources (Wilkinson and Brouthers, 2006). A resource can be defined as any factor that can be considered a strength or a weakness in a firm. A firm's resources may also be strategic, i.e. provide the firm with a competitive advantage and therefore be valuable, rare, imperfectly mobile and non-substitutable (Dhanaraj and Beamish, 2003). Danaraj and Beamish (2003) list three sets of resources: managerial or organisation resources, entrepreneurial resources and technological resources. The first set of resources (managerial or organisation) is usually proxied by firm size. Smaller firms tend to have fewer resources than larger firms do, and therefore struggle to weather adverse market conditions. Managers of small firms are also more orientated towards the survival of the firm, rather than fast business growth through international exposure. Entrepreneurial resources are the drive of managers to see their business grow. Entrepreneurs (or firms) do not have the right business skills and are usually unaware of export opportunities and this impedes their firms' internationalisation. The third set of resources includes tangible and intangible assets within a firm. Research and development expenditure is used here to indicate a firm's technological intensity necessary to gain a competitive advantage that promotes the firm's internationalisation (Westhead et al., 2002; Dhanaraj and Beamish, 2003).

Jaeger (2008) further highlights that finance mayobstruct optimal export or internationalisation performance. Finance is required to be able to hire adequate personnel and obtain the necessary and latest technology (Westhead et al., 2002). Jeager (2008) explains that financing and access to finance is one of the most important issues for internationalising firms. This is emphasised by Bellone et al. (2010), who recently studied the relationship between financial constraints and firm export behaviour (among French firms) and foundthat firms that have better access to finance are more likely to internationalise and are also able to internationalise faster. In summary, a firm's resources determine both the export strategy implemented by the firm and its subsequent export performance (Westhead et al., 2002; Jeager, 2008).

3. The case of South Africa

South African research has not focused on export barriers, but has examined the determinants or predictors of firms' export propensities and intensities. It is important to note that the results obtained in the literature are sensitive to the sampling strategy employed in the different surveys.

Early work by Rankin (2001) examined firm-level data collected by the Greater Johannesburg Metropolitan Council (GJMC) and the World Bank in 1999. In this sample of 325 firms,71% of firms exported and the export intensity was on average 18% of output. However, less than half ofthe firms exported more that 10% of their output. Larger firms were more likely to export. The exporters typically produced more output per employee and they had higher average labour costs. The more efficient firms were more likely to export outside of the SADC. Rankin (2001) argued that there may be some efficiency threshold that firms have to exceed before they can export globally. In a similar fashion, Naudé et al. (2000) examined the determinants of exports of manufacturing firms in the North West Province. In 1999,interviews were conducted at 68 firms and they found that 48% of manufacturing firms exported. They also found that the large firms exported output in the two preceding years, but do not specialise in exporting. An analysis of the determinants of exports showed that the larger, more efficient firms were more likely to export and also tended to export a larger percentage of their production.

Gumede and Rasmussen (2002) assessed key export success factors using data from the 1999/2000 National Enterprise Survey (NES). In this case, 1300 firms responded, but the analysis used data for only the 491 small and medium-sized manufacturers. They found that 25% of very small firms (6-20 employees) exported, 41% of small firms (21-50 employees) exported and 59% of medium-sized firms (51-200 employees) were exporters. As in the other surveys, it seems that a large share of firms were exporting, but their export earnings made up only a small part of total turnover. Export earnings were at 7% or less for at least half of all the exporters. The analysis distinguished between the characteristics of exporters and non-exporters. Gumede and Rasmussen (2002) found that there was a greater share of exporters among firms that were subsidiaries of local or foreign companies. Belonging to a business association did not increase the probability to export. Firms that exported were more likely to have a website and to use South African suppliers as a source of information. Throughout, smaller firms were more likely to face financial and other constraints.

Among the medium-sized and large firms, the exporters were relatively less constrained.

In later work, Gumede (2004) re-examined the NES data using information of 941 firms of which 415 were exporters. Correlation and regression analyses were undertaken to examine export propensities and intensities. The results from a logistic regression showed that the probability of exporting is positively associated with firms' size, age, linkages, access to information and whether a firm was constrained by competition in South Africa. Export intensity was positively associated with the number of employees, access to information and linkages. It was negatively associated with sunk costs, financial constraints and an unstable exchange rate. Further work by Rankin and collaborators also examined firm-level data collected by the World Bank Investment Climate Assessment (ICA) Surveys in 2003. This was a survey of predominantly manufacturing firms (603 firms) in the metropolitan areas of the Gauteng Province, Western Cape, Eastern Cape and KwaZulu-Natal. Rankin and Schoër (2008) examined exporting, labour demand and wages using firm-level data matched with workers from the 2003 survey. They found that exporters were more likely to employ older workers, males and workers with more education. However, when they controlled for firm size, job type, sector and province, the differences are not significant. They also considered direct exporters and significant exporters that export a greater share of output, but this did not affect the type of people employed. Only the export destination came up as important where workers employed by SADC exporters were more likely to be male and younger than those employed by non-SADC exporters. Rankin and Schoër (2008) also estimated Mincerian wage equations to determine whether there is a difference in earnings between workers at firms with different types of export behaviour. They found that working for an exporter does not imply different levels of earnings, but it did seem that significant exporters paid higher wages; however, SADC exporters paid lower wages than other firms did.

Edwards et al. (2008) summarised the South African literature on South African exporting firms. The stylised facts were that South African exporters were larger and more productive than non-exporters. However,relatively few firms exported and they exported only a small proportion of output. Also, the productivity of exporters has been closely linked to the export destination with the results showing that firms that export beyond the SADC were more productive.

Other contributions to the South African literature have focussed less on exporters, but have examined aspects that may be relevant as export barriers. Rankin (2006) examined the regulatory environment and the impact that it has on SMMEs using data from the 2003 ICA survey. Krugell and Matthee (2012) employed the 2007 ICA data to examine access to finance, sources of finance and productivity. The results showed that firms that were financially constrained were more vulnerable to shocks and competition and were weaker contributors to employment creation and growth. They were typically small and less established. They held less stock and had lower capacity utilisation. They were unlikely to be exporters or to introduce new products in response to competition. The results from the regression model confirmed that access to finance and different sources of finance were drivers of productivity at firm level. Loots and Krugell (2011) constructed indicators of infrastructure service delivery, using the 2007 ICA dataset. The results showed that the firms that were surveyed did not perceive infrastructure to be a major obstacle to doing business and the majority experienced average and above-average infrastructure service delivery. The services received by large firms raised the greatest concern and there did not seem to be systematic delivery differences between the four major South African cities. There was a positive correlation between the aggregate infrastructure service delivery measure and output per worker.

In summary, it can be said that the literature presents some interesting glimpses of the exporting behaviour of firms in South Africa. Edwards et al. (2008) emphasise that there are significant data shortcomings and that in order to understand exporting firms in South Africa, one needs to examine the dynamic nature of firms over time. It is herein that this paper makes a contribution. The following section presents the results of the analysis of a panel constructed from the World Bank Enterprise Survey data for 2003 and 2007. The aim is to analyse the impact of firm size, productivity, firm-specific capital and labour market constraints onSouth African firms' decision to internationalise.

4. Empirical analysis

Table 1: Enterprise survey description, numbers of firms

	Johannesburg/ East Rand/ Pretoria		Cape Town		Port Elizabeth		Durban	
	2003	2007	2003	2007	2003	2007	2003	2007
Nb. of firms	372	455	132	115	36	53	63	84
Sub-sector:								
Food		86	21	16	2	11	3	9
Textiles	37	4	11	3	7	0	6	4
Garments	2	68	10	18		10	6	12
Chemicals	7	51	5	16	3	9	5	7
Plastics and	42	14	6	3	3	2	6	3
rubber	19	2	4	5		0	4	1
Non-metallic	17							
mineral products		2	6	0	2	0	3	0
Basic metals	18	71	4	13		5		21
Fabricated metal	39							
products		25	3	6	1	0	13	3
Machinery and	31							
equipment		15	31	1	11	3		3
Electronics	37	117		34		13		21
Other	64							
manufacturing								
Size class:								
Small (5-19)	30	156	22	42	3	19	3	18
Medium (20-99)	165	161	60	45	11	17	21	46
Large (>100)	177	111	47	28	20	17	32	20
Number of exporters	263	100	58	40	21	9	30	12

Source: Authors' own calculations using World Bank data

In South Africa, firm-level data present particular challenges to researchers. Rankin (2006) explains that a number of firm-level surveys have been carried out in South Africa, but they have been *ad hoc* and the surveys have not always been designed for quantitative analysis. Given these constraints, this paper employs data from the 2003 and 2007 Investment Climate Assessment World Bank Enterprise Surveys. The World Bank surveys were national in scope and covered different sectors. Table 1 shows that in total the 2003 survey covered 603 firms in four locations. More than half of the firms were located in the greater Gauteng agglomeration, which includes Johannesburg, the East Rand and Pretoria. The 2003 survey was predominantly of medium-sized and large manufacturing firms and contained a large share of exporting firms. The 2007 survey covered 1055 firms of which 707 were manufacturers. Again, the majority of firms are from Johannesburg, the East Rand and Pretoria. Viewed per place and per sector, manufacturers of food products, garments, chemicals and fabricated metal products make up the majority of the respondents. Table 1 shows that the 2007 survey data include more small firms than the earlier 2003 survey. In the 2007 data, there were similar proportions of small, medium and large firms. In comparison with the 2003 survey, the 2007 survey contained fewer exporters.

The following sub-section describes the firms contained in the two datasets, focussing on the exporters. The two datasets are discussed separately, because the two surveys asked slightly different questions of interest to this paper.

4.1 Descriptive statistics

4.1.1 The 2003 dataset

There are 603 firms in the 2003 dataset, of which 239 were non-exporters and 364were exporters. Table 2 compares the exporting firms with the non-exporting firms in 2003 (the numbers or percentages reported here are averages).

Exports were calculated and exporters identified by taking total sales and subtracting the domestic, national sales. The largest numbers of both the exporters and non-exporters were located mainly in Gauteng, followed by the Western Cape, KwaZulu-Natal and the Eastern Cape. Most of the non-exporters (56.3%) were medium-sized firms, whereas the majority of exporting firms were large (59.2%). The majority of managers of firms that export have a post-graduate degree (42.6%), and the highest education level of non-exporting managers was a graduate degree (31.9%). Exporters perceived labour regulations to be a moderate problem to the operation and growth of their businesses. Non-exporters did not perceive labour regulations to be a problem. More exporters perceived the skills and education of available workers to be an obstacle to their business, while the opposite was true for access to finance. In terms of innovative resources, more exporters (28.3%) obtained production technology from a foreign-owned company than non-exporters (13.8%). Furthermore, more exporters (36.5%) felt that their technology was more advanced than their competitors' (only 26.5% of non-exporters felt that this was the case). Moreover, 52.6% of exporters received ISO management certification as opposed to the 26.9 % of non-exporters. Exporters, over the last three years, also undertook more innovative initiatives than exporters, for example the development of a major new product line, upgrading an existing product line and the introduction of new technology that substantially changed the manner in which the main product was produced.

Table 2: Exporters and non-exporters in the 2003 dataset

	N	Exporters	N	Non-exporters
Financial barriers				
Internal funds or retained earnings as a % of working capital	360	66.50	237	65.14
Financing borrowed from banks as a % of working capital	360	16.96	237	15.72
Financing borrowed from non-bank institutions as a % of working capital	360	4.05	237	4.21
Purchases on credit from suppliers and advances from customers as a % of working capital	360	11.23	237	12.27
Net value of machinery (in Rands)	307	42m	191	20m
Net value of land and buildings (in Rands)	298	14m	185	3m
Labour market barriers				
Number of employees	360	443.11	234	154.27
Number of temporary / seasonal workers	178	75.22	78	30.87
Total cost of labour (in Rands)	302	91m	185	10m
% of workforce unionised	362	58.07	235	49.39
Firm-specific				
Total sales in 2002 (in Rands)	348	448m	227	104m
Age (in years)	364	34.44	239	20.09
% of foreign ownership in firm	364	20.11	239	8.07
Management experience in sector (in years)	363	13.75	238	12.84
% local market share	340	32.06	219	26.09
% national market share	349	28.89	214	17.79
% national sales of total sales	361	76.84	239	100
% exports of total sales	364	23.79	-	-
Export experience (in years)	201	16.79		
Number of new products introduced over the last three years	355	19.84	229	23.76
Amount spent on research and development during 2002 (in Rands)	326	1m	203	899 844

Source: Authors' own calculations using World Bank data

The most significant differences between the exporters and non-exporters in this dataset appear to be in foreign ownership, age, number of employees, number of temporary employees, total sales, total cost of labour, the net value of machinery and land and the percentage of the workforce that is unionised. Exporters have a higher average in all these cases; however, the exporters did not specialise in exports as their percentage exports of total sales is less than 25%.

4.1.2 The 2007 dataset

There are 1055 firms in the 2007 dataset, of which 824 were non-exporters and 231 were exporters. The majority of non-exporting firms (around 69.8%) were located in Johannesburg, followed by Durban (13%), Cape Town (10.6) and Port

Elizabeth (6.7%). Exporters were also mostly located in Johannesburg (61.5%), but with more firms located in Cape Town (25.1%) and fewerin Durban (8.7%) and Port Elizabeth (4.8%).

Table 3: Exporters and non-exporters in the 2007 dataset

	N	Exporters	N	Non-exporters
Financial barriers				
Internal funds or retained earnings as a % of working capital	231	63	824	71.55
Financing borrowed from banks as a % of working capital	231	8.17	824	6.31
Financing borrowed from non-bank institutions as a % of working capital	231	0.91	824	0.94
Purchases on credit from suppliers and advances from customers as a % of working capital	231	27.11	824	19.72
Total cost of raw materials (in Rands)	210	80m	824	6m
Cost of machinery (if the firm had to replace current machinery in similar condition) (in Rands)	209	65m	589	13m
Cost of land and buildings (if the firm had to replace current machinery in similar condition) (in Rands)	210	26m	588	13m
Labour market barriers				
Number of employees	231	215.70	824	64.49
Number of skilled employees	204	87.48	476	37.03
Number of unskilled employees	204	67.16	476	19.97
Number of temporary / seasonal workers	225	48.14	709	10.06
Total cost of labour (in Rands)	231	36m	589	12m
Firm-specific				
Total sales in 2006 (in Rands)	231	194m	824	35m
Age (in years)	231	29.62	824	13.35
% foreign ownership of the firm	231	19.06	823	8.13
Management experience in sector (in years)	231	19.01	822	12.30
% local market share	224	11.49	710	9.77
% national market share	224	6.25	711	2.30
% national sales of total sales	231	78.12	824	100
% exports of total sales	231	21.88	-	-
Export experience (in years)	227	14.86		

Source: Authors' own calculations using World Bank data

Approximately 48% of non-exporters were small firms (i.e. 5 to19 employees), 39% were medium-sized (20 to99 employees) and 13% large (100 employees and more). There were more large firms (44%) and medium-sized firms (40%) that exported; not many small firms (15%) exported. The majority of managers of non-exporting firms (27%) had an education level consisting of vocational training, while managers of exporting firms (36%) had a graduate degree. Most exporters also used technology imported from a foreign country (28%) and were ISO certified (61%). For non-exporters, this was not the case (9% use foreign technology and only 22% have ISO quality certification). In terms of obstacles to operations, exporting firms perceived labour regulations, as well as an uneducated workforce, to be larger obstacles than did non-exporting firms, whereas the inverse was true for access to finance.

Table 3 compares some of the characteristics of the exporting firms with the non-exporting firms in 2007 (the numbers or percentages reported here are averages). The most significant differences between the exporters and non-exporters in this dataset appear to be in foreign ownership, age, management experience, number of employees (as well as skilled and unskilled employees), number of temporary employees, total sales, total cost of labour and raw materials, the net value of machinery and land and the percentage of the workforce that is unionised. Exporters have a higher average in all these cases, similar to those in the 2003 dataset. The exporters still did not specialise in exports as their percentage exports of total sales is less than 22%.

In summary, it is clear that there aresome differences between the exporters and non-exporters in the World Bank Enterprise survey datasets. These correspond with what Gumede and Rasmussen (2002) and Gumede (2004) found in the earlier NES data and what Edwards et al. (2008) summarised from the 2003 ICA data. These earlier contributions also examined the export behaviour of South African firms, but did not control for unobserved heterogeneity. The following sub-section takes the analysis a step further by estimating a panel data model of the predictors of firms' export propensities and intensities.

4.2 Regression analysis

To examine the importance of firm-size, productivity and firm-specific constraints on the decision to engage in international markets, one should distinguish between the predictors of export propensity and export intensity. The sample of firms contains firms that export and others that do not and if there are variables that affect export participation, an OLS model of the determinants of exports will produce biased and inconsistent results. To address this issue of selectivity, a two-step Heckman selection model is estimated. The data, whichcontains observations of both years, is pooled in the estimation. The first step estimates the probability of a firm being an exporter (i.e. export propensity) as a function of a control variable. This control variable is assumed to affect the probability of export participation, but does not influence the level of exports. The second step estimates the predictors of the level of exports (i.e. export intensity). This approach follows Arndt et al. (2009) as a way to examine export propensity (extensive margin) and intensity (intensive margin) simultaneously.In the selection model (equation),the selection variable is whether the firm has foreign ownership or not. Gumede and Rasmussen (2002) found that there was a greater share of exporters among firms that were subsidiaries of foreign companies. Export intensity(in the outcome model) is modelled as a function of productivity, firm size,three groups of explanatory variables (financial barriers, labour market barriers and barriers to doing business) and firm-specific control variables.

Table 4: Variables (see Table 5 for the regression results)

Variable	Description
productivity	Natural log of the value of sales per worker
employees	Natural log of the number of workers to measure firm-size
foreign_own	The percentage of firms owned by foreign individuals, companies or organisations
Financial barriers	
obs_fin	The firm's observation of the extent to which access to finance presents an obstacle to its operations
fa_internal	The proportion of financing obtained from internal funds or retained earnings
fa_suppliers	The proportion of financing obtained from purchases on credit from suppliers and advances from customers
Labour market barriers	
unskilled	The number of unskilled production workers
tempworkers	The number of seasonal or temporary workers
obs_labourreg	The firm's observation of the extent to which labour regulations present an obstacle to its operations (dummy variable, 1 = constrained, 0 = not constrained)
obs_workforce	The firm's observation of the extent to which an uneducated workforce presents an obstacle to its operations (dummy variable, 1 = constrained, 0 = not constrained)
Barriers to doing business	
obs_telecom	The firm's observation of the extent to which telecommunications present an obstacle to its operations (dummy variable, 1 = constrained, 0 = not constrained)
obs_elect	The firm's observation of the extent to which electricity presents an obstacle to its operations (dummy variable, 1 = constrained, 0 = not constrained)
obs_transport	The firm's observation of the extent to which transportation of goods, supplies and inputs presents an obstacle to its operations (dummy variable, 1 = constrained, 0 = not constrained)
obs_corruption	The firm's observation of the extent to which corruption presents an obstacle to its operations (dummy variable, 1 = constrained, 0 = not constrained)
obs_crime	The firm's observation of the extent to which crime presents an obstacle to its operations (dummy variable, 1 = constrained, 0 = not constrained)
generator	Dummy variable on whether or not the firm owns or shares a generator
firm_age	The age of the firm
Imp_inputs	Dummy variable on whether or not the firm imported any material inputs and/or supplies
foreignlicence	Dummy variable on whether or not the firm uses technology licensed from a foreign-owned company

The earlier research with South African datasets showed a positive relationship between productivity and exports and firm-size and exports. Here, *productivity* is measured by the natural log of the value of sales per worker and the firm-size by the natural log of the number of workers, named *employees*. The financial barriers include a self-reported measure of the degree to which access to finance is a constraint to doing business. The variable *accessfinance* =1 for firms that reported that access to finance is a major or very severe obstacle. A negative coefficient is expected. The survey also asked about the percentage of finance from different sources used to finance new fixed assets and these are included here. These sources are internal funds and supplier credit.

There are four measures of labour market barriers. The expectation is that firms that export more would use fewer unskilled workers, but possibly more temporary workers. The model also includes two self-reported measures of whether labour market regulations and work force education are constraints to doing business. The third group of explanatory variables isother barriers to doing business and, by extension, exporting. These include the average number of days that exports spend in customs, self-reported measures of constraints in telecommunications, electricity supply, transport, corruption and crime. Whether the firm owns or shares an electricity generator is also included here. The final block is the firm-specific control variables. These include the age of the firm, whether the firm imports inputs and whether it uses foreign-licensed technology in its production process. In all cases, positive coefficients are expected.

The following sub-section presents the results of the estimation, but there are a number of limitations to keep in mind. Firstly, the panel is small with only 191 firms for the two periods. The World Bank used two different contractors, Citizen Surveys in 2003 and EEC Canada in 2007, to conduct the two cross-section surveys that also yielded panel data. In the 2007 survey, EEC Canada received a list of 716 firms from those surveyed in 2003. Of those, 137 had to be excluded, which left a potential total of 579 panel establishments. In the end, 231 firms were surveyed, of which 40 appeared to have closed (World Bank, 2007). Unfortunately, the published dataset does not include information on those firms and it is impossible to determine what the characteristics of the firms that closed down were. Secondly, it is not possible to match the firms' responses to all the questions in both surveys. This limits the variables that can be included in the analysis (compared to those that are included in the descriptive above). Even with careful matching, the panel is still unbalanced with some missing observations.

4.3 Results

Table 5 shows the results of the Heckman selection model. The results of the first-step Probit regression (i.e. the selection model) show that foreign ownership is positively and significantly related to export propensity. Note that the Mills ratio is negative and significant at the 10% level, which indicates the appropriate use of the Heckman model (if the estimations were done using OLS, the results would have been biased). The negative Mills ratio also suggests that the error terms in the selection model and the primary equation are negatively correlated. This means that unobserved factors that make export more likely tend to be associated with lower levels of exports.

Table 5: Heckman two-step regression results (dependent variable: exports)

Selection model	
foreign_own	**0.0065984 (3.24)*** **
constant	-0.2707214 (-3.30)***
Outcome model	
Size and productivity	
productivity	**1.16e-09 (6.18)*** **
employees	**1.033972 (5.24)*** **
Financial barriers	
obs_fin	-0.4256453 (-0.23)
fa_internal	0.0017898 (-0.36)
fa_suppliers	-0.0225999 (-0.80)
Labour market barriers	
unskilled	-.2294872 (-0.78)
tempworkers	-1.202213 (-1.30)
obs_labourreg	0.1789103 (0.90)
obs_workforce	0.3199427 (1.54)
Barriers to doing business	
dayscustom	0.1124138(1.38)
obs_telecom	0.0759829 (0.26)
obs_elect	**-0.314458 (-1.95)* **
obs_transport	**0.446158 (1.99)** **
obs_corruption	0.021154 (0.09)
obs_crime	-0.0008486 (-0.00)
generator	**0.8515426 (1.68)* **
Firm-specific control variables	
firm_age	-0.0174061 (-0.59)
imp_inputs	**3.729046(7.23)*** **
foreignlicence	0.2377343 (0.44)
Diagnostics	
constant	8.014618 (4.16)***
No. of observations	248
Censored observations	167
Uncensored observations	81
Wald χ^2	214.50 (0.00)***
Mills lambda	-2.302566 (-1.89)*

*Note: z-ratios in parenthesis. ***, ** and * indicate significance at the 1%, 5% and 10 % levels respectively (Source: Authors' calculations)*

Consistent with previous empirical evidence there is a strong positive relationship between firms' exports and productivity and size. The coefficients of productivity and exports are significant at the 1% level. The negative coefficient for the firm age variable indicates that younger firms tend to export more, which might support the notion of new international ventures being (i.e. firms that start exporting within three years of their establishment) more innovative – but the coefficient is not significant.

The variable that measuresthe obstacle perceived in terms of access to finance has the expected sign. Firms that reported that access to finance is an obstacle to doing business, export less. There are mixed signs with regard to the sources of finance. A positive relationship between exports and the financing of fixed assets through internal retained earnings exists. This correlates with earlier work by Krugell and Matthee (2012) where most firms in the dataset make use of internal sources to fund new assets. There is a negative relationship between exports and the financing of fixed assets through supplier credit. This might indicate that firms are to some extent financially constrained.

Regarding labour market constraints, the results show negative relationships between using unskilled workers and exports and between using temporary workers and exports (which is in contrast to what was expected). The two self-reported measures of whether labour market regulations and workforce education are constraints to doing business, show positive relationships with exports. With these variables, the causation may not be simple: perceiving labour regulations and workforce education as constraints may not increase exports; rather, firms that export more tend to experience regulations and education as constraints.

A third group of explanatory variables represents other barriers to doing business. The results show a positive and significant relationship between exports and the average number of days that exports spend in customs. Again, customs delays do not promote exports, but firms that export more, may also experience more days of customs delays. The results also show positive relationships between exports and perceived constraints related to transport, telecommunication and corruption. However,again, it may be that firms that export more are also more likely to experience problems with transport and corruption. There are negative coefficients for perceived constraints of electricity supply and crime. The results show a large positive and significant coefficient for the relationship between exports and firms' ownership of a generator, which correlates with the negative coefficient on electricity supply (both these are also significant). The final set of coefficients is for the firm-specific controls. The firm age variables have been discussed, but the results also show a positive, significant relationship between using imported inputs and exports. There is a positive, but insignificant relationship between using foreign licensed technology and exports.

5. Conclusions and recommendations

The internal resource barriers that firms experience influence their capability to export. This, in turn, influences the export performance of the country and the extent to which exports contribute to economic growth. The aim of this paper is to analyse the impact of resource barriers, more specifically firm size, productivity, firm-specific capital and labour market constraints, on South African firms' decision to internationalise.

The literature on South African exporting firms presents some interesting glimpses of the exporting behaviour of firms in South Africa in, for example, Gumede and Rasmussen (2002), Gumede (2004) and Edwards et al. (2008).

However, these were cross-sectional studies focusing on earlier NES data and the 2003 ICA data. This paper attemptsto provide another dimension in terms of data, by taking the 2007 ICA data into account and by constructing a panel from the World Bank Enterprise Survey data for 2003 and 2007. Using panel data allows for better understanding of South African firms in that it enables one to consider the dynamic nature of firms over time.Furthermore, the earlier South African contributions examined the export behaviour of South African firms, but did not control for unobserved heterogeneity. This paper takes the analysis a step further by estimating a two-step Heckman selection model (that contains observations of 2003 and 2007)of the predictors of firms' export propensities and intensities.

From the overall results of the model, it is clear that the unobserved factors that make export more likely tend to be associated with lower levels of exports.Consistent with previous empirical evidence, there is a strong positive relationship between firms' exports and productivity and size. Therefore, South African firms (and exporters) need to operate in an environment thatfosters their growth. More specifically, electricity supply is negatively correlated with exports. Those exporters who have access to a generator correlate positively to exports, which further emphasises the need for investment in electricity in South Africa. Secondly, transportation presents barriers to exporters. The majority of firms in the panel are situated in Gauteng, which highlights the skewed distribution of international economic activity in South Africa. These exporters are located around 600km from the nearest harbour. The inland distance implies higher domestic transport costs and this, together with customs delays, erodes their competitiveness. Finally, the results show that there is a positive relationship between South African exports and imported inputs. This adds another perspective tothe South African rand exchange rate, as a weaker rand would in fact also erode exporters' competitiveness.

In conclusion, exporting firms have the capacity to overcome resource barriers such as financial constraints and labour market constraints. The exporters in this dataset perceive more obstacles (in doing business) as their export levels increase. These constraints do not, however, lower their export levels. Removing these constraints is important in improving the business environment in which the firms operate. Such a business environment enhances a firm's ability to trade internationally and for other firms to enter the export market.Further research is recommended on the differences between exporting firms, to investigate the barriers experienced by new international ventures as opposed to firms that started exporting at a later stage.

REFERENCES

Arteaga-Ortiz J., Fernández-Ortiz R. (2010) Why don't we use the same export barrier measurement scale? An empirical analysis in small and medium-sized enterprises, *Journal of Small Business Management*, 48(3): 395-420.

Barrett N., Wilkinson I.F. (1985) Export stimulation: a segmentation study of the exporting problems of Australian manufacturing firms, *European Journal of Marketing*, 19(2): 53-72.

Bellone F., Musso P., Nesta L., Schiavo S. (2010) Financial constraints and firm export behaviour, *The World Economy*, 33(3): 347-373.

Bilkey W.J. (1978) An attempted integration of the literature on the export behaviour of firms, *Journal of International Business Studies*, 9(1): 33-46.

Bilkey W.J., Tesar G. (1977) An attempted integration of the literature on the export behaviour of firms, *Journal of International Business Studies*, 9(1): 33-46.

Creamer T. (2010) OECD says activist currency policy to avoid overvaluation could benefit SA.http://www.engineeringnews.co.za/article/oecd-says-activist-currency-policy-to-avoid-overvaluation-could-benefit-sa-2010-07-19 (Date of access: 30 May 2011).

Crick D., Al Obaidil M., Chaundry S. (1998) Perceived obstacles of Saudi-Arabian exporters of non-oil products, *Journal of Marketing Practice: Applied Marketing Science*, 47(7): 187-199.

Czinkota M.R., Ronkainen I.A. (2002) International Marketing, Thomson South-Western, Ohio.

Dhanaraj C., Beamish P.W. (2003) A resource-based approach to the study of export performance, *Journal of Small Business Management*, 41(3): 242-261.

Edwards L., Rankin N., Schoër V. (2008) South African exporting firms: what do we know and what should we know?, *Journal of Development Perspectives*, 1(4): 67-92.

Fillis I. (2002) Barriers to internationalisation: an investigation of the small craft microenterprise, *European Journal of Marketing*, 36(7-8): 912-927.

Foster N. (2006) Exports, growth and threshold effects in Africa, *Journal of Development Studies*, 42(6): 1056-1074.

Gumede V., Rasmussen K. (2002) Small manufacturing enterprises and exporting in South Africa: a preliminary assessment of key export success factors, *Journal of Small Business and Enterprise Development*, 9(2): 162-171.

Gumede V. (2004) Export Propensities and Intensities of Small and Medium Manufacturing Enterprises in South Africa, *Small Business Economics*, 22(5): 379-389.

Hollensen S. (2007) Global Marketing: A Decision-Oriented Approach, Prentice Hall, Milan.

Hook R.H., Czinkota M.R. (1998) Export activities and prospects of Hawaiian firms, I*nternational Marketing Review*, 5(4): 51-57.

Jaeger S. (2008) Internationalization in the face of export barriers: a study of New Zealand's firms, PhD thesis, Massey University, New Zealand.http://mro.massey.ac.nz/handle/10179/1390 (Date of access: 31 May 2011).

Krugell W.F., Matthee M. (2012) Finance at firm-level: South African evidence of the links between access to finance, sources of finance and productivity, *Journal of Economic & Financial Sciences*, forthcoming.

Korth C.M. (1991) Managerial barriers to US exports, *Business Horizons*, 34(2): 18-26.

Leonidou L.C. (1995) Empirical research on export barriers: review, assessment and synthesis, *Journal of International Marketing*, 3(1): 29-43.

Leonidou L.C. (2004) An analysis of the barriers hindering small business export development, Journal of Small Business Management, 42(3): 279-302.

Loots J., Krugell W.F. (2011) Public goods and private firms: delivery of infrastructure services and firms' productivity in South Africa. Unpublished manuscript.

Lu J.W., Beamish P.W. (2001) The internationalisation and performance of SMEs, *Strategic Management Journal*, 22(6-7): 565-586.

Morgan R.E. (1997) Export stimuli and export barriers: evidence from empirical research studies, *European Business Review*, 97(2): 68-79.

Morgan R.E., Katsikeas C.S. (1997) Obstacles to export initiation and expansion. *Omega, International Journal of Management Sciences*, 25(6): 677-690.

Mtigwe B. (2005) The entrepreneurial firm internationalisation process in the South African Context, *International Journal of Entrepreneurial Behaviour and Research*, 11(5): 358-377.

Naudé W.A., Oostendorp R., Serumaga-Zake P. (2005) Determinants of manufacturing exports: results from a regional firm-level survey in South Africa, *Studies in Economics and Econometrics*, 29(2), 107-116.

Okpara J.O., Koumbiadis N.J. (2011) Strategic export-orientation and internationalisation barriers: evidence from SMEs in a developing country, Journal of International Business and Cultural Studies. http://www.aabri.com/manuscripts/10469.pdf (Accessed on 17 February 2011).

Rabino S. (1980) An examination of barriers to exporting encountered by small manufacturing companies, *Management International Review*, 20(1): 67-73.

Rameseshan B., Soutar N. (1996) Combined effects of incentives and barriers on firms' export decisions, *International Business Review*, 5(1): 53-65.

Ramaswami S.N., Yang Y. (1990) Perceived Barriers to Exporting and Export Assistance Requirements. In: Cavusgil, S.T., Czinkota, M.R. (Eds.), International Perspectives on Trade Promotion and Assistance. CT: Quorum Books, Westport, pp. 187-206.

Rankin N.A. (2001) The export behaviour of South African manufacturing firms. http://mpra.ub.uni-muenchen.de/16904/1/MPRA_paper_16904.pdf (Date of access: 31 May 2011).

Rankin N.A. (2006) The regulatory environment and SMMEs. Evidence form South African firm level data.http://www.commerce.uct.ac.za/Research_Units/DPRU/Employment_Promotion_Program/PDFS/The_regulatory_environment_and_SMMEs-Rankin.pdf (Date of access: 31 May 2011).

Rankin N.A., Schoër, V. (2008) Exporting, labour demand and wages in South Africa.http://www.commerce.uct.ac.za/Research_Units/DPRU/Conference2008/Conference2008_Papers/Labour%20demand%20and%20exports_Rankin_Schoer_DPRU_Oct.pdf (Date of access: 31 May 2011).

South African Government. (2010) The new growth path: The framework. http://www.info.gov.za/view/DownloadFileAction?id=135748 (Date of access: 31 May 2011).

Suárez-Ortega S. (2003) Export barriers: insights from small and medium-sized firms, *International Small Business Journal*, 21(4): 403-419.

Szabó A. (2002) Internationalisation of SMEs, entrepreneurship and SME's: The UNECE approach, entrepreneurship and SME development.UNECE.

Westhead P., Wright M., Ucbasaran D. (2002) International market selection strategies selected by 'micro' and 'small' firms, *Omega, International Journal of Management Sciences*, 30(1), 51-68.

Wilkinson T., Brouthers L.E. (2006) Trade promotion and SME export performance, *International Business Review*, 15: 233-252

Yang Y.S., Leone R.P., Alden D.L. (1992) A market expansion ability approach to identify potential exporters, *Journal of Marketing*, 56(1): 84-96.

Yaprak A. (1985) Empirical study of the differences between small exporting and non-exporting US firms, *International Marketing Review*, 2(2): 72-83.

STUDIA UBB, OECONOMICA, VOLUME 57, ISSUE 1, 2012

LONG MEMORY AND THIN-TRADING : EMPIRICAL EVIDENCES FROM CENTRAL AND EASTERN EUROPEAN STOCK MARKETS

Alexandru TODEA [*], Anita PLEŞOIANU
Babes-Bolyai University of Cluj Napoca, Romania

Abstract. This study uses generalized Hurst exponent (GHE) to investigate the long-range dependence exhibited by the returns series of six Central and Eastern European Stock markets indexes. Considering the fact that thin trading usually induces spurious correlations in emerging stock markets returns we expect to find, to some degree, an overestimation bias concerning the Hurst exponent. As expected, if controlled for this induced effect, the number of indexes exhibiting long-range returns drops significantly. We also found evidence of how the time-varying pattern of the long-range dependence may essentially affect the design of trading strategies.

JEL Classification: C13, G14, G15

Keywords: generalized Hurst exponent, long memory, stock market indexes, thin trading

1. Introduction

The existence of long-range dependence in returns implies predictability and evidence against the weak form of informational efficiency. The possibility of profitable exploitation of these dependencies by investors through several strategies is sustained, under certain conditions, by Mandelbrot (1971) or Rogers (1997). Despite this, few studies have investigated long-range dependence on the Central and Eastern European (CEE) stock markets, their conclusions depending on the method used to detect long memory and on the period covered.

Thus, Jagric *et al.* (2005) using a wavelet analysis of long-range dependence based on Hurst exponent identifies long memory for Czech Republic, Hungary, Russia and Slovenia and less for Poland and Slovakia. To eliminate the bias introduced by short-run dependencies on Hurst exponents, Cajueiro and Tabak (2006) used a shuffling procedure. Hurst exponents with values significantly

---

[*] Corresponding author. Address: Department of Finance, Faculty of Economics and Business Administration, Babes-Bolyai University, Teodor Mihali 58-60, 400591 Cluj-Napoca, Romania., Tel. +40.264 41 86 52, Email: alexandru.todea@econ.ubbcluj.ro

greater than 0.5 indicate the presence of long memory in all nine markets investigated. In both studies the Hurst exponent is estimated also on a sliding time window in order to capture the temporal variation of the degree of market efficiency in the CEE markets as a result of institutional and structural changes. For most stock markets the results doesn't support a clear trend towards 0.5 and thus, no continuous improvement of efficiency as postulated by the classical Efficient Market Hypothesis. The semi-parametric method of Geweke and Porter-Hudak (1983) and the parametric method of Sowell (1992) were used by Kasman *et al.* (2009) to estimate the ARFIMA models. The results indicate a significant long memory for the Slovak Republic, weak evidence for Hungary and Czech Republic and no evidence for Poland.

It is a known fact that the stock returns of the emergent stock markets are not normally distributed and are heavy-tailed. Barunik and Kristoufek (2010) studied how the sampling properties of the Hurst exponent estimates change with fat tails. They ran Monte Carlo simulations to find out how rescaled range analysis, multifractal detrended fluctuation analysis, detrending moving average and generalized Hurst exponent approach estimate Hurst exponent on independent series with different heavy tails. The results showed that rescaled range analysis and generalized Hurst exponent (GHE) are robust to heavy tails in the underlying process. At the same time, GHE provides the lowest variance and bias in comparison to the other methods. For this reason, we chose GHE to investigate the long-range dependence on the CEE stock markets.

The stock index time series present one or more structural breaks for various reasons, such as institutional changes, the liberalization process or the financial crisis, which may generate spurious long-range dependence. The implementation of the GHE test in sliding time window as well allows us to obtain inferential outcomes robust to possible structural breaks and also to monitor the time variation of the degree of stock markets efficiency.

Thin and infrequent trading is another specific feature of emerging markets and its consequence is a spurious serial correlation induced in the observed stock index returns. Infrequent trading or nonsynchronous trading appears when stocks trade at every consecutive interval, but not necessarily at the close of each interval. Developing a theoretical model, Muthuswamy (2005) showed that in extreme cases the spurious autocorrelation of portfolio returns can reach up to 0.5. The presence of short-range correlations in returns leads, according to Ludescher *et al.* (2011), to an overestimation of GHE. To deal with the problem of infrequent trading, the methodology of Miller *et al.* (1994) is employed in this study. Separating the effects of infrequent trading allows us to draw a conclusion regarding long-range dependence on CEE stock markets.

The remainder of the article is organized as follows: Section 2 outlines the methodology; Section 3 describes the data we have used and presents the results; Section 4 concludes.

2. Methodology

Generalized Hurst exponent

Let *X(t)* denote the time series of stock market index (in logarithmic). The stationary process of returns $Y(t) = X(t) - X(t-1)$ is long-range dependent if autocorrelation function $\rho(\tau)$ of process decays as $\rho(\tau) \approx C\tau^{2H-2}$ for lag $\tau \to \infty$. The parameter *H*, called the Hurst exponent, displays the long memory property of the time series and it can take values in the range $0 < H < 1$. $H = 0.5$ suggests two possible processes – either an independent or a short-term dependent process. If $H > 0.5$, auto-covariances decay hyperbolically and are positive so that the process is persistent. In this case a positive return is statistically more likely to be followed by another positive return and vice versa. On the other hand, if $H < 0.5$, the auto-covariances are negative and the process is anti-persistent. This process implies that a positive return is more statistically probable to be followed by a negative return and vice versa.

In this study we used GHE approach, proposed by Barabasi and Vicsek (1991) and recently re-explored for the financial time series by Di Matteo et al. (2005). Detection of long-range dependence and estimation of GHE is based on *q*-th order moments of the increments of the process *X(t)*

$$K_q(\tau) = \frac{\left\langle \left| X(t+\tau) - X(t) \right|^q \right\rangle}{\left\langle \left| X(t) \right|^q \right\rangle}$$

which scales as

$$K_q(\tau) \approx \left(\frac{\tau}{\nu} \right)^{qH(q)}$$

where the time-interval τ can vary between ν = 1 day and $\tau_{\max}$ days. According to Di Matteo *et al.* (2005) we set $\tau_{\max} = 19$ and *q* = 1 for evaluate $K_q(\tau)$. $H(1)$ describes the scaling behavior of the absolute values of the increments and its value is expected to be closely to the classical Hurst exponent. Having obtained several values of $K_1(\tau)$ for various τ, $H(1)$ can be estimated by running the ordinary least squares regression:

$$\ln\left[K_1(\tau)\right] = a + H(1) \cdot \ln\left(\frac{\tau}{\nu} \right) + \eta$$

where a is intercept and η a disturbance term. The Wald test is used to test the null of $H(1) = 0.5$ (absence of long memory). This Wald statistic has a chi-square distribution with one degree of freedom and is calculated as: $W = \frac{(H(1) - 0.5)^2}{(SE)^2}$, SE being the standard error of GHE.

Estimating the true returns: correcting for infrequent trading

The methodology of Miller et al. (1994) removes the effect of thin trading by a moving average model that reflects the number of nontrading days. Given the difficulties in determining the nontrading days, they show that it is equivalent to estimate an AR(1) model:

$$Y_t = \gamma_0 + \gamma_1 Y_{t-1} + \varepsilon_t$$

The adjusted returns are computed using the model's residuals as follows:

$$Y_t^{Adj} = \frac{\varepsilon_t}{1-\gamma_1}$$

where Y_t^{Adj} is the adjusted return for thin trading at time *t*. According to Antoniou and Ergul (1997) this model assumes that nontrading adjustment is constant over time. Because this assumption may be not correct for emergent stock markets the AR(1) model is recursively estimated.

3. Data and Empirical Results

Data

The data comprise daily closing values for six CEE stock market indices, the starting day being given in brackets: Czech Republic (PX50, from 7 September 1993), Hungary (BUX, 2 January 1991), Poland (WIG, 6 January 1994), Romania (BET, 19 September 1997), Russia (RTS, 1 September 1995) and Slovakia (SAX, 3 July 1995). The last closing value for each index is 16 March 2011, the samples length varying between 3826 and 5061 observations.

Empirical results

GHE were estimated with both observed and adjusted data over entire sample period and the results are summarized in Table 1. Considering observed data all stock markets have long-range dependence, GHE ranging from 0.5509 for Hungary to 0.586 for Romania. This results are similar with those found by Jagric *et* al. (2005) or Cajueiro and Tabak (2006). Taking into consideration the thin trading, the conclusion changes substantially, Poland and Slovak Republic being the only markets with long memory in returns. Within these two markets, GHE could be overestimated due to the presence of autocorrelations of higher order than 1, which is why they have been re-estimated for the data filtered by these short-run dependences. The autocorrelation structure is removed by an autoregressive model which includes only those lags (max = 20) for which the partial autocorrelation function of the observed returns series is significantly different from zero. The presence of long-memory is confirmed this time also, the values of GHE being 0.5583 (0.0041) for Poland and 0.5875 (0.0054) for Slovak Republic, results which support those obtained by Kasman *et al.* (2009) for these markets.

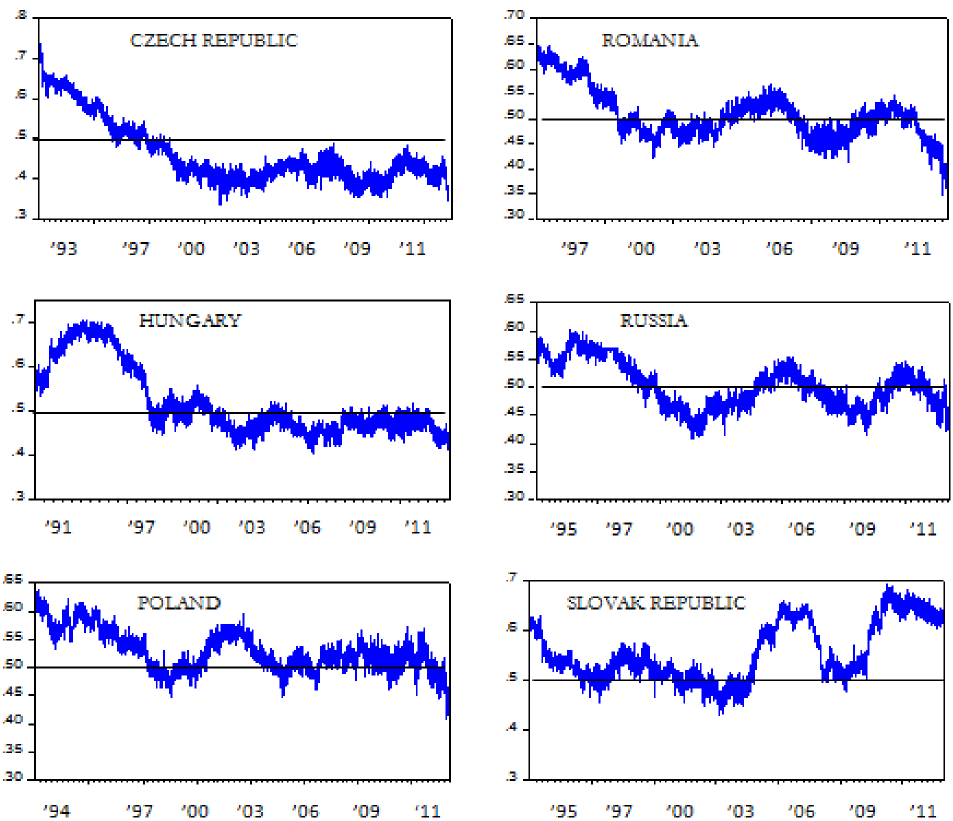
The implementation of the GHE in a sliding time window allows us to monitor the long-range dependence over time. The window length is 512 to ensure comparability of results with those of earlier studies. According to Fig. 1, the first part of the interval confirms the presence of long memory for all stock markets. The evolution after year 2000 divides the markets in two categories: markets (anti-persistent process - Czech Republic and Hungary; persistent process - Slovak Republic) where the dynamic of GHE indicates long memory and markets (Poland, Romania and Russia) where long memory is manifested only in certain subperiods (sporadic; episodic). A special case is Poland where, after year 2003, GHE tend to 0.5, pointing out that acceptance of long memory hypothesis over entire sample is due to the evolution in the first subperiod.

Table 1. The results of autocorrelation test (AC) and GHE test over full sample period

Market	AC (Lag = 1)	Observed data		Adjusted data	
		H(1)	*W*	$H^{Adj}(1)$	*W*
Czech Republic	0.197*	0.5823 (0.0047)	306.62	0.4913 (0.0307)	0.08
Hungary	0.089*	0.5509 (0.0065)	61.32	0.5151 (0.0109)	1.91
Poland	0.026	0.5600 (0.0115)	27.22	0.5492 (0.0056)	77.18
Romania	0.162*	0.5860 (0.0061)	198.76	0.5272 (0.0247)	1.21
Russia	0.146*	0.5829 (0.0055)	227.18	0.5254 (0.0241)	1.11
Slovak Republic	-0.009	0.5829 (0.0075)	122.17	0.5747 (0.0080)	87.18

Notes: * denotes significance at 1% level. The numbers in parentheses are the SE. The critical values of the Wald test are 3.8 and 6.6 at the 5% and 1% levels.

Figure 1. Time series plots for $H^{Adj}(1)$ and *H(1)* (for Poland and Slovak Republic) of rolling GHE test over full sample period



4. Conclusions

This study uses GHE to investigate long-range dependence in the returns of six CEE stock markets. Thin trading generates a spurious autocorrelation of returns in case of four markets which leads to an overestimation of GHE and thus, to the acceptance of long memory hypothesis for the entire sample. After eliminating the effect of thin trading, long memory is found only for Poland and Slovak Republic.

The temporal variation of the GHE displays for Poland, Romania and Russia an erratic dynamic with episodes alternating persistent and anti-persistent behaviour. This instability reduces the possibility of constructing profitable strategies for these markets. The persistent behaviour displayed for Slovak Republic can sustain *momentum* strategies while the anti-persistent behavior displayed for Czech Republic and Hungary recommends *contrarian* strategies.

Acknowledgements

We would like to thank the author Tomaso Aste for his generosity in sharing the Matlab code of GHE test. The code was adapted for the rolling window approach.

REFERENCES

Antoniou A., Nuray E. (1997) Market efficiency, thin trading and non-linear behaviour: evidence from an emerging market, *European Financial Management*, 3 (2) : 175-190.

Barabasi A.L., Vicsek T. (1991) Multifractality of self-affine fractals, *Physical Review A*, 44 (4) : 2730-2733.

Barunik J., Kristoufek L. (2010) On Hurst exponent estimation under heavy-tailed distributions, *Physica A*, 389 (18) : 3844-3855.

Cajueiro D.O., Tabak M.B. (2006) Testing for predictability in equity returns for European transition markets, *Economic Systems*, 30 (1) : 56-78.

Di Matteo T., Aste T., Dacorogna M. (2005) Long-term memories of developed and emerging markets: Using the scaling analysis to characterize their stage of development, *Journal of Banking and Finance*, 29 (4): 827-851.

Geweke J., Porter-Hudak S. (1983) The estimation and application of long memory time series models, *Journal of Time Series Analysis*, 4 (4): 221-38.

Hurst H.E. (1951) Long-term storage capacity of reservoirs, *Transaction of the American Society of Civil Engineers*, 116: 770-808.

Jagric T., Podobnik B., Kolanovic M. (2005) Does the Efficient Market Hypothesis Hold? Evidence from six transition economies, *Eastern European Economics*, 43 (4): 79-103.

Kasman S., Turgutlu E., Duygu Ayhan A. (2008) Long memory in stock returns: evidence from the major emerging Central European stock markets, *Applied Economics Letters*, 16 (17): 1763-1768.

Ludescher J., *et al.* (2011) On spurious and corrupted multifractality: The effects of additive noise, short-term memory and periodic trends, *Physica A*, doi:10.1016/j.physa.2011.03.008.

Mandelbrot B. (1971) When can price be arbitraged efficiently? A limit to the validity of the random walk and martingale models, *Review of Economics and Statistics*, 53 (3): 225-236.

Miller M.H., Muthuswamy J., Whaley R. E. (1994) Mean reversion of Standard & Poor's 500 Index basis changes: arbitrage-induced or statistical illusion?, *The Journal of Finance*, 49 (2): 479-513.

Muthuswamy J. (2005) Non-synchronicity in asset prices and incorrect rejections of market efficiency, Discussion paper, mimeo, Academy of Finance Annual Meeting, MBAA International, University of Chicago.

Rogers L. (1997) Arbitrage with fractional Brownian motion, *Mathematical Finance*, 7 (1): 95-105.

Sowell F. (1992) Maximum likelihood estimation of stationary univariate fractionally integrated time series models, *Journal of Econometrics*, 53 (1-3): 165-188.

STUDIA UBB, OECONOMICA, VOLUME 57, ISSUE 1, 2012

ACCOUNTING, CAPITALISM AND POPULAR CULTURE: IRISH NATIONALISM, TRANSCENDENCE AND CONTROL IN 2000s PUNK ROCK

Kieran JAMES
University of Southern Queensland, Australia

Aida SY *
School of Management Marist College, USA

Tony TINKER
Baruch College City University of New York, USA

Christopher J. TOLLIDAY
James Cook University, Australia

Abstract. Karl Marx wrote that 'men [*sic*] make their own history but they do not make it in the circumstances of their own choosing'. This paper studies the lyrics of two widely respected 2000s punk rock bands Rancid and the Dropkick Murphys. With the Marx quote in mind, we expect that both bands will address the social and political conditions of the (post-) modern, post-Communist age whilst retaining some of the left-wing quasi-Marxist radicalism that is now an established part of the punk rock ethos. We find that Rancid has an 'emotive proletariat spirit' that identifies with San Francisco's East Bay region as a place of working-class oppositional 'otherness' and with a globalized proletariat exploited by global capital and authoritarian regimes. The Dropkick Murphys plays to an 'insider' audience fully aware of the Irishness myth which has known 'signifieds' of left-wing radicalism and a Catholicism that refuses to unambiguously identify itself as simply 'cultural'. The band's trade union anthems reflect a nuanced understanding of orthodox Marxism. By contrast, the Murphys' Offspring-like 'personal politics' lyrics are somewhat less successful as the mapping of personal politics on to the social totality remains fraught with difficulties. Does a one-night stand giving you the taxi fare to leave her house the next morning really equate to 'the meanest of times'?

JEL Classification: M41, Z1

Keywords: The Clash; Dropkick Murphys; existentialism; Irish Diaspora; Irish Nationalism; Punk rock; Rancid; The Sex Pistols.

* Corresponding author. Address: Marist College, School of Management, 3399 North Road Poughkeepsie, NY 12601-1387 USA. E-mail: aida.sy@marist.edu

1. Introduction

‘Players only love you when they’re playing’, Fleetwood Mac, ‘Dreams’, from the *Rumours* album, 1977.

The J. G. Ballard novel *High Rise* (1998, originally published 1975), reported to be an inspiration for punk rock band the Clash in the writing of its 1977 song ‘London’s Burning’ (Gilbert, 2004, pp. 39, 94, 148), highlights what may well be the perception of some non-accountants in the broader community towards cost-accounting and the cost-accountant. The impression that Ballard puts across to his readers is that cost-accounting is a Foucauldian power-knowledge system used by socially inept, small-time back-room bureaucrats to regulate and control the destinies of human beings. This is largely a valid view since accounting, although a form of alienated labour, is a tool used in the service of capital to direct capital into the areas in which it will generate the highest ‘rate of profit’. Jinnai, drawing upon Marx’s *Capital* Volume 2 and the whole idiosyncratic Japanese Marxist literature in accounting, refers to accounting as the brain and the ‘self-consciousness’ or ‘self-awareness’ of capital whilst also being a form of (unproductive) labour (Jinnai, 2009; Marx, 1978, p. 211). This paper explores the associations between accounting, economic rationalism, capitalism, political correctness, emanicipatory Marxist critique, and contemporary punk rock music. It understands that contemporary punk rock cannot fail to build upon what has gone before within the punk music genre, including the British ‘first wave of punk’ led by late-1970s bands the Sex Pistols, the Clash, and the Exploited. The question which we explore is: Does contemporary punk rock still contain a Marxist critique of capitalism (and its hegemonic tools such as accounting) or has it retreated completely into the post-modern world of ‘personal politics’? Can punk remain a living critique of hegemonic institutions or has the logic and profit-maximizing drive of the recording industry co-opted punk music and made it simply another part of the ‘product’ which it is selling as Joe Strummer of the Clash commented as long ago as 1978 when, in the song ‘White Man in Hammersmith Palais’, he accused the trend-jumping Roxy Club bands of ‘turning rebellion into money’ (James, 2010, p. 101)?

There are times when the interests of capital and labour temporarily coincide such as investment in projects which will generate returns sufficiently high to pay high dividends and high wages (if the employer is willing to do so) and to generate substantial new employment. In such cases if the accounting system output and the financial management projections are unbiased then both capital and labour benefit. However, as Tanaka (2006) explains, accounting forms a part of the capital. It is the part of capital that capital uses as a living organism to check and measure the valorization of itself (Jinnai, 2009). There will be times when the interests of capital and labour conflict, such as, in Marx’s terms, when the rate of exploitation is raised (surplus-value divided by the value of labour or s/v) and when workers are paid below the customary minimum wages established in their branch of industry (Marx, 1976, p. 1070). In many cases capital may perceive that wage rises would not be matched by productivity increases and hence would impact negatively upon the bottom-line. The neo-liberal project, ushered in by Thatcher and Reagan in the 1980s, continued by Blair, and now returned to with a vengeance by the Liberal Democrats-Conservative coalition in the UK, has valiantly attempted to stop the declines in the rates of profit experienced in both countries. The neo-liberal project has been partially successful with profit rates rising in both countries after 1980 in the UK and after 1985 in the USA (Li, 2008, Figure 5.2, p. 118, Figure 5.3, p. 120). The firing of workers, when industry is being downsized or less labour-intensive new machinery is being introduced, harms workers but may raise profits. Capital and labour are both self-interested and hence their respective interests may well conflict.

Saravanamuthu and Tinker (2003) provide a theoretical framework of management accounting consistent with the Marxist/ labour process theory perspective. Here middle managers may side with labour or capital depending on whether labour's 'leverage of dissent' is low, medium, or high. A middle manager, a rank classified as 'labour' by the authors, is more likely to side with labour where labour's leverage of dissent is either high (intuitively) or low (counter-intuitively). The manager identifies with the workers and her/his skill set and marketability have close correlations with those of the workers. Where external competitive pressures threaten the division the middle manager *may* side with labour and effectively boycott the budgeting process by manipulating divisional profit upwards. This may stave off the immediate destruction of the division. However, one insight of Positive Accounting Theory is that 'accruals reverse'. Sooner or later the profit manipulation will be revealed through the accounting system. At that time capital will be withdrawn from the poorly performing division as Japanese MNC Mitsubishi did when it closed its Adelaide (Australia) manufacturing plant in 2008. Divisional managers have strong incentives, at least in the short term, to side with labour against capital and to manipulate divisional profit upwards. This is often achieved by means of cost allocation and transfer pricing. Even middle managers in production and marketing divisions have economic and psychological incentives to gain a basic knowledge of accounting so that they can manipulate accounting profit for the purpose of attracting resources (and the power that accompanies these resources) into their divisions.

Popular culture has often been a source of encouragement, empowerment, and resistance for those exposed to the harshness of the free market and the capitalist mode of production. Punk rock music served as an important countercultural voice of opposition during periods of conservative political hegemony such as that of the Thatcher Government in the UK (1979 to 1990) and the Joh Bjelke-Petersen Government in Queensland, Australia (1968 to 1987). Punk is regarded rightly as the most overtly political of all musical genres. However, the mid-1990s witnessed an explosion of platinum selling commercially successful young bands coming out of the USA that self-consciously traded on the legitimacy and authenticity of the 'punk rock' signifier but dealt with lyrical themes of a largely interpersonal nature. The music was extremely poppish and a new name 'pop/punk' was coined for these bands. Has the punk rock music scene died a natural death with commercial forces rendering this great countercultural movement a caricature of its former self and simply another vehicle for the accumulation of capital? Or does the original counter-hegemonic ethos of punk live on in some of today's most important bands even if the message is less directly Marxist or Communist than was the case earlier? To begin to address these questions this paper studies song material from Rancid and the Dropkick Murphys, arguably the two most important punk as opposed to pop/punk, bands of the second half of the 1990s and the 2000s. To give the paper a contemporary feel we restrict ourselves to discussion of songs released for the first time in 2000 and following years.

The remainder of this paper is structured as follows. Section 2 provides a brief history of punk music. Section 3 presents the theoretical framework. In Section 4 we discuss three Rancid songs, ‘East Bay Night’, ‘Stand Your Ground’, and ‘Rwanda’, while in Section 5 we discuss two Murphys’ songs ‘Workers’ Song’ and ‘Rude Awakenings’. Section 6 concludes.

2. ‘Turning rebellion into money’: a short and very abridged musical and cultural history of punk rock

Rather than discussing the American proto-punk and punk bands of the late-1960s and early-1970s, we begin this section with a discussion of the more overtly political Sex Pistols, which formed in West London in the second half of 1975. We begin with the Sex Pistols since the Sex Pistols is regarded by many people even today as the most important punk band in music history. Steve Severin, an early punk scene identity, stated to the authors of the Johnny Rotten/Lydon biography *Rotten: no Irish, no blacks, no dogs* in 1994 that he felt that no music movement since punk’s [British] first wave had been able to present ‘such an awesome ideology and attitude’ to the music world and to the broader society (cited in James, 2009, p. 128; Lydon et al., 1994, p. 185). The message of the Sex Pistols was frequently characterized as ‘anarchist’, since the band’s lyrics attacked the established ruling-class British institutions of the Royal Family, government, and parliament (James, 2010, pp. 98-9). Vocalist Johnny Rotten aka John Lydon’s intention with his lyrics was always to get people to think for themselves after he had confronted them ‘with their own fears, contradictions, and hidden prejudices’ (James, 2010, p. 106). Contrary to the conventional wisdom, this was intelligent music and not simply music designed to shock. Consistent with the anarchist tag, the band never attempted to present any vision of a promised future utopia, Communist, religious, or otherwise. By contrast, the Clash, which rose to prominence around one year after the Pistols and continued eight years longer, was built around vocalist/ guitarist Joe Strummer’s quasi-intellectual synthesis of Marxism, French existentialism, and Third World Communism. That the Clash managed to survive for eight years is testament to the durability, validity, and integrity of Strummer’s original vision of and for his native England.

Strummer’s left-wing and existentialist influences came primarily from 1960s Jewish coffee-shop intellectuals, the recently departed Malcolm McLaren, manager of the Sex Pistols (died 8 April 2010), and McLaren’s friend, Bernie Rhodes, manager of the Clash (Gilbert, 2004; Savage, 2005; Salewicz, 2006).[1] Strummer was also influenced, as Chris Salewicz’s (2006, pp. 38, 44, 77) full-length biography reveals, by his civil-servant father’s lessons in intellectual Marxism that may well have been of the Althusserian (structuralist) variety. Strummer’s own experiences in menial part-time jobs and ‘squatting’ for free in old houses about to be demolished in the Camden Town and Notting Hill areas of West London were instrumental in giving his intellectual left-wing views a harsh practical proletarian

[1]According to Salewicz (2006, p. 19) and many others, Jon Savage’s (2005) *England’s Dreaming* is ‘the definitive account of the [first-wave of British] punk era’ (usually defined as 1976 to 1978).

bent. As Salewicz (2006, p. 109) explains, Strummer was attracted to squatting because ‘within the very notion of the squatting movement there was something of a political act, even though it might have been only the politics of outlaw idealism’. The debut self-titled Clash album, released on 8 April 1977 (CBS 82000), was a potent mix of theory, practice, and Strummerisms, fuelled by the fresh memories of real-life adventures in the dole offices, the subway, and the 1976 Notting Hill Festival (with its accompanying now mythical riot) (Gilbert, 2004, pp. 140-60; James, 2009, pp. 133-5; Salewicz, 2006, pp. 178-82). In Gilbert’s (2004, p. 148) words, ‘*The Clash* deals with boredom, identity crises, the brutality of a modern, concrete environment, drugs, unemployment, deceit, frustration, [and] rejection’. In a review of the self-titled album upon its release, Mark Perry of the *Sniffin’ Glue* fanzine wrote: ‘It is the most important album ever released. It’s as if I’m looking at my life in a film’ (cited in Gilbert, 2004, p. 149; James, 2009, p. 134). The Clash’s decision to sign with hyper-capitalist major record label CBS (now submerged within the Sony group) still divides the punk rock community to this day. Strummer took an interest in Third World Revolutionary struggles, from Chile to Nicaragua to Vietnam to the Spanish Civil War, and was a committed opponent of American imperialism. However, Clash biographer Pat Gilbert (2004, p. 283) puts forward the interesting view that Strummer’s best work remains his tales of outcast characters trying to survive just another day in the urban jungle of Thatcherian London. After all this was the world that Strummer himself had most knowledge of. The masterful ‘Something about England’, discussed in James (2009, pp. 137-41), recounts the colourful memories of a war veteran that Strummer meets on the late-night streets of the capital. In a very Marxist message, which also comes across as distinctly honest, the old man sums up a lifetime of experiences by concluding that, regardless of technological and cultural change, ‘Old England’ and ‘New England’ are one and the same. Income inequality and poverty in both Old England and New England remain the most important sociological truths about both these societies. We have here the Althusserian tenet that the ‘class struggle is the motor of history’ (Althusser, 2008, p. 80). Young left-wing punk/indie-rock band the Enemy, from Coventry, takes up these themes in its albums *We’ll Live and Die in These Towns* (2007) and *Music for the People* (2009). In the first album, we have lyrics such as ‘the toilets smell of desperation’, ‘and you wonder why you can’t get no sleep/ when you`ve got nothing to do, and you`ve had nothing to eat’ and ‘you can’t go out if anybody calls ya/ cos you can’t have a bath when there`s no hot water’ (all lyrics from ‘We’ll Live and Die in These Towns’).[2] In the second album, the attack on Blair (‘another Thatcherite’) is ramped up and the Enemy pays homage to the Clash on the song ‘Don’t Break the Red Tape’ with the beat of ‘London Calling’ being used as the backdrop for the Enemy’s update of the earlier song’s potent social commentary. The maturity of the band’s thinking is evident on the following lyrics selected from ‘Don’t Break the Red Tape’: ‘Welcome to England where there is no love, where the dreams of children vanish in the dust/ where the young and old die living in their sleep, and the only excitement’s a supermarket sweep’. We see here how punk is Hegelian in that it contrasts the Absolute Idea, free and prosperous England, with its current actual manifestation. There is always the possibility that a better synthesis can emerge (James, 1980). However, ‘the

2 http://www.lyricsmania.com/well_live_and_die_in_these_towns_lyrics_enemy_the.html [accessed 22 July 2010].

real is rational' and emancipatory potential must be looked for inside the present order (James, 1980). So Rancid's Armstrong sings, 'Liberty and Freedom' in the chorus of the 2009 song of the same name, and then there is a long pause in the vocals until we hear 'Quotations spray-painted on the wall'.[3] For Armstrong, the ideal can break into the current Actuality only through the hope expressed in wall graffiti probably written by some no-name local youth. Punk holds the ideal and the real in constant dialectical tension. This has always been one of the movement's greatest strengths. Young bands such as the Enemy and Gallows (to be discussed shortly), by choosing to walk within the ethos of punk, validate the Slovenian philosopher SlavojŽižek's (2008) point that the emancipatory impulses in prior movements have an excess over the real social conditions that once propelled them and that this excess awaits future embodiment. In Žižek's (1980, p. 141) words: 'The excess of revolutionary enthusiasm over its "actual social base" or substance is thus literally that of an attribute-effect over its own substantial cause, a spectral Event waiting for its proper embodiment'.

Returning to our Sex Pistols' discussion, the Pistols broke up unexpectedly immediately after the last date of the band's debut American tour on 14 January 1978 in San Francisco. Johnny Rotten's famous last words to the crowd at what would be the band's last show (prior to the 1996 and following reunion tours) were 'Ever get the feeling you are being cheated?' These words take on a deep significance as the band had railed against the alienation and injustices of British capitalism, and now Rotten was asking himself whether the continued existence of the Sex Pistols would simply affirm such alienation and dashed dreams rather than work to counteract them. McLaren, by this time, had fallen out with Rotten and claimed that he [Rotten] had fallen victim to the 'rock-star vocalist' myth that he had originally despised. It is hard to agree with McLaren on this point. Rotten disputed McLaren's decision to go to Brazil to record a song with train robber Ronnie Biggs early in 1978 claiming that Biggs had 'stolen working-class people's money'. Rotten's integrity here is at complete odds with the efforts of McLaren to paint him as a vain rock star enticed by fame. In 2010, a 50-something Rotten, still with orange hair and earrings, cut to the chase on the BBC TV program *Seven Ages of Rock* (Episode 3, entitled 'Blank Generation', original BBC airing date 2 June 2007) by remarking that his motive in the Sex Pistols had been to 'shake up the society that had oppressed working-class people'. Rotten would agree thoroughly with C. L. R. James' (1980, p. 155) statement that '[i]t is not the plan which will free the proletariat. Only the proletariat can free the plan'. Alternatively, in Lenin's words, Bolshevism is equal to electrification plus the soviets. Social stratification and its effects remained for the Sex Pistols, or at least for Rotten, a primary target 30 years on. Rotten continued to view the band as a vehicle for repressed proletarian outrage rather than as simply a provider of entertainment to a 'market' or a 'demographic'. In the wake of the Sex Pistols' original breakup, Sid Vicious[4] allegedly murdered his American girlfriend Nancy Spungeon in the decrepit surroundings of New York's Chelsea Hotel (a totally 'punk' venue, in some people's thinking, although such a view is woefully naive). Shortly after this, Vicious himself died, aged 22, from a heroin overdose. Sid's remains the totally

[3] http://www.plyrics.com/lyrics/rancid/libertyandfreedom.html [accessed 25 July 2010].
[4] The Sex Pistols replaced bassist Glen Matlock with Sid Vicious aka John Beverly aka Simon Ritchie in February 1977.

mythical 'punk death' in many people's opinion especially for those who fail to understand that there is a crucial world of difference between a Sid Vicious and a Johnny Rotten. This difference is, literally, the difference between life and death, as Rotten himself explained in his 1994 autobiography *Rotten: No Irish, No Blacks, No Dogs* (Lydon et al., 1994, p. 261). The late-1970s was an age of alienation and certainly Sid, the son of a junkie mother and an absent father, had been more alienated than most. Always a 'lost soul', gentle, misguided, and naïve (but quite willing in moments of frustration to torture cats in the council tenements), Vicious took his 'Sid Vicious' persona literally to his downfall whereas John Lydon realized that his 'Johnny Rotten' persona was simply that, a provocative stage act and a game. Given this, some may see significance in the sad fact that Sid's ashes were accidentally dropped in Heathrow Airport and are now doomed to float forever through the ghostly and ghastly arrival halls and air-conditioning vents of that symbol of alienation itself. Surely even Sid, the anti-thesis of Rotten, deserved a better fate.

Returning now to the Clash, the band's best years were behind it by 1982 when guitarist Mick Jones and drummer Nicky 'Topper' Headon were fired at the hands of Strummer, Simonon, and Rhodes (Gilbert, 2004, pp. 318-20, 339-44; Salewicz, 2006, pp. 330-1, 356-62). Strummer and Simonon continued on, and in an idealistic move, replaced Jones and Headon with three young unknown provincial punks who did their best but found the Clash legacy impossible to live up to. The Clash's spontaneous seventeen-day busking tour of Scotland and the north of England in May 1985 (Salewicz, 2006, pp. 376-8) suggests a charming belated attempt to 'return to the revolution', in the spirit of the Chinese Cultural Revolution, but life by this time had seemingly passed the punks by. Whilst this tour was warmly appreciated by hardcore fans it failed to set the world on fire. By 1985 the harsh light of day seemed to indicate that it was Thatcher rather than the punks who had prevailed. Gilbert (2004, p. 349) makes the following perceptive remarks about the Clash Mark II, circa 1984-1985: 'But the sense of a group trying vainly to recreate the anger, aggression and even iconography of punk was overwhelming and dispiriting. … In 1977, The Clash *were* the culture, the two things seemed inextricable: punk suffused every aspect of the creative arts and even politics. Now the group looked dangerously like being just another band' [original emphasis].

The Clash Mark II finally split in 1985, exactly halfway through Thatcher's Prime Ministership and immediately after the release of the band's least influential album *Cut the Crap* (released 8 November 1985 as CBS 26601). *NME* finally announced the Clash's official split in its 23 November 1985 issue (Salewicz, 2006, p. 390). Despite its shortcomings, the final Clash album does contain one last salvo, 'This is England', the brilliant mature reflections of Strummer on the neo-liberal nation that Thatcher had created. Although the Clash does not mention accounting by name clearly it was one of the band's targets given accounting's use by the neo-liberal project to enforce the will of capital on to the workforce, the labour unions, and the unemployed during the Thatcher era. No-one could reasonably dispute this claim. On 'This is England' the opening sounds of children's voices at play and the emotion-drenched bass lines give way to Strummer's pessimistic last judgements upon the harshness of English society after five years of Thatcherism. Even today the song is chilling and extremely powerful in its effect, but by the end one finds oneself encouraged as Strummer's own depression gives way to something approaching hope. What we have in the song is basically Strummer, in his honest nakedness, being forced to encourage himself as there no-one around him left to do the encouraging for him - the Sex Pistols are long gone, punk has dried up, Mick Jones has been fired, and the country is in a depressed comatose state cut up and hung out to dry by Thatcherism. We become aware that it is the struggle itself that is the source of Strummer's hope as much as it is the response to hope. The chorus lines 'This is England/ that knife of Sheffield steel', point us back immediately to the nature of manufacturing industry in the country and make the implicit claim that England has become what it has produced; more specifically it has become a heartless and violent place consistent with its production of weapons of steel in the industrial wastelands of Sheffield. The production of weapons of steel is also the story of the creation of national character. The steel bayonets used to win at Waterloo remained, throughout the nineteenth century, a symbol of the power and the brutality of the Empire. Throughout that century bayoneting someone with the knife of Sheffield steel was considered much manlier than actually firing the rifle (Hinton, 1998, p. 15). England has literally become, in its essence, the weapons of steel that it has produced. This reference to the nature of manufacturing industry is then augmented by the lines 'This is England/ this is how we feel' where an honest outpouring of raw emotions is permitted to colour the discourse. 'Feel' has a dual meaning here referring to both feelings associated with life in England and the literal feel of bayonets through flesh. Similarly, we recall Rotten singing, on the Sex Pistols' song 'Pretty Vacant' (1977), 'So stop your cheap comments because we know what we feel'.Emotions are validated as being the product of authentic lived experiences and are held up as the dialectical opposite of glowing GDP and production statistics. Modern English punk band Gallows, in the song 'London is the Reason' from the *Grey Britain* album of 2009, angrily proclaims 'we hate you and we hate this city!' the strong emotions here being acceptable and cathartic within the cultural norms of punk rock.[5] The Gallows' refreshing song and the album title also highlight both new and old punk rock's connections to place (to be discussed in the next section). 'We hate you and we hate this city' is important because it points to the band's emotional rejection of the dominant ideology of the London ruling elite. It suggests a 'ground-zero' existentialist 'subway-ethics'. The band calls itself 'rats', a likely reference to a life lived in the subway where the band only comes up for air and for a bite to eat at the pub before disappearing again underground into the catacombs of the city. London is a city where the working-class spends a large part of its time underground, social stratification again. To cite the lyrics: 'We are the rats and we run this town/ We are the black plague bearing down/ We have no fear, and we have no pity/ We hate you, we hate this city'.[6] This attitude, pointing as it does not to lawlessness but to 'ground-zero', stripped-down existentialist ethics, is refreshing in a society gone mad with political correctness (Žižek, 2008, p. 276). As Žižek (2008, p. 249) carefully explains, 'what we usually consider as madness (the paranoid scenario of the conspiracy against the subject) is effectively already an attempt at recovery' because 'after the complete psychotic breakdown, the paranoid construct is an attempt by the subject to re-establish a kind of order in his [*sic*] universe'.

[5]The official uncensored Youtube.com video clip of 'London is the Reason' by Gallows is at http://www.youtube.com/watch?v=7RcDzVqI250 [accessed 25 July 2010].
[6] http://www.plyrics.com/lyrics/gallows/londonisthereason.html [accessed 20 July 2010].

The first-mentioned author recalls spending some time in Paddington (West London) before and after taking the fast train to Heathrow. The nearby shops are full of souvenirs for sale including Royal Family and Lady Diana souvenirs. One feels that the South-Asian salesmen at these shops, by not being bound in any way to the meaning of the British ideology, strip this ideology of much of its power and render it quite laughable. Of course we are also aware that this capitalist product must produce a reasonable sales turnover for the stores or it would disappear. Still, we cannot help smiling with the South-Asian storekeepers who sell an ideology that has never helped them and in which they in no way believe in.

We shall briefly turn to discuss the title of Strummer's last punk anthem 'This is England'. The title is very powerful but what is the source of its power? The literal meaning of the words is that 'this' (Thatcher's England) is or is equal to 'England'. Many might interpret this title to mean 'Whatever has happened to England?' since 'England equals England' does not seem to be a very meaningful statement to make. Even this common interpretation seems to fill out too much or overdetermine but it relies on shared meanings within the punk scene. It requires us to continue to believe in 'England' as a signifier of an emancipatory vision, the Hegelian Absolute Idea. If we recognize this signified then the title should properly be in the form of a question, probably its intended reading, such as 'This is England?' or a statement 'This is not England'. According to such a totally plausible reading, Strummer is highlighting that, in Thatcher's England, the contradiction between 'this' (the lived reality) and the emancipatory vision has become untenable. The Thatcherian reality is in danger of rendering the emancipatory vision a clear falsehood devoid of any truth content. The song's message then becomes a clear 'save our country' or perhaps 'save our dream'.

By 1994, the focus of the punk rock movement had switched stateside to the new wave of vibrant young bands coming out of the 'East Bay' region, on the east side of the San Francisco Bay, and the whitish commuter suburbs of Los Angeles (James, 2010). These bands made up the so-called 'second wave of punk', more often referred to as the 'SoCal' scene (James, 2010, pp. 101-4). This movement peaked in popularity in the years 1994 to 1996 although the movement's leading bands still plough on today (James, 2010). Arguably all popular music movements, especially in counter-cultural 'alternative' scenes such as grunge, heavy-metal, punk, and rap, require a group of more commercial bands to raise the profile of the movement and ensure financial success and a second group of less commercial and more 'authentic' bands that give the movement integrity and a more obvious link to the past. In the 'SoCal' movements the multi-platinum acts included Blink 182 from Poway, San Diego County, California; Green Day from Berkeley in the East Bay; the Offspring from Huntington Beach, Orange County, Los Angeles; and Sum 41 from Ajax, Southern Ontario, Canada (James, 2010, pp. 101-2). The movement had its 'Christian bands' in MXPX from Bremerton, Washington and Squad Five-O from Savannah, Georgia (James, 2010, pp. 102-4). On the other side of the spectrum were the harsher less mainstream sounds of NOFX and Rancid, both also Californian bands (James, 2010, p. 102). As Žižek (2008, pp. 81-2) writes, the SoCal bands retroactively retrieve and redeem punk's past by filling in the present and working towards the future. The same comment can be made about Glen Matlock's inclusion in the Pistols' line-up for the band's 1996 reunion tour; this inclusion retroactively retrieves and redeems the historical error that was replacing Matlock with Vicious in 1977. Towards the tail-end of the 1990s NOFX and Rancid were joined at the top of the punk pyramid by Irish-American nationalist (but left-wing) band the Dropkick Murphys from Quincy in the Boston metropolitan area, Massachusetts, USA. Amazon.com reviewer 'Tankery' Tankery of New Orleans states that 'the Murphys' (as the band is often called) is: '…in the same class as Rancid as a hard-driving guitar-driven punk-derived band that never lets up and writes incredibly well-done songs.The lyrics are funny and literate and political and the complexity of the music puts them in a category all their own' [posted 27 March 2004; accessed 9 November 2009].[7] The Murphys rejoice in an Irish-Catholic nationalism that is thoroughly romanticized and ahistorical. It is far more a product of Boston and the immigrant experience than it is of Dublin. The band takes advantage of the shifting identities of post-modern societies so that, on the one hand, Irish nationalism is a key element of the musical 'product' sold by the Murphys but, on the other hand, it is simultaneously an authentic attempt to ground one's actions and values in a traditional culture and cultural narrative. At the Murphys' appearance on the 2003 Warped Tour Festival at Youtube.com, playing 'Workers' Song', a large Irish tricolour flag can be seen (at 3:17-20 of the video clip) towards the back of the festival crowd.[8]Amazon.com customer reviewer Marc A. Coignard of Denver, Colorado correctly states that with *Blackout* in 2003 the Murphys are 'sticking with themes of the Working Man vs. The World' (posted 20 October 2004; accessed 9 December 2009).[9]Class struggle themes in Murphys' songs tend to be limited to expressions of trade union solidarity that are highly emotional but true theoretically to orthodox Marxism. There is a more general sympathy for the oppressed that could be viewed as Marxist or simply as humanitarian (or even as Roman Catholic). This sympathy for the oppressed is balanced by repeated calls for personal responsibility and treatises against the 'victimhood' mentality (as in songs 'Echoes on A Street', 'Loyal to No One', 'Tomorrow's Industry', 'Vices and Virtues', and 'Walk Away'), aspects of the Murphys that we do not find in Rancid. On the band's most recent album, 2007s *The Meanest of Times*, the band eschews trade union songs in favour of a postmodern Pistolsesque focus on 'personal politics'. Although the 'personal politics' and responsibility themes have been apparent on earlier albums, the increased emphasis on such themes on *The Meanest of Times* could signify a change in philosophy for the band.[10] The song 'Tomorrow's Industry' even

---

7 http://www.amazon.com/Blackout-Dropkick-Murphys/product-reviews/B00009IB0X/ref=cm_cr_pr_link_3?ie=UTF8&showViewpoints=0&pageNumber=3&sortBy=bySubmissionDateDescending [accessed 9 November 2009].

8 http://www.youtube.com/watch?v=1Cp9UQWsPfg [accessed 9 February 2010]. The Warped Tour is an important annual punk rock festival that travels from city to city taking in a number of locations in a given year.

9 http://www.amazon.com/Blackout-Dropkick-Murphys/product-reviews/B00009IB0X/ref=cm_cr_pr_link_2?ie=UTF8&showViewpoints=0&pageNumber=2&sortBy=bySubmissionDateDescending[accessed 9 December 2009].

10 The half-sung, half-spoken introduction to 'Vices and Virtues' (2007) makes clear the Murphys' personal responsibility ethos: 'Now hear me all you victims/ Come listen, gather around/ for now we'll tell the story of four brothers in the ground'. The band does stray over the fine line between morality and moralizing on this song and, even more obviously, on 2003s 'Walk Away' and 2007s 'Echoes on A Street'. The lyrics to 'Vices and Virtues' describe the sordid deaths of four Irish brothers who died at the hands of, respectively,

suggests or implies that tomorrow's industry will be socially responsible, an unproven thesis that contradicts the spirit of the band's earlier trade union anthems. Roman Catholicism, that seems to extend beyond mere cultural identification to actual belief, makes an entrance on *The Meanest of Times* album as well. The Murphys and Rancid both feature working-class consciousness but, in a departure from the worldview of Joe Strummer, there are no visions of an alternative socialist society of the future. A common theme runs through Rancid's material: oppression, whether in Africa, China or the USA, usually is inflicted by the rich upon the poor and should be understood in the context of class struggle. The Murphys are interesting in that they tackle left-wing issues from a 'once removed' perspective. In other words, the Murphys rely upon common understandings of the 'myth' of Irishness (using the word 'myth' in the precise sense of Roland Barthes (Barthes, 2009)). The band expects listeners and fans to know that the myth's 'signifier' (Irishness) is linked to its usual 'signifieds' including left-wing radicalism and trade unionism. The 'signified' here is left sufficiently open to include 'Catholicism'. The rise of the Murphys is consistent with increasing alienation, caused by the rise of neo-liberalism and mass migrations of peoples, which in turn creates an increased need for cultural ballast that has built in within it strong notions of oppressor/ oppressed and enforced migrations connected to the former.

3. Theoretical framework

3.1. Anarchism versus socialism

The popular punk literature has produced some interesting generalizations about the Pistols and the Clash, as dialectical thesis and anti-thesis, which can be used to structure our discussions on the lyrical themes of 2000s punk bands Rancid and the Dropkick Murphys. The first of these is the comment made by Clash roadie Steve 'Roadent' Connolly that the Sex Pistols was 'nihilist' whilst the Clash was 'construction' (cited in Savage, 2005, p. 239). We can rephrase this distinction slightly to refer to the Pistols as anarchist and to the Clash as socialist. Based on Roadent's reasoning, the Pistols chronologically had to precede the Clash (which was in fact the case) since before a brand new egalitarian society is created you must first destroy the old order. In Roadent's insightful words, cited in Savage (2005, p. 239), 'that was the attraction, wasn't it, that you had to have a generation of destruction before a generation of creation'. Such ideas hark back, theoretically, to Marx's (1994a, 1994b) late writings on the 'dictatorship of the proletariat' such as 'The Civil War in France' and 'Critique of the Gotha Program' and Lenin's (1992) *The State and Revolution* where it is established that the old bourgeois state must be fully destroyed by the revolutionary party. This is, after all, the primary lesson to be learned from the smashing of the 1871 Paris Commune

---

'Whiskey, War, Suicide & Guns'. The clear implications are that these are wasted lives and that the deaths that could have and should have been avoided. The son that died in battle was a soldier in Vietnam and not an IRA ambassador. There is no glamorization of gangsterism and this distinguishes the Murphys from both the Clash and Rancid and even more so from Tim Armstrong's side-project the Transplants which was a punk/ rap hybrid both in terms of sound and worldview. The line 'There'll be no hero's welcome/ for this small time city thug' clearly indicates that the Murphys refuse to glamorize the small-town gangster character unlike the Clash whose 'Jimmy Jazz' was a housing-estate hero and remains so today in the world of Clash mythology.

as Marx himself was aware. The *very punk* message of *The State and Revolution* is that '[t]here is no solution to the problems of society except every cook and every worker to a man administers the state and the economy' (James, 1980, p. 203).

Under this interpretation, the Pistols had to 'hand over the baton', willingly or unwillingly, to the Clash once the Pistols' own destructive message had run its course. After you have destroyed everything there is little else left to say which explains the 'writer's block' that the Pistols experienced in the second half of 1977 and early in 1978.[11] Only the Clash's idealistic vision for a new socialist society, as the anti-thesis of Thatcherism, had the strength of construction and attention to detail that would allow its proponents to stay a little while longer at the centre of the punk world's attention.

3.2. Real politics versus personal politics

Secondly, music journalist Caroline Coon, in the height of the first wave of British punk, characterized the movement's three leading bands, the Sex Pistols, the Clash, and the Damned as being, respectively, 'personal politics', 'serious politics', and 'theatre, camp, and good fun' (cited in Lydon et al., 1994, p. 108). This generalization has validity although clearly the Pistols ventured into the territory of real politics with its critiques of the Royal Family as an institution, housing estate architecture, and the dynamics of the Berlin Wall as a dividing line between 'us' and 'them' as Cold War discourses would have it (on the Sex Pistols songs 'God Save the Queen', 'Anarchy in the UK', and 'Holidays in the Sun' respectively). The Clash also delved sometimes into personal politics, especially on the tortured love-gone-wrong songs composed by Mick Jones such as 'Train in Vain' and 'Should I Stay or Should I Go?' and his ridiculously introspective 'Lost in the Supermarket' (a post-modern song title if ever there was one). These songs faced a mixed reception from Clash fans but they did not dominate the Clash's discography to the point that they placed into question the Clash's reputation as a 'political band'. (The signifier and signified were always 'The Clash' and 'political band'.) The Clash was also extremely aware, and this is one of the band's strong suits and important legacies, that *real politics does have implications for personal politics in terms of the ways that we should conduct ourselves as ethical subjects on the housing estates*. 1977s 'White Riot' encouraged white youth to be less passive and to follow the example of the Notting Hill West Indian community by taking active stances against injustices and police harassment. 1979s 'The Guns of Brixton' asked and challenged listeners about how they would respond, passively or actively, when and if the police knocked down their doors? However, and despite this, the 'personal politics' versus 'real politics' dichotomy might well be a useful tool for analysis when it is applied to 1990s-2000s punk. For example, the

[11] The foolish replacement of bassist and major song writing influence Glen Matlock with Sid Vicious in February 1977, a decision generally associated with McLaren, clearly also contributed to the band's song writing malaise. Matlock is credited as co-author of ten of the twelve songs on the Pistols' only studio album *Never Mind the Bollocks*. By contrast, Vicious could not write songs and could barely play his instrument. In hindsight, Matlock's much-derided love for the Beatles, mop-top haircut, and good relationship with his mother (!) were a necessary price to pay for his emotional stability and song writing talent. Matlock's place in the Pistols' reunion line-up can be viewed as a 'second stab at history'. It represents the band taking the opportunity to rectify a past mistake.

early- and mid-period personal politics lyrics of the band NOFX are thoughtful and challenging (especially the exceptionally strong lyrics on 1994s *Punk in Drublic* album discussed in James (2010, pp. 104-17)). However, NOFX's later forays into real politics are lame and unconvincing, being clichéd and populist anti-Bush and anti-Christianity rants. Pop/punk bands from the 1990s, such as the multi-platinum selling the Offspring, majored heavily in personal politics and rarely touched upon real politics, hence the band's suitability for the FM radio airwaves of Middle America. Bands such as the Offspring have divided the punk community: have they reinvigorated punk rock as the Pistols did 20 years before or have they betrayed the socially and politically aware intellectual spirit of bands such as the Clash? The Offspring's personal politics worked well on late-1990s classics such as 'Pretty Fly for a White Guy' and 'Why Don't You Get a Job?' where they were infused with thoughtful social commentary and a balanced treatment of 'guys' and 'chicks' in the gender wars. On the other hand, more recent songs from 2003s *Splinter* album, such as 'Hit That' and the woeful 'Spare Me the Details' are poor attempts by an aging group of punk rockers to retain their hipness and shift units of 'product'.[12]

3.3. Soho versus Camden Town

Another conceptual distinction between the Pistols and the Clash dovetails well with the previous dichotomy. This third theory reflects the importance to both old and new punk of *connections to place* where songs often focus on a single city or even a single housing-estate and unpack all of the dialectical contradictions of daily life in such a setting. By contrast, heavy-metal music for the most part (with some exceptions such as Guns'N'Roses, mid-period Sepultura, and the Norwegian black-metal scene; James and Tolliday, 2009; Harris, 2000; Kahn-Harris, 2007; Moynihan and Søderlind, 2003) rarely has confined its song discourses to a particular geographical place; its discourses are placeless (Baulch, 2003). It has been said that the Pistols was 'Soho' whilst the Clash was 'Camden Town', referring to the geographical areas in West London where the respective bands made their home bases during the years of the first wave of punk (1976 to 1978). This theory maintains that the geographical milieu in which the bands found themselves were major influences upon their fashion senses, worldviews, and characters. 'Soho' here suggests cosmopolitan sophistication, eclecticism, relational remoteness, and eccentricity. The late Malcolm McLaren and his long-term partner, in life as well as in business, Vivienne Westwood were clearly 'Soho'. 'Soho' suggests an art-college mentality. This is not a little unfair as the Pistols' social and political commentary retained a harsh and caustic edge, possibly more so than that of the Clash. The four original Pistols, and Sid Vicious who replaced Glen Matlock, were bona-fide working-class lads. All five had more authentic working-class pasts than did Joe Strummer, the son of a career civil servant and the product of a south-of-England public school. The Pistols' Rotten grew up in working-class Irish Finsbury Park in North London not far from the Arsenal football ground so beloved to Nick Hornby, the author of the autobiographical *Fever Pitch* (2000) about life as an Arsenal supporter. In contrast to the connotations of 'Soho', 'Camden Town' suggests modesty, humility, street credibility, and a housing-estate

[12] The song 'Spare Me the Details'self-righteously rails against a girlfriend for an act of unfaithfulness at a party using lyrics befitting a 15-year-old.

authenticity. During 1973-1975, Mick Jones of the Clash, famously, was living with his grandmother on the 18th floor of a council tower block called Wilmcote Housewhich is located on the Warwick Estate, Royal Oak, London W2, in the heart of the Notting Hill-Ladbroke Grove area (Gilbert, 2004, pp. 26, 39, 46; James, 2009, p. 133). At the same time Strummer was squatting only a very short distance away at 101 Walterton Road in Maida Vale (Salewicz, 2006, p. 109-12, 117). Geographically, at least, the 'Camden Town' tag was apt for the Clash. The tag has further validity in that the housing-estate grit of the area would give the Clash a determination, a staying power, and a realistic view of themselves that gave the band the inner resources to stay the course and last close to a full decade as a band (compared to the Pistols' two years). The 'Soho' versus 'Camden Town' dichotomy has much to recommend it when discussing recent punk given Rancid's allegiance to the 'East Bay' area near San Francisco and the Murphys' romanticized ahistorical Irish nationalism.

3.4. Transcendence and control

A fourth framework that can be considered within the contexts of Marxism and existentialism is musicologist Robert Walser's (1993a, 1993b) scholarly writings on transcendence and control within 1980s heavy-metal music. Walser argues that 1980s heavy-metal music can be viewed as a synthesis of the dialectical opposites of transcendence and control. In Walser's analysis, control is achieved by the rock-solid heavy-metal rhythm sections of bassist and drummer that lock the listener in through their steady beats and sheer power. Transcendence is achieved primarily through the high-pitched operatic vocals of the lead singers of the period such as Black Sabbath, Dio, and Rainbow's Ronnie James Dio; Judas Priest's Rob Halford; Iron Maiden's Bruce Dickinson; and Motley Crue's Vince Neil and the solos of legendary guitar duos of the era such as Judas Priest's K. K. Downing and Glenn Tipton and Iron Maiden's Dave Murray and Adrian Smith. The 'hair-metal' acts of the period, popular with female fans, introduced the lyrical theme of romantic love as another element that allowed transcendence (Walser, 1993a, 1993b). The classic song of the genre might well be Bon Jovi's 'Living on a Prayer' (1986) where the male vocalist proclaims in the chorus: 'we're half way there/ Living on a prayer/ Take my hand and we'll make it - I swear Living on a prayer'.The fact that the young male character in the song, Tommy, is introduced as a union man may be seen as a political statement since Reaganism and its 'trickle-down economics' politicized a large number of people for a short space of time. This does not mean that Bon Jovi was or is a 'political band'. The song presents the fictional young couple, Tommy and Gina, as 'struggling to make ends meet' in order to elicit sympathy and the song is populist rather than left-wing. The couple determine to persevere for 'love' and not for socialism.The concepts of transcendence and control are also relevant for punk but in punk it is largely through the lyrical themes that transcendence is achieved. Use of calmer ska/ reggae songs and melodic vocal parts by Rancid and Irish traditional instruments by the Murphys also allow for transcendence directly through the music itself. In this paper we discuss how Rancid has sought transcendence in the experience of the 'other' in the face of a general backdrop of control, which is the alienation and oppression caused by global capitalism. For Rancid, transcendence is achieved through experience of the 'other' including, especially, the loyal unconditional friendship of one's band mates and childhood friends and the warmth and humanity of women from non-western and non-capitalist countries. On the 1995 song 'Olympia WA', from the band's breakthrough album *…And Out Come the Wolves*, Rancid refers to meeting three Puerto Rican girls on the lonely streets of New York City. On 'Radio Havana', on the *Rancid 2000* album, a female Cuban radio announcer, speaking in Spanish, emerges above the instrumentation mid-song. We notice two features of the announcer's voice: its warmth, humanity, and humility; and its disembodied reverberating nature that we often associate with large and empty airport terminals (James and Kavanagh, forthcoming). The reverb results in the last word, the band name 'Rancid', echoing multiple times. The disembodied nature of the voice and the reverberation suggest America's alienation from Cuba and Cuba's alienation from America (James and Kavanagh, forthcoming). The voice also hints of the love and warmth of a woman raised in a non-capitalist culture forever perceived as 'other' in relation to the USA (James and Kavanagh, forthcoming). The Spanish words spoken and the English translation are as follows: 'Spoken in Spanish: Buenestardesseñoras y señores, bienvenidos a Radio Havana. Hoy en nuestroprograma, desdeEstadosUnidos le damos la bienvenida a la banda de punk rock de mayor exito: Rancid (Rancid...Rancid...Rancid...Rancid..) Translation: Good Afternoon ladies and gentlemen, welcome to Radio Havana. Today in our program we welcome the most successful punk rock band from the United States, Rancid'.

The non-western female is presented as a partial resolution to the dehumanization and alienation created by Anglo-American capitalism, a popular music theme that can be traced back to the Beatles' 'Back in the USSR'. Obviously a certain romaniticization or even fetishism of the 'exotic other' is at work here.

3.5. 'Two witnesses' vocal technique

Rancid popularized an important vocal technique, later used by the Murphys, which allows attainment of transcendence and also adds to the authenticity of the band as working-class East Bay lads. This technique started early on with Tim Armstrong and Lars Fredericksen switching vocal parts in rapid succession on 1995 songs 'Roots Radicals' and 'Olympia WA'. Another song to successfully use this technique is the album closer on 2003s *Indestructible* 'Otherside'. The rapid-fire interchanging of vocal parts points to the communal and fraternal nature of punk, a major source of punk's transcendence *and its primary answer to the competitive spirit of capitalism*. The interchanging of vocal parts also points to the importance of *shared* lived experiences for the validity of existential truths. Whilst other bands outside punk have used two vocalists in the same song it is usually done to provide contrast as in a male and a female vocalist (for example Robert Plant and Sandy Denny on Led Zeppelin's 'Battle of Evermore') or a rough and a smooth vocalist (to cite a somewhat obscure example, Roger Martinez of Vengeance Rising and Rey Parra of Sacred Warrior on metal band Sacred Warrior's 1989 song 'The Flood').[13] However, in Rancid's case, it is done to suggest harmony and authenticity, and as a form of 'witness to shared experiences' rather to than to provide a contrast. *What is important is that the two voices specifically do not provide a contrast!* Also few other bands have exchanged vocal parts on such fast-paced songs with such complete success. The real-life

[13] http://www.nolifetilmetal.com/sacredwarrior.htm [accessed 26 July 2010].

friendship between Armstrong and Frederiksen adds integrity and existential credibility to the shared vocal narratives. This is especially the case in 1995s 'Olympia WA' where Armstrong admits to loneliness and anxiety in New York City and affirms Frederiksen's friendship as having the power to save him from emotional distress. The previously mentioned three Puerto Rican girls play a role here too in bringing Armstrong and Fredericksen to an amusement arcade in the metropolis.[14]

4. Discussion of Rancid songs

4.1. East Bay Night

We first discuss the opening song from the most recently released Rancid album (at the date of writing), 2009s *Let the Dominoes Fall*, called 'East Bay Night'. In popular music the first song on an album is often a statement of vision, purpose, and identity. An excellent example would be the surging 'Neon Knights' on Black Sabbath's first album with Ronnie James Dio 1980s *Heaven and Hell*. This is especially the case for 'comeback' and 'reunion' albums and this is Rancid's first studio album for six years. It also features a new drummer with BrandenSteineckertreplacing long-term sticks-man Brett Reed. 'East Bay Night' is a song about place, time, reflections, memories, and class identification, i.e. working-class identification. The band dialectically opposes the East Bay area, on the eastern side of the San Francisco Bay, with the more cosmopolitan and elitist city of San Francisco proper on the western shore. Wikipedia states that: 'The East Bay is a region of the San Francisco Bay Area, California, United States and comprises both Alameda and Contra Costa Counties. It lies on the eastern shores of the San Francisco Bay and San Pablo Bay. The East Bay's principal cities include; Oakland, Berkeley, Richmond, Concord, Hayward, Fremont, Livermore and Antioch' [Wikipedia, 2009].[15]

The East Bay is a working-class unglamorous location, and not one visited by the conferencing set. Its principal city, Oakland, is also referenced frequently by Rancid. In this song Rancid declares itself and its history to be proudly East Bay. The song describes, from the first person perspective, the narrator's own reflections on place and memories connected to place. A key line in the song is, setting context: 'You can see the San Francisco Bay/ Alcatraz over the landfill'. Alcatraz Island was used as a prison from 1934 to 1963. Here there is an accounting connection: the now abandoned Alcatraz prison on the island in the bay signifies humanity's desire to order, categorize, and control and to subjugate the working-class in the achievement of these ends. However, the myth of Alcatraz

[14] If the band members shared any other pleasures with the girls this is only hinted at unlike in Frederiksen's later album with Lars Frederiksen and the Bastards, 2004s *Viking* where he claims to, in the song 'My Life to Live', have 'a girl in every city and they all know my name'. The Rancid band name has been used to maintain and signify punk integrity whilst side-projects such as Frederiksen's Bastards and Armstrong's Transplants have been used to experiment by wilfully going outside the cultural rules and ethos of punk by mixing punk with aspects of rap gangsta culture. The mixing of punk and rap by the Transplants was achieved through both musical and lyrical means whereas the Bastards only synthesized the two genres through the lyrics.

[15] http://en.wikipedia.org/wiki/East_Bay_(San_Francisco_Bay_Area) [accessed 10 November 2009].

has a variety of signifieds. One of these, important from the left-wing perspective, is that Alcatraz's failure as a prison suggests that humanity's ability to control the lives of human beings is always conditional, transitory, imperfect, and incomplete. Alcatraz might then qualify as being what Roland Barthes (2009) in *Mythologies* terms a 'left-wing myth' to be placed alongside other left-wing myths such as the Paris Commune, Vladimir Ilyich Lenin, the October Revolution, Che Guevara, and the Sandinista. The closure of Alcatraz signifies also the power of capitalist economy since the prison was simply not justifiable according to the recorded output of the accounting system. Even the prison system has to generate a profit or at least not make continued losses. Alcatraz was not abandoned for humanitarian reasons but due to cold economic logic. So here accounting is implicated by Rancid. Sometimes external economic pressures simply do not allow the accounting system to report profits. However, the accounting system remains a powerful force since it is a form of capital.

The somewhat cryptic references to: 'Earthquakes shake and fires take, from this view I've seen it all/ I've tasted smoke as the hills burned/ I heard the freeway fall'refer to the 1989 Loma Prieta earthquake and the 2007 destruction of a section of freeway in the San Francisco-East Bay area. The second of these events was recounted as follows in a contemporaneous news report: 'An elevated section of highway that funnels traffic from the San Francisco-Oakland Bay Bridge to a number of key freeways was destroyed early Sunday after flames from an overturned gasoline truck caused part of one overpass to collapse onto another. … The sight of the soaring freeway twisted into a fractured mass of steel and concrete was reminiscent of that quake's damage [1989 Loma Prieta earthquake].' [Prophecy Watcher, 2007][16]

The band has reached the position of being able to maturely reflect upon its members' own lives and upon society sociologically. That Tim Armstrong can recall East Bay events dating as far back as 1989 adds authenticity to the song's narrative. The word 'another' as in 'another East Bay night' speaks of the repetitive nature of working-class life, and of life in general. One night is just like another and so, after living many nights in the East Bay, Armstrong now has the ability and the pretensions to analyze the social totality. Also interesting is the grammatical ambiguity: 'East Bay' can be seen as an adjective or as part of a longer noun. If viewed as an adjective, 'East Bay night' suggests a night *of a particular (social) type or character*. An Australian equivalent might be 'West Sydney night', with working-class West being contrasted with bourgeois East. Viewing East Bay as an adjective is consistent with Rancid's clever use of the complex signifier 'Brixton' in adjective form in the song 'Brixton' on the 2007 *B Sides and C Sides* album of 'left-over' already released material. In that song Rancid refers to Oakland youth rioting against the poll tax and references a 'Brixton night' showing that Brixton has reached myth status as an understood sign (a sign is a combination of a signifier and a signified) within global punk culture.[17] Rancid shows that Brixton, used as an adjective, can be transported out of the UK and used to signify *the sum of* a prevailing mood and a prevailing social, economic, and political climate (both must

---

[16] http://prophecywatcher.blogspot.com/2007/05/880-freeway-collapse-was-harbinger.html [accessed 10 November 2009].

[17] Lyrics can be accessed at http://www.plyrics.com/lyrics/rancid/brixton.html [accessed 5 February 2010].

be present for us to have a 'Brixton night'). Rancid is able to prove punk's universality here since, as Žižek (2008, p. 180) writes, 'only by way of surviving … transplantation can it [the movement] emerge as effectively universal'.

The song 'East Bay Night' is a statement of working-class identification; Rancid is proud to belong to the East Bay.[18] The 'other' raises its head here in the form of the cosmopolitan elites far across the water on the west side. The band acknowledges the importance of family. Armstrong refers to his grandma's house on the East Bay, bringing us back to Mick Jones of the Clash living with his grandmother in the West London tower block in 1974. The ethos of punk is enormously complex: it includes traditional rock-and-roll bad-boys-running-wild lifestyles but also extends to loyalty to one's family including senior generations. Armstrong establishes that his familial links to the East Bay are multi-generational, thus further increasing the authenticity factor. East Bay identification provides a visual context, as well as a sociological context, for the rest of the album. The members of the working-class, according to Marx, are the only ones with the incentive to change society since they have nothing to lose but their chains. We also see a keen intuitive awareness of dialectic by the band: positive and self-conscious identification with the East Bay is a form of class consciousness. Like Louis Althusser, the band seems to understand that 'the class struggle is the motor of history'. The waters of the San Francisco Bay serve as a powerful visual illustration of the divide between labour and capital. Hence Armstrong 'look[s] into the bay/ you know some things they just feel right'. Possibly the waters of the bay speak to him of social stratification and, as a result, they provide him with an opportunity to continually reaffirm his own East Bay identification.Strong family relationships and identification with friends and with locale empower and validate Rancid's social and political commentary. It's just 'another East Bay night', and the stratified nature of society means that it is hard to break the cycle and lift oneself out of poverty, depression, and oppression. Connection to place can serve as an important anchor, in both psychological and sociological senses, to working-class identity in a society where bourgeois myths (Barthes) are subtle and reach into every aspect of social, economic, and political life. Bourgeois myths find it harder to take root in working-class communities and especially in multicultural ones where nationalist myths encounter scepticism. By living in and identifying with a working-class district one finds it easier to prevent oneself from being seduced by bourgeois and petty-bourgeois myths.[19] 'Seeing the freeways fall' can be given a

[18] On the official music video for the 2009 song 'Last One to Die' the band appears to be playing live in a humble house with the San Francisco Bay at twilight visible out of the window and as a direct backdrop to some of Armstrong's outdoor vocal sequences. The band plays around a lounge room scene of kitchen table, lounge sofa, and coffee table with all of the furniture looking somewhat the worse for wear. The Golden Gate Bridge (or possibly the somewhat similar looking Oakland Bay Bridge) is visible out of the house's window at 0:27 of the clip. At 2:01, the four band members are pictured sitting down on the pavement kerb in front of the Golden Gate Field while there are is a glimpse of the grassed arena and the band inside the empty stadium at 2:10-11. The video clip can be viewed at http://www.youtube.com/watch?v=ErLZaItKFaY [accessed 11 February 2010].

[19] Of course the most powerful myth that finds root in working-class districts, and which Sydney's *Daily Telegraph* peddles to its huge working-class readership in the western suburbs of Sydney day after day and year after year, is the myth that 'you can be successful

similar signification to 'Alcatraz' as freeways are a signifier of humanity's desire to control nature and accumulate capital, and yet Armstrong clearly 'outlives' the freeway on this particular occasion, weakening the bourgeois myth of the unmitigated power and right of humanity to subdue the earth. A focus on working-class place is important for resisting bourgeois myths for another reason: even when an inner-city area becomes gentrified and yuppified, it often takes one or two generations or longer for the place name to no longer signify working-class values. Even 120 years after the event, the signifier 'Whitechapel' still conjures up for many of us images of the crowded working-class slum district of Jack the Ripper's time.

Other punk bands to refer to place are Sham 69[20] with its references to East London in the 1978 song 'George Davis is Innocent' (Bennett, 2009, p. 34) and the Enemy with its 2007 album *We'll Live and Die in These Towns*. The interesting and thought-provoking album title *We'll Live and Die in These Towns* is a reference to the towns of the English Midlands where the Enemy is based. The front cover of the album shows a British Rail train station bill board advertising that trains pass through Birmingham International and end at Coventry. The implication is that once the train drops you off there that is where you stay and it is up to you to make the best of it. The official video clip on Youtube.com for the existentialist song 'It's Not OK'[21], a rallying call to those derailed by faded dreams, shows the band playing Beatles-style on top of a building against a Coventry backdrop of grey sky, ferris wheel, church spires, and council tower-blocks. Towards the end of the clip, helpers unfurl a huge banner on the side of the building that reads 'We'll Live and Die in These Towns'. The band is existentialist but left-wing in the sense that it does not deny the harshness and difficulties imposed upon the working-class by the social, economic, and political system.

4.2. Stand Your Ground

We now consider a song from 2003s *Indestructible* album that presents Rancid's anti-capitalist message most clearly. It is one of the very few Rancid songs that names a real-life American corporation. This in itself makes the song significant. 'Stand Your Ground' is dedicated to the homeless people of Los Angeles and a classic contradiction is explored between America's mega-retailer Walmart and the lives of the homeless. The lines below present this thoughtful, illuminating, and provocative dialectical contradiction most clearly: 'Underlying reason, well she can't keep it going/ In the middle of the night/ they found her frozen/ And the Walmart sign/ Keeps on glowing/ and the winds of change keep on blowing'. The vivid story-telling here paints a powerful picture: the young girl sleeps

---

and rich if you work hard'. An implication of this is 'don't resent rich people as they got there through hard work and good decisions and you can get there too'.

[20]Savage (2005, pp. 597, 598) writes that, by the northern summer of 1977, punk had divided itself into the arties and the social realists, with the social realists (such as Sham 69) becoming the dominant trend. The British punk 'Oi' bands of the late-1970s and early-1980s, all social realists, had their bona fide socialists (Angelic Upstarts) but most bands just enjoyed protesting obliquely against the system, getting drunk, watching football, and stealing cars (Cockney Rejects, Sham 69, and UK Subs, amongst others). Early punks that were there for the first gigs of the Pistols in the second half of 1975 and the first half of 1976 especially despised the reactionary intolerance of Sham 69 fans in the late-1970s.

[21] http://www.youtube.com/watch?v=o03awtSlbkY [accessed 20 July 2010].

in front of the Walmart store and one night she passes on because of the cold. It is clear and obvious what the Walmart sign signifies, although there are both bourgeois and left-wing myths that have already developed with respect to the corporation. The Walmart sign has become a contested field (Tinker et al., 1991) fought for by both sides in the class struggle. According to the bourgeois myth, Walmart is a fine example of the American dream and American values in its drive to maximize profit and accumulate capital; its austere Southern Baptist culture; and its efforts to bring 'everyday low prices' within easy reach of even the most remote rural American. Walmart is the classic case consistent with Max Weber's (1965) theory of the 'Protestant ethic and the spirit of capitalism'.[22] According to the left-wing myth (we use 'myth' here in the sense that Barthes uses the term which does not equate myths directly with falsity), Walmart's sign signifies the corporation's harsh profit-maximizing competitive outlook where human lives count for nothing and profitability and turnover ratios count for everything.

This song may be Rancid at its absolute lyrical best: it contrasts the relentless corporate power of Walmart, as inhuman mighty Protestant-capitalist machine, with the girl's weakness, frailty, and vulnerability. She has not passed the 'market test', she has no exchange-value, and when she dies no-one knows or is concerned. The all-night glow of the Walmart sign is a sign of the company's utter dedication towards achieving its goals and getting its brand name out there among the public. Rancid clearly uses the term Walmart in the sense of the left-wing myth and this is clearly understood by the band's fans. The cost of electricity on the sign could have been money used to house the homeless; Rancid here paints a sad picture of a hyper-capitalist corporation hiding behind the veil of Southern Baptist religious morality. 'And the Walmart sign keeps on glowing' signifies the corporation's callous inhumanity and aloofness. The sign shined on while she lived and it continues to shine on after she dies. We have a message here very close to a Marxist dialectical critique of capitalism, reminding one of Marx's (1976, chap. 10) brilliant and moving chapter on 'The Working Day' in Volume 1 of *Capital*. Rancid is far ahead of many postmodern and soft-liberal academic authors who fail to locate the source of exploitation as being the surplus-value maximizing activities of corporations such as Walmart.

4.3. Rwanda

Wikipedia writes in its 'Rwandan Genocide' page that '[t]he song *Rwanda* by the punk-ska band Rancid from the album Rancid (2000 album) is about the Rwandan genocide'.[23] This is most certainly a difficult and sensitive subject matter for any musical band to tackle. A reviewer describes the song's chorus, which opens this short song without any musical introduction, as a 'Cheap Trick' (pop-rock) chorus. This is somewhat unfair and misleading because the production on the album created a harsh guitar sound, the harshest of any of the band's albums. The chorus is as follows: 'Rwanda yeah your moon shines bright/ Rwanda over

---

[22] Fishman (2006) explains how Walmart has always maintained an austere Southern Baptist culture, eschewing visible signs of wealth, prestige, and power. It maintains its headquarters even today in the rural town of Bentonville, Arkansas and has no glitzy office towers in New York or LA.

[23] http://en.wikipedia.org/wiki/Rwandan_Genocide [accessed 18 February 2010].

planned genocide/ Rwanda, won't you be strong/ like a lion'. The song could easily come across as patronizing and woefully insensitive in a less skilful and sincere band's hands. Here the harsh guitars and gritty strong vocals lend credibility and authenticity to the message of encouragement and comfort being offered. Rancid is referring Rwandans back to their own strength, dignity, and courage as African people. At the same time vocalist Armstrong is at a loss to explain and comprehend the 1994 genocide. The band highlights a contradiction between the people's strength and dignity and the acts of wanton destruction that they have found themselves in. No resolution is offered other than pointing back to the positive aspect of Rwanda's own depressing contradiction namely the courage, dignity, and strength of the Rwandan people. Although punk is a worldwide movement it is unlikely to have many adherents in Rwanda. The message may also be addressed to non-Rwandan listeners around the world suffering various injustices, miseries, and oppressions of their own. Rancid here identifies with the exploited suffering peoples of the world including those in remote Africa. In Marxist terms, the songs 'Stand Your Ground' and 'Rwanda', taken together, would suggest that Rancid has in view the notion of an exploited global working-class exploited by both global capital and authoritarian regimes. The fact that the USA exhibited a complete lack of interest in or concern for Rwanda during its genocide, most probably because the country lacked any desirable natural resources, connects the country with the proletarian 'otherness' that Rancid everywhere identifies with and revels in. It is great to see the interests of the global working-class being defended so enthusiastically and actively in punk rock today, as Rancid carries on the tradition of earlier punks such as Johnny Rotten, Joe Strummer, and the Exploited's 'Wattie' Buchan.

The Rancid worldview can best be summed up by lines in the sixth song from *Let the Dominoes Fall* album, entitled 'I Ain't Worried', as follows: 'Black brown white we're all punk rock/ we're the kings of the low income block/ worn out sneakers skinheads Mohawk/ when we all get together yeah the music won't stop'. This song name-checks Matt Freeman, the band's talented and dedicated bass player. The part referring to Freeman is a rare vocal section sung by Freeman himself (at 1:17-26 of the studio version of the song).[24] Freeman's occasional unselfconscious gruff vocal forays add a third witness to the existential lived truths being discussed in the songs. After being silent during *Let the Dominoes Fall*'s first four songs, Freeman enters with vocal parts on the fifth and sixth songs. Freeman keeps a low profile and the band honours his authenticity and integrity, while also gently teasing him, as follows (even Freeman's surname can be viewed as a signifier): 'I'm Matt Freeman I'm coming in quick/ I got a 64 Merc and a clutch that won't slip/ I don't give a god damn what they say/ I'm born and raised in the East Bay'. The name-checking of Freeman is a reminder to Armstrong and Frederiksen of the band's roots and authenticity: if the band strays too far from its original ideals the unpretentious Freeman is there as a mirror reflecting their lives back to them.

[24] The studio version of the song can be accessed on Youtube.com at http://www.youtube.com/watch?v=ErLZaItKFaY[accessed 11 February 2010].

5. Discussion of Dropkick Murphys songs

5.1. Workers' Song

In this song, from 2003s *Blackout*, the Murphys offer us a trade union anthem to stir the heart of any Irish-Catholic left-wing radical, following on from earlier anthems including 'Which Side Are You On?' and 'Heroes from Our Past' from 2001s *Sing Loud, Sing Proud!* This song aims to stir the heart more than speak to the intellect. The song begins with a historical perspective and here we wonder is the context only Ireland or is the band talking about the universal dimension common to all of humanity under capitalism? If we are talking about all humanity then is the band's Irish image completely necessary?[25] The band shows an acute awareness of the effects of first Taylorism and then neo-liberalism upon the workers. 'In the factories and mills, in the shipyards and mines/ we've often been told to keep up with the times/ for our skills are not needed, they've streamlined the job/ and with slide rule and stopwatch our pride they have robbed'. The song chorus (below) has Roman Catholic associations with its reference to the 'pie-in-the-sky'. The veiled Catholicism works here as it gives the class struggle an eternal and other-worldly dimension that Marxism does not permit but which may be consistent with the worldviews of left-wing Catholics. In addition many might find comfort in the belief that the trade union cause has a divine supporter! Rancid's atheism (see 2003 song 'Otherside') prevents it from exploring such lyrical territory (although it tries to on occasion with very vague references to 'the other side' which is apparently some sort of punk rock heaven). In this Murphys song we have a total reversal of the right-wing American Protestant neo-liberal assumption that the economic and political elite are the 'chosen ones' and the working-class are the 'heathen scum'. Using terms such as 'cream' and 'fat cats', the band speaks the unguarded and unpretentious language of the factory lunch room and the industrial precinct pub. The references signal a commendable desire to avoid theoretical mystification of capital-labour relations. 'We're the first ones to starve, we're the first ones to die / the first ones in line for that pie-in-the-sky / and we're always the last when the cream is shared out / for the worker is working when the fat cat's about'. A hilarious amateur video clip on Youtube.com by bucsfan0844 shows a literally fat boss monitoring his tradesmen at work on a suburban house whilst not doing any work himself - although at the end he re-appears to do some minor raking (for the fat boss see 1:26-27, 2:06-07, 2:46-48, and 3:09 of the clip).[26] The clip certainly captures the song's spirit while adding some extra student humour to the mix. The song implies that the band knows the truth that the workers work much harder in producing real products than do the managerial and supervisorial class, the opposite assumption from the bourgeois agency theory taught in the business schools. Similarly, in the 2001 song 'Which Side Are You On?' the band proclaims: 'Don't scab for the bosses don't listen to their lies/ us poor folks haven't got a chance unless we organize'.

The next stanza (below) is excellent and thoroughly Marxist. The band makes the powerful point that why should members of the working-class be

---

[25] The Irishness adds a simple enjoyment factor and makes certain members of the audience feel that they are in on a privileged secret since they 'understand' that Irishness signifies left-wing radicalism.

[26] http://www.youtube.com/watch?v=KQdMa585Z2s [accessed 25 July 2010].

expected to die in battle when in peacetime they are often unable to afford to buy even a small piece of land? This powerful point, grounded in Marxist base-superstructure understandings, should be emphasized much more heavily in business school discourses that typically enshrine private property rights and capital accumulation as absolute values. It should also be continually emphasized by the left-wing community in its contributions to national discourses about the philosophy of war and the status of war heroes. The issue has great relevance in Australia given the rapid rises in housing prices in the past fifteen years in the major cities of Brisbane, Perth, and Sydney.

'And when the sky darkens and the prospect is war/ who's given a gun and then pushed to the fore/ and expected to die for the land of our birth/ though we've never owned one lousy handful of earth?'

The sentiments expressed by both Rancid and the Murphys suggest that working-class radicalism is alive and well and has not been removed from contemporary punk culture. If working-class radicalism leaves punk then it has probably left all of popular music. The Murphys draw out the implications of the band's 'real (trade union) politics' to call for individuals to make a *committed personal ethical decision* one way or another, reinforcing our thesis that, for the Clash, real and personal politics were not completely separate subjects. As the Murphys asks their listeners in 'Which Side Are You On?' 'Oh workers can you stand it? Oh tell me how you can/ will you be a lousy scab or will you be a man?'

5.2. Rude Awakenings

In the last song we discuss we explore briefly an area where the Murphys' cleverness gets the better of them and they find themselves out on a limb, over-emphasizing a point that can best be described as being in need of further explanation. The Murphys' many personal responsibility and personal politics songs fall into two camps: serious and camp. The camp songs use humour, in the main, skilfully, to avoid the harshness of the serious moral lessons. We are usually presented (for example on 'Kiss Me, I'm Shitfaced' and 'The Spicy McHaggis jig') with a pompous male character that is vain, rude, selfish, short-sighted, and without any social conscience. The person is then parodied and made to look ridiculous. Since the character is fictional, and usually is given a silly name, no-one is too upset and the moral point can be made. The serious songs are, by contrast, direct social commentary studying issues of personal responsibility, family loyalty, generosity, honesty, and the work ethic. 2003s 'Walk Away' fits into this category. The official video clip for 'Walk Away' is funny with the pink mohawked best-man at the church wedding and the Scotsman who reveals what is under his quilt but the lyrics certainly are not.[27] Many songs on *The Meanest of Times* fit into this category and, overall, it is a very serious album by Murphys' standards. The few joke songs are very clearly that ('Flannigan's Ball' and 'Fairmount Hill' on this album) and these have no social commentary or moral message. The serious songs are also very serious and all involve a moral message. We will consider one song, 'Rude Awakenings', from *The Meanest of Times*, which is somewhat clumsy although it tries to raise a flag of humour. The band does not succeed in this song because it is an exercise fraught with dangers to generalize from a gender tiff, involving one

[27] The official video clip for 'Walk Away' can be viewed at http://www.youtube.com/watch?v=lPT6NY31qzs&feature=avmsc2 [accessed 28 July 2010].

male and one female, to commentary on the nature of society. The Murphys should have kept their collective eyes focused on the Clash, a band which always pointed out lessons for the individual *from social realities*, beginning with the real politics and only then moving on to the personal politics.

In 'Rude Awakenings' we have the story of a male narrator (who should not be simply assumed to be the band, speaking on its own account) going drunk to a young woman's house for a one-night stand. The serious message of the song is that such a lifestyle leads to deep dissatisfaction and this gels with the Roman Catholic tinge to other songs on the album such as 'Famous for Nothing', 'Tomorrow's Industry', and 'Echoes on 'A' Street' and the strict and serious moralism of 'State of Massachusetts', 'Virtues and Vices', and 'Loyal to No-One'. The message is reinforced by the black and grey of the album cover and the album cover picture of primary school children in an Irish-Catholic school playground (where the jokers among the younger boys are countered by the serious looking elder girls and even the joking looks somewhat forced). In 'Rude Awakenings', the woman wakes up, is shocked to see a strange guy in her bed, cooks him breakfast, and then gives him taxi-money to make a quick exit. The male narrator then dangerously attempts an observation on the social totality when he calls the gift of the taxi-money a 'meaningless gesture in the meanest of times'. There is a valid point here: the woman's supposed generosity and bookkeeping proficiency hide a totally self-centred attitude. We are back to Jean-Paul Sartre's (2006) stories of 'bad faith' in *Being and Nothingness*. The woman treats the narrator as a pure 'being-in-itself. However, the next line works well: the funny retort 'it turns out you weren't worth the call' pushes the social theorizing to one side and we are back to the existential honesty of a small-minded and self-centred 1990s post-Thatcher/ Nick Hornby type male character who sincerely regrets the cost of his wasted phone call. Such a character is interesting as the narrator voices in Hornby novels *High Fidelity* (2005) and *About a Boy* (1998) show the lead character in both novels (and it is hard to notice any differences between them) to be aware of his own deep inclination towards self-centredness and convenience. The characters aim to make such tendencies less clearly visible to other people while accepting it is as part of human nature. This narration both agrees with and rebels against the current discourse of political correctness. The rebellion is usually only in the realm of thought-life, a sphere that political correctness has trouble colonizing completely. The Hornby narrators are in endless mental conflict between their desires for self-gratification and convenience and their desires to be well thought of by important others. They do not want to rock the domestic boat but are afraid that this will happen if their natural self-centeredness reveals itself. A similar character in the TV world is David Marsden (played by Robert Bathurst) from the adult BBC drama *Cold Feet* (1998-2003). Wikipedia writes of David Marsden that he was 'set up as a post-Thatcherite boo-boy to represent all that is evil about materialism'.[28] As Wikipedia writes, David and his wife Karen 'live an upper-middle-class lifestyle [although they struggle to afford it], employing a nanny for their son and holding dinner parties with friends'.[29]Somewhat unsurprisingly both David and Karen have affairs (in Series 3 and 4 respectively) and finally they divorce and David starts a new relationship in Series 5. In a politically correct and judgmental world, we are

[28] http://en.wikipedia.org/wiki/Cold_Feet [accessed 20 July 2010].
[29] http://en.wikipedia.org/wiki/Cold_Feet [accessed 20 July 2010].

always-already guilty of falling short, which is the secular version of original sin. David Marsden is afraid of his wife and of society not of God. In this politically correct post-modern setting, cop shows and novels are cathartic because when we are tired and stressed we can remind ourselves that we are, ultimately, on the side of the good and the righteous. It is nice to be able to do this whilst ensconced in one's lounge chair! Interestingly, it is the politically incorrect policemen who continue to be the most popular. Although neither is politically correct there is a difference between Ian Rankin's DI John Rebus and Stuart MacBride's DS Logan McRae. The older Rebus does not let political correctness bother him. However, the younger McRae is permanently stressed because he sees the forces of political correctness as omnipotent and omnipresent and he gives them a measure of validity in his life because of this. To apply the old religious terminology, McRae is a 'theistic Satanist' (he hates what he believes in) whereas Rebus is a true pagan. ITV's *Doc Martin* series (ITV, 2004-present) is interesting here because the Doc's shocking political incorrectness, mixed as it is with some old-fashioned competence, makes him today an empowering and awe-inspiring figure, rather than a laughable one. It is hard to be sure whether this was the intention of the series' creators. The Murphys both challenge political correctness while on occasion, unconsciously perhaps, conforming to its demands and requirements.

However, our point remains: Does a one-night stand giving you the taxi fare to leave her house the next morning really equate to 'the meanest of times'? This song may have worked better if it had been obviously a 'joke song' but it straddles that awkward middle-ground of being mostly serious with a jokey element to it. The Roman Catholic theme on the album is ambitious and, if applied to 'Rude Awakenings,' it might suggest that a loss of religious faith and values has created heartless self-centred creatures that at first glance seem generous and moral but lack any real internal foundation in terms of soul. These people will defend their morality to the hilt in front of detractors. This theory has worth, but it is not clearly articulated in 'Rude Awakenings'. We conclude with the comment that the song works best if viewed in the context of the whole album and its message requires a thoughtful, if not religiously inclined, listener who is willing to take the Murphys' collection of hints to their logical conclusions and then actually try to live out such a life.

6. Conclusion

Karl Marx wrote that 'men [*sic*] make their own history but they do not make it in the circumstances of their own choosing'. This paper has studied the lyrics of two widely respected 2000s punk rock bands Rancid and the Dropkick Murphys. With the Marx quote in mind, we expect that both bands will address the social and political conditions of the (post-)modern, post-Communist age whilst retaining some of the left-wing quasi-Marxist radicalism that is now an established part of the punk rock ethos. We find that Rancid has an 'emotive proletariat spirit' that identifies with San Francisco's East Bay region as a place of working-class oppositional 'otherness' and with a globalized proletariat exploited by global capital and authoritarian regimes. The Dropkick Murphys plays to an 'insider' audience fully aware of the Irishness myth which has known 'signifieds' of left-wing radicalism and a Catholicism that refuses to unambiguously identify itself as simply 'cultural'. The band's trade union anthems reflect a nuanced understanding of orthodox Marxism. By contrast, the Murphys' Offspring-styled 'personal politics' lyrics are somewhat less successful as the mapping of personal politics on to the social totality remains fraught with difficulties. Does a one-night stand giving you the taxi fare to leave her house the next morning really equate to 'the meanest of times'? The point being made here hints at the loss of traditional religious values leaving us as a soulless society of politically correct forms but rotten and self-centred substance. The idea has merit but in the Murphys' 'Rude Awakenings' it is not clearly articulated.

In terms of our focus on accounting at the start of the paper accounting is a tool of social control and a form of capital. Powerful as capital is, punk rock, today as in the 1970s, provides a Hegelian narrative of continual struggle, continual dissent, and continual self-positing of yet another attempt at a better future. With the Tories back in power in the UK a whole new discursive space has opened up…

Acknowledgements

We would like to thank Gerard Betros, Susan Briggs, Bligh Grant, Matthew Haigh, and Rex Walsh for interesting discussions with two of the authors on punk rock and its role in contemporary capitalist society. We also thank participants at Migrant Security Conference, University of Southern Queensland, Toowoomba, Australia, 15-16 July, 2010, for helpful feedback on the first-mentioned author's related paper entitled 'Catholicism and Alcoholism: The Irish Diaspora lived ethics of the Dropkick Murphys punk band'.

REFERENCES

Althusser L. (2008),' Reply to John Lewis (Self-criticism)', in Louis Althusser (ed.), *On Ideology*. London and New York: Verso, 61-139.

Ballard J.G. (1998) *High-Rise.* London: Firebird Distributing.

Barthes R. (2009) *Mythologies*. London: Vintage Books.

Baulch E. (2003) Gesturing Elsewhere: the Identity Politics of the Balinese Death/thrash Metal Scene. *Popular Music,* 22(2): 195-216.

Bennett J.G. (2009) *E1: a journey through Whitechapel and Spitalfields*. Nottingham: Five Leaves Publications.

Fishman C. (2006) *The Wal-Mart Effect: how an Out-of-town Superstore became a Superpower*. London: Penguin Books.

Gilbert P. (2004) *Passion is a Fashion: the Real Story of the Clash*. London: Aurum Press.

Harris K. (2000) "Roots"?: the Relationship between the Global and the Local within the Extreme Metal Scene. *Popular Music,* 19(1): 13-30.

Hinton B. (1998) *From Hell…the Jack the Ripper Mystery*. Abertillery: Old Bakehouse Publications.

Hornby N. (1998) *About a Boy.* London: Penguin Books.

Hornby N. (2000) *Fever Pitch.*London: Penguin Books.

Hornby N. (2005) *High Fidelity*. London: Riverhead Trade.

James C.L.R. (1980) *Notes on Dialectics: Hegel – Marx – Lenin*. London: Allison and Busby.

James K. (2009) "This is England": Punk Rock's Realist/ Idealist Dialectic and its Implications for Critical Accounting Education. *Accounting Forum,* 33(2): 127-145.

James K. (2010) Living the Punk Life in Green Bay, Wisconsin: Exploring Contradiction in the Music of NOFX, *Musicology Australia,* 32(1): 95-120.

James K., Kavanagh M.H. (forthcoming), 'Are Accounting Students Socially and Politically Aware? A Critical Analysis of the Responses of Accounting Students to Social and Political Dilemmas in society. *International Journal of Critical Accounting*.

James K., Tolliday C.J (2009) Structural Change in the Music Industry: a Marxist Critique of Public Statements made by Members of Metallica during the Lawsuit against Napster. *International Journal of Critical Accounting,* 1(1-2): 144-176.

Jinnai Y. (2009) Rethinking the Relationship of Accounting to Labour and Capital, Paper presented at *3rd Accounting and New Labour Process Symposium*, Cluj-Napoca, Romania, 26-27 November.

Kahn-Harris K. (2007) *Extreme Metal: Music and Culture on the Edge*. London and New York: Berg.

Lenin V.I. (1992) *The State and Revolution*. London: Penguin Classics.

Li M. (2008) *The Rise of China and the Demise of the Capitalist World Economy*. New York: Monthly Review Press.

Lydon J., Zimmerman K. (1994), *Rotten: No Irish, no Blacks, no Dogs*. London: Plexus Publishing.

Marx K.H. (1976) *Capital: A Critique of Political EconomyVolume 1.* London: Penguin Classics.

Marx K.H. (1978) *Capital: A Critique of Political EconomyVolume 2.* London: Penguin Classics.

Marx K.H. (1994a) The Civil War in France (excerpt), in Lawrence H. Simon (ed.), *Selected Writings*. Indianapolis: Hackett Publishing Company, 301-314.

Marx K.H. (1994b) Critique of the Gotha Programme, in Lawrence H. Simon (ed.), *Selected Writings*. Indianapolis: Hackett Publishing Company, 315-332.

Moynihan M., Didrik S. (2003) *Lords of Chaos: The Bloody Rise of the Satanic Metal Underground*. Venice: Feral House.

Salewicz C. (2006) *Redemption Song: the Ballad of Joe Strummer*. New York: Faber and Faber.

Saravanamuthu K., Tinker T. (2003) Politics of Managing: The Dialectic of Control". *Accounting, Organizations and Society* 28(1): 37-64.

Sartre Jean-Paul (2006) *Being and Nothingness*. London: Routledge Classics.

Savage J. (2005) *England's Dreaming: Sex Pistols and Punk Rock*. London: Faber and Faber.

Tanaka, A. (2006) 'What underlies Accounting? [in Japanese]', *Tokyo KeidaiGakkaishi*, No. 250 [cited in Jinnai (2009)].

Tinker T., Lehman C., Neimark M. (1991) Falling down the Hole in the Middle of the Road: Political Quietism in Corporate Social Reporting'. *Accounting, Auditing & Accountability Journal,* 4(2): 28-54.

Walser R. (1993a) Professing Censorship: Academic Attacks on Heavy Metal. *Journal of Popular Music Studies,* 5: 68-78.

Walser R. (1993b) *Running with the Devil: Power, Gender and Madness in Heavy Metal Music*. Hanover: Wesleyan University Press.

Weber M. (1965) *The Protestant Ethic and the Spirit of Capitalism*, T. Parsons (trans). New York: Unwin Univ. Books.

Žižek S. (2008) *In Defence of Lost Causes*. London and New York: Verso.

STUDIA UBB, OECONOMICA, VOLUME 57, ISSUE 1, 2012

DECISION-PROCESS MINING: A NEW FRAMEWORK FOR KNOWLEDGE ACQUISITION OF BUSINESS DECISION-MAKING PROCESSES

Razvan PETRUSEL *
Babes-Bolyai University of Cluj Napoca, Romania

Abstract. This paper introduces a new knowledge acquisition method for decision making processes. Basically, we provide a framework that allows a business researcher to create an individual or an aggregated model, depicting the data perspective of the decision making process. The decision data model makes explicit the mental actions, aimed at aggregating data, performed by the decision maker in order to evaluate and choose a decision alternative. The paper introduces the framework, the formal foundations and the assumptions we make. Then, the approach is evaluated through several experiments.

JEL Classification: D81, M41, C63

Keywords: decision process mining, decision knowledge acquisition, decision data model

1. Introduction

When an individual makes a decision he performs a lot of mental actions, but for an observer the only visible result is the choice of one decision alternative. But why does an individual choses one alternative while other chooses a different one? It is obvious that the internal mental process determined a different outcome. But how can we compare the internal mental processes to highlight the differences that lead to a different choice? And, how can we aggregate the mental processes of many different individuals to create a common thinking pattern. If such a thing would be possible, can it hold any value for a business researcher? We argue that it can. For example, one can look at several different managers that are faced with the same decision. If we can produce a model of the thinking patterns of those managers, examine it and compare it with the ones produced by other managers, we could find possible flaws, improve the decision making process and, ultimately, make a better choice.

* Corresponding author. Address: Babeş-Bolyai University of Cluj-Napoca, Faculty of Economics and Business Administration, Department of Business Information Systems 58-60 Teodor Mihali street, Cluj-Napoca, Romania. Tel. +40 740845115 E-mail: razvan.petrusel@econ.ubbcluj.ro

This paper introduces a framework aimed at automatically creating a decision process model. We look at the decision process as a workflow of mental activities performed by a person towards the goal of choosing one decision alternative. The notion of workflow denotes that the activities that are performed can be sequential of concurrent.

The main challenge we address is how to extract and create an explicit model of the mental activities performed by a person, in the process of making a decision. Other challenges relate to: making implicit mental actions explicit; selecting the most appropriate type of model to depict the decision process; balancing the representational bias of the selected model;and finding the best technique for aggregating individual traces.

This paper introduces a complete and functional framework. However, it is not aimed at providing the final framework. Improvement is possible at all levels. At various points in the paper, we identify issues that need to be improved, and indicate what needs to be done further.

This framework is addressed to several categories of users:

a) persons interested in evaluating (their or somebody else’s) knowledge in making a specific decision;

b) persons interested in a comparison of decision making processes between two individuals or between an individual and an collective (aggregated) model;

c) any researcher interested in more insights into decision making processes, real decisional strategies, clustering of decision makers, etc.;

d) business and social researchers interested in finding common decisional patterns or decisional biases in various categories of individuals;

e) professionals or students interested in recommendations about a specific decision based on a collective model.

We rely on two basic assumptions:

i) a decision is influenced by the decision process (workflow) followed by the decision maker;

ii) a model created by a large number of contributors is at least as good as one created by just a couple of experts (similar to an article in Wikipedia compared to one in Encyclopedia Britannica or to open-source software (e.g. Android operating system) compared to a commercial one (e.g. IOs)).

We are not aware of any studies on the individual, business decision making process (workflow). One cause might be that the individual decision making process is very fuzzy and there are limitless variations, from one person to another, even for simple processes. This is why we aim to provide the framework and the tools that will allow studies of the individual decisions to be conducted efficiently. Afterwards, this tool can be used, for example, for further research on the correlation between the decision process and the decision effectiveness.

Since we wantto focus the attention of the reader primarily on the proposed approach, we start, in the second section, with the overview of the framework and we introduce the formal fundaments of our research. The third section introduces the experiments we performed in order to give some validity to our approach. In the fourth section we introduce the related work. The last section introduces the conclusions and the future research.

2. The framework

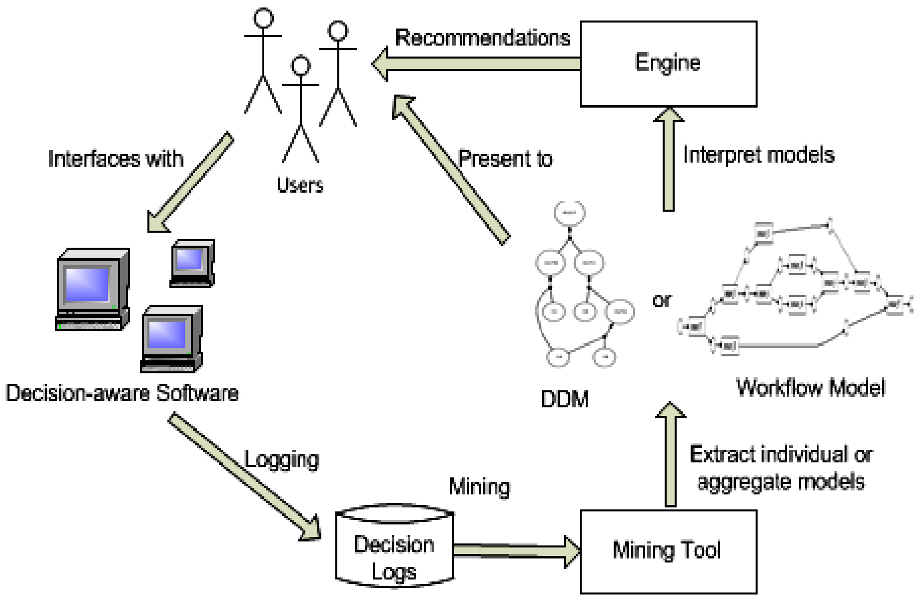
This section introduces the framework aimed at capturing the mental activities of the user performed during the decision process and automatically extracting a model of the data processing performed in order to choose a decision alternative.

In the first sub-section we show the overview of our framework so that the reader becomes familiar with the entire approach. The formal fundaments for the key aspects of the framework (such as the models we create and how the aggregation is performed) are introduced in the second sub-section. The last sub-section introduces the actual software that implements the formal approach described previously. It is an example of how a simple decision process of deciding whether to buy or rent a house can be captured, mined and depicted as a model.

2.1. The overview

The framework of the decision process mining approach is introduced in **Figure 1**. Everything starts with a large number of decision makers that use a software application. It introduces a decision scenario to the decision makers. The decision scenario consists of data needed to make the decision, ranging from critical to trivial. The user is required to choose one of the provided decision alternatives. The software enables him to add new data and also to perform calculations using a calculator tool.

Figure 1: The framework of decision process mining



The software is called ‘decision-aware’ because everything that the user does while making the decision is recorded so that a model can be automatically created. The data is stored in decision logs. More details on the software and on how the logging is performed are available in (author et al., 2011a).

The logs are processed by a mining application that outputs, for each individual user a Decision Data Model (DDM). The DDM is introduced further in this paper, in sub-section 2.2. More details on how the data is extracted are available in (author et al., 2011b). The DDM can be converted into several different types of workflow models. The mining tool also enables the researcher to aggregate any number of selected traces from the logs. The formal fundaments for aggregating DDMs are introduced in the next sub-section. The aggregation can be done for all the traces in the log or for a selection. We argue that clustering traces can be useful. Clustering can be done based on particularities of decision makers or based on the similarity of the decision processes performed by the users. The similarity metrics and the clustering of decision traces are not the focus of the current paper and will be available in a separate paper.The output of the mining tool can also be a workflow model. Since the focus of this paper is on the data view of the decision process, we will not cover the creation of the decision workflow model.

Once the DDM (individual or aggregated) is created it can be introduced, as it is, to the users. In one of the experiments introduced in section 3 we try to prove that a DDM is easier to read and understand than other notations. It can be used to gain a better understanding of a particular decision maker or to look at the aggregated behavior of many individuals.

The other use of a DDM is to provide recommendations for actions to be performed during the decision process. The goal is to guide a person through the steps that need to be performed in order to make an informed decision up to the point where the choice of one alternative needs to be made. We do not aim to recommend a decision alternative, but a workflow that leads the decision maker to the point where he reviewed and considered everything that is needed to make the choice. How the recommendation is made, based on the DDM, is also not the focus of this paper and will be approached in a separate paper.

There are several limitations to our approach:

- Our entire approach relies on the use of the decision-aware software to log the mental activities performed by the user during the decision process. The quality of the logs relies on the logging methods. We can use direct and indirect methods. Direct methods rely on the direct observation of the decision maker (e.g. eye tracking). The indirect methods rely on the possibility to rebuild the mental activities of the decision maker from his actions. The key is to find and implement the tools that will force and enable the user to enact his every thought. The formal approach is created to support both types of logging. However, the case studies and experiments rely on decision-aware software that uses only indirect methods;
- Since we are using software that logs the actions of the user is very important not to guide the decision maker in any way. This means that, basically, all the data should be provided in the window and without any ordering. Of course, this is unfeasible. For example, in the buy/rent implementation, we show to the user two tabs, one with data related to buying and one related to renting, with some data items presented in both. We believe that this has a minimum influence over the decision workflow.

There are also several assumptions we are making:

- The decision scenario provided to the user contains all the data needed for the decision at hand. The user should not need any other information;

- The user is not guided in any way, so the actions performed on the decision scenario data should be a direct reflection of his process;
- The provided data should allow the user to explore and evaluate all the possible decision alternatives;
- A particular user might overlook certain aspects of a decision. But, all the aspects of a particular decision should be discoverable if a sufficient number of users are observed.

There are several types of models we intend to support:
- Individual and aggregate. It is important to be able to look both at the decision process of one decision maker, as well as to a model that depicts an aggregation of processes performed by any number of users. There are several questions that need to be addresses like: 'in an aggregated model, can the process of one individual be distinguished from the one of another individual?', 'in an aggregated model, how can one look at the most frequent path?';
- Data view and activity view. The data view of the decision making process refers to all the data items that are used during the decision process. The activity view refers to the actions performed by the decision maker. The actions can be related to the manipulation of data (e.g. 'find out a value', 'calculate a new data item', 'add two values', 'compare two values') or can be any other mental or physical action (e.g. 'negotiate discount', 'ask for offer'). As we showed before, we are focusing on the data view (which is the result of performing data-related actions). Therefore, we can create only a partial activity view of the decision making process.

2.2. The formal approach

In this sub-section we define the notions that are at the core of our research:

Decision log, decision trace

A basic trace is a finite sequence (σ) of activities (a) denoted as $\sigma = (a_1, a_2, \ldots, a_n)$. Such a trace encodes the sequence of activities but it does not show any explicit dependency between the activities. In process mining, it is assumed that, given a_i and a_{i+1}, a_i is the cause of a_j just because it is a predecessor in the observed behavior. Since decision making process is less structured than a business process, such an assumption does not hold (i.e. a decision maker might perform a set of activities in a random sequence). Therefore, we need to formalize the dependency in an explicit manner.

A decision log is defined as a set of decision traces. A decision trace (DT) is a tuple (D, DPF, V, T) where:

– D the set of data elements, $D = BD \cup ID \cup DD$:
  - BD: the basic data items reviewed by the user;
  - ID: the data items inputted by the user;
  - DD: the derived data items (calculated by user). Any new element of DD = (BD X ID X DD);

– DPF is a set of dpf, where dpf is a function that describes the dependency of each DD as dpf: $D \rightarrow DD$;

– V is a multi-set of v, where v is a value;

– T is a set of t, where t is a timestamp.

Since a decision log is defined as a tuple, a sequence of data elements is implied. Note that a derived data element is depending on other data elements (i.e. is a consequence of other data elements). Therefore, in the tuple, the 'source' data elements must show up before the 'consequence' derived data element.

To give the reader a better understanding of the definition introduced above, we will show a running example of several decision traces. Thesearethree partial traces based on the buy/rent scenario that will be used throughout the paper.

DT1 = ((income, ø, 2000, time1), (savings, ø, 50000, time2), (property_price, ø, 100000, time3), (dd1, (savings, property_price), -50000, time4), (period, ø, 240, time5), (dd2, (dd1, period), 208.33, time6), (dd3, (income, dd2), 1791.67, time7), (dd4, (dd1, income), 25, time8))

DT2 = ((property_price, ø, 100000, time9), (savings, ø, 50000, time10), (period, ø, 240, time11), (dd1, (savings, property_price), -50000, time12), (dd2, (dd1, period), 208.33, time13), (income, ø, 2000, time14), (dd3, (dd1, income), 25, time15), (dd4, (income, dd2), 1791.67, time16))

DT3 = ((savings, ø, 50000, time17), (property_price, ø, 100000, time18), (dd1, (savings, property_price), -50000, time19), (income, ø, 2000, time20), (period, ø, 240, time21), (dd2, (income, period, dd1), 1791,67, time22), (dd3, (income, period, dd1), 430000, time23))

Data elements: basic data element, inputted data element, derived data element

A basic data element is a piece of data available in the decision scenario presented to the decision maker. For example the income of 2000 euro is data that is available to the decision maker and can be used as it is or can be involved in data derivations. An inputted data item is a piece of data that is not available in the decision scenario but is added by the decision maker.

The software is flexible to support any new data item to be added. For example, the number of months in a year is not available in the decision scenario, but the decision maker might need it to convert yearly amounts into monthly figures (e.g. the value of the basic data item 'interest rate' is provided in the decision scenario but the user might need to calculate the monthly payment. So he needs to create a new input data element named, for example, 'number of months in a year' and assign the value 12 to it).

A derived data element is a piece of data calculated based on other data items (basic, inputted or derived previously). The name of a derived data element is automatically assigned by the decision-aware software. For example, given the amounts cashed and the amounts paid, the user can derive the difference between the two (i.e. derived_data_element_1 = amount_cashed – amount_paid). In a decision trace, such an element would show like: (derived_data_element_1, (amount_cashed, amount_paid), 15000, 01/01/2011 17:20:345)

Limitation of the current decision-aware software: all data items need to be numeric in order to be involved in data derivations. The software does not support data derivations based on qualitative data items.

Similarity of two decision trace elements

The equivalence of two data elements must be treated separately for Basic/Inputted data elements and Derived data elements. A basic data element can never be equivalent to a derived data element.

Similarity of basic/inputted data elements:

Let bd_i and bd_j be two elements of two Decision traces DT_i and DT_j. $bd_i = bd_j$ if and only if $(D_i, V_i) = (D_j, V_j)$, i.e. both data items have the same name and the value is equal.

Similarity of derived data element:

Let dd_i and dd_j be two elements of two Decision traces DT_i and DT_j. $dd_i = dd_j$ if and only if $(DPF_i, V_i) = (DPF_j, V_j)$, i.e. both data items depend on the same data elements and the value is equal.

Decision Data Model

A Decision Data Model (DDM) is a tuple (D, O, V, T) with:

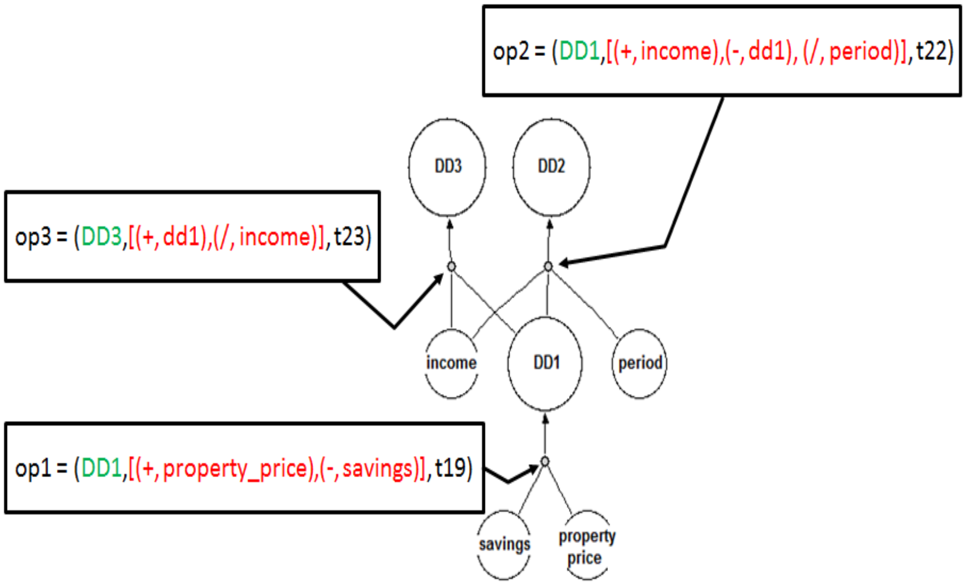
– D: the set of data elements, $D = BD \cup ID \cup DD$, with:
  - BD the set of basic (leaf) data elements that are provided;
  - ID the set of data elements inputted by the user;
  - DD the set of derived data elements.
– O: the set of operations on the data elements. Each operation, o = (d, DS, t):
  - $d \in DD$, d is the output element of the operation;
  - DS is a list of dsi, dsi = (ao X ie), where:
     - $ao \in AO$, AO = {+, -, *, /, <>} is a set of arithmetic operations specifying how to produce the output element d based on the input elements ie;
     - $ie \in IE$, IE is a set of zero or more input elements, $IE \subseteq D$.
  - V is the value of the element;
  - T is the timestamp at which an operation from O occurs, i.e. the time when the element d is created using o.
– D and O form a hyper-graph H = (D, O) connected and acyclic.

A running example of a DDM based on the decision log introduced before is:

The decision traces introduced earlier in this sub-section are mined and converted to a DDM. The details are available in (author et al., 2011b) The DDM in **Figure 2** is created from DT3 introduced above:

(savings, ø, 50000, time17),
(property_price, ø, 100000, time18),
(dd1, [(+, savings), (-, property_price)], -50000, time19),
(income, ø, 2000, time20),
(period, ø, 240, time21),
(dd2, [(+, income), (-, dd1), (/, period)], 1791,67, time22),
(dd3, [(+, income), (*, period), (-, dd1)], 430000, time23)

Figure 2: DDM model of decision trace 3



Similarity of DDM data elements

As one can see in **Figure 2**, each model is composed of several basic and several derived data items. Especially, one can note that the derived data elements are numbered sequentially (e.g. DD1, DD2, DD3) according to the timestamp (i.e. when the operation producing them was realized). In order to compare two models, we need to find the identical elements.

Problem statement: Given two models $DDM_1 = (D_1, O_1)$ and $DDM_2 = (D_2, O_2)$, calculate a score, between 0 and 1, for the pairwise comparison of all basic, inputted and derived elements.

Solution: Two basic/inputted data elements, bd_i and bd_j, are identical if and only if: $bd_i.name = bd_j.name$, and $bd_i.value = bd_j.value$.

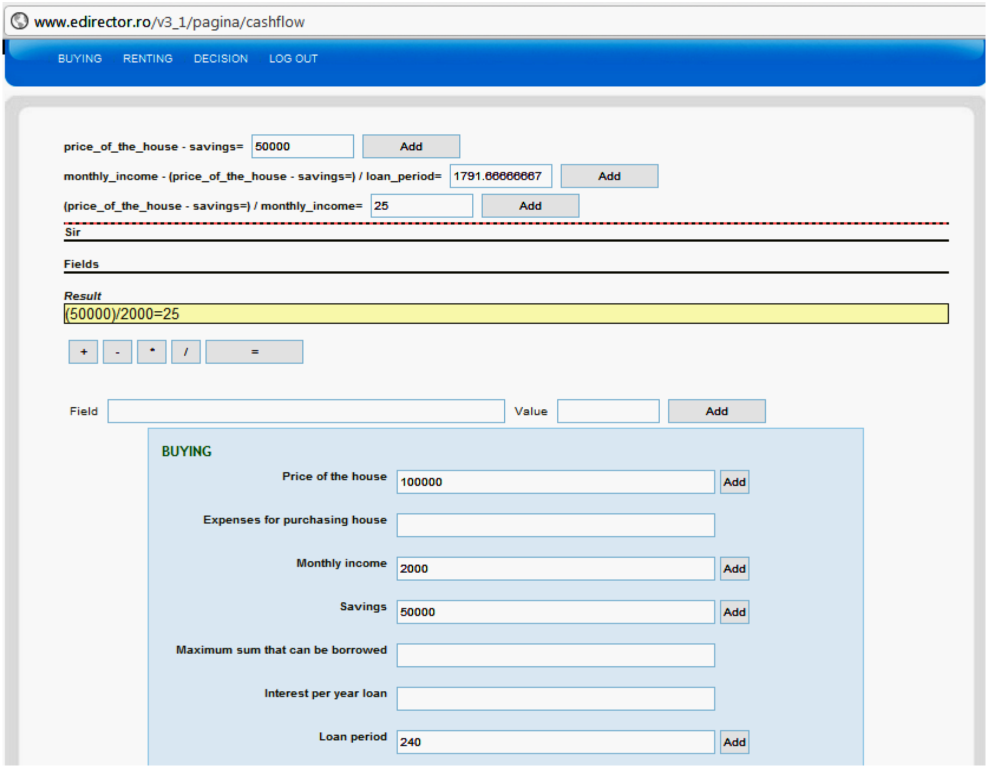
Two derived data elements, dd_i and dd_j, are identical if and only if: $o_i = o_j$ and $dd_i.value = dd_j.value$.

Two derived data elements, dd_i and dd_j, are similar if and only if: $o_i \subseteq o_j$. $sim(DD_1, DD_2) \in [0,1]$ (i.e. we quantify the similarity of two elements on a scale from entirely different to identical)

2.3. The implementation

We will illustrate how DT3, introduced in the previous sub-section, is logged. The user needs to look at four basic data items and perform three operations to calculate three derived data items. The last two derived data items are used then as criterions for choosing the decision alternative. The software interface after all those actions are performed is shown in **Figure 3**.

Figure 3: The interface after the actions in DT3 are performed



The log outputted by the decision-aware software is introduced in **Figure 4** and the essential records are highlighted.

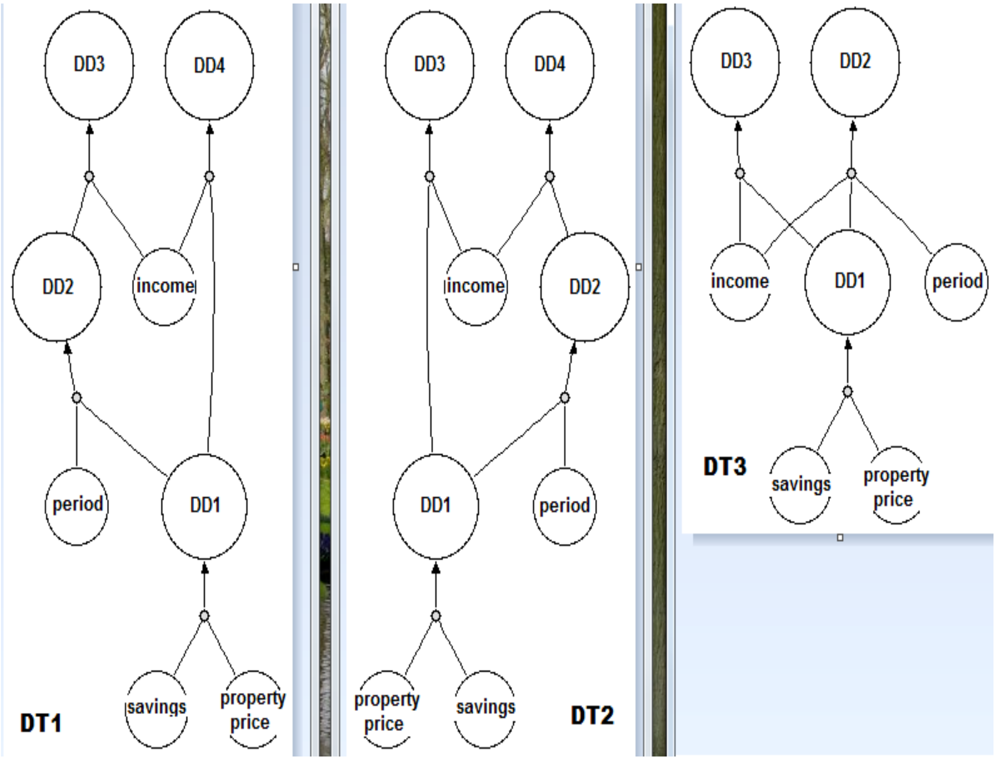
Figure 4: The log for DT3

PI-ID | Value | Timestamp | ATE-ID | WFMElt | Name | Value |

114 | user10 | 11/20/2011 10:05:48:449 | 2574 | click menu item | buying | buying
114 | user10 | 11/20/2011 10:05:58:750 | 2575 | click textbox | price_of_the_house | 100000
114 | user10 | 11/20/2011 10:05:59:924 | 2576 | click buton | Add_price_of_the_house | price_of_the_house
114 | user10 | 11/20/2011 10:06:01:667 | 2577 | click buton | minus | -
114 | user10 | 11/20/2011 10:06:03:318 | 2578 | click textbox | savings | 50000
114 | user10 | 11/20/2011 10:06:04:205 | 2579 | click buton | Add_savings | savings
114 | user10 | 11/20/2011 10:06:05:554 | 2580 | click buton | =price_of_the_house - savings | 50000
114 | user10 | 11/20/2011 10:06:31:296 | 2581 | click textbox | monthly_income | 2000
114 | user10 | 11/20/2011 10:06:32:7 | 2582 | click buton | Add_monthly_income | monthly_income
114 | user10 | 11/20/2011 10:06:33:483 | 2583 | click buton | minus | -
114 | user10 | 11/20/2011 10:06:34:956 | 2584 | click buton | Add_(price_of_the_house - savings=) | (price_of_the_house - savings=)
114 | user10 | 11/20/2011 10:06:36:955 | 2585 | click buton | impartire | /
114 | user10 | 11/20/2011 10:06:39:88 | 2586 | click textbox | loan_period | 240
114 | user10 | 11/20/2011 10:06:39:874 | 2587 | click buton | Add_loan_period | loan_period
114 | user10 | 11/20/2011 10:06:45:421 | 2588 | click buton | =monthly_income - (price_of_the_house - savings=) / loan_period | 1791.66666667
114 | user10 | 11/20/2011 10:07:19:286 | 2589 | click buton | Add_(price_of_the_house - savings=) | (price_of_the_house - savings=)
114 | user10 | 11/20/2011 10:07:20:538 | 2590 | click buton | impartire | /
114 | user10 | 11/20/2011 10:07:22:121 | 2591 | click textbox | monthly_income | 2000
114 | user10 | 11/20/2011 10:07:23:216 | 2592 | click buton | Add_monthly_income | monthly_income
114 | user10 | 11/20/2011 10:07:24:381 | 2593 | click buton | =(price_of_the_house - savings=) / monthly_income | 25

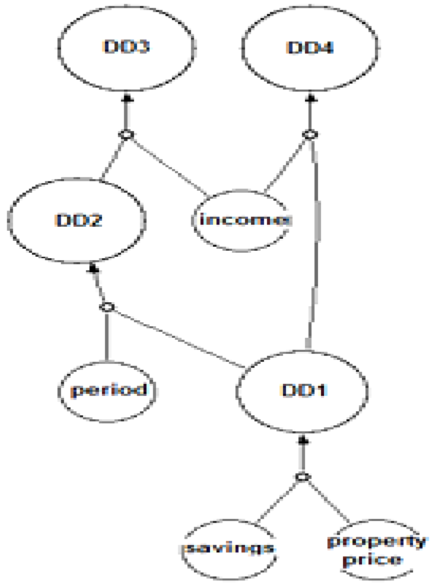
The log in **Figure 4** is then mined and the model in **Figure 5** - DT3 is created.

Figure 5: The DDM models for DT1, DT2 and DT3



Considering the decision traces DT1, DT2 and DT3 introduced in sub-section 2.2, and the formalism related to the equivalence of derived data elements, we can conclude that: DT1.DD1 = DT2.DD1 = DT3.DD1; DT1.DD2 = DT2.DD2; DT1.DD3 = DT2.DD4 = DT3.DD2; DT1.DD4 = DT2.DD3 = DT3.DD3. Therefore, the aggregated model of DT1, DT2 and DT3 can be computed and is introduced in **Figure 6**. As one can notice it is identical to the DDM for DT1. This is due to the fact that all the basic and derived data items in DT2 and DT3 are equivalent to the ones in DT1. Our intention is to prove to the reader that the goal of aggregating seemingly different models produced by different users is reached by using our approach.

Figure 6: Aggregated DDM for DT1, DT2 and DT3



3. The evaluation of the approach

This section is intended to show that the proposed framework is useful for a business researcher. In the first sub-section we try to prove that the DDM can be understood even by non-specialists. In the second sub-section we argue that an aggregated DDM can provide some insights into the common patterns of several decision makers. In the last sub-section we try to give some proof that our approach takes less time than the manual creation of a model (therefore is less expensive).

We are aware that the evaluation presented in this paper is not a proper, scientific validation. It is our intention just to provide to the reader some insights into the tests for the future controlled experiments we are designing.

3.1. The understandability of a Decision Data Model

To evaluate if a DDM is understandable we designed an experiment that asks the subjects to pick the model they prefer. The point we try to prove is that: “A DDM is easy to read and understand and provides better insights into the decision process than other knowledge representations (YAWL Workflow or C-nets)”.

Design of the experiment:

To provide the answer to the question, we created a balanced single factor experiment with repeated measurements. We investigated the effects of a single factor (a particular model type) on a common response variable to prove the degree to which the subjects understand the model. The measured response variable is the two output values that should be calculated by strictly following the model. The correctness of the output values prove if the model was correctly interpreted by the subjects.

During the experiment, N subjects $S_1,\ldots,S_n$ have to calculate a value by following the process model that we provide listed on a paper. There are three different types of models, equivalent to each other. The subjects need to use a version of the decision-aware software to find out the values of the basic data items. They are explained that are expected to follow the prescribed model in order to calculate values for the output derived data items in the model. The experiment has 3 rounds so that each subject needs to use each of the three models. During one round:

- one third of the subjects (S_1, …, $S_{n/3}$) use the Loan Contracting decision-aware software and calculate the result (Root) value as prescribed by the DDM model;
- one third of the subjects ($S_{n/3+1}$, …, $S_{2n/3}$) use the Loan Contracting decision-aware software and calculate the result (Root) value as prescribed by the YAWL Workflow model;
- one third of the subjects ($S_{2n/3+1}$, …, S_n) use the Loan Contracting decision-aware software and calculate the result (Root) value as prescribed by the C-nets model;

When the first round is finished, the subjects are handed a different model and they need to perform the same calculations again.

Risk analysis and mitigations. Some of the concerns that may limit the validity of the results are:

- *Risk*: the subjects basically perform the same process three times, using different depictions of it. Of course those, by the third use, the subjects get to know the process.Therefore the actual use of the model becomes questionable. *Mitigation*: the results of the third round are weighted less when the experiment results are aggregated.
- *Risk*: subject's the knowledge of each model may be different. The subjects must know and have similar experience with each model. *Mitigation*: we used as subjects master students that knew nothing about process models. They were given two a-priori lectures on workflow models. Even more, the focus was on the YAWL and C-net models and considerable lesser attention was given to the DDM.
- *Risk*: the domain knowledge may influence the degree to which the subjects rely on the process models. *Mitigation:* the scenario we used requires above average knowledge of accounting and the subjects had only basic knowledge on this subject.

Results of the experiment:

The results are not scientifically valid because of the limited number of subjects involved in this first experiment. We used 12 master students at our Faculty so that in each round there were 3 groups of four students. We believe that, even so, the findings are interesting and worth mentioning. The main result is that none of the students were able to derive the expected output values. However, all the students were able to calculate correctly more than 80% of the derived data items. The main conclusion that arises from this experiment is that, in order to make the DDM available for non-experts in a field, the exact operation needs to be made available to the user. There was also a questionnaire that, among other questions, required the subjects to indicate their favorite model. Interestingly, 9 out of 12 indicated they prefer the DDM.

3.2. Comparison of our approach to the manual model creation

To evaluate if the framework we proposed is better than classical knowledge acquisition methods (e.g. questionnaires, interviews, use of an expert), we performed a second experiment. The point we try to prove is: "A mined DDM is better or at least that good as one created manually". We defined better as less expensive to produce. The effort to produce a model can, basically, be measured as the time it takes to create it.

Design of the experiment:

To provide the answer to the question, we, again, created a balanced single factor experiment with repeated measurements. The object to be created during the experiment is a process model, of any type, for a given narrative scenario. The factor of the experiment is the model creation method and the factor levels are automatic and manual creation. The measured variable is the time required to produce the model.

The subjects of the experiment were 9 master students and 3 professors at our Faculty. The master students had previously taken a course on Knowledge management so they should be familiar with knowledge modeling and representation. The three professors were familiar with UML language, so they could use diagrams like UML Activity.

N subjects S1, …,Sn have to create a decision process model;

During the experiment:

- half of the subjects (S_1, …, $S_{n/2}$) use the Buy/Rent decision-aware software and create the mined model;
- half of the subjects ($S_{n/2+1}$, …, S_n) use the Buy/Rent narrative description of the scenario to manually build a model of the decision process.

Risk analysis and mitigations: Some of the concerns that may limit the validity of the results are:

- *Risk:* the knowledge of the students with respect to the decision-aware software and some modeling language. *Mitigation:* the time required to learn the interface of the decision-aware software and how to use it was included in the measured time of the automatic model creation. The subjects had knowledge of some knowledge modeling languages but not of workflow modeling and models.
- *Risk:* the data collection process. The time measurements can be wrong. *Mitigation:* the software interface learning process lasted exactly 15 minutes and the logs store the timestamps of the log-in and log-out action. The manual model creation started at the same time and the time was written on each paper with the model when it was handed in.
- *Risk:* quality of the generated model. The time it takes to create the models is irrelevant if you compare a complex model to a simple one. *Mitigation:* this threat cannot be overruled. The best we could do is to count the number of the elements in each model (nodes, arcs, etc.) and conclude that a similar number of elements express a similar complexity. However this leaves out the fact that the manual models may be logically flawed, therefore unusable.

Results of the experiment:

Again, the results are not scientifically valid because of the limited number of subjects involved in this first experiment. Still, the average time necessary for creating a DDM was 32 minutes (this includes the 15 minutes for training) with a minimum of 26 and a maximum of 35 minutes. We stopped the manual model creation after 45 minutes and there were only two subjects who finished before this deadline. Therefore, we can conclude that the DDM shows promise even if in the timing we included the training (which is not necessary for a second usage on a different decisional situation).

4. Related Work

The decision making research was a hot topic between the 1960 and 1980. The focus was on defining the cognitive process of decision making and then on the connection with the software systems. But the approaches of the researchers were not focused on individual research and much less on looking at the decision making process as a workflow.

We are interested in proving there is a connection between the individual decision workflow and the decision outcome (the chosen alternative). The correlation between the strategic decision making process and decision effectiveness was researched (Dean and Sharfman 1996). It is also established that there is a direct correlation between the available information for the decision process and the quality of the decision (Keller and Staelin, 1987). Therefore, there are two aspects that we need to address by our research in connection to the decision process: the general strategy employed and the processing of information. This paper focuses only on the second aspect.

We look at the decision process as at a sequence of activities, mostly mental, performed by the decision maker. Our basic approach is to collect data about the individual decision-making process (workflow) and then extract a model out of this data. This kind of approach is the focus of a domain called process mining. In process mining a log of activities is outputted from the information systems that are used in managing various aspects of abusiness (e.g. ERP, CRM, SCM systems). Then, using various algorithms and methods a process models is automatically created. The most influential researcher in process mining is professorWil van der Aalst, who set the foundations of this research field in (van der Aalst and van Hee, 2002). Since then, the field expanded quickly and a large number of algorithms were developed. The most important are: Alpha, Heuristics, Genetic and Fuzzy Algorithms. All are implemented in Prom Framework (http://processmining.org/) and can be used freely.

Alpha Miner relies on four basic relations used directly for building the Petri Net: A→B (activity A is directly followed by activity B), A#B (activity A is never followed by activity B), and A||B (activity A is sometimes followed by activity B but also activity B is sometimes followed by activity A)(van der Aalst et al., 2003). There are three steps in the algorithm: a) discovery of causal dependencies in the log (an activity always followed by another activity); b) construction of the input and output expressions; c) search for long distance dependency relations (van der Aalst et al., 2004). One of the downsides of this algorithm, when applied to decision mining, is that it does not consider the frequency of traces in the log. Alpha ++ miner is an advancement of alpha algorithm that explicitly captures non-free-choices in the mined model (Wen et al., 2006).

Heuristic miner aims to mine the control-flow perspective and only considers the order of events within a case (i.e. the order of events among cases is not important) based on the timestamp of the action (van der Aalst et al., 2004). There are three mining steps: a) the construction of a dependency/frequency (D/F) table; b) the induction of a D/F graph out of a D/F table; and c) the reconstruction of the workflow-net out of the D/F table and graph (van der Aalst et al., 2004), (Weijters and van der Aalst, 2003).

Genetic algorithm performs mining in four steps: a) build the initial population (randomly or using a heuristic approach), b) calculate the fitness of the population, c) generate the next generation using elitism, crossover and mutation, and d) stop when reaching a defined “stop” point (de Medeiros eta al., 2007).

Fuzzy miner was created to be used in conjunction with less-structured real data logs (Gunther and van der Aalst, 2007). It intends to show a model using concepts like: aggregation, abstraction, emphasis and customization. There are three phases in the algorithm. The first two phases (conflict resolution and edge filtering) remove edges (i.e., precedence relations) between activity nodes, while the final aggregation and abstraction phase removes and/or clusters less significant nodes (Gunther and van der Aalst, 2007). The main benefit of Fuzzy Miner is that it is able to clean up a large amount of confusing behavior, and to infer and extract structure from chaotic behavior (Gunther and van der Aalst, 2007).

One of the critical points in our approach is the creation of a simulation that will allow the user to enact a specific decision process. The basic guidelines in creating a process simulation of operational decision making are presented in (van der Aalst et al., 2009). The paper provides: a critical analysis of simulation approaches and tools used in process modeling; and a detailed analysis of the effect of resource availability in simulation studies. One of the conclusions is that people prefer to work in chunks (van der Aalst et al., 2009). This is of interest to us because it indicates it is possible to divide the decision into several clusters of related activities that are performed with random delays and in batches. Based on this conclusion, we introduce the clustering of activities and the notion of parallel activities in decision mining.

The choice of models that can be used for depicting processes (workflows) is quite large. The algorithms introduced above extract a basic Petri Net. This is a basic type of model, which lacks in expressivity but has the very important feature that it can be verified automatically. A more expressive way of representing a process, based on Petri Nets are Extended Petri Nets and YAWL (Yet Another Workflow Language). The model most used by experts in modeling real business processes in BPMN (Business Process Modeling Notation). It is expressive but it cannot be automatically verified for correctness (which is a non-trivial task for a normal sized model) and it also cannot be executed (e.g. for running simulations) unless it is translated into BPEL (Business Process Execution Language) executable model.

The term “decision mining” was used before by Rozinat in (Rozinat and van der Aalst, 2006). This approach uses a derivation of C4.5 algorithm to build decision trees that allow analysis of points where choices were made in a workflow. Rozinat proposes the use of Petri Nets theory in order to identify the points in which a choice was made and one or other of the branches were followed. The goal of the analysis of those decision points is to determine which properties determined one or the other of the branches to be followed. However, this is completely different from our approach. There are, also, differences due to the fact that the properties determined by Rozinat that change the path followed after a decision point cannot map to the properties of the mental activities captured in the decision workflow. Also, timing activities in a decisional workflow does not make sense.

5. Conclusions

This paper aimed to introduce the reader to the possibility of making explicit the data processing view of the individual decision process. We argue this is an important research issue because there is a connection between the decision workflow and the decision outcome. Therefore, making explicit the decision workflow can prove to be an essential step in improving business decision making. We also argue that, in order to conduct research on such an issue, a new approach and new tools for knowledge extraction need to be created. This paper proposes such a framework.It focuses on the creation of an individual and aggregated model for the decision data processing.

The basic idea of this framework is that there is software that implements a simulation of a decisional situation. The user interacts with this software and his actions are logged. The log is then mined and a model is outputted.

We presented the formal foundations we laid for the proposed framework. We believe that those foundations are flexible enough to support various types of decision processes placed in various domains. We also believe that the formalism we developed can be used as it is to incorporate both low-level (clicks on the software interface) and high level (eye-tracking) logging.

We insisted on the possibility to create aggregated models. This is an extremely important feature since, as we showed, it allows the researcher to create a simple model that incorporates the behavior of many decision makers. Creating aggregated models is essential both for a researcher and for a professional because (even if not detailed in this paper) the framework allows the comparison of an individual model with an aggregated one and the highlighting of common and different parts.

We also tried to back up our statements by two experiments. Even if we didn’t produce valid scientific results yet, the reader can see that there are some promising perspectives.

Our future efforts will be focused on extending the number of subjects involved in the two experiments. We will also be expanding the number of researched decision scenarios. The decision-aware software is very flexible to that end so that values can be easily changed and data elements can be added or deleted without affecting the underlying logging mechanisms.

Acknowledgments

This work was supported by CNCSIS-UEFISCSU, project number PN II-RU code 292/2010, contract no. 52/2010.

REFERENCES

de Medeiros A.K.A., Weijters A.J.M.M., van der Aalst W.M.P., (2007) Genetic Process Mining: An Experimental Evaluation. *Data Mining and Knowledge Discovery*. 14(2): 245-304

Gunther C.W., van der Aalst W.M.P., (2007) Fuzzy Mining: Adaptive Process Simplification Based on Multi-perspective Metrics. In: Alonso, G., Dadam, P., Rosemann, M. (eds), BPM 2007, *LNCS*, 4714: 328-343, Springer, Berlin

Keller K.L., Staelin R. (1987) Effects of Quality and Quantity of Information on Decision Effectiveness, *Journal of Consumer Research*, 14(2): 200-213

Rozinat A., van der Aalst W.M.P. (2006) Decision Mining in ProM. In: Dustdar, S., Faideiro, J.L., Sheth, A. (eds) BPM 2006. *LNCS* (4102): 420--425. Springer, Berlin

van der Aalst W.M.P., van Hee K.M. (2002) Workflow Management: Models, Methods, and Systems. MIT press, Cambridge, MA,

van der Aalst W.M.P., Nakatumba J., Rozinat A., Russell N., (2009) Business Process Simulation: How to get it right?. In: vomBrocke, J., Rosemann, M., (eds.) International Handbook on Business Process Management. Springer, Berlin

van der Aalst W.M.P., van Dongen B.F., Herbst J., Maruster L., Schimm G., Weijters A.J.M.M., (2003) Workflow Mining: A Survey of Issues and Approaches. *Data and Knowledge Engineering*. 47(2): 237-267

van der Aalst W.M.P., Weijters A.J.M.M., Maruster L. (2004) Workflow Mining: Discovering Process Models from Event Logs. *IEEE Transactions on Knowledge and Data Engineering*, 16(9): 1128-1142

Weijters A.J.M.M., van der Aalst W.M.P. (2003) Rediscovering Workflow Models from Event-Based Data using Little Thumb. *Integrated Computer-Aided Engineering*. 10(2): 151-162

Wen L., Wang J., Sun J.G. (2006) Detecting Implicit Dependencies Between Tasks from Event Logs. In: Zhou, X., Li, J., Shen, H.T., Kitsuregawa, M., Zhang, Y. (eds.) APWeb 2006. *LNCS*, (3481): 591-603. Springer, Berlin

STUDIA UBB, OECONOMICA, VOLUME 57, ISSUE 1, 2012

TAKT-TIME MODEL OPTIMISATION ON BASIS OF SHOP-FLOOR APPROACH

Andrej BERTONCELJ [*], **Klemen KAVČIČ**
University of Primorska, Slovenia

Abstract. Lean as an industrial paradigm has proved to be of significant benefit in the manufacturing industry. This paper aims to report on the introduction of takt-time to an industrial plant with the emphasis on the improved adaptability of manufacturing process to the market situation. The study finds that the operations which were not optimised, like packaging operation, represented a bottleneck and were not harmonised with the takt time dictated by customers. Unbalanced manufacturing cell caused delays in supplying the products to customers, increased their dissatisfaction, inventories in the manufacturing process and number of low quality products. A designed takt time model based on the shop-floor approach is one promising alternative to solving such problems.

JEL Classification: D24, L23

Keywords: lean organization; takt-time; cycle time; plant cycle management; production configuration; wood-processing industry

1. Introduction

Manufacturing companies are constantly challenged with a situation that their production systems are being ineffective in responding to the customers' demands. Production systems are expected to adopt to changes in customers' requests such as volume demand, new product design and new timely manner without losing cost competitiveness in the market place (Kasul and Motwani,1997; Bicheno, 2000; Buzby et al., 2002; Chase at al., 2004; Simons and Zokaei, 2005). Cycle times, the period between a products' design and the time delivery of the products to the customer, are getting increasingly shorter (Chen and Kleiner, 2001). In today's increasingly competitive, global environment the product life cycles are getting shorter and customers are demanding prices under given market level. Manufacturing companies of all sizes are forced to respond by implementing productivity measures to improve customers' satisfaction, both in decreasing delivery time and improving quality. Various highly integrated systems, lean practices, are being employed to reduce, among others, lead times, decrease

[*] Corresponding author. Address: University of Primorska, Faculty of Management, Cankarjeva 5, 6104 Koper, Slovenia. Telephone: + 386 41 700 902, E-mail: andrej.bertoncelj@fm-kp.si

costs, level production, lower inventory and increasy quality levels and job satisfaction.

This paper takes the concept of takt-time, as one of the basic lean practices (Rother and Shook, 1998), and discusses how implementing lean techniques can shrink time lines and improve productivity in wood-processing plants. As a consequence of intense globalisation, several wood-processing companies in Central and Eastern Europe have in the last few years been losing their competitive position in international markets (Dolenc, 2009; Stubelj, 2010).

Mass production sectors of the industry in the region have been to much extent unable to accommodate frequent model changes in an economic and timely fashion. One promising alternative to solving these problems is lean manufacturing with implementation of takt-time. Hence, the very relevant question arises of to how wood-processing companies can use takt-time model in order to increase their productivity and competitiveness.

The purpose of this paper is to discuss the concept of lean production and explains how lean techniqiues can balance the production lines and improve the productivity and quality. Mass furniture production is unable to accommodate frequent model changes in an economic and timely fashion. One promising alternative to solving these probles is lean manufacturing system with the implementation of takt time model. Theoretical and managerial implications are presented.

2. Lean production

Lean production is a well-established management concept in today's world-class industry which emphasises the importance of smooth production flow and continouos improvement. The term "lean" was coined by James Womack, Daniel Jones and Daniel Roos (Womack et al., 1990) and is widely linked with the Toyota Production System in terms of capability to manufacture the necessary quantity of the necessary product at the necessary time.

Lean production is a set of viable methods for making products in a cost efficient way and at the same time achieving the ultimate goal – profit (Kasul and Motwani, 1997). Thus, lean companies are better off to respond to demands in the market, staying viable and maintaining profitability during rough times (Toyota Motor Corporation, 1992). XR Associates (2003) argue that lean production can help reducing waste by 40-percent, push productivity between 20- and 70-percent, decrease work in process stock and surface by 80-percent and eliminate non-quality cost by 60-percent.

In a manufacturing context, the major lean philosophy focuses on just what is needed, when it is needed, in the amount needed with only needed resources (Heinzer and Render, 1999; Buzby et al., 2002; Christopher, 1992; Lahhin, 2001). Lean production is not just a set of techniques and principles but a new viewpoint of manufacturing and therefore it takes a long time to change the people's way of thinking because of the working culture (Houshmand and Jamshidnezhad, 2006). Arbos (2002) writes that lean production techniques have contributed to a spectacular improvement in efficiency, spread of response and flexibility in production at many manufacturing companies, through process-based management, elimination of waste and the highly flexible implementation of the process.

The National Institute of Science and Technology Manufacturing Extension Partnership (NIST/MEP, 1998) identifies eight waste areas of lean production: overproduction, motion, inventory, waiting, transportation, under-utilised people, extra processing and defects. The significant reason of "Muda" (Japanese for waste, futility and purposelessness), as a human activity which creates no value but absorbs resources (Ohno, 1998), is overproduction, i.e. to produce more, sooner or faster than is required by the next process downstream (Rother and Shook, 1998; Yeh, 2000). This leads to buffer inventories which require resources that are not directly related to production. Lean production is an enhancement of mass production. Getting a product right the first time and thus minimising waste of and kind is the competitive advantage of lean companies (Motwani, 2003).

Rother and Shock (1999) differentiate four levels of lean production:

- Lean machine (single-process level).
- Lean plant (door to door level).
- Lean company (multiple-plants level).
- Lean enterprise (supply chain level).

A vast literature of lean production is available (Womack et al., 1990; Rother and Shook, 1998; Takeda, 1999; Taylor and Brunt, 2001; Prizinsky, 2001; Wysk, 2002; Parker, 2003; Liker, 2004; Cochran et al., 2004; Bhasin and Burcher, 2006). Lean is defined as a systemic approach to identifying and eliminating waste through continouos improvement in pursuit of perfection (NIST/MEP, 1998). The typology for lean production includes the following there categories (Simons and Zokaei, 2005):

- Lean practices: Standardised work, Takt-time, Just-in-Time, Heijunka (levelled production), Kanban (visual signal), Jidoka (automation system), 5S.
- Lean policies: Total productive maintanance, Visual control, Poka-Yoka (mistake proofing).
- Lean philosophies: Waste elimination, Kaizen (continuous incremental improvement).

This leads us to the conclusion that lean production is more than a set of management tools and techniques at the operational level but clearly strategic orientation of any company focusing on value creation from its customers' perspective.

3. Takt-time

The German word "Takt" means pricise interval of time, cycle, rhythm or repetition (Simons and Zokaei, 2005). Takt-time was first introduced into German industry in the thierties and became standard practice of lean production. Takt-time is regarded as an important part of world class manufacturing practice (Wada, 1995). It is equivalent to pace, i.e. the rate at which the customer requires the product (Buzby et al., 2002) and defines the pulse of production processes. It takes into consideration the customers' demands in order to prevent the waste of over-production (Womack and Jones, 1996; Rother and Shock, 1998).

In other words, takt-time is the production "tempo" given by the product demanded by the customer, the time that a production plant has for producing each step of the production in each process workstation (Czarnecki et al., 1997;

Wysk, 2002; Cochran et al., 2004;) measured per one day in seconds divided by the number of manufactured products.

Motwani and Mohamed (2002) propose that the following aspects should be considered in order to design a production line under flow manufacturing:

- Different products that go through the system.
- Which operations should be performed when the product is processed.
- The workstations necessary for the production of the product.
- The time required to process each product in each workstation.
- The amount of good and defected parts for each workstation.
- The amount of parts that go through different workstations.
- The number of workers needed for the production line.
- Takt.

Takt-time is calculated by dividing customers' demand into available working time per shift. From total production time all breaks, like the lunch time, are subtracted in order to get available production time, which is actual operational availability. Often the working time is not the same in different production lines (i.e. one shift for cutting, two shifts for welding), which has to be taken into consideration. Daily customer demand is average customer demand over a period of one day. Knowing customer demand, the maximum volume capacity of a cell needs to be determinated, considering a range of customer takt time. The maximum volume capacity of a cell is decided by the minimum takt time. The takt time is calculated by the inverse of the average forecasted customer demand over a period of time that is available for production (Cochran et al. 2004).

Increased fluctuations regarding market needs lead to constant changes of takt time. The production process has to be adaptable enough to enable the company to make profits, regardless of the changes in demand on the market. Takt time represents the time basis with two important elements: a decrease in exceeding working time and adaptability of workstations. Companies improve the quality level, decrease costs and maximise the quantity of manufactured products; in addition, companies use the time component as a source for further development. Such companies manufacture in takt time, with a considerable share of elements that lead to improved added value.

Companies gain significant key competitive advantages on the market by focusing on production processes and by decreasing the working time needed. An increase in the number of elements which bring about added value within takt time represent the key activity. It is of utmost importance for a successful synchronisation of the production process to implement the concept of takt time in all production lines. If all products are manufactured in takt time, then all tasks can be carried out with minimal number of workstations, equipment and information.

Overburdening of production processes as well as inadequate quantity of produced goods should be avoided. It should be taken in consideration that there is no worse thing than overproduction. The material should be delivered in a timely manner in order to synchronise all production steps. This is why machines and equipment are installed according to the sequences of the production process in order to ensure that each part or set is harmonised with the production tempo without delays and it is necessary to ensure the flow of information in accordance with the takt time.

Conan et al. (2002) suggests that takt time is equivalent to pace, it is the rate at which a customer requires the product. Takt time defines the speed of manufacturing lines and the cycle time for all manufacturing operations. Production time is total production time minus breaks, downtime, etc.

Takt time is dealt with in a similar manner by Cochran et al. (2004) and Takeda (1999); for them takt time is the speed (tempo) of the production process required by the end customer. It is the time a company needs for each operation at each workstation in a production process. It is calculated by dividing the daily working time for its production with the number of manufactured products:

$$TT = \left[\frac{t}{q} \right] \qquad (1)$$

where *TT* represents takt time, *t* is net available working time and *q* represent daily demand (items/day).

4. Methodology

A case study approach (Yin, 2003) was employed to conduct the research as it allows use of multiple – qualitative and quantitative – sources of information (Stake, 2000). Yin (2003) challenges the traditional concerns over the lack of rigour of case study method, e.g. limitedness and bias. Yin (2003) argues that the case study method, when systematically designed, is a legitimate method for research.

In this paper, the research questiona are extracted from the research topic; they exhibit the focus of the study (Blaxter et al., 1996). Discussion on lean production narrowed the research topic from lean concept to lean technique, i.e. takt-time.

The primary research question is *“how and why adopting takt-time model improves operational performance of processing lines in terms of productivity and quality?”.*

4.1. Presentation of the Case and study indicators

It is assumed that selected wood-processing company (hereafter: The Case) has unbalanced production processes which affects its productivity and quality of products. Ordered quantities are not delivered within the due time, there is an accumulation of stocks between phases and individual production operations are not managed properly. In addition, there is overheating of certain operations of the production process on one hand while some components are produced on stock on the other hand. The production line is not harmonised and is not set to the unique working pace.

For the study of takt time in the Case several indicators were developed:

a) Name and description of each workstation: in studied production process related to furniture it was dealt with the cutting of tubes, punching, welding, lacquering and packing, etc.

b) Number and accounts of each shift: working time of a production line often differs according to individual production cells (e.g. welding is carried out in two shifts, cutting is carried out in one shift, etc.).

c) Production time for one item with regard to one workstation: time between two machine phases (for a machine) and average time needed for production with no substantial breakdown (for a worker). In order to define the final production time it is necessary to carry out at least five measurements for each workstation. On the basis of performed measurements the average maximum and minimum production time is calculated. Substantial oscillations in performed measurements are a sign of instability of the production process, which cannot assure that high quality products will be manufactured.

d) The number of machines (and other machinery which constitutes the complexity of a certain production line): it is important to be familiar with machine cycles and possibilities for cycle correction and speed increase.

e) Time used for each operation in the production process: it is calculated by dividing the production time for one product at a certain workstation or machine with the number of machines. In the case of one machine the time needed is the same as the production time, in the case of a greater number of machines the time should be distributed proportionally:

$$T_{op} = \left[\frac{C_{op}}{N_{eq}} \right] \qquad (2)$$

where T_{op} is time used for an operation in the production process, C_{op} is production time for one product in the production process and Neq is the number of machines (equipment).

f) The efficiency of individual production processes is calculated by multiplying the number of items with the theoretical time and divided by actual time needed for the production of items:

$$E = \left[\frac{Q * T_{te}}{Q * T_{ac}} \right] \qquad (3)$$

where *E* represents the efficiency of individual production processes, *Q* is the quantity of good products, T_{te} is theoretically available time for their production *Q*, and T_{ac} is actual time used for the production of *Q*.

Actual time used includes all downstream in the production process due to the changes regarding tools, defects related to machinery and equipment, disrupted material flow, material waste, etc. By reducing the time of inefficient processes the percentage of efficiency can be substantially increased.

g) Cycle time or the time needed for the production of one product in the process: it is calculated as the proportion between time used for each operation and its efficiency in the production process.

$$CT = \left[\frac{T_{op}}{E} \right] \qquad (4)$$

where *CT* represents practically needed time for the production of one product, T_{op} is time used for one operation in the production process and *E* is the efficiency of each production process.

Above listed elements helped us in shaping the takt time model and enabled evaluation of individual production operations. Usefulness of balancing the production operations was studied in order to harmonise operations and ensure timely deliveries to customers. All processes need to be harmonised, from purchasing, planning, production, sales, delivery, organisation of individual parts and optimal allocation of financial resources. Technological and organisational connectedness are of key importance for all processes, which especially holds true for the production process.

5. Calculation of takt-time/cycle-time in the Case

Takt time is the speed (tempo) of the production process which is required by the end buyer. Our calculation of daily production time (t) does not include the time for breaks and lunch time. This means that there are 420 minutes available in each shift.

The assumptions are as follows:

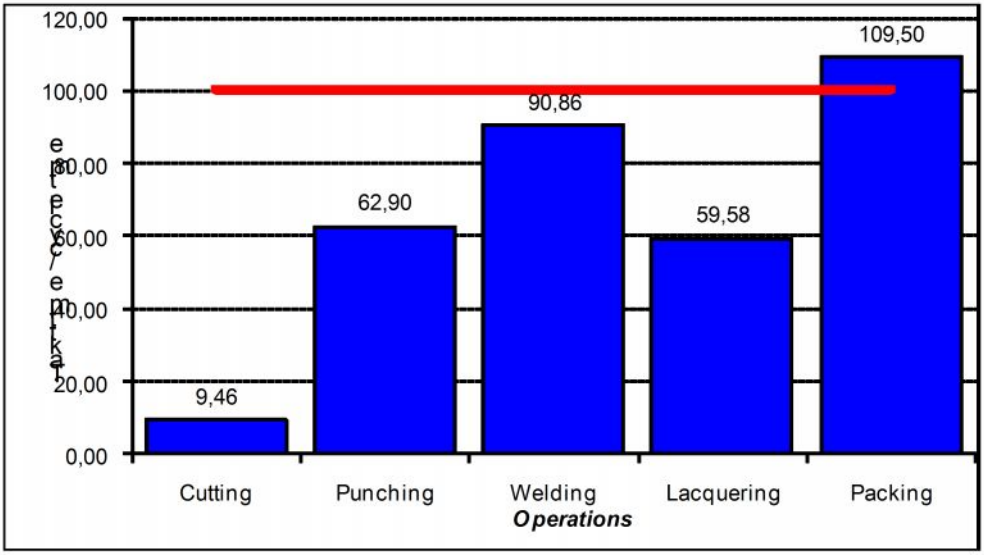
- 1 shift = 8 hours = 480 min
- minus time for lunch (30 min)
- 480 min – 30 min = 450 min
- minus time for breaks (30 min)
- 450 min – 30 min = 420 min
- 420 min = 25.200 sec

With regard to the calculation there are 420 minutes available in one shift. As shown further on, the information about the size of order placed by our buyer is of utmost importance. If we wish to optimise the production process, to rationalise the level of stocks, discover the bottlenecks in the production process, achieve timely delivery and supply response, it is vital to consider the size of order placed by our buyers, which informs us about the quantity of required products. This represents the most important input information in the information flow related to supply chain, which will be realised within the material flow. For each operation, we have defined the number of shifts and the number of workers. In addition, we carried out at least five measurements for each mashine in order to be able to calculate production time. The Table 2 shows the analysis of individual operations in each production line: cutting, punching, welding, lacquering and packing.

Table 2: Calculation of takt-time and cycle-time for one production line

CATEGORY	Cuttig	Punching	Welding	Lacquering	Packing
Number of shifts	1	2	2	2	2
Number of workers	1	1	1	3	1
Time spent for one piece - *Cop (s)*	8.8	43.4	63.6	42.9	87.6
Nr. of equipment - *Neq*	1	1	1	1	1
Time spent for operation - *Top* (s)	8.8	43.4	63.6	42.9	87.6
Efficiency – *E (%)*	93	69	70	72	80
Cycle time – *CT (s)*	9.46	62.9	90.86	59.58	109.5
Takt time – *TT (s)*	100.8	100.8	100.8	100.8	100.8

Figure 1: The analysis of takt time and cycle time for a production line with regard to individual operations



The calcution suggests that the operation of packing represents a bottleneck. Average time needed for the packing of one product amounts to 109.5 seconds/item.

We consider the following scenario for the elimination of existing bottleneck:

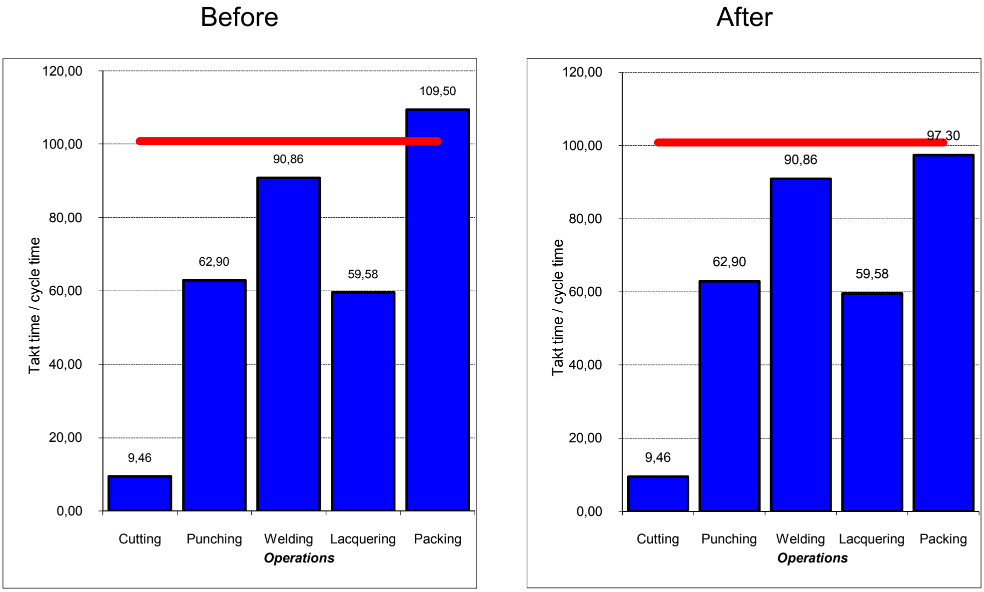
5.1. Effect of increased productivity

The possibilities for increasing productivity may come from more speedy change of tools, correcting certain settings or from decreasing material waste or low quality products, which need to be repaired or have to re-enter the manufacturing process.

An increase in productivity from 80- to 90-percent (increased efficiency by 12.5-percent), under unchanged operation time of the production process, results in shorter cycle time. Accordingly, calculated average time needed for packing one product within the process is 97.3 seconds, which means that packing is no longer a bottleneck. The required time is slightly shorter than takt time, which means that the production line is well balanced.

A well balanced production line has only one takt-time and the time needed for each operation in the manufacturing process is slightly below the line indicating the takt-time.

Figure 2: Production cell before and after being balanced with the takt-time



6. Discussion

The above graph on the left (see Figure 2) represents the initial situation of the manufacturing line in the Case company. It can be seen form that the packing operation represents a bottleneck. This means that before the packing operation inventories have been built up. Stocks represent additional burden to the available space and leads to the money flow balance deterioration due to non-liquidity of assets. In the case study dealt with, the company is unable to satisfy the market demand. Taking into account the fact that packing represents a bottleneck, it is likely that delays in supplying the goods to customers would occur. The production line, in this case, is not balanced with the takt- time, because the company is unable to produce the required quantity of products during the packing operation.The graph on the right side (see Figure 2) shows the production line which is balanced with the buyer's takt-time. By increasing the productivity of the packing line, the company is able to reach the cycle-time. In this case, the cycle-time approaches, but not exceeds, the line, which presents the takt-time. In this new situation, welding and packing operations meet the takt-time and follow the market demand. Cutting operation is rather specific, because it was outsourced in the meantime. In the event of the same takt-time, we suggest that future research focuses on cutting and lacqueiring operations by redistributing tasks and duties among individual operators. Exceeding takt-time during a longer period of time can rapidly become a bad habit. In such case, it is necessary that the company accelerates the activities of continuous improvements. The company's aim is to reach takt-time of the manufacturing process, otherwise it may experience significant losses, not only on a certain production line, but also with regard to other processes of the internal supply chain. It is important that the company tries to reach the position in which it is able to immediately identify if the production process is carried out in takt-time or if the takt-time is absolutely different.

7. Conclusions and managerial implications

The lean production system with takt time model is an excellent concept of production of only what is needed and when it is needed. The model's integrity, its adaptability to constant market conditions and changes, and its constant dynamism are suitable for business operations of a contemporary company.The following types of indicators represent a proposed model for management (see Table 3):

Table 3: SQCSDI management model

S (Safety & Security Environment) • Number of days without accident • Frequency rate • Gravity rate	**Q (Quality)** • Quality rate in PPM • Number of customer claims • Scrap
C (Cost) • Days of raw material and components • Days of work in process stock • Days of finished goods stock • Efficiency rate of main equipments in % • Efficiency of direct operators in %	**S (Signals of stock)** • Warehouse • Convoyers • Manipulation • More then two pieces between two operations
D (Delivery) • Number of orders lately delivered • Number of late day of the latest order	**I (People Involvement)** • Absenteeism rate in % • Number of improvements proposal per people • Number of new workshops

The findings of this study are:

- Tempo (rythm) is defined by the sales of products. Products are made during the manufacturing process within the takt-time.
- Ordered products are manufactured in required quantities demanded at exactly right time.
- Takt-time is the basis for planning of production process, information flow and the process of constant improvements.
- Each process workstation has one takt-time and and the time needed for each operation in the manufacturing process is slightly below the line indicating the takt-time.

The takt-time model makes daily and weekly calculations and adaptations of the production process to new market conditions and demand possible. It is highly important that sales, production and purchasing departments to perform such calculations and are familiar with the basic parameters of the takt-time model.

Advantages of the takt-time model are the following:

- Speed, time consistency and harmonised operations of a production line.
- The basic guideline for the formation of the takt-time model is fast adaptability of the company to new market conditions, which has a preponderant effect on demand.
- The takt-time model aims at “balancing” the production line, rationalisation of stock level, optimisation of production costs, discovering bottlenecks, increased responsiveness to changes in demand and business operations without delays in deliveries.

REFERENCES

Arbos L.C. (2002) Design of a rapid response and high efficiency service by lean production principles: Methodology and evaluation of variability of performance, *International Journal of Production Economics*, 80: 169-183.

Bhasin S., Burcher P. (2006) Lean viewed as a philosophy”, *Journal of Manufactoring Technology Management*, 17(1): 56-72.

Bicheno J. (2000) *The New Lean Toolbox: Towards Fast Flexible Flow*, PICSIE Books, Buckingham.

Blaxter L., Hughes C., Tight M. (1996). *How to Res*earch, Open University Press, Buckingham.

Buzby C.M., Gerstenfled A., Voss L.E., Zeng A.Z. (2002) Using lean principles to streamline the quatation process: a case study, *Industrial Management & Data Systems*, 102(9): 513-520.

Chase B.R., Nicholas J.A., Robert F.J. (2004). *Operations Management for Competitive Advantage*, Boston, McGraw-Hill.

Chen Y-N., Kleiner B.H. (2001) New developments in creating cycle time reduction, *Management Research News*, 24(3-4): 17-21.

Christopher M. (1992). *Logistics and Supply Chain Management*, Pitman Publishing, London.

Cochran D.S., Kim Y.S., Carl H., Weidenmann M. H. (2004). “Redesigning a Mass Manufacturing System to Achieve Today’s Manufacturing System Objectives”, available at: www.sysdesign.org/pdf/paper18.pdf .

Conan M. B., Gerstenfeld A., Voss L.E., Zeng A. Z. (2002) Using lean principles to streamline the quotation process: a case study*,* *Industrial Management & Data Systems*, 102(9): 513-20.

Czarnecki H., Schroer B.J., Rahman M. M. (1997) Using Simulation to Schedule Manufacturing Resources”, available at: www.informs-cs.org/wsc97papers/0750.pdf .

Dolenc P. (2009) Privatization in Slovenia : a macroeconomic perspective of its effects, *Zagreb int. rev. econ. Bus*, 12(1): 97-107.

Heizer J., Render, B. (1999) *Operations Management*, Prentice-Hall, Upper Saddle River, NJ.

Housmmand M., Jamshidnezhad B. (2006) An extended model of design process of lean production systems by means of process variables, *Robotics and Computer-Integrated Manufacturing*, 22: 1-16.

Kasul R.A., Motwani J.G. (1997) Successful implementation of TPS in a manufacturing setting: a case study, *Industrial Management & Data Systems*, 97(7): 274-279.

Lahhin D. (2001), *Lean manufacturing*, American Society for Quality Journal, New York.

Liker J.K. (2004). *The Toyota Way – 14 Management Principles from World's Greatest Manufacturer*, McGraw-Hill, New York.

Motwani J., Mohamed Z.M. (2002) Flow manufacturing – necessity, benefits, and implementation: a case study", *Industrial Management & Data Systems* , 102(2): 73-79.

Motwani J. (2003) A business process change framework for examining lean manufacturing: a case study, *Industrial Management & Data Systems*, 103(3): 339-346.

NIST/MEP (1998) *Principles of Lean Manufactoring 101 Student Guide*, National Institute of Standards and Technology Manufactoring Extension Partnership, Gaithersburg.

Ohno T. (1988). *Toyota Production System: Beyond Large-Scale Production*, Productivity Press, Portland, OR.

Parker V. (2003) *Burt's bees implementation of production process*, Tribune Business News.

Prizinsky D. (2001). *Lincoln looks leaner in its manufacturing process*, Crains Cleveland Business.

Rother M., Shook J. (1998). *Learning to See*, The Lean Enterprise Institute, Brookline MA.

Simons D., Zokaei K. (2005) Application of lean paragigm in red meat processing, *British Food Journal*, 107(6): 192-211.

Stake R.E. (2000) *Case studies*, in Denzin N.K., Lincoln Y.S. (Eds), Handbook of Qualitative Research, Sage, London.

Stubelj I. (2010) Valuation of Slovene publicly trade companies with a valuation model based on expected earnings and growth opportunities, *Managing Global Transitions: An International Journal*, 8(1): 23-47.

Takeda H. (1999). *The Synchronic Production System. Just-in-time for the Entire Company*, Nikkan Kogyo Shinbun, Tokyo.

Taylor D., Brunt D. (2001).*Manufactoring Operations and Supply Chain Management*, Thomson Learning, London.

Toyota Motor Corporation (1992) *The Toyota Production System*, Operations Management Consulting Division.

Wada K. (1995) The emergence of the flow production method in Japan, in Shiomi H., Wada K. (Eds), *Fordism Transformed The Development of Production Methods in the Automobile Industry*, Oxford University Press, Oxford.

Womack J.P., Jones D.T., Roos, D. (1990). *The Machine that Changed the World: The Story of Lean Production*, Rawson Associates, New York.

Womack J., Jones D.T. (1996). *Lean Thinking: Banish Waste and Create Wealth in your Corporation*, Simon and Schuster, New York, NY.

Wysk A.R. (2002) Lean Manufactoring Continuous Flow, available at: www.engr.psu.edu/cim.

XR Associates. (2003) Professional development and world class manufacturing", available at: www.xr-training.co.uk.

Yeh C.H. (2000) A customer-focused planning approach to make-to-order production, *Industrial management & Data Systems*, 100(4): 180-187.

Yin R. (2003) *Case Study Research – Design and Methods*, Sage, London.

STUDIA UBB, OECONOMICA, VOLUME 57, ISSUE 1, 2012

GOVERNANCE TRANSPARENCY IN ROMANIAN BANKING SYSTEM BY COMPARISON WITH U.K. LISTED BANKS

Cristina Alexandrina STEFANESCU*
Babeş-Bolyai University, Romania

Abstract. The purpose of this study is to provide an argued answer to a controversial question "How much can we trust in banks?" Focusing on the Romanian banking environment, our paper is aimed to perform a comprehensive analysis of corporate governance disclosure on the financial system by comparison with UK listed banks – focusing on information about the board of directors. For achieving this goal a specific tool – the disclosure scorecard – was developed, being aimed to measure the degree of transparency provided by listed banks through their annual reports. The results of the comparative analysis allowed us drawing justified conclusions for the topic considered - board structure and processes. Through the recommendations made at the end of analysis performed, our study does not only add value to research literature on corporate governance topic, but also stands as a handbook for practitioners as well, providing them key-issues useful for improving corporate governance disclosure framework. Moreover, the results of our study might infirm or confirm various stakeholders' assumptions upon their trust in banks' transparency, too.

JEL Classification: M41, G30

Keywords: corporate governance, disclosure, banking, Romania, UK

1. Introduction

Most recently corporate failures and accounting scandals proved to have been caused by the lack of good corporate governance, that have adversely affected public confidence in the reliability of corporate and financial reporting. All these situations gradually lead to "a wake-up call" to the need for better corporate governance and transparency among companies all over the world.

One way of assessing the good quality of a corporate governance system is the level of disclosure it provides in order to reduce information asymmetries between all parties and to make corporate insiders accountable for their action. Thus, disclosure practices followed by firms are an important component and a leading indicator of corporate governance quality (Aksu and Kosedag, 2006). Therefore firms with a good corporate governance mechanism are expected to be

* Corresponding author. Address: Faculty of Economics and Business Administration, Accounting and Audit Department, Teodor Mihai Street, no.58-60, 400591, Cluj-Napoca, Romania, E-mail: cristina.palfi@econ.ubbcluj.ro. Tel: +40 264 418 654

more transparent than those having weaker corporate governance frameworks, due to their incentives of more informative disclosures (Beeks and Brown, 2005).

Annual reports and *financial statements* are usually the instruments used by firms for providing information, thus being significant tools in the disclosure process (Todd and Sherman, 1991; Gray et al., 1995). In a certain degree, the level of voluntary disclosure in *annual reports* mirrors a company's overall attitude towards information disclosure to the public (Qu and Leung, 2006), sometimes considered as the most important source of information (Karim, 1996), while *financial statements* provides depositors, creditors and shareholders with the credible assurances that they will not do fraudulent activities (Mohamad and Sulong, 2010). What a company discloses in its annual reports and financial statements is considered as a "litmus test" of its corporate governance quality (Bokpin and Isshaq, 2009).

Consequently, disclosure and the quality of corporate governance system are appreciated as closely related concepts - the higher the level of transparency, the better the quality corporate governance practices.

The effect of increased *disclosure* is improved *transparency*, which is identified as one of the main aims of ***corporate governance provisions*** (OECD, 2004, Section V, pp. 22): *"The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company."*

Basing on this background, we aimed to provide a comprehensive comparative analysis of corporate governance disclosure in banking system, focusing on credit institutions listed on Bucharest Stock Exchange, by comparison with banks listed on London Stock Exchange.

The paper proceeds as it follows. In the first section, we pointed out the main purpose of our study and the research methodology used for achieving our goal, followed by a brief description of the sample selection and data collection. Then we presented the theoretical framework of corporate governance disclosure, that stood at the basis of our research question, by pointing out the importance of disclosing information about board structure and processes. This issue represent the main parts of the disclosure scorecard developed for conducting the comparative analysis proposed, the methodology of constructing it being presented in details into the forth section of our paper. Finally we provide the research findings and discuss the conclusions reached and their implications.

2. Aim of the study and research methodology

The main purpose of this study is to provide an answer to one of the most important questions that often arise in financial system: How much can we trust in banks? Because most part of banking stakeholders are coming from the outside environment their trust in bank soundness is ensured through the level of information they are having access to.

Thus, through this study we focused on one of the most important "key-player" of corporate governance mechanism – board of directors, aiming to measure the information disclosed to public by credit institutions on three different levels – basic, medium and high level for all credit institutions listed on London Stock Exchange and Bucharest Stock Exchange. Then, by performing a comprehensive comparative analysis between corporate governance disclosures provided by Romanian and UK listed banking institutions we proposed to identify the main shortcomings in disclosing information in Romanian banking system, trying as well to make few suggestions for improving corporate governance transparency.

The research methodology used for achieving our goal is a quantitative one, dealing with numbers and based on adopting statistic analysis for drawing our conclusions. Thus, we used descriptive statistical tools, trying to highlight the most and the least category of information disclosed on each level considered for both UK and Romanian listed banks, when putting the data into SPSS software, which ensures transparency and relevance to our results, while data processing is accurate and controllable.

For achieving our goal, we selected all financial institutions that are listed on London Stock Exchange and Bucharest Stock Exchange, according to the information provided on their website for the year 2011. Thus, our sample consisted of 46 UK listed banks and the four Romanian listed banks (Banca Comerciala Carpatica, Banca Comerciala Romana BCR – Erste Group, BRD – Groupe Societe Generale and Banca Transilvania).

All information needed for performing the comparative analysis proposed was collected from banks official websites, by accessing and downloading the annual reports available for year ended 2010. This information regards data disclosed about the corporate governance structure considered for analysis, namely the board of directors, all of these being made publicly available by banking institutions to the general use of any interested stakeholder.

The final part of our study, providing discussions and suggestions for improving corporate governance transparency in Romanian banking system is characteristic to qualitative research methodology.

3. Research question and its theoretical framework

For achieving the main goal of our study – to discuss upon Romanian listed banks transparency by reference to the UK, thus providing an overview image about how much can we trust in information made publicly available, we focused on the most important corporate governance structure, thus arising the following main research question:

> *RQ: How much information about board structure and process do banks disclose?*

While reaching for an answer to this question, we have been looking for assessing general issues related to the *board of directors*, namely its *structure, composition, role and responsibilities*, by treating separately those duties delegated to various *committees*, paying special attention to *chief executive office* and finally considering *directors' training and compensation* aspects, too.

Board of directors place an important role in corporate governance mechanism as it ensures the link between managers and investors. Consequently, the transparency of its structure and composition is useful for having an overview about those who leads and control an entity. The chairman, who is responsible for the running of the board, needs to ensure that its meetings have an appropriate frequency and all members have access to information and opportunity to express their contribution. For successfully fulfilling its responsibilities, the chairman must meet a certain level of knowledge, a full disclosure of its features being useful for any information user that has any kind of interest in an entity. Basing on these premises, we were wondering about *"How transparent is general information about chairman and its experience?"*, looking for personal details about qualifications, details about current position in that entity, like appointment date or mandate length, as well as details about other current commitments, namely membership in other boards, or more over information about previous position, as a mirror of the overall experience.

Such features are important to know not only about the chairman, but regarding the board membership, too, thus leading to our subsequent question *"How transparent is general information about board membership and its experience?"*

Besides experience, reflected by specific knowledge and skills, there is another important characteristic that ensures quality to the board of directors, which is independence. Non-executive directors and especially those who are independent are of great importance for a good corporate governance structure. While executive directors provide information about business activity, non-executive directors ensure objectivity in evaluating managerial decisions. On the other hand there are opinions stating that non-executive directors embrace two conflictual roles – to monitor executive directors' actions and to work together with executive directors, as being part of the same board (Ezzamel and Watson, 1997). However, a board of directors encompassing a mix of expertise, independence and legal power is a potentially powerful governance mechanism (Byrd and Hickman, 1992). According to the international literature, independence means more than just having a non-executive position. Thus, independence is perceived as meaning that there are no relationships or circumstances that might affect directors' judgment, among the situations where a non-executive director's independence might be called into question, including: where the director was a former employee of the company or group within the last years where additional remuneration, apart from the director's fee was received from the company; where the director has close family ties with the company's other directors and advisers; where a material business relationship with the company existed in the last years; where the director in question represented a significant shareholder (Mallin, 2010). The only way, in which any outside investor might appreciate the independence of a board its information disclosure, thus arising out next question *"How transparent is information about board independence?"*

An appropriate structure of the board is expected to facilitate the fulfillment of its duties and responsibilities within the corporate governance mechanism, its role being stated among the most corporate governance codes as to provide the leadership of an entity within a framework of prudent and effective controls which enable risk to be assessed and managed. Moreover, high-performance boards are appreciated as providing superior strategic guidance to ensure the entity's growth and prosperity, accountability to its stakeholder (shareholders, employees, customers, suppliers regulators and the community) and a highly qualify executive team for managing the business (Epstein and Roy, 2006). Thus, disclosing information about the role of the board is certainly of great importance for investors. As a consequence we designed our scorecard aiming to measure *"How* *transparent is information about board's role and responsibilities?"* and *"How transparent is description of board's work?"*, comprising a general description of the division of responsibilities between board and management, as well as issues related to its meetings, like their number, the member attendance or a review of board meetings.

For better fulfilling its roles and responsibilities in ensuring good corporate governance, the board might delegate various activities to its committees, namely audit, remuneration and nomination committee, mainly with the purpose of considering those activities in more details and increasing objectivity (Charkham, 2005). Thus, audit committee is established with the purpose of assessing the systems in place by identifying and managing financial and non-financial risks, providing as well a useful "bridge" between both internal and external auditors and the board (Mallin, 2010), and helping the latter to be fully aware of all relevant issues related to the audit. The establishment of a remuneration committee is of a great importance in providing a formal and transparent performance related payment scheme at management level, thus preventing executive directors to set their own salaries. For ensuring the most suitable balance between skills, knowledge and experience within the members of the board, a nomination committee, with its work based on a rigorous and transparent procedure for the appointment of new directors is the best choice.

Basing on these premises, *"How transparent is general information about board committees, their composition and work?"* is another issue of interest when measuring disclosure. The existence of such committees, their composition and a description of discharging their responsibilities are the basic information considered for evaluation, while details such as the mandate length, the independent status of membership or details about their meetings (number and attendance) being appreciated as medium to highly important issues.

Not only the board of directors and its committees play an important role in the mechanism of corporate governance, but also the executive management and especially the chief executive officer, whose primary role is to ensure the best running of the business, need special attention, too. Divergences of opinions exists in case of the unitary system of board structure, where splitting the role of chairman and chief executive officer was often seen as a corporate governance initiative meant to reduce the agency problems, thus improving corporate performance because of more independent decision making (Donaldson and Davies, 1994; Peel and O'Donnell, 1995), while on the other hand, such improvements were perceived as being rather the case of a wishful thinking, not supported by enough persuasive evidence (Daily and Dalton, 1997). No matter what researchers' opinions about the dual role of chief executive officer are, everyone has the right to express its own judgment. But, to do so, full disclosure about chief executive officer and its related team is necessary, comprising besides its compound, details about their current and past position, thus arising our research question *"How transparent is general information about chief executive officer (CEO) and executive management?"*

Leadership structures' training and compensation it's a controversial topic, being highly debated on media, researchers'' environment but also at regulatory level. Basing on the agency theory, where ownership is the principal and management is its agent, it is expected that senior management compensation to be linked to company performance for incentive reasons (Canyon and Mallin, 1997), thus reducing the costs associated with shareholders monitoring (Cheffins, 2003). Not only payments' forms and levels have been much discussed along time, but also the level of disclosure about remuneration. Closely related to this issue we split it into two categories – basic and advance one – when developing the disclosure scorecard. Thus our questions were formulated as follows *"How transparent is basic information on compensation?"*, comprising disclosures related to remuneration policy, forms of salaries and their levels, respectively *"How transparent is advanced information on compensation?"*, comprising disclosures related to any link between remuneration and performance, as well as to disclosure on an individual basis.

In conclusion, the research question discussed above has been addressed with the purpose of measuring the level of corporate governance disclosures in annual report, thus becoming the basis of the disclosure scorecard developed in this respect, the detailed methodology of compiling it being detailed into next section.

4. Disclosure scorecard development

For measuring the information transparency provided by the UK and Romanian sampled banks, we developed a scorecard based on three levels of disclosure – basic, medium and high level. This scorecard was designed for answering all questions discussed above by looking for information made publicly available by banks in their annual reports.

For designing the disclosure scorecard we followed three different stages, detailed as follows:

Thus, firstly, we compiled a comprehensive list of items that may be disclosed by banks in their annual reports, made of the following there types of disclosures:

- *mandatory disclosures* for entities listed at London Stock Exchange, based on the most recently Corporate Governance Disclosure Checklist (Delloite, 2011), considering The Listing Rules and The UK Corporate Governance Code, as well as the recently requirements supplemented by The Disclosure and Transparency Rules on Audit Committees and Corporate Governance Statements (2008), The Revised Version of the Turnbull Guidance on Internal Control (2005), The Guidance on Audit Committees (2010).
- *recommended disclosures* based on OECD Principles, which propose that the corporate governance framework should ensure that timely and accurate disclosure is made on companies' "financial situation, performance, ownership and governance" (OECD, 2004).
- *voluntary disclosure*, based on the Standard & Poor's list of 98 transparency and disclosure questions used for its study developed for Europe in 2003. This approach of developing the disclosure index was often used in prior studies aiming on the same goal (Mangena and Tauringana, 2007; Tsamenyi, et al., 2007; Aksu and Kosedag, 2006).

The second stage of development consisted of joining the three separate categories of information into a single list. All information that was required for disclosure in at least two intermediate lists was considered just once in the final list. The list was supplemented with additional items conditioning by their prior use in at least one previously published study focused on the same topic, this approach being often applied before (Firer and Meth, 1986; Hossain, et al., 1994; Buckland, et al., 2000; Barako, et al., 2006). Then, we decided to improve our final checklist by including a few own items, considered relevant from corporate governance disclosure perspective.

From the final list we selected for developing our scorecard the most representative items, keeping almost the same structure as the one used on a S&P's study, divided into three main parts: *ownership structure and investor rights, financial transparency and information disclosure, board structure and processes.*

For this study we made use of the last part of this scorecard, its section dedicated to *board structure and processes* (presented in Appendix 1) consisted of the following sub-categories: board structure and composition, role of the board, board committees – audit, remuneration and nomination committee, CEO and executive management, director training and compensation, executive compensation and evaluation.

The following sub-section describes the firms contained in the two datasets, focussing on the exporters. The two datasets are discussed separately, because the two surveys asked slightly different questions of interest to this paper.

5. Research findings

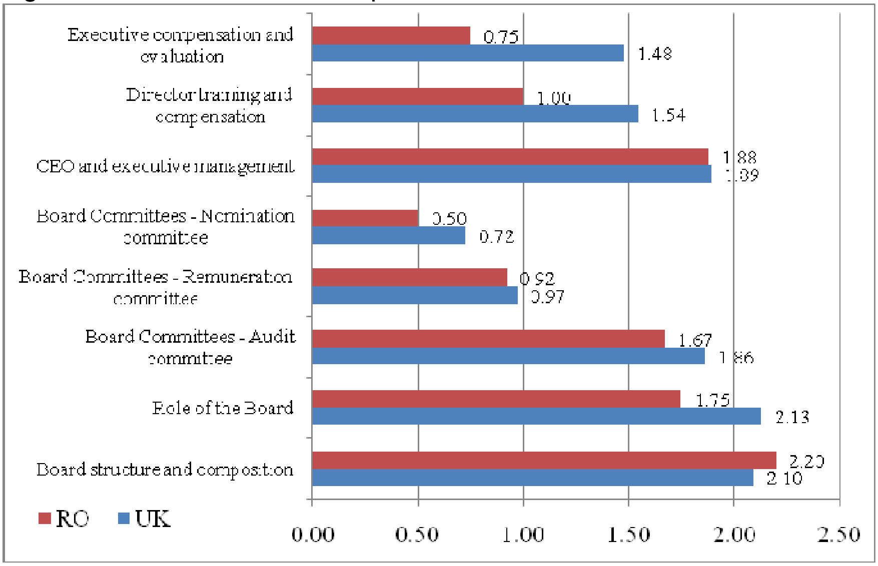
"How much can we trust in banks?" - it was the question that we addressed at the beginning of this study and a comparison in this respect between UK and Romania was aimed to be achieved. One specific objective based on "good" corporate governance practices has been defined focusing on board of directors and a special tool – the disclosure scorecard - for assessing transparency as a measure of trust was compiled. Consequently, the research findings reached will provide an answer to our question:

> "*How much information about board structure and processes do banks disclose?"*

Board of directors was not infrequently appreciated as the "heart" of an entity, being the most comprehensive key-player of the corporate governance mechanism. Consequently, a wide range of information about it is expected to be made publicly available for all interested stakeholders, which lead us considering eight different sub-category of information when analyzing disclosures about board structure and process.

Our results reveal higher level of disclosures from UK listed banks in all sub-categories of information considered, excepting board structure and composition, where Romanian listed banks proved to be more transparent. This issue was also the one where was reached the highest average score (2,20 in case of Romanian, respectively 2,10 in case of UK). It means that banks do not fear anymore showing who leads and controls the business. This is also the category of information where half of sampled bank provided full disclosure of information, which is quite a good rate.

Figure 1 : Board structure and processes disclosure



Source: Authors own projection

What do banks still fear about is to delegate special duties to specific committees. Because audit committee has a certain seniority since it was introduced with the purpose of ensuring the appropriate link between both internal and external auditors and the board, banks got accustomed to disclose information related to its structure and working process. This is also revealed by our analysis, the average score related to audit committee disclosure reaching to 1,86 value for UK listed banks, respectively 1,67 value for Romanian listed banks.

Table 1: Disclosures on board structure and processes

Category of information	**Basic**		**Medium**		**High**		**Total (Full)**	
	UK	**RO**	**UK**	**RO**	**UK**	**RO**	**UK**	**RO**
Board structure and composition	88.70%	95.00%	60.43%	65.00%	60.43%	60.00%	45.65%	50.00%
Role of the Board	70.65%	100.00%	72.83%	50.00%	69.57%	25.00%	60.87%	0.00%
Board Committees - Audit committee	93.48%	91.75%	74.63%	75.00%	18.11%	0.00%	18.11%	0.00%
Board Committees - Remuneration committee	44.93%	41.75%	39.13%	50.00%	13.04%	0.00%	13.04%	0.00%
Board Committees - Nomination committee	32.61%	25.00%	29.72%	25.00%	10.15%	0.00%	9.41%	0.00%
CEO and executive management	98.91%	100.00%	58.70%	87.50%	31.52%	0.00%	22.83%	0.00%
Director training and compensation	61.96%	12.50%	53.26%	37.50%	39.13%	50.00%	32.61%	12.50%
Executive compensation and evaluation	57.61%	12.50%	50.00%	25.00%	40.22%	37.50%	33.70%	12.50%

Source: Authors own calculations

But, we cannot say the same about remuneration and nomination committee, where our analysis provides the lowest scores from all sub-categories of information considered about board structure and its processes. The scores are almost equal for both banking systems in case of remuneration committee (0,97 for UK, respectively, 0,92 for Romania), whereas in case of nomination committee the score of 0,50 attributable to Romania is the lowest one of all in this category.

Finally, our analysis reveals that any credit institutions from Romanian banking provide full disclosure on boards committees.

Other subcategory of information where Romanian listed banks proved to be scanty is related to leadership structure training, evaluation and compensation, reaching an average score between 0,75 and 1,00 compared with 1,48 to 1,54 recorded as well on average by UK listed banks. These are also the subcategories of information where there were encountered the highest differences in the number of banks providing full disclosure (between 20,11% and 22,83%). Considering these results and the importance given to directors' qualifications and expertise, which became more often linked to corporate financial performance and furthermore to directors' remuneration, strong improvements in disclosing these kinds of information are highly recommended.

Table 2: Differences between disclosures on board structure and processes

Category / Subcategory of information	**Basic**	**Medium**	**High**	**Total (Full)**
Board structure and composition	8.79%	2.96%	13.71%	30.43%
Role of the Board	-6.30%	-4.57%	0.43%	-4.35%
Board Committees - Audit committee	-29.35%	22.83%	44.57%	60.87%
Board Committees - Remuneration committee	1.73%	-0.37%	18.11%	18.11%
Board Committees - Nomination committee	3.18%	-10.87%	13.04%	13.04%
CEO and executive management	7.61%	4.72%	10.15%	9.41%
Director training and compensation	-1.09%	-28.80%	31.52%	22.83%
Executive compensation and evaluation	49.46%	15.76%	-10.87%	20.11%

Source: Authors own calculations

Executive management transparency reached the nearest average score of all: 1.89 in UK, respectively 1.88 in Romania. Thus, both countries seemed to treat the disclosures about chief executive officer and its team almost with the same importance. This is a good point for Romanian banking system, reaching at level of the UK practices of corporate governance, appreciated at least as good if not even the best. Anyway, any Romanian bank provides full transparency of information on this sub-category, which suggests that there are still needed improvements in disclosure in this area, too.

In conclusion, wondering *"How much information about board structure and processes do banks disclose?"*, after performing the comparative analysis between Romanian and UK banking system, we can highlight at least the following aspects, as good practices of corporate governance disclosure that can enhance transparency about the *board of directors*:

- banks should provide a transparent structure of the board, disclosing besides the list of its membership, comprehensive details about directors, focusing especially on their academic qualification and professional experience, by referring to their previous employment and emphasizing potential cross-directorship situations;

- special attention need to be paid to the chairman of the board, as the head of the leading and control structure, disclosing besides information required for board's members, its status of being or not the chief executive officer of the entity, as well;
- banks should consider the importance of board composition as regard non-executive and independent members, providing appropriate disclosure of these attributes;
- the role of the board needs to should be made publicly available, by emphasizing the division of responsibilities between it and executive management, disclosing as well its process through meetings' number, attendance and minutes;
- banks should increase the importance of board committees (especially audit, remuneration and nomination committee) and their transparency as regards their role and authority delegated, composition and work, by providing personal and professional details about their members and a description of discharging its responsibilities, revealed through the number of meetings and their attendance;
- directors training and compensation process needs to be carefully considered in terms of disclosure, by providing information about decision-making process of directors' pay, forms of directors' salaries and any specifics on performance-related payments.

6. Conclusions

Being aimed at identifying how much we can trust in Romanian banking system by simply reading annual report made publicly available on their websites, we proceeded at performing a comparative analysis. This was focused on disclosure of information related to corporate governance, which became a highly debated and an increasingly topic of worldwide research, that we have also considered as a representative and quite sensitive area, suitable for appreciating confidence about banking transparency. We chosen as a term of comparison the UK banking system, basing on the argument that the Anglo-Saxon model of corporate governance provides good practices about governing in general, being often seen as the best model towards all other corporate governance models tend to converge.

Basing on these premises, disclosure practices identified in UK banking system, that were certified as being the mirror of good corporate governance, leading as well to high corporate performances, have been considered as a term of comparison when assessing transparency of our national financial system.

The comparative analysis performed was focused on one of the most important "key-player" of corporate governance mechanism, basing as well on the areas of disclosure and transparency recommended by the OECD's principles, which states that *"The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company"* (OECD, 2004, Section V: 22). Thus, through our study we succeeded providing answers to the following question:

How much information about board structure and processes do banks disclose?

By making use of a highly developed model of corporate governance in general, the comparative analysis performed allowed us drawing justified conclusions for each category of information considered in our study. Furthermore, we formulated grounded recommendation appreciated as usefully for improving disclosure in Romanian listed banks, thus enhancing transparency, too, which finally would lead to an increasingly confidence in financial system as a whole, thus contributing to its soundness, too.

Through recommendations made at the end of analysis performed for answering our research question, our study does not only add value to research literature on corporate governance topic, but also stands as a handbook for practitioners as well, providing them key-issues useful for improving corporate governance disclosure framework. Moreover, the results of our study might infirm or confirm various stakeholders' assumptions upon their trust in banks' transparency, too.

Like any other research study, our analysis has limitations, too, which are mainly coming from the sample considered for the analysis, the disclosures issues considered for that and the research technique used. Firstly, there is a huge difference between the samples' dimension considered for the comparative analysis. Thus the sample of UK banks comprises 46 banks, while our national one is made only of four banks. The main reason of limiting the sample of banks from Romania at such a small number was their statute of being listed on Bucharest Stock Exchange, only listed banks being required to comply with the corporate governance code, or to explain why, in case of non-compliance. The disclosures issues considered for comparison are a selection of the most representative from regulatory point of view and the most often used in prior literature, where finally there were added more as an own contribution. The content of the disclosure scorecard thus developed has therefore some limitations too many other corporate governance disclosure issues might being considered.

Finally, the research technique mainly based on the quantitative method of comparison and limited statistical tools (descriptive statistic) might be improved by using other ways for doing comparison, for example by using suitable software for performing the comparative analysis. Anyway, through the qualitative research methodology applied for developing each set of recommendations, our paper could be considered as valuable for a wide range of users: academics, researchers, practitioners, including all banks' interested parties.

Acknowledgment:

This work was supported from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/1.5/S/59184 „Performance and excellence in postdoctoral research in Romanian economics science domain", Babeş-Bolyai University Cluj-Napoca being a partner within the project.

REFERENCES

Aksu, M. and Kosedag, A. (2006), Transparency and disclosure scores and their determinants in the Istanbul Stock Exchange, *Corporate Governance*, 14(4), 277-296

Barako, D.G., Hancock, P. and Izan, H.Y. (2006), Factors influencing voluntary corporate disclosure by Kenyan companies, *Corporate Governance: An International Review*, 14, 107–125

Buckland, R., Suwaidan, M. and Thomson, L. (2000), Companies voluntary disclosure behavior when raising equity capital: A case study of Jordan. In R. S. O. Wallace, J. M. Samuel, R. J. Briston and S. M. Saudagaran (eds) Research in Accounting in Emerging Economies. Stamford, CT: Jai Press Inc., 4: 247–266.

Byrd, J.W. and Hickman, K.A. (1992), Do outside directors monitor managers?, J*ournal of finance economics*, 32, 195-221

Canyon, M.J. and Mallin, C. (1997), Directors' share options, performance criteria and disclosure: Compliance with Greenbury report, ICAEW Research Monograph, London

Charkham, J. (2005), Keeping better company: Corporate governance ten years on, Oxford University Press, Oxford

Cheffins, B.R. (2003), Will executive pay lobalise along American lines?, *Corporate governance: An international review*, 11(1), 8-24

Daily, C.M. and Dalton, D.R. (1997), Separate, but not independent: Board leadership structure in large corporations, *Corporate governance: An international review*, 5(3), 126-136

Delloite (2011), Corporate governance disclosure checklist, for periods commencing on or after 29 June 2010

Donaldson, L. and Davies, J.H. (1994), Boards and company performance – Research challenges the conventional wisdom, *Corporate governance: An international review*, 2(3), 151-160

Epstein, M.J. and Roy, M.J. (2006), Measuring the effectiveness of corporate boards and directors, in Epstein, M.J. and Hanson, K.O., The accountable corporation, Praeger Publishers, Westport, US

Ezzamel, M. and Watson, R. (1997), Wearing Two Hats: The Conflicting Control and Management Roles of Non-Executive Directors, in *Corporate Governance*, edited by K. Keasey, S. Thompson and M. Wright, Oxford University Press, Oxford, 54-79.

FRC (2005), The Revised Version of the Turnbull Guidance on Internal Control

FRC (2008), The Disclosure and Transparency Rules on Audit Committees and Corporate Governance Statements

FRC (2010), Guidance on Audit Committees

FRC (2010), The UK Corporate Governance Code

Firer, C. and Meth, G. (1986), Information disclosure in annual reports in South Africa, Omega, 14, 373–382.

Hossain, M., Tan, L.M. and Adams, M. (1994), Voluntary disclosure in an emerging capital market: Some empirical evidence from companies listed on Kuala Lumpur Stock Exchange, The International Journal of Accounting, 29, 334–351.

ISC (1993), Report on investigation of use of voting rights by institutions, Institutional Shareholders Committee, London

Mallin, C. (2010), Corporate governance, Oxford University Press, Oxford

Mangena, M. and Tauringana. V. (2007), Disclosure, corporate governance and foreign share ownership on the Zimbabwe Stock Exchange, *Journal of International Financial Management and Accounting* 18(2), 53-85

OECD (2004), OECD Principles of Corporate Governance

Peel, M. and O'Donnell, E. (1995), Board structure, corporate performance and auditor independence, *Corporate governance: An international review*, 3(4), 207-217

Standard & Poor's (2003), Transparency and disclosure study: Europe

Tsamenyi, M., Enninful-Adu, E. and Onumah, J. (2007), Disclosure and corporate governance in developing countries: evidence from Ghana, *Managerial Auditing Journal*, 22(3), 319-334

Appendix 1

Corporate Governance Disclosure Scorecard

Question?	**Basic level information disclosure**	**Middle level information disclosure**	**High level information disclosure**
Board structure and composition			
How transparent is general information about chairman?	Name of chairmain (a)	Details about current possition (e.g. appointment date, mandate length) (c)	Picture of chairman (e)
How transparent is general information about chiarman's experience?	Personal details (e.g. qualifications) (c)	Details about other current commitmments (e.g. membership of other boards) (a)	Details about previous possitions (c)
How transparent is general information about board membership?	Composition (names) of board membership (b)	Details about current possition (e.g. appointment date, mandate length) (c)	Picture of board membership (e)
How transparent is information about board experience?	Personal details (e.g. qualifications) (b)	Details about other current commitmments (e.g. membership of other boards) (b)	Details about previous possitions (c)
How transparent is information about board independence?	Classification of directors as executive and non-executive (including their names) (a)	Independent status (including reasons) (b)	Share ownership in the entity (b)
Role of the Board			
How transparent is information about board's role and responsibilities?	General description (a)	Division of responsibilities between board and executive management (c)	Details about the division of responsibilities between board and executive management (e)
How transparent is description of board's work?	Number of meetings (a)	Attendance at meetings (a)	Review of last board meeting (e.g. minutes) (c)
Board Committees - Audit committee			
How transparent is general information about audit	Existence of committee (a)	Role and authority delegated (a)	Details (e.g. mandate length) (e)

Question?	Basic level information disclosure	Middle level information disclosure	High level information disclosure
committee?			
How transparent is general information about audit committee's composition?	Composition (names) (a)	Classification (non-executive/independent) (e)	Details (e.g. when each member joined the committee) (e)
How transparent is description of audit committee's work?	Description of discharging its responsibilities (a)	Number of meetings (a)	Attendance at meetings (e)
Board Committees - Remuneration committee			
How transparent is general information about remuneration committee?	Existence of committee (a)	Role and authority delegated (a)	Details (e.g. mandate length) (e)
How transparent is general information about remuneration committee's composition?	Composition (names) (a)	Classification (non-executive/independent) (e)	Details (e.g. when each member joined the committee) (e)
How transparent is description of remuneration committee's work?	Description of discharging its responsibilities (e)	Number of meetings (a)	Attendance at meetings (e)
Board Committees - Nomination committee			
How transparent is general information about nomination committee?	Existence of committee (a)	Role and authority delegated (a)	Details (e.g. mandate length) (e)
How transparent is general information about	Composition (names) (a)	Classification (non-executive/independent) (e)	Details (e.g. when each member joined the committee)

Question?	Basic level information disclosure	Middle level information disclosure	High level information disclosure
nomination committee's composition?			(e)
How transparent is description of nomination committee's work?	Description of nomination committee's process used for board appointments (a)	Number of meetings (a)	Attendance at meetings (e)
CEO and executive management			
How transparent is general information about chief executive officer (CEO)?	CEO's name (a)	Details about current possition (e.g. appointment date, mandate length) (c)	Picture of CEO (e)
How transparent is general information about executive management?	Composition (names) of executive management (e)	Details (e.g. experience, appointment date) (c)	Picture of executive managers (e)
Director training and compensation			
How transparent is basic information on board compensation?	Remuneration policy of the board's directors - general information (b)	Form of directors' salaries (e.g. cash, shares, etc.) (c)	Remuneration levels - specifics of directors' salaries (e.g. numbers) (b)
How transparent is advanced information on board compensation?	Director training (continuously development of skills and knowledge) (a)	Any link between remuneration and performance - Specifics on performance-related pay for directors (b)	Remuneration disclosure on an individual basis (b)
Executive compensation and evaluation			
How transparent is basic information on executive management compensation?	Remuneration policy of key executives - general information (b)	Form of managers' (not on Board) salaries (c)	Remuneration levels - Specifics of managers' (not on Board) salaries (e.g. numbers) (b)

Question?	Basic level information disclosure	Middle level information disclosure	High level information disclosure
How transparent is advanced information on management compensation?	Director training (continuously development of skills and knowledge) (e)	Any link between remuneration and performance - Specifics on performance-related pay for managers (b)	Remuneration disclosure on an individual basis (b)

Legend for source of items:

a) - Corporate governance code
b) - OECD principles
c) - S&P's
d) - Literature review
e) - Own contribution

STUDIA UBB, OECONOMICA, VOLUME 57, ISSUE 1, 2012

SMEs FINANCIAL REPORTING : ATTITUDES TOWARDS IFRS FOR SMEs

Adela DEACONU [*], **Anuţa BUIGA**
Babeş-Bolyai University of Cluj Napoca, Romania

Jiri STROUHAL
University of Economics, Czech Republic

Abstract. The study provides an answer to the question whether the international accounting standard dedicated to SMEs would satisfy the need to standardize SMEs financial reporting. It differentiates the analysis on clusters such as accounting systems (Euro-Continental, Anglo-Saxon and the one dominated by the IFRS), economy type (developed, emergent), and the type of stakeholders of SMEs financial reporting (standard setters, preparers and users). An empirical approach is used based on the content analysis of the comment letters to the IFRS for SMEs Exposure Draft, and on multivariate statistical techniques. The results suggest that, in spite of a certain complexity that does not fit completely the accounting expertise in emergent countries, of favoring preparers against users of financial information, and of the cultural diversity that can slow down its generalization, there are premises for the IFRS for SMEs to be accepted worldwide. Other value adding features are some contributions to the debate on the relevance of the accounting systems classification, i.e. the relation between these systems and IFRS.

Keywords: SMEs financial reporting, financial information users, accounting systems, emerging economies

JEL Classification: M21, M48, M16, M48

1. Introduction

The intensity of research regarding small and medium-sized enterprises (SMEs)[1] in the business area has increased significantly in the recent years, in correlation with the awareness of the importance of these entities for wealth creation both for developed and developing/ emerging economies. The statistics of the international fora (for example, UNCTAD, 2001; OECD, 2007) reveal that SMEs account for 96 to 99 percent of the total number of entities, generating between 25 and 30 percent of the total world manufacturing exports (OECD, 2007). The input brought by SMEs in the case of emergent economies is also underlined

[*] Corresponding author. Address: Department of Accounting and Auditing, Faculty of Economics and Business Administration, Babeș-Bolyai University, Cluj-Napoca, Romania, 400591 Th. Mihali Street 58-60, Tel. +40 264 418655, Fax. +40 264 412570, adela.deaconu@econ.ubbcluj.ro

by the bodies mentioned above as well as by the studies dealing with these contexts concerning employment (Son et al., 2006), country growth based on the benefits created by the internationalization of these entities (Chiao et al., 2004) or enhancement of transition (Svetlic et al., 2007).

The increasing importance of the SMEs can be explained by the global integration of the economic environments, which makes these entities become the pillars of economic growth and change. It is argue the capacity of SMEs to drive economic development at national, regional, and global levels (EC, 2007). Also, SMEs may be considered active players at international level (Oviatt and McDougall 1994). Thus, even if at the beginning SMEs differed from large entities mainly through their vision, that is no longer valid today, at least for certain activity fields of the SMEs, for the largest SMEs or for the ones called 'born global' (Oviatt and McDougall, 1994; Armario at al., 2008).

Small businesses are not ‘scale-down versions’ of large businesses, as it is well argued in the literature (for example, Shuman and Seeger, 1986). Historically, it was considered that the differences between large and small entities result from the different strategies they pursue, with the SMEs being more interested in autonomy, survival and stability than in the pursuit of financial growth (Collis and Jarvis, 2002; Nastav and Bojnec, 2008). This would lead to inadequacy of large business practices for the smaller ones.

In recent years, worldwide business accounting has blamed regulatory fragmentation intended for SMEs with direct effects on the cost-benefit ratio and potential profitability. Choosing the optimum solution in terms of financial but also technical expertise of SME personnel is still a challenge for national, regional, and international standard setters. The answer to whether the accounting of these entities is too sophisticated has not been sufficiently argued yet, and if so, does its simplification mean reducing the requirements for recognition, valuation, and disclosure of the existing accounting system or switching to a new accounting system? A highly debated topic, the simplification of the accounting system for SMEs (with emphasis on qualitative and quantitative definition of SMEs; type of SMEs involved – the large ones, which present the highest probability of internationalization, and the smaller ones; the identification and salience of SMEs financial reporting users; precise knowledge of the users’ needs; insisting on all accounting rules or just on those for disclosure) seems to direct to the following solutions: a unified conceptual framework, a set of basic rules for smaller entities and additional items added to this set of rules for the other small and medium-sized entities.

In this context, this paper studies the potential impact of the International Accounting Standards Board (IASB)’s International Financial Reporting Standard (IFRS) for SMEs on these entities. A content analysis of the comment letters of IFRS for SMEs Exposure Draft published for comments in 2007 was performed. A database structured on three criteria, namely the accounting system, the economy type and the respondent type, was obtained. Then, the paper empirically analyses the degree of acceptance of IFRS for SMEs Exposure Draft, indicating the impact of IASB on simplifying the financial reporting of SMEs and the probability of standard adoption worldwide. Moreover, it reveals whether different groups of respondents reacted differently, given supplementary explanations on the standard international acceptance.

The remainder of the paper is organized as follows: section 2 describes the role of financial reporting for SMEs, and presents the accounting standards dedicated to SMEs respectively; section 3 discusses the research hypothesis and the database used; section 4 tests the hypothesis through multiple correspondences and cluster analysis; section 5 discusses the degree of worldwide acceptance of IFRS for SMEs and the message of clusters taken into consideration, and it concludes.

2. SMEs Financial Reporting

This section argues on the financial reporting influence on SMEs and presents the accounting standards dedicated to SMEs. A first assumption of this research is the differentiation of financial reporting according to the size (in relation with the public interest) of entities, hence the need to consider an accounting standard dedicated to the smaller ones. Thus, differences in management structure and functioning were identified, including differences related to the financing means (Cressy and Olofsson, 1997). Particularly, it is stated (Cressy and Olofsson 1997 quoting Hughes 1997) that there are major differences between SMEs and large entities in the account structure, more precisely in the entities finances, which leads to the idea of typical stakeholders and to the need of specific financial reporting. In the case of very small-sized SMEs, Sian and Roberts (2009) demonstrated a correlation between size and sophistication of the accounting system. While large entities are the subject of an extensive regulatory framework that binds them to publishing a significant amount of financial information, SMEs are treated differently as a consequence of a more reduced complexity of the operations, i.e. the asymmetric information between owner-manager and the other stakeholders (mainly, financial creditors and government), and of a more reduced risk of internal and external moral hazard. Consequently, SMEs are allowed, according to national law, to publish less information than its larger counterparts, in order to decrease the administrative burden on the entrepreneur (Cressy and Olofsson, 1997; Collis and Jarvis, 2002). Several studies have demonstrated that the owner-manager (entrepreneur) is the main user of the information for this type of entities (Hamilton and Lawrence, 2001; Evans et al., 2005). A deepening of this correlation leads to the idea of financial information influence on entity growth. Studies investigating this matter have underlined the impact of the financial reporting systems and practices on SMEs internal decisions, their influence on the survival and development of these entities being revealed (see Hutchinson et al., 1981; McMahon, 1999). Similarly, in a UNCTAD report (2002), it is revealed that a transparent regime of financial reporting is important not only for large entities, but also for SMEs, in order to access financial resources and to find partners for their growth and development.

A second assumption of this paper is sustained by researchers who showed that the quality of the accounting information has a positive influence on the decisions of its users. The arguments are grounded on decision-usefulness theory (Staubus, 2000) and are based on the notion that the relevance of the financial information disclosed is crucial for the relevant decision makers, having important practical implications. Moreover, in the context of the need to inform the shareholders and according to the basic economic theory, it is shown that high financial reporting quality is a natural outcome of private equity monitoring and governance (Beuselinck and Manigart, 2007). This is also the case for SMEs.

Professional accounting organizations or authorities involved in accounting regulation at international level (UNCTAD, IASB, International Federation of Accountants - IFAC), at regional level (European Commission - EC) and, finally, some of the national jurisdictions (such as U.K.) have been focused on developing an accounting standard specific to SMEs or at least on simplifying the full accounting standards that mainly served the objectives of large entities.

The most significant standard design for SMEs and that tends to spread worldwide is IASB's IFRS for SMEs. The standard was published in July 2009 and was intended for non-publicly accountable entities. Initiated in 2003, the standard went through the stages of discussion paper (2005), exposure draft (2007), field tests applied in 20 countries, including the U.S., round-table meetings and seminars (2008-2009). The coordinates of the IASB project can be summarized as follows: the standard is less than 15 percent of the full IFRS, eliminating more than three quarters of their requirements (Pacter, 2007); on the technical level, it contains both a change in the disclosure requirements and in those of recognition, and valuation; on the conceptual level, it offers a section dedicated to concepts and pervasive principles. The final version of IFRS for SMEs denotes that IASB has been open to the suggestions received from the respondents to the public consultation. Relevant for the present study is the elimination of some complex options (as financial instruments and accounting for income taxes), the omission of some topics that a typical SME is not likely to encounter (for example, interim financial reporting), and additional simplifications concerning disclosure requirements, respectively (IASB, 2009).

As for the European level, the EC launched a topic of discussion on the simplification of the accounting rules for SMEs and possible amendments to the Fourth and Seventh European Directives in November 2006 (EC, 2006). The Commission addressed further simplifications of the accounting rules (EC, 2007) and proposed a differentiation between entities from an accounting point of view, in relation with sub-criteria regarding the size of the entities and the types of users. It ended up adopting some measures of simplification concerning the Fourth Directive on the disclosure requirements for smaller entities. At this date IFRS for SMEs has been the subject of a European public consultation (addressed mainly to the users of SMEs financial reporting) launched in November 2009 (EC, 2009). Based on the responses from the Member States, the EC is going to propose the reexamination of 'accounting' directives during 2011.

3. Research hypotheses and measures

3.1. Hypotheses

According to IASB statistics (IASB, 2011), 62 jurisdictions plan or study the possibility to require or permit the adoption of the IFRS for SMEs at present, the overwhelming majority of them being emergent countries. However, there were opinions stressing that the Standard adoption is likely uncertain (Hegarty, 2009). The accounting literature, as well as the responses to the IASB public consultations, discussed its usefulness. This research collects the same message of usefulness through the analysis of opinions of the different respondent groups on the content of the Exposure Draft (the ED). The interest was not in the direct answer to the question on the usefulness, but in the answers on the technical issues that reflect the proposed simplifications as compared with the full IFRS.

For the past years academics, professionals, and people involved in the European accounting regulation have become very attentive to the administrative burden on the European SMEs. They have supported the process of simplifying financial reporting of those entities taking into consideration the specific users and their needs (Evans et al., 2005; Haller and Eierle, 2007; Albu et al., 2010). During the IFRS for SMEs drafting process, it was observed that there were different positions regarding the convenience of its adoption and its content between Europe (more precisely Continental European – CE countries) and the rest of the world, out of which the Anglo-Saxon (AS) countries took more decisive positions. CE countries have manifested reluctance to adopting this standard, mainly due to the differences between their accounting systems and the spirit of the standard, AS type. The standard complexity is accused, which might have been an obstacle for the CE accounting systems that are based on precise, detailed rules, leading to expensive valuations and disclosures for SMEs. The binding tax-accounting link existent in many of these countries adds to this (Epstein and Jermakowicz, 2007). On the other hand, other countries, of AS influence, seriously considered the opportunity to adopt this standard (Australia, the U.K., Ireland, New Zeeland, even the U.S., which analyzed whether and where there should be specific differences in prospective accounting standards for private entities). Up to this date there are still divergent opinions regarding the eventual implementation of IFRS for SMEs in the European (Continental) countries (according to the answers to the EC consultation in November 2009), while some AS countries sustain a possible adoption in the next years.

The debate on the accounting systems classification is beyond the aim of this study. It is only noted that the accounting literature abounds in opinions on the separation of accounting systems into AS and CE (for example, Nobes, 1998; Gernon and Meek, 2001; Sellhorn and Gornik-Tomaszewski, 2006; Alexander and Archer, 2000). This classification can be considered outdated except for the case when the AS system is associated with IFRS. There are papers that state the fact that IFRS are influenced by US GAAP, UK GAAP or the AS system generally (Bartov et al., 2005, Hung and Subramanyam, 2007; Ionaşcu et al., 2007).

Taking up this classification, the present research introduced a third group of respondents concerning the accounting system applied, OS (other system), which contains mainly countries that cannot be classified as AS or CE systems, or they had already adopted IFRS on the date of the analysis. The results of the empirical tests concerning this third group of accounting systems, and its relations with the AS and CE groups, may suggest the direction and the importance of the interconnection of the accounting features of the two classical accounting systems. Taking all these arguments into account, a differentiation between respondents belonging to different accounting systems is expected and the first hypothesis of the study can be formulated:

H1: The standard degree of acceptance varies from one accounting system to another, being higher in the Anglo-Saxon accounting systems than in the Continental-European ones.

In studies dedicated to emergent countries (Son et al., 2006), it is shown that SMEs management should improve financial reporting in order to grow in a rapidly changing environment. However, a compliance with the international financial reporting standards is not necessary in their benefit. Several research findings let us believe that the internationalization of accounting standards is not bring more favorable economical consequences in countries that suffers poor investor protection and less legal enforcement. For example, Christensen et al. (2011) argue that countries that have put more resources into securities regulation and that have a better track record of implementing and enforcing regulation are more willing and better able to implement the new EU directives.The analysis of the two types of economy is also based on the consideration that many entities that are not considered public are found in developing countries or in transition economies (UNCTAD, 2001). Considering IFRS for SMEs draft, there have been some concerns related to its complexity and sophistication (Evans et al., 2005; Epstein and Jermakowicz, 2007), which could have triggered higher costs than the benefits resulted from its implementation in such countries. These criticisms are related to the fact that the emergent countries have no motivation (country's growth level leads to a lower, less significant international activity of SMEs and to limited accounting treatments), or no resources required by such financial reporting (for example, the fair value determined by an external consultant is resource consuming). Thus, the second hypothesis of this study is the following:

H2: The standard degree of acceptance varies from one type of economy to another, the respondents from emerging economies being less willing to adopt IFRS for SMEs than those from developed economies.

Finally, several international-scale organizations reacted to the dissemination of the IFRS for SMEs considering it to be too complex for these entities, since the full IFRS from which it derived aimed a general purpose for financial statements and not the needs of SMEs specific stakeholders. This paper checks which of the intervenients on the financial reporting information market, i.e. standard setters, preparers and users, is more likely to accept IFRS for SMEs. This test would give an answer to a question related to the demands of the accounting researchers concerning a standard that should meet the needs of the SMEs (Collis and Jarvis, 2002; Evans et al., 2005; Epstein and Jermakowicz, 2007). Thus, in line with the idea of reducing the administrative burden of SMEs related to financial reporting, the government policies, through national standard setters, should support the adoption of IFRS for SMEs. The preparers, especially in countries where SMEs internationalize, would also be advantaged by this known, common language. Then, issuing new, complex, rules may create difficulties of perception for the non-professional users of financial reporting, especially if they are rather sophisticated. The users of the accounting information are considered to be those respondents representing domains such as management, financial markets, valuation, actuarial expertise, or sector associations. The last hypothesis of the study is:

H3: The standard degree of acceptance varies from one respondent group to another, the users being more reluctant than the standard setters and the preparers.

3.2. Data collection

According to the objective of the study, a content analysis of the Comment Letters (CL's) to the ED, received from respondents from 45 countries was performed, and 131 responses from the 162 comment letters on the list published by IASB (IASB, 2007b) were selected. The individual responses that were focused only on one or two items for discussion (19 CL), and the responses given in other languages than English (9 CL) were eliminated. Other 3 CL were excluded, either because of repetition, or because of omission as compared to the list provided by IASB.

The instrument obtained is the result of a coding process carried out by two of the authors of this study. Taking in account the qualitative data and that this analytical work was interpretive by nature, the researchers undertook independent coding and agreed with all categorizations presented here. Such inter-reliability checking increased the stability of findings. Each CL represented a case, for which several variables were codified. The analysis was of underlying themes type (Dawson, 2002; Smith, 2003), more precisely areas of the CL's dedicated to a particular topic. The direct answers to specific questions of the ED were observed, as well as the free presentations of the respondents, found either in the introduction of their response, or in the comments provided in respect to the sections of the document. It is to be noticed that most of the respondents chose to answer the 11 questions asked by IASB, although the Board also called upon commenting any aspect of the ED (IASB, 2007a). The questions were differentiated as being related to the technical content, others concerning the delimitation of IFRS for SMEs from full IFRS (Q1, Q4, and Q7) and questions trying to solve later implementation problems (Q8, Q10, Q11), respectively. The last two categories were excluded from the study. Q5 *Borrowing costs* is a question of technical content, but as it received almost unanimous consent from the respondents, it was not considered to be useful for the analysis. The questions processed are Q2, Q3, Q6, and Q9 regarding the rules of recognition, measurement and disclosure. The analysis themes and their specific elements on the basis of which one or more variables were built are the following:

(a) General perception of the respondents regarding the quality of IASB's IFRS for SMEs, expressed directly or noted in the introduction of the CL's;

(b) The respondents' opinion regarding the rules for recognition and measurement, differentiated by the responses to the three questions of the ED in:

(b1) Q2 *Recognition and measurement simplifications that the Board adopted – Are there other elements which should be taken into consideration?,* differentiated in the variables: general assessment (G), financial instruments (FI), goodwill (GW), investments in associates and joint ventures (JV), employee benefits (B), fair value (FV);

(b2) Q3 *Recognition and measurement simplifications that the Board considered but did not adopt – Should any of those be reconsidered?,* with the variables: general assessment (G), cash flow statement (CF), deferred taxes (DT), consolidated financial statements (C), share-based payment (SP);

(b3) Q6 *Topics not addressed - Should any additional topics be omitted from the IFRS for SMEs and replaced by a cross-reference with full IFRS?,* divided into: general assessment (G), financial reporting in hyperinflationary economies

(HI), segment reporting (SR), earnings per share (ES), insurance contracts (I), interim financial reporting (IR);

(c) The respondents' opinion regarding disclosure rules, obtained by processing Q9 *Adequacy of disclosures* (Q9AD).

The selection of the variables of the ED questions included in the analysis theme (b) is the result of a qualitative assessment based on the observation of the frequency of responses. The variables with the highest frequency were kept, some items were eliminated and the hierarchy was modified during this work. The greater frequency of the responses was related to a greater interest of the respondents; hence a higher significance was attached to the variable. Then, taking into consideration that some respondents did not detail the answer to a specific question by analysis variables, it was considered useful to include the general perception of each of the questions Q2, Q3, and Q6.

Coding of the variables represented by the responses to the ED questions, and by the general perception on the standard, respectively, was made according to four status attached to the answer to that question, in line to their direct message or their interpretations, namely DS for disagreement, NR for neutral response, PA for partial agreement, TA for total agreement. Although a rather high rate of lack of explicit responses (65 percent on average) was observed, these were kept in the analysis (NR status). This situation was interpreted more as an acceptance than a rejection of the ED question (for example, lack of responses or specifications to questions concerning the futility of further simplification; or the possibility that the items discussed, for which no simplifications were operated, be reopened for discussion). Following the coding process and the inter-coding reliability check, the number of occurrences of each of the four status was calculated, which represented frequencies used in the empirical processing as nominal (categorical) items.

The data were also differentiated considering the three criteria derived from the proposed hypotheses, namely accounting system (Continental-European/ Anglo-Saxon/ Other system, classification based on the available public information and on arguments in the literature[2,3]), economy type (developed/ emergent, according to the international classifications[4]), and respondent type (standard setters/ preparers/ users). As in the case of the variables representing the items of the ED questions, the number of frequencies of the occurrence was established for the three criteria, so that they could be integrated in the processing.

4. Analysis results

Multivariate statistical techniques, namely the Multiple Correspondence Analysis (MCA) and the cluster analysis, were used for the database processing.

MCA technique is an extension of correspondence analysis which allows analyzing the pattern of relationships of several categorical dependent variables. Its objective is to represent the most important properties of several variables in low dimensional spaces (Vollé, 1997, La Roux, 2010). It allows the reprezentation of the statistical units on a system of principal dimensions that explain successively the facets of the dependence structure between the variables. The importance of each dimension is measured by an appropriate inertia index.

Using the MCA, the explanatory power of the variables (Table 1) was initially determined.

Table 1: Model summary of the analysis dimensions

Dimension	*Cronbach's Alpha*	*Variance accounted for*		
		Total (Eigenvalue)	*Inertia*	*Percent of variance*
1	0.868	5.705	0.285	28.524
2	0.752	3.496	0.175	17.481
Total		9.201	0.460	
Mean	0.824[a]	4.601	0.230	23.003

[a] Cronbach**'s** Alpha mean is based on Eigenvalue mean.

Out of the analysis dimensions, the first two were retained, which explain 46 percent of the initial information (inertia), 28.5 percent, and 17.5 percent, respectively. The other dimensions explain only about 3.17 percent of total inertia, a little more than the inertia associated with a single variable. Cronbach**'s** Alpha is commonly used as a measure of the internal consistency or reliability of a psychometric test score for a sample of examinees. Some professionals (Bland, 1997) as a rule of thumb, require a reliability of 0.70 or higher (obtained on a substantial sample) before they will use an instrument. The values obtained in our study confirm this requirement.

With respect to the contribution of the variables to the overall quality of the model, 19 variables were considered to be active or discriminated in a significant manner on at least one of the created dimensions, with *p-value*$<$0.01, excepting three variables (Table 2).

Between the variables, 15 reflect the specific questions of the ED, namely: Q2 (G, FI, GW, JV, B), Q3 (CF, DT, C, SP), Q6 (HI, SR, ES, I, IR), and Q9AD. The remaining active variables are the general perception of respondents to the ED (GP), and the ones indicating the respondent's affiliation to the three classes (ACS, ET, RT). The other variables (Q2FR, Q3G and Q6G) were considered additional in the analysis (*p-value* $>$ 0.05). Moreover, these variables do not turn up well on the two dimensions because the discrimination measure is close to zero.

In order to give an interpretation for the two dimensions, the data concerning the discrimination measures are used. The two dimensions values shown in Table 2 for the active variables are analysed by comparison and taking into consideration that the values found below the 10 percent threshold indicate a poorer representation in the plan established by the two dimensions for that variable. This fact implies that the interpretation of the MCA results will focus on the dimension that most significantly discriminates the variable. Accordingly, it was found that Dimension 1 discriminates the variables related to Q2 (except for Q2G) and Q3. Dimension 2 discriminates the variables representing the three analysis criteria, namely accounting system, economy type, and respondent type. The variables concerning the general perception on the ED, Q6 (except for Q6I for Dimension 1) and Q9 are discriminated on both dimensions.

The empirical findings allow to notice the separation and/or associations between different groups of respondents in accordance with their answers on the analysis themes, as shown in Table 3.

Table 2: Descriptive statistics and discrimination measures of the variables

Variables	*Descriptive statistics*				*Discrimination measures*			
Panel A: Items of the ED's questions	*Frequencies by responses status* (n=131)*				*Dimensions*		*Chi-Square*	*p-value*
	DS	*NR*	*PA*	*TA*	*1*	*2*		
General perception (GP)	28	22	39	42	**0.136****	**0.238**	40.153	0.000
Q2 General (Q2G)	3	104	11	13	0.028	**0.131**	28.154	0.005
Q2 Financial instruments (Q2FI)	8	63	56	4	**0.234**	0.043	32.489	0.001
Q2 Goodwill (Q2GW)	21	83	21	6	**0.425**	0.053	72.270	0.000
Q2 Investments in associates and joint ventures (Q2JV)	3	95	22	11	**0.517**	0.017	80.520	0.000
Q2 Employee benefits (Q2B)	6	80	36	9	**0.212**	0.055	42.900	0.000
Q2 Fair value*** (Q2FV)	26	50	54	1	0.031	0.053	13.066	0.364
Q3 General*** (Q3G)	0	104	2	25	0.056	0.002	14.617	0.067
Q3 Cash-flow statement (Q2CF)	8	106	12	5	**0.181**	0.056	28.407	0.005
Q3 Deferred taxes (Q3DT)	23	82	17	9	**0.317**	0.002	35.102	0.000
Q3 Consolidated financial statements (Q3C)	6	104	13	8	**0.253**	0.073	42.061	0.000
Q3 Share-based payment (Q3SP)	29	70	27	5	**0.415**	0.123	55.877	0.000
Q6 General*** (Q6G)	2	94	5	30	0.007	0.014	14.186	0.289
Q6 Financial reporting in hyperinflationary economies (Q6HI)	14	103	11	3	**0.406**	**0.168**	88.805	0.000
Q6 Segment reporting (Q6SR)	15	100	11	5	**0.640**	**0.467**	200.915	0.000
Q6 Earnings per share (Q6ES)	12	106	8	5	**0.600**	**0.382**	153.568	0.000
Q6 Insurance contracts (Q6I)	5	119	2	5	**0.457**	0.034	92.299	0.000
Q6 Interim financial reporting (Q6IR)	14	103	8	6	**0.613**	**0.343**	144.552	0.000
Q9 Adequacy of disclosures (Q9AD)	11	42	51	27	**0.158**	**0.127**	26.969	0.008
Panel B: Analysis criteria	*Frequencies*							
Accounting system (ACS)	131				0.024	**0.523**	87.949	0.000
Anglo-Saxon (AS)	45							
Continental European (CE)	49							
Other system (OS)	37							
Economy type (ET)	131				0.006	**0.442**	75.575	0.000
Developed (DV)	97							
Emergent (EM)	34							

Respondent type (RT)	131	0.050	**0.167**	26.564	0.001
Standard setters (S)	19				
Preparers (P)	75				
Users (U)	37				
Eigenvalue		5.705	3.496		
Percent of Variance		28.524	17.481		

*The responses status codification is: DS for disagreement, NR for neutral response, PA for partial agreement, TA for total agreement; **Values in bold are used for dimension interpretation; ***Additional (supplementary) variables, $p>0.05$.

Table 3: Centroid coordinates of the variables dimensions

Variables	*Dimensions*	*Centroid coordinates by variables categories*			
		DS	*NR*	*PA*	*TA*
Panel A: Analysis themes and items of the ED's questions					
General perception (GP)	1	-0.942	0.167	0.284	0.277
	2	0.660	-0.716	0.724	-0.737
Q2 General (Q2G)	1	-0.878	-0.050	0.603	0.096
	2	0.444	0.119	0.527	-1.500
Q2 Financial instruments (Q2FI)	1	0.576	-0.661	0.578	1.159
	2	0.682	-0.321	0.283	-0.259
Q2 Goodwill (Q2GW)	1	0.534	-0.497	0.144	3.452
	2	0.058	-0.187	0.769	-0.312
Q2 Investments in associates and joint ventures (Q2JV)	1	-0.166	-0.525	0.970	2.641
	2	-0.481	0.045	0.220	-0.698
Q2 Employee benefits (Q2B)	1	0.521	-0.488	0.705	1.174
	2	1.109	0.132	-0.437	-0.167
Q3 Cash-flow statement (Q2CF)	1	0.203	-0.233	0.950	2.339
	2	-0.024	0.087	0.010	-1.834
Q3 Deferred taxes (Q3DT)	1	0.556	-0.553	1.038	1.658
	2	0.115	-0.009	-0.112	-0.004
Q3 Consolidated financial statements (Q3C)	1	0.178	-0.306	1.005	2.218
	2	-0.758	0.219	-0.714	-1.115
Q3 Share-based payment (Q3SP)	1	0.630	-0.750	0.809	2.477
	2	1.016	-0.263	-0.196	-1.155
Q6 Financial reporting in hyperinflationary economies (Q6HI)	1	1.514	-0.430	1.246	3.132
	2	0.625	-0.227	1.780	-1.635
Q6 Segment reporting (Q6SR)	1	2.451	-0.526	0.236	2.640
	2	0.571	-0.350	3.268	-1.896
Q6 Earnings per share (Q6ES)	1	2.649	-0.455	0.367	2.702
	2	0.405	-0.231	3.601	-1.832

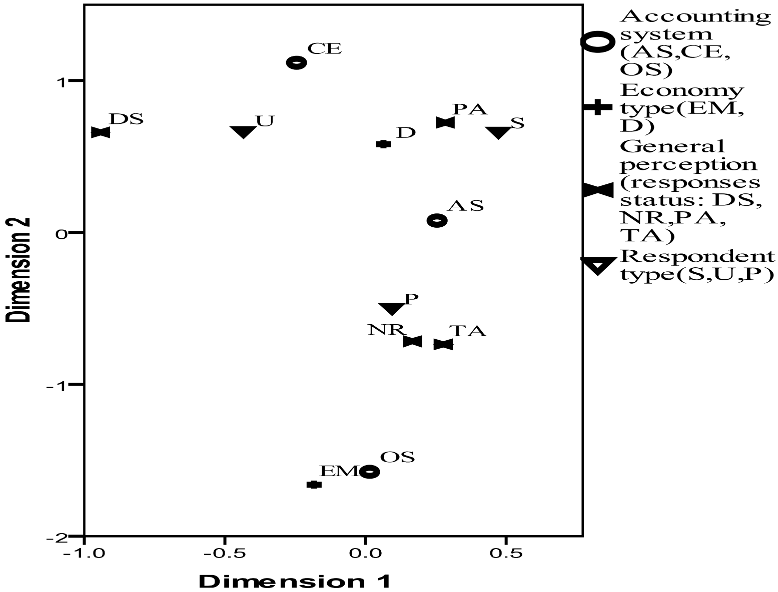
Q6 Insurance contracts	1	2.300	-0.269	0.499	3.896
(Q6I)	2	0.736	0.034	-0.502	-1.334
Q6 Interim financial	1	2.369	-0.496	0.226	2.689
reporting (Q6IR)	2	0.642	-0.285	3.390	-1.132
Q9 Adequacy of	1	-0.156	-0.706	0.546	0.131
disclosures (Q9AD)	2	1.730	-0.315	-0.068	-0.086

Panel B: Analysis criteria	*Dimension 1*	*Dimension 2*
Accounting system (ACS)		
Anglo-Saxon (AS)	0.255	0.078
Continental European (CE)	-0.245	1.118
Other system (OS)	0.015	-1.576
Economy type (ET)		
Developed (DV)	0.064	0.582
Emergent (EM)	-0.183	-1.661
Respondent type		
Standard setters (S)	0.473	0.662
Preparers (P)	0.094	-0.497
Users (U)	-0.434	0.668

First, Table 3, Panel B suggests a clear group differentiation for all analysis criteria. The findings are grounded on the centroid coordinates, followed in parallel on both dimensions created, insisting, where applicable, on the dimension that discriminates best. The variables registering positive values were considered as differentiating from the variables with negative values, which indicates different positionings of the status on the 4 quadrants of the plan and the closeness to the zero value (see also Figure 1 below). Moreover, the positive values of the centroids were differentiated according to their size, the coordinates situated closest to the 0 point of the plan formed by the two dimensions being considered farther than the coordinates with values higher than 1.

Second, the Table 3 results connect different groups of respondents with their answers status and with respect to the analysis themes. The overall status of these responses was assessed, focusing on agreement (partial or total) and rejection. All the five themes of the analysis (GP, Q2, Q3, Q6, and Q9) were reviewed, giving them equal importance and several interpretations have been drawn, according to the analysis criteria. The interpretations are first rendered per analysis theme and second as overall appreciation per groups formed according to the respective criterion. Beside the visual demonstrations of this fact, among which the GP example is presented (Figure 1), the results are based on the values of the centroid coordinates, as explained above. In order to get to the overall appreciation per groups, these differences were further turned into number of closeness/ dissociation cases (the maximum being 16, the items of the ED's questions) regarding the acceptance or rejection of the ED. The findings were always reported to the comparison between the groups formed within each criterion. The interpretations insisted on Dimension 2 for ACS and ET, and Dimension 1 and 2 for the RT (having values closer to the two dimensions), respectively.

Figure 1 : Graphical illustration of the GP responses status according to the analysis criteria



Accounting system. Three out of the five analysis themes (GP, Q2, Q9) confirm the dominance of an agreement on the ED from the AS system versus the CE system. As to the responses in favour of the ED (TA), the OS accounting system can be associated with the AS. One of the themes (Q3) presents neutrality of the responses regarding the AS/CE differentiation and a consensus from the respondents with OS accounting system. For the Q6 theme, an agreement was noticed from the OS countries, a moderate favourable answer from the CE and a rejection from the AS. Globally, negative opinions were expressed for both AS and CE systems, but, among all responses, the responses in favour of the ED (PA, TA) are predominant in the AS case namely 10, and 7 variables, respectively, from the 16 variables analysed for the AS, and 6, and 1, respectively, for the CE, which shows reserves in accepting the IFRS for SMEs from the respondents from countries with CE accounting system. The respondents from the countries for which the OS accounting system was allocated have no responses partially in favour of the ED (PA) and very few negative responses (2 cases out of 16), which shows acceptance with no reserve of the ED.

Economy type. Three of the analysis themes (GP, Q2, Q3) show responses totally in favour from emergent countries and negative or partially in favour from developed countries. One theme (Q6) reflects the dominance of the emergent economies in the acceptance of the ED, and one theme/variable (Q9) indicates a favourable opinion of the respondents from developed economies. Globally, the emergent countries do not have responses against the ED (DS), nor partially agreement (PA), except for one case among the 16 active variables compared with this analysis criterion. Instead, they show acceptance of the standard in 13 out of 16 cases. The developed countries have either negative responses, or a partial agreement, and total agreement in only 5 cases out of 16, which indicates more reserves from these countries than from the emergent ones.

Respondent type. Since the values of the two dimensions for this analysis criterion are close, the centroid values will be interpreted by relation to both dimensions. For Dimension 1, all five themes received favourable responses from standard setters, S and preparers, P, with the mention that preparers were less reticent than standard setters as to themes Q2, Q3, Q6. Users, U rejected 14 out of 16 variables. Globally, for Dimension 1 it can be observed that standard setters accept the ED to an overwhelming proportion (14 out of 16 cases both for PA and for TA), inspite of several negative interventions in 10 out of 16 cases. Preparers express their moderate opinions, being globally in agreement with the standard, and thus closer to standard setters' opinions. Users are the ones rejecting the ED, being the farthest from the affirmative responses (0 out of 16 cases both for PA and TA). For Dimension 2, preparers are favourable to the ED within themes GP, Q6 and Q9 and partially favourable within theme Q2. Standard setters and users express a favourable opinion with reserves within themes GP, Q2 and Q6, and also negative responses for all the themes, except for Q2. Globally, for Dimension 2, a preponderence of the negative responses (12 out of 16 cases) and of the partially favourable responses (9 out of 16 cases) is observed for standard setters and users. Preparers have few negative responses, as they express themselves in favour of the standard (for PA and TA 7, and 16 cases, respectively, out of 16). It can be concluded that among the respondent groups, preparers and users have a constant position following interpretation of both dimensions, namely overall acceptance of the ED from the former and overall rejection of the ED from the latter.

Third, Table 3 suggests the association of certain groups, namely: (1) the respondents belonging to the emergent countries and those applying an unspecified accounting system, OS (based on IFRS); (2) the respondents from countries that have a AS and CE type accounting system and the users of financial reporting, U; from the two accounting systems, the users' perception is closer to CE; (3) the respondents from the countries with developed economies, DV and the standard setters, S. These associations confirm the theses of the accounting literature when it treats the influential factors of the accounting differentiation or when it is concerned with the insufficient thoroughness of the IASB when approaching the SMEs users and their specific needs.

In order to complete and support the results obtained through the MCA, the cluster analysis was further applied. The purpose of this analysis is to identify groups in which respondents resemble each other, but differ from one group to another. In this study, resemblance is defined based on variables obtained through MCA. The clustering technique two-step cluster (Zhang et al., 1996) applied in the study implies a first step aiming the formation of preclusters. The goal of preclustering is to reduce the size of the matrix that contains distances between all possible pairs of cases. In the second step, SPSS uses the standard hierarchical clustering algorithm on the preclusters. After applying the two-step technique, 5 classes of respondents were determined. To validate the clustering, the ANOVA test was applied (Table 4).

It can be seen that the variables are distributed according to the two dimensions into the 5 groups (*F* statistics record significant values and *p-value*<0.01). The number of units in each group was also considered aiming to have a balance between them, meaning not more than 50 percent of units in the same class. In terms of size, out of the 131 CL, 9.2 percent belong to Class 1, 30.5 percent to Class 2, 16.8 percent to Class 3, 38.9 percent to Class 4, and 4.6 percent to Class 5.

Table 4 : ANOVA test results for cluster analysis

	Cluster		*Error*			
	Mean Square	*df*	*Mean Square*	*df*	*F*	*p-value*
Dimension 1	14.264	4	0.102	126	139.25	0.000
Dimension 2	10.757	4	0.093	126	115.40	0.000

The initial variables and the level of differentiation between answers status according to class were observed with the aim to interpret the classes. Chi-square test was used, as the variables are nominal. By analyzing the information in Table 2, it can be noticed that beside variables Q2FV, Q3G, Q6G which do not differentiate between classes, the other variables differentiate significantly (Chi-square has significant values and *p-value*<0.01).

The following findings of the cluster analysis, revealed by statistics in Table 5 are to be noticed.

Table 5: Cluster analysis for the analysis criteria

Analysis criteria	*Cluster number of cases by class (in percent)*					
	1	*2*	*3*	*4*	*5*	*Total*
Accounting system (ACS)						
Anglo-Saxon (AS)	16.7	20.0	45.5*	43.1	50.0*	34.4
Continental European (CE)	83.3	2.5	40.9	56.9*	-	37.4
Other system (OS)	-	77.5*	13.6	-	50.0*	28.2
Economy type (EC)						
Developed (DV)	100*	25.0	90.9*	100*	66.7*	74
Emergent (EM)	-	75.0*	9.1	-	33.3	26
Respondent type (RT)						
Standard setters (S)	16.7	2.5	22.7	19.6	16.7	14.5
Preparers (P)	41.7*	87.5*	54.5*	37.3	66.7*	57.3*
Users (U)	41.7*	10.0	22.7	43.1*	16.7	28.2

*Significant for the class

A clear separation between the CE and AS accounting systems in terms of domination within the classes formed can be observed. The AS system is associated with the OS system for two out of five classes determined (classes 2 and 5), while the OS system is not represented in any of the classes dominated by the CE system (classes 1 and 4). All the five classes are well differentiated according to the economy type criterion. Preparers are dominant in three out of five classes, and share with the users class 1. The users are well represented in class 4. The lack of representativeness of the standard setters within the classes can be explained by the limited number of their representatives within the sample. The cluster analysis was also applied for the other initial variables. This approach helped to observe the groups responses status. The analysis of the GP (Table 6) is relevant to an overall assessment.

Table 6: Cluster analysis for general perception

Responses status	*Percent within cluster number of cases*					*Total*
	1	*2*	*3*	*4*	*5*	
DS	**25.0**[*]	7.5	9.1	**39.2**	0.0	21.4
NR	16.7	30.0	13.6	7.8	16.7	16.8
PA	**58.3**	12.5	36.4	**33.3**	33.3	29.8
TA	0.0	**50.0**	**40.9**	19.6	**50.0**	32.1
Representative groups for:						
accounting system	CE	OS	AS	CE	AS+OS	
economy type	D	E	D	D	D	
respondent type	P+U	P	P	U	P	

[*]Values in bold are used for dimension interpretation.

Beside the Table 6 results, untabulated statistics on the remaining analysis variables confirm the following findings:

Accounting system. Considering Classes 1 and 4 representative for the CE system and Class 3 for the AS, Class 2 for the OS and Class 5 shared between AS and OS, it can be seen that the percentages at which the items of the ED are rejected are much higher for the CE system (25 percent, 39.2 percent) than for the AS and OS systems (7.5 percent, 9.1 percent, and 0 percent). The total agreement is preponderant compared to the rest of the status within the same class, for the OS systems and AS respectively (50 percent Classes 2 and 5, 40.9 percent Class 3), while for the CE system there is a 19.6 percent in Class 4 where this system represents only 56.9 percent. The results are confirmed when adding up the percentages assigned to partial agreement.

Economy type. Class 2 is representative for the emergent economies and Class 5 is also discussed where the respondents belonging to this type of economy represent a third. To illustrate the general perception of the developed countries, the remaining classes were considered. It is to be noted that the lowest percentage of rejection appears for the emergent economies (7.5 percent), if the lack of negative responses in Class 5, where this type of economy holds 33.3 percent, is not taken into account. The same two classes recorded the highest percentage of total agreement, which are assigned to the emergent economies. The respondents in developed economies, except for Class 3 (where the AS system prevails), are more critical, offering a rather partial agreement than a total one.

Respondent type. Analyzing Classes 1 and 4 as those in which the users hold a substantial share, although not the majority (41.7 percent and 43.1 percent), and the remaining classes as dominated by the preparers, a preponderance of negative responses can be observed, just as in the case of the CE accounting system, as well as moderate positive opinions in the form of a partial agreement for users. The preparers are more inclined towards an overall agreement and fewer rejections of the ED. For the standard setters, contradictory results were obtained, similarly to the MCA. Analyzing classes 3 and 4 where they are better represented, significant differences between classes can be observed in terms of ED rejection and total acceptance status and an overall tendency towards a partial acceptance.

5. Discussion and conclusion

Based on the arguments derived from the accounting literature, and from the public debates concerning the impact that the IFRS for SMEs could have for these entities, three hypotheses were formulated that have been tested empirically. They are considering three analysis criteria for the separation of the analysis sample (accounting system, economy type, respondent type), as well as the status of CL responses of each of the determined groups. The analytical assessments are made for each criterion, taking also into consideration some cross-associations between the groups.

The opinions of the respondents differ from one accounting system to another. A significant number of the AS system respondents - who are the most active in terms of rendering an opinion – is joined by the OS system respondents. These interventions are closer to an agreement on the ED than those from countries with a CE system. All these lead to the validation of *H1.* These findings are consistent with the views of academics, European professionals and accounting bodies, who are more reticent to accept IFRS for SMEs*,* and also with the intention to adopt the final form of the standard, expressed only by the countries with an AS accounting system. The Continental Europe reluctance can be explain by the cultural, social, and political differences existing in this region, but also as compared with the rest of the world. The Europeans blame the administrative burden that the adoption of the standard would trigger, because it does not truly take into consideration the specific needs of the SMEs financial reporting users. This paper reveals an association between the respondents in the countries with a CE system and the users of the financial statements. The correlation confirms a greater importance given to the identification of users and their needs as compared to other areas (accounting systems) in order to develop accounting rules that reflect and ensure a proper cost-benefit ratio.

Other findings indicate a significant differentiation between the views of the respondents from emergent countries and those from developed countries. The emergent countries respondents approved IFRS for SMEs in a higher proportion than those in the developed countries, often providing an agreement without reserve to the questions of the ED. Thus, only the first supposition of hypothesis *H2* is confirmed. This can be partially explained by the attitude of the responsible parties in emergent countries which tend to be in favour of concepts or trends supported by majority groups or coming from developed countries. This fact is also confirmed by the cross-association of the respondents from developed economies and the standard setters, that suggests the trend those countries insert upon accounting normalization. Independent of political reasons, the pure technical explanations converge to the existence of a more complex economy in these countries, hence a more sophisticated accounting system to reflect it, which comes into the forefront attention of standard setters. Furthermore, another linkage between the sample groups gives explanations for the partial validation of H2. A significant association between respondents from emergent countries and those with a OS accounting system was observed, for which a dominance of the application of full IFRS was indicated. In this context, the agreement (often total) with IFRS for SMEs of these countries is more understandable.

Finally, *H3* is confirmed. This shows that the standard for SMEs may create difficulties in understanding for the users. Usually, the users are the owner-manager and possibly a financial creditor, interested in very simple accounting treatments. Moreover, preparers are more willing than standard setters to give their opinion about the content of the ED, which shows their interest to clarify its content on behalf of those who are going to apply it.

Based on these analytical considerations, the overall assessment of the acceptance degree of the ED can be provided, namely that it is largely accepted by respondents, the positive responses – partial or total (26 percent on average) prevail over the negative ones (9 percent on average), although a rather high rate of lack of responses (65 percent on average) was observed. The favourable assessment of the ED still has reserves, a partial and not a total agreement being observed. Referring to the ED, the reserves the respondents expressed to a certain extent denote a certain complexity, which does not totally correspond to the accounting expertise and to the business development degree in emergent countries; preparers and standard setters are favoured against the users of financial reporting; and the cultural diversity may slow down the generalization of a unique set of accounting standards.

All together, there are premises for the IFRS for SMEs to be worldwide accepted. This starts to materialize through the actions of more and more countries that adopt the standard (IASB, 2010, 2011), and through the suggestion of 19 EU Member States that IFRS for SMEs be provided for within the EU accounting framework (EC, 2010), as resulted from a European consultation launched in 2009. Beside the overall assessment of divergent opinions expressed by respondents with regard to the potential application of the IFRS for SMEs in Europe, many of them stressed the potential benefits of the standard that could increase the users' ability to analyze and compare financial statements prepared in different jurisdictions, expanded cross-border trade, increased international growth of companies, greater foreign merger and acquisition activity, a lowering of the cost of capital and a broadened capital base (EC, 2011). To the arguments brought by this study, the IASB reputation gained in recent years, and the supplementary simplifications to the final version of the standard can be added. The findings concerning the attitudes of the groups interested in the relevance of IFRS for SMEs and the extent to which these are divergent or associated suggest the aspects that may be improved in order to facilitate the enactment of this standard in different jurisdictions.

Some other findings of the study could be of interest for researchers in the accounting field. Thus, it contributes to the debate on the relevance of the accounting systems' classification. The thesis of accounting system differentiation assumed in this study facilitates the understanding of the different attitudes towards the IFRS for SMEs manifested by the European respondents having a CE accounting system as compared to the respondents having AS-influenced systems. However, the fact that both groups have given a mainly positive answer for a unique standard specific to SMEs suggests the possibility of convergence between the accounting interests so that this classification should become less significant. This is a consequence of the globalization phenomenon that led to a change in the characteristics of the economic environment of the different countries and to the spreading of the IFRS. Moreover, the study findings confirm the influence of the AS accounting system over the IFRS through the associations found, and through the predominant AS agreement on IFRS for SMEs.

The limits of the study are firstly related to a certain subjectivity implied by the ED content analysis. Secondly, the characterization of the OS accounting system as being largely based on IFRS can be discussed. Many countries have adopted IFRS for their listed entities and for consolidated accounts, matters that were not taken into consideration in the classification of the accounting systems. Finally, as only the opinions of the interested parties that responded to the public consultation conducted by IASB have been analyzed, these answers cannot be considered a universal vote, but merely an indication of the view points.

Acknowledgments

This paper is one of the research outputs of the project P403/11/0002 registered at Czech Science Foundation (GACR).

REFERENCES

Albu C.N., Albu N., Fekete Sz. (2010) The context of the possible IFRS for SMEs implementation in Romania. An exploratory study, *Accounting and Management Information System*, 9(1): 45-71.

Armario J.M., Ruiz D.M., Armario E.M. (2008):Market orientation and internationalization in small and medium-sized enterprises, *Journal of Small Business Management*, 46(4): 485-511.

Bartov E., Goldberg S., Kim M. (2005) Comparative value relevance among German, US, and International accounting standards: a German stock market perspective, *Journal of Accounting, Auditing and Finance*, 20(2): 95-119.

Beuselinck C., Manigart S. (2007) Financial reporting quality in private equity backed entities: the impact of ownership concentration, *Small Business Economics*, 29: 261-274.

Bland J.M., Altman D.G. (1997) Statistics notes: Cronbach's alpha, *BMJ*: 314-572.

Chiao Y.C., Yang K.P., Yu C.M. (2006):Performance, internationalization, and firm-specific advantages of SMEs in newly-industrialized economies, *Small Business Economics*, 26: 475-492.

Collis J., Jarvis R. (2002):Financial information and the management of small private entities, *Journal of Small Business and Enterprise Development*, 9(2):100-110.

Cressy R., Olofsson C. (1997) European SME financing: an overview, *Small Business Economics*, 9: 87-96.

Dawson C. (2002) *Practical Research Methods*. How To Books Publisher, Oxford.

D'Arcy A. (2000) The Degree of Determination of National Accounting Systems – an empirical investigation, *Schmalenbach Business Review*, 52: 45-67.

Epstein B.J., Jermakowicz E.K. (2007) International standards for small and medium size entities – Analysing the IASB Exposure draft, *CPA Journal*, 77(10):38-40.

European Commission (EC) (2006) Simplification of accounting rules for small and medium-sized companies – Discussion of possible amendments to the Fourth and Seventh Company Law

Directives, ARC/18/2006, 14.11.2006, Brussels, available at: www.focusifrs.com/content/download/1058/5545/version/1/file (accesed 11 November 2010).

European Commission (EC) (2007) Communication CE sur la simplification des obligations administratives pour les PME, 10.07.2007, Bruxelles, available at: http://www.focusifrs.com/content/view/full/939 (accesed 11 November 2010).

European Commission (EC) (2009), Consultation on the International Financial Reporting Standard for small and medium-sized entities, 30.11.2009, Bruxelles, available at: http://ec.europa.eu/internal_market/consultations/2009/ifrs_for_sme_en.htm/ (accesed 2 December 2010).

European Commission (EC) (2010), Summary report of the responses received to the Commission's Consultation on the International Financial Reporting Standard for small and medium-sized entities", May 2010, Bruxelles, available at: http://ec.europa.eu/internal_market/accounting/docs/ifrs/2010-05-31_ifrs_sme_consultation_summary_en.pdf. (accesed 16 August 2011).

Evans L., Di Pietra R., Gebhardt G., Hoogendoorn M., Marton J., Mora A., Thinggard F., Vehmanen P., Wagenhofer A. (2005) Problems and opportunities of an International Financial Reporting Standard for small and medium-sized entities, The EEA FRSC's Comment on the IASB's Discussion paper, *Accounting in Europe*, 2: 23-45.

Gernon H., Meek G.K. (2001) *Accounting: an International Perspective*. Irwin McGraw-Hill Publications, Singapore.

Haller A., Eierle B. (2007) Final report of the survey on the ED-IFRS for SMEs among German SMEs, survey conducted by GASC in cooperation with BDI, DIHK and University of Regensburg, available at: http://www.ifrs.org/Current+Projects/IASB+Projects/Small+and+Medium-sized+Entities/Exposure+Drafts+and+Comment+Letters/Comment+Letters/Comment+Letters.htm (accessed 15 March 2009).

Hamilton R.T., Lawrence L. (2001) Explaining size differences in smaller entities, *International Small Business Journal*, 19(2): 49-77.

Hegarty J. (2009):Enhancing the accounting infrastructure in the Med Region. Restoring trust in financial market, paper presented at FCM 10th Annual Conference, 2 October, Bucharest, Romania, available at: http://www.ceccar.ro/?P=F283 (accesed 10 November 2009).

Hung M., Subramanyam K.R. (2007) Financial statement effects of adopting International Accounting Standards: the case of Germany, *Accounting Studies*, 12: 623-657.

IASB (2007a) Exposure Draft: IFRS for SMEs, available at: http://www.ifrs.org/NR/rdonlyres/DFF3CB5E-7C89-4D0B-AB85-BC099E84470F/0/SMEProposed26095.pdf (accessed 15 March 2009).

IASB (2007b) Comment letters for ED: IFRS for SMEs, available at: http://www.ifrs.org/Current+Projects/IASB+Projects/Small+and+Medium-sized+Entities/Exposure+Drafts+and+Comment+Letters/Comment+Letters/Comment+Letters.htm (accessed 18 March 2009).

IASB (2009) IFRS for SMEs, available at: http://eifrs.iasb.org/eifrs/sme/en/IFRSforSMEs2009.pdf. (accesed 7 September 2009).

IASB (2010) IFRS for SMEs Consultative Committee of Accountancy Bodies – Ireland. http://www.ifrs.org/NR/rdonlyres/0E4E0E5B-4B2F-4B7F-B4FC-CA3E0AC43730/0/0912SMEIreland.pdf. (accesed 21 July 2010).

IASB (2011) IFRS for SMEs Update, issues 2010-2011, available at: http://www.ifrs.org/IFRS+for+SMEs/Update.htm. (accesed 16 August 2011).

Ionaşcu I., Ionaşcu M., Olimid L., Calu D.A. (2007) An empirical evaluation of the costs of harmonizing Romanian accounting with international regulations (EU Directives and IAS/IFRS), *Accounting in Europe*, 4: 169-206.

Kenny S.Y., Larson R.K. (1993) Lobbying behavior and the development of International Accounting Standards, *European Accounting Review*, 2(3): 531-554.

La Roux B., Rouanet H. (2010) *Multiple Correspondence Analysis*. SAGE Publication, London.

Nair R.D., Frank W.G. (1980) The impact of disclosure and measurement practices on international accounting classifications, *The Accounting Review*, 55(3): 426-450.

Nastav B., Bojnec S. (2008) Small Businesses and the Shadow Economy, *Czech Journal of Economics and Finance*, 58(1-2): 68-81

Nobes C. (1998) Towards a general model of the reasons for international differences in financial reporting, *Abacus*, 34(2): 162-187.

OECD (2007) Enhancing the role of SMEs in global value chains: final synthesis report, May. Available at: http://www.unctad.org/en/docs/diaeed20095_en.pdf. (accessed 8 July 2010).

Oviatt B.M., McDougall P.P. (1994):Toward a theory of international new ventures, *Journal of International Business Studies*, 25(1): 45–61.

Pacter P (2007):Should U.S. private entities use IFRS for SMEs, *Financial Executive*, October, available at: http://www.iasplus.com/resource/0709financialexecutivepacter.pdf (accessed 17 September 2008).

Sellhorn T., Gornik-Tomaszewski S. (2006) Implications of the IAS Regulation for research into the international differences in accounting systems, *Accounting in Europe*, 3: 187-217.

Shuman J.C., Seeger J.A. (1986) The theory and practice of strategic management in smaller rapid growth entities, *American Journal of Small Business*, 11(1): 7-18.

Sian S., Roberts C. (2009) UK small owner-managed businesses: accounting and financial reporting needs, *Journal of Small Business and Enterprise Development*, 16(2): 289-305.

Smith M. (2003) *Research methods in accounting*. SAGE Publication, London.

Smolarski J., Wilner N. (2005) Internationalization of SMEs: A micro-economic approach, *Journal of Business Chemistry*, 2(2): 55-69.

Son D.D., Marriot N., Marriot P. (2006):Users' perceptions and uses of financial reports of small and medium entities (SMEs) in transitional economies – Qualitative evidence from Vietnam, *Qualitative Research in Accounting & Management*, 3(3): 218-235.

Staubus G.J. (2000) The *Decision-Usefulness Theory of Accounting: A Limited History (New Works in Accounting History)*. Garland Publishing, New York, NY.

Svetlic M., Jaklic A., Burger A. (2007) Internationalization of Small and Medium-size Enterprises from selected Central European Countries, *Eastern European Economics*, 45(4): 36–65.

UNCTAD (2001) International accounting and reporting issues: 2001 Review, available at: http://www.unctad.org/htm (accesed 11 July 2009).

Vollé M. (1997) *Analyse des données.* Ed. Economica, Paris.

Zhang T., Ramakrishnon R., Livny M. (1996) BIRCH: Method for very large databases, in Proceedings of the ACM, Management of Data, Montreal, Canada, 103-114.

Notes

[1] SMEs are generally defined as non-subsidiary and independent entities. The usual SME classification criteria for an entity are quantitative, such as number of employees, although sometimes revenues or total assets are also used. Moreover, in this paper, another SME defining criterion was also introduced, namely the definition of the international accounting referential (authorized in different jurisdictions from a legal and accounting point of view, even if it does not apply IFRS for SMEs) according to which a SME is an entity with no public interest and that publishes financial statements with general purpose for external users.

[2] The accounting literature was researched in order to provide examples of countries that apply the CE or AS accounting systems, such as Nair and Frank (1980), Nobes (1998), Doupnik and Salter (1993), Gernon and Meek (2001); moreover, in order to update and/or complement these data, several sites of the organizations that prepared reports on countries accounting classifications and standards were visited, namely: www.worldbank.org (the Report on the Observance of Standards and Codes - ROSC), www.ifac.org, www.adb.org, www.iasb.org.uk, www.iasplus.com alongside with the national websites that have provided additional information to the first sources already quoted (for example, www.accountancy.com.pk). Date of consultation: September 5-6 and December 21-22, 2009.

[3] Beside the clear affiliation of certain countries to the CE or AS accounting systems, the study database includes: a considerable number of countries that have adopted IFRS at regulatory level, so their accounting system is converging with IFRS (21); countries that require IFRS for a particular type of entities (8); countries applying national standards (3); a small number of multinational organizations including countries with different accounting systems (6). All these cases were combined in a group called “Other accounting System” (OS) and they are analyzed separately from the CE and AS accounting systems, respectively. Although there are opinions that the IFRS are influenced by the AS system, a separate analysis was preferred. However, taking into consideration that the countries having adopted IFRS (are compliant with) represent 65 percent of the OS group, except for the 6 international organizations, these findings were used when interpreting the analysis results. The 7 countries of the OS group that just require IFRS in certain conditions, but have not adopted this standard for all entities (including SMEs) were not counted here, in order to have the same approach with the CE and AS countries (which require IFRS only for the consolidated accounts of listed entities).

[4] www.worldbank.org, consulted on September 4, 2009.

Guide for authors

The articles can be written in **English, French or German.**
Before being accepted for publication, the articles must be sent in two copies printed on paper and on a CD (Word only) on the address:

Studia UBB, Oeconomica
58-60 Teodor Mihali street, room 231
400591 Cluj-Napoca, Romania

In the first stage, **before being accepted for publication**, the articles will be presented in the following way:

(1) The text: between 10 and 20 printed pages, numbered, recto only, A4 format, all margins 2 cm, characters Arial 11, and spacing 1.5.

(2) The first page (which will be eliminated in order to make the evaluation, by one of the Advisory Board members, anonymous) must contain the title of the article, the author's name, his/her complete coordinates (professional address, phone, e-mail) and potential thanks for the technical and/or the financial help. The title must be precise, clear and in agreement with the main theme of the text. The authors must make sure that they cannot be identified when reading the manuscript.

(3) The second page will contain the title of the article and an abstract (in English) of 5-10 lines, that should present the main results of the article. The summary must inform the reader about the content of the article. The summary must be followed by the JEL Classification and by 3-6 keywords in English which define best the article.

(4) The text will start properly on page 3.

(5) In the introduction, the author must present the relevance of the article for the respective field and must quote the main results obtained by other authors concerning the subject. The conclusions must summarize clearly the results and the consequences.

(6) The presentation of the bibliographical references:

- In the text the references quotes will appear between brackets, with the name and the publication date, e.g.: (Denicolo, 2000).
- For two co-authors they will use for example (Dixit and Stiglitz, 1977).
- In the case of three or more than three authors, only the first will be mentioned, under the form (Brooks et al, 1998).
- If two references have the same author and the same publication year, they will be differentiated through letters (McFadden, 1984a). These letters will also appear in the bibliography.

At the end of the article the references will be presented as follows:

Periodicals:

Wojcik C. (2000) Alternative Models of Demand for Automobiles, *Economics Letters*, 68(2) : 113-118.

Books:

Biswas T. (1997) *Decision-making under Uncertainty,* Macmillan Press, London.

Working papers:

Musu I. (1995) Transitional Dynamics to Optimal Sustainable Growth, *Fondazione ENI Enrico Mattei Working Paper no. 5095*.

Paper presented at conferences:

Nainggolan K. (1996) Indonesian Agriculture under a Free Trade Regime, *ASAE Conference, Bali Indonesia, 6 - 9 August*, 18p.

Quotes of personal works:
If the author wants to make reference to one or several personal works, it is essential that the used formulation preserve his anonymity. In the first sent version, before being accepted for publication, if the quotation of a personal work is absolutely necessary, the author may use the formulation (author, 2001) both in the text and in the bibliography. The bibliographical references will be completed after the article is accepted for publication.

(7) After the article is accepted for publication, the final and complete version of the article must be sent on a CD or by e-mail. The article will be written in Microsoft Word.

(8) *Studia UBB, Oeconomica* requires the exclusivity of the article. The same article mustn't be proposed simultaneously to other journals.