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Editorial Comments

This edition of the *International Journal of Business & Economic Development (IJBED)* contains nine scholarly articles conforming to the principal objective of the journal, namely the dissemination of both applied and theoretical knowledge. The papers provide a fascinating insight into a range of issues, both with local and global significance and afford us an opportunity to appreciate the way in which various sectors and economies are wrestling with various challenges. The findings of a number of these papers are significant not only for academicians, but also for professionals, policy makers and those responsible for local, regional and national strategy. It is evident that whilst there is clear evidence of mankind's ingenuity in a range of circumstances, there is also a wealth of evidence presented herein for a lack of foresight in a variety of sectors and areas of human endeavour. The Editorial Board is grateful to the contributors for making IJBED the platform by which they have chosen to put their research into the public arena, and trust that they will use their good offices to ensure that others do the same.

The opening article addresses the issue of formal and informal networks in regard to small hotel owners on the Dalmatian Coast, Croatia. Whilst to some degree there is a preoccupation with networks, especially those of a social nature, it is evident from this paper that there are still areas that warrant further exploration and its intention is to provide further insight into networks, their formation, manifestation and limitations. **Entrepreneurial networks as culturally embedded phenomena** by Skokic and Morrison seeks to elucidate something of the current state of play with regards to networking amongst small-scale hotel owners/managers. What is evident from the outset of this paper is its clear appreciation of the fact that context is king and no real appreciation of the present dynamic can truly take place without an understanding of the journey that the country has taken place in recent years and how this has shaped attitudes both for the good or ill. The legacy of socialism and planned economies evidently continues to loom large and whilst Yugoslavia may appear ancient history to some, its ideals, values and mindset lives on or at very least continues to shape current attitudes and occasionally scepticism of those endeavouring to make a living in a very competitive corner of the hospitality and tourism sector.

In choosing to home in on SMEs it soon becomes apparent from this research that the formative nature of such enterprises acts both as a push and pull with regard to a limited form of networking, both formal and informal. The affinity of experience and locality inevitably plays a part and appears to result in a degree of what is known these days as 'coopetition'. There is a recognition that whilst every business is a potential competitor, there are certain situations when there are tangible benefits to be gained from mutual assistance. Small may well be beautiful, but small hotels in Croatia face serious competition from major players, many of whom are foreign operators. Personal networks, circles of friendship and association all play their part in the establishment of businesses, especially in the early days when funds and know how is limited. Whilst some more forward thinking enterprises may wish to network more professionally, there is a realisation that time during the tourism season is extremely tight, day to day preoccupations tend to dominate and staff cannot be spared for meetings and events that may not have immediate tangible benefits. Larger formal structures and association are also an additional cost, often quite a substantial one which proves a further deterrent to some SMEs entering the mainstream of networking. Whilst theoretically there are sound reasons why businesses of a similar nature should join together to endeavour to 'punch above their weight', some owners

and managers are sceptical and even resistant to what they perceive as something that has echoes of a planned economy and all the negative connotation of monitoring and direction that went with it in the eyes of some. Apathy is evidently another factor, and yet as this study makes clear networking of a sort does exist and enables enterprises whether they be from "urban, island and inland areas" to share experiences and establish bonds of trust and potentially mutual assistance. It is evident that both vertical and horizontal network mechanisms could play their part in helping to develop service standards across the sector.

With Croatia being primarily a service based economy it is paramount that enterprises regardless of size develop a spirit of competitiveness that often can be enhanced by discerning and timely use of formal and informal networks. With tourism generating on average between 12-15% of the country's GDP it is imperative that anything that enhances the survivability and competitiveness of SMEs has to be a good thing.

The next paper in this edition: **BOP theory in an emerging market economy: India under the microscope** by **Ahmed and Kumar** is a timely exposition of the late Professor C. K. Pralahad (1941-2010) and his bottom of the pyramid business theory. Whilst there is consideration interest in the big names of Indian industry and the undoubted success that lies therein, a country that is made up of in excess of 1.2 billion people faces monumental challenges in regard to lifting people out of dire poverty. It is of interest to note that the authors state in their Introduction that; "There are efforts at attracting more FDI into the country." some might argue that some of the solution lies within India itself, especially as it is amassing vast cash reserves. These reserves or rather the fact that they are lying idle brings to minds those words of the English author and philosopher - Sir Francis Bacon (1561-1626); "Money is like muck (manure), not good unless it be spread." - This quotation appears particularly appropriate in an Indian context as the vast majority of poverty is to be found in rural districts. Such is the concern about the disparities between urban and rural opportunities that this year the Vivekananda Education Society Institute of Management & Research, Mumbai held a 'Go Rural' event aimed at exploring the need for Indian corporations to better understand and engage with rural communities. Whilst cities have developed into agglomeration economies and are proving key drivers of progress, their magnetic pull has itself caused many social problems in rural and peri-urban areas and inevitably has resulted in further disparities both in wealth and opportunity. It is worth noting that a disproportion of India's growth stems from its rapidly burgeoning service sector (Ghani 2010).

This stimulating paper certainly raises some interesting questions about why to date BOP has not really been embraced in India. With corporations pitching their products and services to the aspiring Middle Classes the role of marketing and the media does appear to provide some of the answer. Naturally, literacy and numeracy are other areas that could be explored, as of course is the issue of gender. Gender contributions can add substantially to GDP and yet the economic contribution of women both in the home and especially potentially in the realm of work is invariably neglected. The mention here of the Istanbul Water Consensus is very revealing as issues such as water security are of paramount importance to nation development, especially for a country such as India. The price inflation of food staples such as onions are also interesting indicators, especially when examining the Indian context.

It is easy to become blinded by the wealth of impressive statistics about India's economic growth over the last decade. With the recent announcement that Indigo has finalised a \$26.5 billion purchase of 250 new airbus jets it is evident that India is indeed getting many things right and deserves praise for its successes. That said, this paper makes clear that there is a sizeable proportion of the population who are falling further and further behind and are yet to taste the fruits of national progress. The State Poverty Level statistics make a salutary reminder of the

enormity of the challenges faced by nation that has the capacity and wherewithal to be a part of space exploration, yet faces seemingly more intractable and pressing needs at home. Whilst no theory or formulation can be expected to address all the disparities that exist, BOP theory evidently has mileage and could well play its part if embraced by both the public and private sector.

The third paper also examines those enterprises that would generally fall in the category of SMEs. **Entrepreneurial competences effect on Small and Medium Enterprises performance through the mediation effect of psychological contracting of outsourcing** by **Bendary and El Minyawwi**. IT and the various ways in which it operates means that it is ideally placed to capitalise on the opportunities afforded by globalisation as well as the current trend towards home working. The flexibility of the medium, plus the relatively low start-up costs have meant that there has been a proliferation in the growth of those offering their services not only to a local client base, but to customers across the globe. Businesses too have recognised that there is considerable scope to make substantial savings in the field of IT, marketing and design and have sought to outsource and subcontract. This papers elucidates something of the dynamic of the sector and underscores that this phenomenon has a variety of drivers. One might also add another into the mix, namely Time Zones, as in this era of globalisation work can be being done whilst another part of the world sleeps.

The authors are quite right to make the following observation concerning the fact that a; "reactive management style is found in the majority of SMEs", this is true not only of the IT sector but also across SMEs. This style being shaped by circumstances, namely size, limited income and access to funding, as well as the nature of the marketplace. Relationship building is pivotal, especially as this is the bedrock of trust and repeat business. It is clear from this research that networks play their part and through these potential clients become aware of knowledge clusters, can seek out those with knowhow and core competences and expertise. For the IT providers they have to be mindful of a time and accurate delivery of service, must be price sensitive, competitive, demonstrate an ability to innovate and be cognisant of the role of language, speed of communication and response. The in depth analysis provided here provides food for thought and also touches on the issue of perception and local context. Recent events in Egypt have impacted on enterprises regardless of size and are a timely reminder that whatever entrepreneurial competences a business may possess it can never be fully immune from the vicissitudes of the external market or of political events. That said, it is worth noting that the SME sector proved remarkably resilient globally throughout the period of severe economic downturn in 2008-2009 and the same would appear to be true in Egypt following recent political turmoil. Businesses have had to be largely self-reliant, although the launch of initiatives such as the Nomou Programme (2015) have demonstrated a wider appreciation of the particular needs of SMEs across all governorates in Egypt, that said, invariably the IT sector tends to be overlooked when it comes to such well-meaning programmes.

Interestingly the next paper has a particular bearing on small businesses. **Dynamic interaction between inflation and credit rationing: the case of Nigeria** by **Ebenezer *et al*** gets to the heart of two of the greatest challenges facing those wishing to engage in commercial activity in West Africa's economic powerhouse today. Inflation has been a constant worry, especially as between 1996 and 2015 the Inflation Rate in Nigeria has averaged 12.38% (The inflation rate for July 2015 was 9.20%). Improved efficiency across the banking sector is acknowledged by the Central Bank of Nigeria (CBN) as a pre-condition for macroeconomic stability and essential for effective execution of monetary policy (Hartmann 2004). For smaller enterprises this is a particular concern, especially as savings rate are traditionally extremely poor and thus as this paper rightly points out SMEs have limited funds to call upon. Matters are

made all the more challenging by the fact that SMEs are further disadvantaged by the fact that they often have limited collateral and are often not in a position to demonstrate a credit history. All of these factors disproportionately works against them when seeking credit for entrepreneurial activity. Inflationary pressures and a natural reticence on the part of many in the traditional banking and finance sector coalesce to make a scarcity of credit that impedes growth and development across the country. Whilst the Central Government, banks and other financial institutions have a clear duty to work towards fiscal responsibility, there is clearly a need for a more empathetic and flexible approach when it comes to smaller businesses. Small Business Divisions within the banking sector are still relatively thin on the ground as are alternative mechanisms for seed funding. In addition there is a tendency to assume that those seeking funding for entrepreneurial activity will be male. In point of fact there is a growing body of evidence and research that indicates that women are playing an active role in entrepreneurial activity and what is more often prove to be more responsible borrowers than many of their male counterparts. This paper would appear to indicate that there needs to be a change in the mind set across the financial sector, and that a failure to do so will continue to result in continued credit rationing.

The next paper comes as something of a breath of fresh air. **Cultivating alternative mindsets to enhance organisations well-being and creativity** by Marie Holm affords an opportunity to explore a subject which has enormous relevance and yet to many people in the business arena is one that raises as many questions as it does answers. In reality all who recognise the value of ensuring that employees feel secure, appreciated and fulfilled will understand that this is an area that warrant greater attention. Many academics and practitioners are already familiar with the likes of Adams Equity Theory, Benziger's Theory on 'Falsification of Type', Herzberg's Motivational Theory and Maslow's Hierachy of Needs, yet there is a certain degree of cynicism and reticence when it comes to exploring alternative mindsets and well-being in the workplace. Holm is candid in her acknowledgement of the fact that much of this reticence on the part of leadership and management of many organisations stems from the fear of appearing to in some way to align the approach to well-being with perceived religious affiliation. That said, a gradual realignment would appear to be underway, with a shift; "occurring towards an alternative business mentality...".

From an operational point of view there is a quest for greater effectiveness and this is often borne out of heightened insight, intuition and a more collaborative approach. The Alternative Mindset (AMS) offers a route into improved decision making and a greater corporate equilibrium. The case for such an approach would appear to be further strengthened by the examination of Neurophysiology, with regards to the plasticity of the brain and the ways in which a more holistic approach can actually help train the brain. Whilst the Traditional Mindset (TMS) still predominates, there is a recognition that a mindset need not be fixed and monolithic in nature. The observations concerning concentration are particularly pertinent and raise questions about why there is still such reluctance to embrace methods that could well help people and organisations to work more effectively and with a far greater sense of cohesion and purpose. Prevailing conventional and conservative attitudes will inevitably result in a continued reluctance to explore such avenues, yet this paper certainly offers some fresh insights into why this is an area that warrants further consideration.

This sixth paper of this volume is entitled: **Impact of economic partnership agreements: the case of EAC's manufactured imports from EU** by Mbithi *et al.* Trading relationships and tariffs have long been a point a discussion and occasionally dispute between various trading blocks. East Africa, whilst strategically placed in many respects, has long been fearful that trade imbalances could well be made worse by a rapid move towards a more liberalised regime, yet

regional governments are mindful of the need to ensure that external markets for crops such as fresh flowers, vegetables, tea, coffee and fish remain accessible. It is worth noting that Kenya's flower exports reached 125,000 in 2014. East Africa consistently under performs in the area of manufactured goods, with the issues of quality control, packaging and branding all being issues that have proved problematic. In addition regional disparities have been made worse by transport and logistical challenges.

This paper sheds light onto the complex dynamic of two trading blocks endeavouring to wrestle with the consequences both foreseen and unforeseen of tariff reduction. Within the East African Country (EAC) certain countries have progressed with greater caution than others, possibly indicating greater anxiety about the possible ramifications in regard to liberalisation and the affect this could have on imports of manufactured goods and the local manufacturing base. Imports from the EU into the EAC are dominated by machinery and mechanical appliances, equipment, spare parts, vehicles and a whole range of pharmaceutical products. Strategic ports such as Mombassa (Kenya) and Dar es Salaam (Tanzania) are the main entry points into the region. The five partner states of the East African Community whilst eager to have mutually beneficial trading relationship with the EU are mindful that local manufacturers are often operating at a considerable disadvantage when compared with their European counterparts. This paper provides a useful reminder that the issue of trade can be a thorny one, something which is proving equally true in regards to the likes of the Transatlantic Trade Investment Partnership (TTIP). An appreciation of local context is of paramount importance as is the issue of trust and a willingness to recalibrate and readjust in the event of unforeseen consequences that may cause unpredicted hardship and potential suffering to regions which are already facing major challenges. What can be said with a reasonable degree of certainty is that we are likely to hear rather more of Africa's various trade blocks in the coming years.

Our next paper takes into a realm that seems to have taken a firm hold of almost all forms of advertising, namely the celebrity endorsement of products and services. **A theoretical reflection of celebrity endorsement in Nigeria** by **Udo** and **Stella** offers a fascinating examination of a subject that speaks volumes of human aspirations, as well as those who are lionised and followed at prime time television, radio, the print media and a plethora of online and social media. "The cult of celebrity" is not unique to our own times, but has seen a massive explosion due in part to globalisation as well as the ease of news of the comings and goings of those in the public eye. Companies and corporations are aware that the market place is becoming more and more corded with a veritable barrage of messages and seemingly discordant sounds and slogans each competing for attention. This research underscores the drivers behind the use of celebrity endorsement, and in explaining the ways in which people relate to so-called celebrities provides a usual reminder of the "para social relationships" that develop. Whilst some of us may well be perplexed by the depth and intensity of such connections, no business can afford to ignore the possible benefits, perceived or otherwise, that may accrue thanks to celebrity endorsement. One of the most telling observations is; "Marketers need to be aware that consumers perceive celebrities in different ways...".

The cult of celebrity has long been recognised as being rich with business potential. As far back at the 1790s and early 1800s the celebrated actress Mrs Dorothea Jordan (1761-1816) had such a hold on public affection that sellers of sheet music readily capitalised on opportunities to sell their wares by adding: 'As sung by Mrs Jordan' to the title. Modern day Nigeria is no exception to such opportunism, all the more so as its film industry - Nollywood as it has been dubbed is one of the most successful in the world and has a following not only within the country, but across large swathes of Africa and amongst Diaspora communities. It would appear that both females and males feel the need to follow the activities of celebrities and equally both

females and males are followed. This paper is quite right to touch on the psychological bonds that appear to connect the public to their 'idols' and as ever businesses are eager to exploit and capitalise on any possible association that will give them economic advantage and cement their product or service firmly in the mind of the target audience. As in all relationships, there is always a degree of risk, especially if the said celebrity deviates from the path of socially acceptable behaviour. Wildean notions still persist, even in notoriety and thus the line; "There is one thing worse than being talked about, and that is not being talked about." generally holds true. That said, societal acceptance is only elastic up to a certain point and therein lies a danger for those enterprises who back the wrong celebrity.

In an age of social media, the immediacy and seeming accessibility of information makes buying into celebrity endorsement very attractive and whilst there will always be those who counsel caution, the fear of being marginalised or seeming not to be relevant is a powerful driver. Here we see that there are range of facets to this phenomenon, and whilst on the surface it may appear a simple trade off, in point of fact the dynamics are far more complex and likely to be the subject of further research.

The penultimate paper of this volume is entitled: **Dynamic relationships between oil revenue, government spending and economic growth in Oman** by **Ahmad and Masan**. All the current indicators appear to show that Omani oil production will peak in the next few years and thus from then on in the considerable largess that has flowed from oil and gas is likely to reduce gradually in the coming decades. Whilst the Sultanate of Oman has evidently benefitted from its boom years, there is a gradual realisation contained with the supporting literature quoted in this paper that readjustment is required in order to reduce the levels of petro-revenue dependency. In point of fact anyone who is familiar with Omani Vision 2020 will appreciate that ambitious plans already exist to reduce the oil sector's contribution to GDP to 9% by 2020. As things stand, whilst progress has been made, such progress in structural re-alignment and economic diversification is a long way off. "De-linking fiscal expenditure from oil revenue" whilst being a laudable aim is extremely difficult to achieve, especially when there is a tendency to over-spend in times of confidence when the oil price has been high. Oman, whilst it has not been guilty of fiscal profligacy, has understandably seen its progress as being tied to oil and gas and thus an element of dependency has emerged in relation to financing the public budget. This paper makes it abundantly clear that there is a need to; "mitigate the dependency of fiscal policy on oil revenues" - something that is easier said than done, especially when other socio-economic pressures, as well as geo-political ones inevitably muscle their way onto the agenda to demand attention.

Internal dynamics will inevitably play their part in any successful realignment. A key factor, being stability and future policy in the period following on from the death of the current ruler - Sultan Qaboos bin Said Al Said (born 1940). Uncertainty concerning successions always provokes speculation, yet to date Oman has managed to steal a remarkably adept course. Some readers might also be surprised by the following line from this paper; "As the US economy is the key in determining the path to global economic growth..." - there are some who might posit that China to some degree has usurped that position. That said, this research affords the reader an opportunity to revisit the complexities of the relationship between government spending and economic growth, a subject made all the more challenging by the opportunities and vicissitudes of the international oil market and its price fluctuations. In reminding us of the so-called "resource curse" this stimulating research is a salutary reminder that possessing vast oil and gas reserves presents its own challenge.

It is fitting in many respects that the final paper; **Chinese steel production and shipping freight markets: a causality analysis** by **Tsioumas** and **Papadimitrou** takes as its focus China, an economy that has demonstrated extraordinary levels of growth over successive decades. Yet even this economic behemoth has in recent weeks and months shown that it is not immune to the vagaries of the market. The China Iron and Steel Association (CISA) has predicted that steel consumption is likely to fall by 6% in 2015, whilst BHP Billiton Ltd, the Anglo-Australian mining, metals and petroleum company, has cut forecasts for China's peak steel output by 15%. Such is China's dominance in the market that has become somewhat of a bellwether for the health and well-being of the global economy, and thus its growth and prosperity is of concern to a number of sectors and markets. In examining the correlation between freight rates and Chinese steel production this paper provided a fascinating and in depth analysis of an aspect of business that has the potential to impact positively on budgetary planning in an era of uncertainty and change - something that should be a key consideration for commercial operations whether they be large or small. I commend what follows to the reader and feel that they will find these papers both stimulating and thought provoking.



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Entrepreneurial networks as culturally embedded phenomena

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Keywords

Entrepreneurs, Small hotels, Networks, Contextualised perspective

Abstract

Entrepreneurship research concerning networks has largely focused on network structure, content and governance. We believe that further research is required in order to gain a richer understanding of why specific network forms and types originated. The purpose of this paper is to explore the existence, importance, values and meanings of both the informal and formal networks and networking behaviours of small-scale hotel owner-managers embedded in the socio-economic context of Croatia. In order to gain richer and more detailed understanding of entrepreneurial networks and to understand the influence of socio-economic setting on entrepreneurial networking, we have employed qualitative, in-depth study with small hotel owners. Results suggest that entrepreneurs do not establish strong personal and firm-to-firm ties, but rather focus on formal associations. Reported findings identify socio-cultural factors apparently unique to the context of former socialist economy which have the potential to explain the reported networking behaviour. The adopted research approach brings another dimension to existing theoretical underpinnings, which can encourage researchers to extend or revise theories with new contextual variables.

1. Introduction

In recent years there has been a dramatic increase in the number of studies investigating entrepreneurial networks (Hoang and Antoncic, 2003; Jack, 2010; Laschewski *et al.*, 2002). However, Jack (2010) reveals that despite the growth of publications many questions remain unanswered. This particularly relates to the network development, the process within and between network ties and the content of relations. She considers that these issues are of significant importance to investigate, as they will help broaden our understanding of how 'networks evolve, change and develop over time as well as the extent to which networks support and/or constrain the ways in which entrepreneurs and their ventures function, operate and are managed' (p. 102). Jack (2010), similar to Hoang and Antoncic (2003), argues that such questions have not been researched widely as a consequence of dominant quantitative approaches in network analysis, which cannot provide richer and more detailed explanations of 'what is going on within a network' (Jack, 2010, p. 123). In order to overcome this theoretical gap, scholars studying entrepreneurial networks argue that it is necessary to adopt more qualitative approaches and suggest that researchers should take account of entrepreneurial context to a greater extent (Jack, 2010). From this perspective, the socio-economic context where entrepreneurs are embedded is seen as a key factor as it has an impact on 'the nature, pace of development, and extent of entrepreneurship as well as the way entrepreneurs behave' (Welter and Smallbone, 2011, p. 108).

In this paper we argue that more attention needs to be placed on the context in which networks and networking behaviour are embedded in order to understand the complex characteristics, dynamics and relationships that lead to specific networks formations and types

in different social and cultural settings. We examine what aspects of socio-economic environment may drive the diversity of entrepreneurial networking among small business owners in Splitsko-dalmatinska County, Croatia.

2. Literature review

2.1 Entrepreneurial networks

Scholars have recognised that entrepreneurs embed their actions in social structures and that economic behaviour of entrepreneurs can be better understood within its historical, temporal, institutional, spatial and social context (Welter, 2011). Research on entrepreneurial networks has emerged as an important area of inquiry, as studies have shown their important role in the entrepreneurial process and outcomes (Hoang and Antoncic, 2003). One aspect that the literature has increasingly paid attention to is how personal networks help overcome the problem of acquisition of resources, such as financial or human, in the early stages of the entrepreneurial process (Zhang *et al.* 2011). For instance, Zhang *et al.*'s (2011) study among 378 high-tech ventures in Beijing and Singapore reveals that 62% of Singaporean entrepreneurs and 71% of Chinese entrepreneurs use personal networks to acquire resources. Jack (2005) conducted a qualitative ethnographic study among 14 entrepreneurs in Scotland and found that entrepreneurial personal networks were instrumental for business activity. For instance, family links were utilised to provide the entrepreneurs the ability to recognise the potential for entrepreneurial opportunities, whilst resources and skills were located within personal networks with former colleagues, industry professionals and employees. The critical importance of personal networks in the early stages of entrepreneurial process is determined by the fact that entrepreneurs face considerable challenges as a result of uncertainty about the prospects of new venture (liability of newness) and due to information asymmetry problems, since entrepreneurs often possess more information about the prospect of their business than outside evaluators (Venkataraman, 1997).

Studies have found that many emerging entrepreneurial firms rely on close, personal relationships, such as friends and family members as a means of minimising costs and because they are convenient and already established (Greve and Salaff, 2003; Hite, 2005), whereas in the later stages of the business lifecycle entrepreneurs develop networks which are more formal and based upon traditional market exchanges (Hite and Hesterly, 2001; Zaheer and Venkataraman, 1995). Creation of entrepreneurial networks is seen as a desirable activity for entrepreneurs as networks help to access information, secure resources and to exploit business opportunity (Jack, 2010). However, Lockett *et al.*, (2012) argue that the literature has mainly focused on outcomes and benefits of networking rather than entrepreneurial motivation to engage in network arrangements. Their study reveals that entrepreneurs were motivated primarily by short-term opportunities, such as knowledge exchange, sales and collaboration. Laschewski *et al.*, (2002) similarly reported that entrepreneurs join business networks to make business contacts, share ideas, socialise and find information and help.

2.2. Networking practices among small tourism and hospitality firms

A number of studies found that small firm owner-managers regard a relatively small number of SMEs as competitors, particularly in industries with low barriers to entry such as the tourism and hospitality industry (Thomas *et al.*, 2011). Within the tourism industry, small firms are continuously challenged by large multinational chains, but not by other small firms (Ahmed and Krohn, 1994). In order to overcome this liability of smallness, small tourism entrepreneurs form business ties with other small tourism entrepreneurs, often from the same sector (Morrison, 1994; Tinsley and Lynch, 2001; von Friedrichs Grängsjö and Gummesson, 2006). This

behaviour is often reported among the small tourism and hospitality firms and is referred to in the literature as 'coopetition' where two competitors both compete and cooperate with each other (Kylänen and Rusko, 2011). However, Morrison (1994) and Litteljohn *et al.* (1996) identify that formal network activities seem to be avoided by owner-managers of SMEs in the tourism and hospitality sector. Jennings *et al.* (1994) and Morrison *et al.* (1999) assert that such entrepreneurs are motivated by a desire not to be controlled by external authoritarian structures and organizations. For example, this is evidenced in a study of inter-firm relations within small lifestyle tourism businesses in Ireland (Mottiar, 2007). This concurs with Curran and Storey's (1993, p. 91) argument that activities towards formal networking may be related to the 'mindset' of owner-managers, which could demonstrate 'a strong commitment to independence and a refusal to engage in activities which might be seen as threatening their autonomy or that of the business.' Tourism entrepreneurship literature describes this behaviour as 'lifestyle', where entrepreneurs prioritise a consciously selected lifestyle, over a focus on business growth and profit maximisation (Shaw and Williams, 2004). Tourism entrepreneurs are thus consequently described, as 'non-entrepreneurs' and 'constrained entrepreneurs' (Shaw and Williams, 1998). In addition, Drakopoulou Dodd (1997) adds that the use and conscious exploitation of more informal social networks as well as the established formal agencies indicate a more entrepreneurial nature of such individuals. This is supported by Morrison (1998, p. 175) who states that 'the development and maintenance of effective informal and formal networks is recognized as a central feature of successful entrepreneurial activity' and that this is particularly true for those of an informal nature. It represents a type of entrepreneurial strategy, as emphasised by Shaw (1998, p. 24), who notes that 'with effective management, social networks have the potential to improve and maintain the innovative nature of small firms, and consequently, their competitiveness.'

The foregoing, mainly Western informed perspective suggests the configuration, content and operation of entrepreneurial networks as: related to the mindset of the entrepreneur; socially constructed through personal contacts; embedded in, and moderated by, the cultural and/or community context; with a preference for informal and aversion of the formal types; consciously exploited as an entrepreneurial strategy; and containing co-operation, loyalty and trust characteristics.

3. Research methodology

The research was conducted in the Splitsko-dalmatinska county of Croatia. This region is suggested as the best representative for the research for the following reasons. Firstly, the region has a long-established tourist tradition, which dates back to the period around 1868 (Vukonic, 2005). Secondly, in recent years, entrepreneurial activity within the tourism and hospitality industry has grown rapidly in this area, enabling the researchers to find 'the best representative' (Ritchie and Spencer, 1994) population for the research objectives. The contributors for this current study are individual entrepreneurs: small hotel owners operating within the Splitsko-dalmatinska County. For the purposes of sampling, a SMS hotel is one that does not have more than 40 letting rooms, as defined by The Croatian Ministry of Tourism (MINT, 2005). Out of a population of 114 hotels in the analysed county, 64 SMS hotels were identified. For the purposes of sampling issues a small hotel will be the one which does not have more than 40 rooms. From the National Hotel Categorisation data 64 small hotels were identified out of 114 in the analysed county. Non-probability, purposive sampling was carried out, which requires the analyst to sample on the basis of interviewing people who are relevant to the research questions (Denzin and Lincoln, 2000).

The researchers interviewed thirty seven small hotel participants in urban, island and inland areas, thus taking account of and forming an understanding of the whole research setting. The main data collection methods were semi-structured interviews. Most of them were conducted in the hotels. On average, the interviews lasted from one hour to three and a half hours. The interviews were tape recorded and conducted in the Dalmation dialect of the Croatian language. In order to ensure transcription quality and accuracy of the transcribed text, a decision was taken that the interviews would be transcribed using the Croatian language. Interviews are referred by the labels H 1 to H 37, where H stands for 'hotel'. Being completely familiar with the text, as well as the meanings and interpretations within it, the researchers were able to conduct effective data analysis. Framework analysis (Ritchie and Spencer, 1994) is adopted as a main analytical method. Nine meta codes emerged after rigorous analysis of the transcripts. In relation to this study, the meta code 'business links' will be analysed. In order to identify socio-cultural factors which have potential to explain reported network behaviour these findings will be viewed against the backdrop of the meta code 'environment for entrepreneurship and position of entrepreneurs'.

4. Findings

4.1. Informal networks

Although all interviewed participants stated that they do not perceive other small hotels as competition they do view their existence as crucial for overall destination development. However, the business links between small hotels are extremely weak. The data show that only thirteen participants have informal business links with other *small hotels*. As the only aspect of cooperation is based on exchanging guests (overflow bookings), they cooperate with hotels located in the same geographical area and within similar price and quality range. Therefore, this kind of informal network is often built up on a personal and geographical, rather than a business basis. This was also evident from the participants' reasons to establish this kind of cooperation, where all of them stated that they are simply helping a neighbouring hotel if they have a surplus of guests. Clear business benefits from this type of network could not be identified by the participants, besides exchanging ideas and income from shared guests. In contrast, one participant developed more specific and tight networks with other two small hotels. In this context, network influence on business performance is evident on a number of levels, for example:

It is much easier to organise transfers, excursions when we cooperate than we did it alone. We are also expanding our businesses, our revenues are higher, we do business on a much higher level.
(H2)

Among these thirteen participants, seven reported business links with *other small businesses*, mostly with providers of excursion services, like boat trips to the islands. Thus, the breadth of activities tends to be narrow and occasional. In addition, the network bond is not based on a contract, but on mutual trust. Participants did not identify any problems in this network type, as their activities were in most cases periodic and not bounded. The main identified reason for networking is an expansion of a range of services which participants cannot offer due to their size. Namely, entrepreneurs perceive hotel size as one of the main barriers in everyday business operations. The most dominant 'size barriers' include: problems with employees (restricted options for promotion); limited negotiation power with tour operators and suppliers; weak market power; restricted provision of service and incapability to accept group tours. Therefore, these informal networks are viewed as a means to an end, that is, as

overcoming identified barriers and to increase business success, as illustrated by the following quote:

It is economically not profitable if I organise an island excursion. On the other hand, I need to provide something to the guests, as I am too small to have a pool, for instance, and there is almost nothing to do in our destination. So we cooperate with a firm who is providing those services. My overall service is more competitive in the market, attracts guest and brings me higher profit. (H7)

The majority of participants who did not establish any informal links stated that they are willing to cooperate, but are restricted by: the general lack of interest and negative attitude towards cooperation; non-existence of similar hotels in the area; and overall passivity, as presented by the following participant:

I talked to my colleagues from Italy and they told me that we are lazy because we sleep during the winter instead of cooperating among ourselves, making plans, going to the fairs. They even advised to take a loan if necessary to do that because this will pay us off in the future. But no, we don't do that, we fight alone and do nothing for mutual benefits. (H24)

4.2. Formal Business Networks

Interviewed participants identified following types of formal business networks presented in Table 1.

| ASSOCIATIONS | NUMBER OF PARTICIPANTS INVOLVED |
|---|---------------------------------|
| Association of Family and Small Hotels of Croatia (OMH) | 18 |
| Croatian Association of Hoteliers and Restaurateurs (HUH) | 3 |
| Small Luxury Hotels | 1 |
| Charm and Relax, Italy | 1 |
| TOTAL | 23 |

Table 1 Formal Business Networks

From Table 1 it can be seen that the majority of interviewed participants (twenty-three) hold membership in some formal association. As this is a formal network type, networks' bonds are expressed in terms of annual memberships. Interestingly, none of the participants referred to the general small business associations, such as the Association for Entrepreneurship and Small Enterprise. As the majority of the participants are members of the OMH, and all of them expressed views concerning the association, even when the membership was not held, the highest attention is given to this network. Participants reported two key reasons for joining the OMH. The first is concerned with the benefits that it provides, ranging from the hotels' promotion and the channels of advertising and educational seminars. These reasons arise because of the hotels' smallness which presents a constraint to involvement in some of these activities. Secondly, participants considered that joining the OMH presents them as a brand. Therefore, it helps in increasing their market strength, as presented by the following participant:

I am a member because I think we need an association, we do not have strength in the market as individuals, it makes our position stronger. We can sort out lots of questions, from educational seminars, suppliers, promotions, they send us some information as well, we cannot do that without the association. (H30)

Stage in the business lifecycle was not identified as an important factor in determining the choice of formal business network membership. Participants at the beginning of the business

lifecycle and those who have been running a hotel for some time shared the same reasons for joining OMH. It was assumed that participants who recently started a hotel business and did not have any experience in the hospitality and tourism sector will be more reliant on the formal organisations, which was not the case:

'I did everything by myself in other firms, so I do not need any association in this job as well.'
(H32)

On the other hand, when identifying *accomplished benefits* participants were referring to the reasons for joining the OMH as presented in Table 2.

| ACCOMPLISHED BENEFITS | RELEVANCE FOR THE BUSINESS |
|---|---|
| <i>Brand creation</i> | Better position in the market; brand as a guarantee for quality; international recognition. |
| <i>Presented at big tourism fairs; catalogue</i> | Hotel size and fair's costs as restrictions – an individual small hotel cannot afford attending big major travel fairs. |
| <i>Information provided</i> | It would be difficult for participants to follow all changes in the legislation. |
| <i>Educational seminars</i> | Participants do not have experience and knowledge to educate their employees. Also, no one else provides such specific hospitality seminars (such as a course for sommeliers or implementation of modern technologies in the small hotels). |
| <i>Knowledge sharing; learning from others; friendships</i> | Implementation of ideas that seemed to be doing well in other businesses. |

Table 2 Accomplished benefits from formal networking

Table 2 indicates that participants' expectations from network membership are fulfilled to some degree. At the same time they were struggling to identify how accomplished benefits influenced their business performance. They acknowledged the reduction in costs relating to the travel fairs' attendance and improvement of overall service provided due to the experience and knowledge gained attending the seminars, but did not report that this had any effect on business profitability. The reason behind this was identified when asking participants as to their other expectations from the network. All of them, and even those participants who are not members, argued that the OMH needs to start working on bringing guests to the hotels and fight at the national level against the taxes and other impositions which hotel businesses have to pay. Participants perceive these as actions which would directly increase their revenues and reduces total costs, thus increasing hotels' profitability:

The association is a great idea and we do have benefits but I cannot say that we have direct benefits...they are trying but I cannot see a direct benefit for me. Our direct benefit would be if they send us guests, that is the most tangible to hoteliers, and to cut our costs, but the association did not do anything about it. (H12)

On the other hand, five participants were members of the other three associations, out of which one is national, the Croatian Association of Hoteliers and Restaurateurs (HUH) and the remaining two are international. Two participants were members of the HUH and the OMH. One participant states that he can benefit more from the OMH and considers to withdraw membership from the HUH. The other participant had an opposite attitude. Their responses were weighed against the participants' definition of hotel size and it appears that a participant with a smaller hotel perceives the OMH as a better solution and he also could not identify any benefits from the HUH. This finding was not unexpected, as the HUH comprises all hotels at the national level and it is evident that their strategies are not specific and targeted, but too general

and created for the purposes of big hotels. The third owner who was only a HUH member, did not perceive that his hotel can benefit from the OMH. Again, this owner had already expanded his business. The remaining two participants were members of the international associations. Both participants did not apply for a membership, but both Small Luxury Hotels (SLH) and Charm and Relax (CandR) approached them through word of mouth. The member of the SLH accepted the membership after a long-lasting negotiation process where they managed to decrease the annual membership, but they were not clear about the benefits:

They were so interested to have us. To be honest, me and my husband did not know anything about them; I only heard something from my friend in Shanghai. When they dropped the price, as we requested, we just needed to accept membership. I really do not know what is going to bring us. (H1)

On the other hand, the member of the CandR stressed that small hotels cannot work alone and considered that this association might bring her a better position in the international market, arguing that already she can see an increase in tourists from Italy, where this association is based. As the participant operates on an island and thus works from six to seven months in a year, the annual membership presents a financial burden which may lead to the termination of membership:

Membership costs 5000 EUR per year, so so much, I do not know whether I will do it next year, that is a huge amount. I am afraid that I cannot afford it. (H13)

4.3. Identified factors for lack of networking

It is evident from the data that participants regarded the concept of networking as highly important. However, this was problematic due to a number of obstacles which are summarised and illustrated in Table 3.

| IDENTIFIED FACTORS | FEATURES OF THE IDENTIFIED FACTOR | ILLUSTRATIVE EXAMPLES |
|--|--|---|
| <i>No tradition</i> | Socialism preferred workers' collectivism over individualism; transition period placed an individual in the centre. | We have to emphasise all possible aspect of cooperation because we didn't and still don't have that. everyone in politics is talking about some clusters these days, but they do not know what it means, that word is simply modern. (H31) |
| <i>Administrative politics</i> | Croatia is divided into 21 counties where each is subdivided into municipalities consisting of numerous villages and cities. It is hard to cooperate due to administrative barriers and this separation of the territory further distances people. | People do not realise that the island cannot work alone. For instance, we have on such a small island eight municipalities. That means eight mayors, eight Tourist Boards, eight, eight. And no one works together, only if it is something politically. But we cannot move forward if there is no cooperation. (H13) |
| <i>Economic interest is not clear</i> | Entrepreneurs seek political interests behind any cooperation or association. | It is extremely problematic in Croatia, we do not have any tradition in cooperation. Everybody is asking what the aim of cooperation is, but in a sense what politics is behind it. (H28) |
| <i>Negative mind-set towards cooperation</i> | Jealousy; antagonism; mistrust. | Unfortunately, it is hard to find common interests which would encourage people to network. They do not trust anyone and the climate among us is simply not healthy. There is no force which would bring us together. (H23) |

Table 3 Identified factors for lack of networking among entrepreneurs

From Table 3 it can be seen that the entrepreneurs prefer to cooperate with formal organisations, as the necessary requirement in any network creation that of trust, cannot be established easily between entrepreneurs. Identified factors are strongly related to the two recent political and socio-economic changes in Croatia: the end of socialism and period of transition. For instance, the participants reported that during the period of transition the population saw entrepreneurs as criminals, connected with corruption, whose wealth had been obtained through devious means. This perception is widespread among entrepreneurs even today and it causes strong mistrust between entrepreneurs. On the other hand, the participants revealed that a huge proportion of entrepreneurs in Croatia still consider that behind any economic association lies a political party, and so they refuse to join.

5. Discussion

The findings presented indicate that the participants are involved in informal business-based networks and formal associations. It has been identified that the minority of the participants establish *informal business networks* with other small hotels and other small businesses. Network ties are weak, activities are voluntary and occasional and not bounded, as the network bond is not based on a contract, but on mutual trust. The utilisation of networks did not differ in relation to the business lifecycle stage (Birley *et al.* 1991). Although the participants stated that they would be engaged with support agencies to a higher extent during the start-up stage, they did not as the overall business infrastructure is weak. The Western economies literature is divided on this issue, as one stream argues that SMEs in general develop strong 'entrepreneurial networks' and the other argues that culture moderates the importance of social networking and it will vary considerably. These findings support the former stream as besides that participants are not keen to develop informal networks, it is clear that entrepreneurial networking presents culturally-dependent behaviour (Table 3). For instance, in former Yugoslav countries there is a strong degree of individualist reaction to cooperation between cooperating entrepreneurs, as this is seen as a legacy of the former planned economy (O'Rourke, 2009). Further, it has been illustrated that the majority of the participants are involved in *formal business organisations*, which are sector specific, thus none of the participants refer to general small business associations. The majority of participants are members of the OMH. The findings show that these networks are seen as a possibility to overcome identified barrier of 'smallness'. Two similarities between informal and formal networks are identified. Formal networks are also viewed as a means to an end, namely that of increasing business success; and the stage in the business lifecycle is not a significant factor when determining to choose membership. However, the reasons for joining and accomplished benefits are more specific and broader in their scope.

Finally, the participants' identification of the accomplished benefits and difficulty in recognising how they affect their business results has to be analysed in terms of identified reasons for a lack of cooperation and participants' profit orientation. Considering the former, the participants are struggling to recognise the economic aspects of cooperation, as society's perception is that these associations serve only to achieve specific political interests. On the other hand, the participants are aware of the importance of networking and the small hotel association such as the OMH is seen as the only mean to overcome their 'smallness'. In addition, the participants are lead by purely economic interests and can recognise economic benefits only if they are directly measurable in terms of rise in revenues and profit. Therefore, benefits achieved, which cannot be directly expressed in terms of money generated or costs reduced (for instance, brand creation), are not valued as such by the participants. This is not in congruence with the literature, as the majority of studies report that tourism and hospitality entrepreneurs avoid

formal organisations. Also, the Western economies literature's view that formal associations can threaten participants' autonomy and business control (Curran and Storey, 1993) does not apply to this study.

6. Conclusion

The overall results of this research point away from previously accepted views and concepts of small business owners networking practices. However, this study does not oppose them but instead indicates that ready-made Western-developed theories and concepts cannot be simply borrowed and applied to small businesses in former socialist economies. While it has been established that entrepreneurship and entrepreneurial networks are firmly embedded in a specific socio-economic context, findings indicate a crucial distinction between former socialist countries, which cannot be researched as homogenised entities. For instance, although forms of personal networks can be identified in the majority of former socialist countries, from the presented evidence it is clear that they are deeply rooted in their own set of cultural practices and socio-political conditions. By focusing on the former socialist economy, this study has shown that the academic community can benefit, not only via a better understanding of those countries, but it is also evident that inclusion of transition economies into the mainstream theoretical reasoning offers the potential to expand and even modify our theoretical understanding of entrepreneurship. This can encourage researchers to extend or revise existing theories with new contextual variables.

Adopted case study methodology is not without limitations. It lacks generalisability, tends to have a bias towards verification, does not involve controls and produces subjective data (Campbell, 1975). In addition, resultant theory may be narrow and idiosyncratic (Eisenhardt, 1989). In order to overcome this issue, it is necessary to analyse how identified contextual variables, such as perception of entrepreneurs and the importance of different networks, differ across the settings and to what degree they shape entrepreneurial goals, behaviour and their actions.

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BOP theory in an emerging market economy: India under the microscope

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Keywords

BOP Business, Corporate Social Responsibility, Poverty, Emerging Market Economy.

Abstract

Poverty is a universal phenomenon which does not go well with the progressive 21st century and hence the worldwide efforts to overcome the problem. At the beginning of the 21st century (2002), the late professor C.K. Prahalad had propounded a path breaking theory of poverty alleviation called the bottom of the pyramid business theory, which is not only making MNCs investments (FDI) in underdeveloped countries and promoting their growth and employment generation and increase in incomes and thereby consumption and expenditure but also producing goods and services needed by the poor households at the bottom of the economic and business pyramid. The paper is devoted to the consideration of the theory in the emerging market economy of India where poverty is a biggest problem and the situation is not found significant for the BOP business. Can there be a market solution to it?

Introduction

Today a quarter of the developing world is held to live in extreme poverty, with the number of hungry people having passed above billion mark in the year (2010) for the first time in history. With so many still in poverty and hunger, growth and poverty alleviation is a rising issue for developing countries like India and others. Climate change only makes the challenge more complicated. First, the impacts of a changing climate are already being felt by many, with more droughts, more floods, more strong storms, and more heat waves-taxing individuals, firms, and governments, drawing resources away from development. Second, continuing climate change, at current rates, will pose increasingly severe challenges to development (World Bank, 2010).

According to the World Bank (World Bank, 2011), three pathways are important for inclusive growth and poverty reduction harnessing the potential of urban growth to stimulate rural-based poverty reduction, rural diversification away from agriculture, and tackling social exclusion. The urban growth, which has increasingly outpaced growth in rural areas, has helped to reduce poverty for urban residents directly. In addition, evidence appears of a much stronger link from urban economic growth to rural poverty reduction. Stronger links with rural poverty are due to a more integrated economy. Urban areas are a demand hub for rural producers, as well as a source of employment for the rural labor force. They are aiding the transformation of the rural economy out of agriculture. In urban areas, it is small and medium-size towns, rather than large cities, that appear to demonstrate the strongest urban-rural growth links. Urban growth also stimulates rural-urban migration. But although some increase in such migration has occurred over time, migration levels in India remain relatively low compared to other countries.

The past two and a half decade have witnessed unprecedented changes around the world, many of them for the better. Across the continents, many countries including India have embarked on a path of international integration, economic reform, technological modernization, and democratic participation. As a result, economies that had been stagnant for decades are

growing, people whose families had suffered deprivation for generations are escaping poverty, and hundreds of millions are enjoying the benefits of improved living standards and scientific and cultural sharing across nations (World Bank, 2013). The greatest gains in poverty reduction have been in East Asia and progress had been slow in Sub-Saharan Africa, Latin America and South Asia (The Global Poverty Report, 2000).

Poverty in India, is acknowledged to be number one problem (Ahmed, 2012a, b) & (Dubash, 2012). The nations populations is a formidable 1.2 billion of which nearly one-third are counted as poor which is a huge population number of upwards 300m India is number one in terms of the Number of poverty - stricken people in the world, containing about one-third of the poverty afflicted population in the world, in spite of 'P' defined in bare subsistence terms. India's poverty line is a poor about 0.5 USD a day, per capita. Meanwhile, India's growth slowed to 5 per cent in year 2012-13 which is going back to the slow growth era of the 20th century and this strain is appreciated to continue to all the clouds of the global financial crisis of 2008 (Ahmed: 2013a).

Apart from growth, there are poverty solving programs like Mahatma Gandhi National Rural Employment Guarantee Act, MGNREGA (2006). There are efforts at attracting more FDI into the country. Can Prof. Prahalad's BOP- Business Theory of poverty eradication be of help to India? This question addressed by this paper, with the following (Os) objectives & methodology (M) and Data (D).

Os & M

- i. to take a view of Prof. Prahalad's Bottom of the Pyramid (BOP) paradigm, overall or in general;
- ii. to examine Indian poverty, economic and business conditions;
- iii. to examine the application and the applicability of the theory in the context of the Indian Business conditions;
- iv. To draw meaningful policy conclusions and recommendations.

The method of analysis or the methodology of the study consists of drawing an economic portrait of the poor and see how best they can be provided with their requirements, then to see the business constituency and see whether it is made up of the poor people and how they are being catered to. Then it is to draw a business plan of action for the poor and see the viability of it and its applications if any for the purpose of the poor and its prospects in the short-to-long-run and the business and marketing strategies required for the purpose. The BOP theory is to be seen from the Indian background and MNCs motives.

The famous proclamation of Adam Smith, the founder of economic or business theory, is that the business people profits render their services (1776) and according to Prahalad BOP business meets the profit criterion.

India stands on a different footing from the other developing or underdeveloped countries in terms of population, political pulls and pressure sensitive's, etc., against which the BOP theory is proposed to be examined. For example, FDI and MNCs an important role in Prof. Prahalad's theory, but in India it appears to be quite a sensitive issue. And there is also a feeling which is often heard from the highest Government of India, GOI quarters like the Prime Minister, Finance Minister, Deputy Chairman, Planning Commission, etc., that in India economic reforms are not yet fully blown. BOP theory appears to take full globalization of an economy, wherein there are no bars and restrictions against Foreign Direct Investment (FDI) & Multinational Corporations (MNCs), which too address themselves to the serious problem of poverty. The Data for the study are poverty-lines and numbers, FDI flows, MNCs and their poverty deals, if any, and other relevant data.

The BOP Theory/ Model

Prof. Prahalad's Theory appears to cast big business in a different mold in the 21st century. By now, the BOP model is quite a well-known and familiar economic or business model, first stated in the pages of the famous *Harvard Business Review* (HBR) (Prahalad & Hammond: 2002), (Prahalad, 2005) at the beginning of a new century (21) and new millennium (3), when poverty was felt to be still an acute problems that remained to be extinguished, for which Prahalad-Hammond draw a plan and propound a theory, which has the prospect of greatly diminishing the problem of poverty in the coming 15 years or so. Prof. Prahalad's is poverty reduction through big business actions, especially of MNCs. Poverty eradication reduction is among the UNO-MDGs- United Nations Millennium Development Goals.

"Driven by private investment and widespread entrepreneurial activity, the economies of developing regions grow vigorously, creating jobs and wealth and bringing hundreds of millions of new consumers into the global marketplace every year. China, India, Brazil and gradually South Africa become new engine of growth, promoting prosperity around the world. The resulting decrease in poverty produce a range of social benefits, helping to stabilize many developing regions and reduce civil and cross-border conflicts. The threat of terrorism and war reduces. Multinational companies expand rapidly in an era of intense innovation and competition" (Prahalad & Hammond, 2002: P.48). There is a big market, a great scope for business and ample profits for MNCs at the bottom of the eco-pyramid, whose number is more than 1000m, 500m in India alone. There are good profits at in BOP.

It appears to be a market solution to the formidable problem of poverty, more formidable in India and for which state-solutions are applied, at an enormous cost to the exchequer, and it is too well known how the governments all over are crumbling under the weight of welfare and poverty eradication measures. Greece, for example, is facing a riotous situation. And, India, in the case is in a very unenviable position, with the expected food security measure for some two-third of the population is expected to hit Rs.1 lakh crore and more per annum. As against this, Prof. Prahalad's solution and self-dependent seems a democratic, discarding the for-ever 'dependence' syndrome of the poor. The under-privileged need to come into their own with dignity and self-respect, as envisaged by the Father of the Nation of India, Mahatma Gandhi. Prof. Prahalad's seems a very democratic, economical and business model of poverty eradication and a market solution to the over-riding problem of poverty. It is for the big business to take up the challenge and rise to the occasion and redeem itself, in the service of the poor hailed by Mahatma Gandhi. There needs to be a poverty eradication angle to MNCs in the developing countries. It is profits with service, a social service. Even otherwise, business must have social commitment, both for their own and social good. Prahalad's is a new business view, which takes business is near to the people. With rampant Poverty, no business can feel at home in any economic environment.

Prof. Prahalad draws a poverty eradication road-map for MNCs. "By stimulating commerce and development at the bottom of the economic pyramid, MNCs could radically improve the lives of billions of people and help bring into being a more stable, less dangerous world. Achieving this good does not require multinationals to spearhead global social development initiatives for charitable purposes. They need only act in their own self-interest. For there are enormous business benefits to be gained by entering developing markets. In fact, many innovative companies entrepreneurial outfits and large, established companies alike-are already serving the world's poor in ways that generate strong revenues, lead to greater operating efficiencies and uncover new sources of innovation. For these companies-and those

that follow their lead-building businesses aimed at the bottom of the pyramid promises to provide important competitive advantages as the twenty-first century unfolds" (Prahalad & Hammond, 2002: p.48).

There are two routes to the bottom of the pyramid business. One, investment, growth, employment, income, consumption and poverty reduction, at the aggregate, macro or national level through FDI and MNCs standing for enormous capital resources, technical power, entrepreneurial abilities and management capabilities. The second and the other route is providing of goods and services of common man's consumption, dispelling the notion that the poor people, say, live by bread alone. It is unfortunate that poverty in India is measured in terms of some minimum calories of food consumption of 2200 Calories, which is just a subsistence measure of poverty which is not fair, and wise intended to be taken care by (NREGA) National Rural Employment Guarantee Act (2005) of 100 days of employment at some Rs. 100 wage giving a poverty eradication formula of $100 \times 100 = \text{Rs. } 10000$, giving a subsistence level of living. But, Prahalad's roaster of consumption for the poor extends not only to the bare necessities of life but also some small pleasure of life, like even ice creams. It is a humanistic approach to poverty eradication. Prof. Prahalad placing forward, a forceful care of the poverty stricken people, with a special reference to India.

"It's incorrect to assume that the poor are too unconcerned with fulfilling their basic needs to "waste" money on nonessential goods. In fact, the poor often do buy "Luxury" items. In the Mumbai shantytown of Dharavi, for example, 85 per cent of households own a television set, 75 per cent own a pressure cooker and a mixer, 50 per cent own a gas stove, and 21 per cent have telephones" (Prahalad-Hammond: 2002, p.50).

Prahalad-Hammond also dispel the notion that the have-nots preference is only shoddy goods and services. "Another big misrepresentation about developing markets is that the goods sold there are incredibly cheap and, hence, there's no room for a new competitor to come and turn a profit. In reality, consumers at the bottom of the pyramid pay much higher prices for most things than middle-class consumers do, means that there's a real opportunity for companies, particularly big corporations with economies of scale and efficient supply chains, to capture market share by offering higher quality goods at lower prices while maintaining attractive margins" (Prahalad-Hammond 2002: p.50). There won't be any marketing problem too. Far more, with its, formidable number of consumers and rising levels of income under MNCs FDIs and all that, BOP market is the market of the future. Not the least, there are, according to the BOP testament, visible signs of the MNC interest and involvement at the BOP, as, say, by Unilever's Hindustan lever in India introducing a 'real' candy for the have-nots at penny a piece. Meaning, the big BOP can no longer be ignored and overlooked. In the 21st century, there is a worldwide concern for eradication of poverty all over the world.

Needless to say, the BOP manifesto or testament of the poor is so refreshingly new, enabling, innovative and pragmatic and seems a breakthrough in poverty planning and eradication, Growth through FDI and MNCs appears crucial to the theory, as underdevelopment and poverty go together. But, a breakthrough growth or a take-off one which overwhelms all forces of anti-growth and poverty needs to be worked out very carefully by weighing environmental, human, animal, water, land, rainfall, irrigation, pollution etc., factors, i.e., a 'new' and overpowering rate of growth. The costs of it should not be greater than its returns of course, the BOP does not talk of any specific rate of growth. It should be poverty reducing. It needs to be environmental friendly, green and pro-poor, poverty reduction should be an angle of it. Growth should be of least costs and high returns.

The Indian Context

The main question addressed in this note is how does the BOP theory stand in relation to India? India looms large in Prahalad's theory. The country has formidable poverty numbers, urban and rural, seemingly undiminishing and the debate and controversy goes, unendingly, about the measures of poverty and appropriate poverty lines-rural, urban and combine or total. As it is, there are Schedule Casts (SC) & Schedule Tribe (ST) dimensions to poverty, the two classes treated as belonging to the lowest category of the poor. To gain a political mileage, religious dimensions are also added, thus dividing the poor on so many grounds and perhaps setting them against one another.

The poverty issue is huge and complicated in India, extending to 29 states and 8 Union territories (UTs) each with characteristics of its own with varying levels of development and poverty.

Poverty according to Mahatma Gandhi the Father of the Indian Nation, who had utmost concern for the poor people of India, has to be tackled at the grass roots/village through comprehensive village development, including the village /rural economy (Gandhi, 1947). As against this, it is the centrally directed growth, which is a per annum increase (↑) in GDP or national income by a good percentage of which is held to be the means to end poverty over a long period of time by the modern theory of economic development (Nurske, 1971) which is the main focus of India's Five Year Plans. First-Twelfth Government of India (2012). It is on a higher growth rate of some 8-10 per cent over a long period of time, economic salvation of the nation, in abiding of poverty. Meanwhile, there are able India measure of employment guarantee and food security far more are continuous government efforts at estimating poverty, since the first estimates of poverty in India by (Dandekar-Rath, 1970) who had put poverty at some 2250 calories of food consumption per day by person at a cost of Rs. 15 and Rs. 20, respectively in the rural and urban areas of country per month. There are attempts a new at studying poverty by the new central government which came to power in mid-2014 of NDA- National Democratic Alliance (Sharma, 2015). The NDA Government has changed even the name of the historic Planning Commission to as National Institution for Transforming India (NITI Ayog), which is an uncalled change.

India, for quite some time, since the 1990s, has been in a state of economic reforms and market driven economic growth for a higher and inclusive growth, with a focus in FDI and MNCs, which now joined by the new government policy of 'Make in India' (Banerjee 2009); (Bhagwati, 2004); (Dutt, 2008); (Jose, 2008); (Government of India, 2008). It is a market driven growth policy. And the markets, it needs no saying, aim at a maximum investment, growth and profits, especially MNCs and other big firms. It is a market driven growth. The growing middle class is the main story of this new higher growth rate, marked by consumerism.

It is an age of free-market economic philosophy, practices and policies as originally propounded by the father of the laissez-faire economy and economic & business science Adam Smith way back in the last quarter of the 18th century (1776) A higher inclusive rate of growth is seen to be a sure remedy for poverty through more jobs and higher incomes and more funds to the Government for welfare programs (Ahulwalia, 2011). The strategy is to be continued in the twelfth five year plan too (2012-17) (The Financial Express, 2011).

Reforms Growth and Poverty

FDI, it is not difficult to envisage, is the main plank of economic reforms (ERs), the investment needs of the Indian economy well imaginably being enormous from infrastructure to, say, retail trade, and the targeted growth rate is 9 per cent (T-9) (The Hindu, 2011). The new

economic regime is a generation old (1991-2011) and new growth is found to be a take-off from the proverbial growth rate of the country of some 3-5 per cent, prior to the ERs. (Ahmed, 2008 & 2009).

Table 1: India's Growth Rate-Reform Period (%age per annum)

| Sectors | 8 th Plan (1992-96) | 9 th Plan (1997-2001) | 10 th Plan (2002-2006) | 11 th Plan (2007-11) |
|-------------|-----------------------------------|-------------------------------------|--------------------------------------|------------------------------------|
| Agriculture | 4.72 | 2.44 | 2.30 | 4.0 |
| Industry | 7.29 | 4.29 | 9.17 | 10-11 |
| Services | 7.28 | 7.87 | 9.30 | 9-11 |
| Total | 6.54 | 5.52 | 7.74 | 9.0 |

Source: 11th Plan, Vol.1, p.26

It is important that the 11th plan rate is hit by the global economic and financial crisis and the Great Recession that hit the US economy in (2008 -) notwithstanding of which the plan's average rate is expected to be some 8.5 per cent, not a bad performance amidst global turmoil. The planners' dream growth is 10 and more per cent over a generation and more for, the Indian economy to emerge, among other things, a poverty less. Meanwhile, poverty score of the presumed FDI, MNC and big national corporation growth rate is found to be about 1 per cent and less with an elasticity rate of 0.10 ($e = 0.10$).

Table 2: Urban & Rural Poverty in India

| Year | Poverty Ratios (%age) | | | Number of Poor in (million) | | |
|------------|-----------------------|-------|-------|-----------------------------|-------|-------|
| | Rural | Urban | Total | Rural | Urban | Total |
| 1. 1993-94 | 50.1 | 31.8 | 45.3 | 328.6 | 74.5 | 403.7 |
| 2. 2004-05 | 41.8 | 25.7 | 37.2 | 326.3 | 80.8 | 407.1 |
| 3. 2009-10 | 33.8 | 20.9 | 29.8 | 278.2 | 76.5 | 354.7 |
| 4. 2011-12 | 25.7 | 13.7 | 21.9 | 216.7 | 53.1 | 269.8 |

Source: Planning Commission (2014). *Report on the Expert Group to Review the Methodology for Measurement of Poverty*. June 2014. P.18.

In India poverty is estimated at absolute level or the minimum money required for subsistence. The poverty line is defined as the minimum money required for maintaining a per capita calorie intake of 2100 calories in urban area and 2400 calories in rural area. As per the Tendulkar Committee Report "Fundamentally, the concept of poverty is associated with socially perceived deprivation with respect to basic human needs".

As can be seen from the table-2 from 1993-94 to 2011-12, the rural poverty ratios has drop down from 50.1 to 25.7 per cent, and in the same period the urban poverty ratios has fallen more from 31.8 to 13.7 per cent.

Table 3: Decline in Urban & Rural Poverty in India

| Period | Rural (%) | Urban (%) | Total (%) |
|-----------------------|-----------|-----------|-----------|
| 1) 1993-94 to 2004-05 | 0.75 | 0.55 | 0.74 |
| 2) 2004-05 to 2011-12 | 2.32 | 1.69 | 2.18 |
| 3) 1993-94 to 2011-12 | 1.36 | 1.01 | 1.30 |

Source: Planning Commission (2014). *Report on the Expert Group to Review the Methodology for Measurement of Poverty*. June 2014. P. 18.

Table-3 shows the total decline in urban and rural poverty in India from 1993-94 to 2004-05 to 0.74 Per cent, and from 1993-94 to 2011-12 the same has changed to 1.30 per cent respectively.

State-wise, poverty still stands quite substantial across the states barring Himachal Pradesh, Punjab and Kerala, proving that Kerala holds a key to poverty solutions. Telangana (new State), Chhattisgarh, Jharkhand, Manipur, Arunachal Pradesh and Bihar have the highest

proportion of Below the Poverty Line (BPL). It is also unfortunate that no city or state in India has yet become a signatory of Istanbul of the Istanbul Water Consensus.

Amidst, the yet gloomy picture of poverty brought out by the table-4, Kerala offers a good deal of consolation with the lowest poverty rate of around 12 per cent, calling deep study of Kerala Model. While growth may have to still pick up, it is important to know whether the bottom of the pyramid is being addressed to by MNCs and their national business counterparts, with the seeming culture of consumerism of the liberalized economic regime, of upper and middle classes, with likely 'demonstration effect' upon the poor classes. Consumerism is so powerful, nurtured by MNCs. Business wise BOP seems a big constituency of large lively numbers, which MNCs may automatically address. The BOP may be the new frontier and field of big business marketing of both consumer items and industrial goods.

Table 4: State Poverty Levels 2011-12

| S.No. | States | Rural | | Urban | | Total | |
|-------|-------------------|--------------|------------------------|--------------|------------------------|--------------|------------------------|
| | | % of persons | No. of Persons (Lakhs) | % of Persons | No. of Persons (Lakhs) | % of Persons | No. of Persons (Lakhs) |
| 1 | Andhra Pradesh* | 11.0 | 61.8 | 5.8 | 17.0 | 9.2 | 78.8 |
| 2 | Arunachal Pradesh | 38.9 | 4.2 | 20.3 | 0.7 | 34.7 | 4.9 |
| 3 | Assam | 33.9 | 92.1 | 20.5 | 9.2 | 32.0 | 101.3 |
| 4 | Bihar | 34.1 | 320.4 | 31.2 | 37.8 | 33.7 | 358.2 |
| 5 | Chattisgarh | 44.6 | 88.9 | 24.8 | 15.2 | 39.9 | 104.1 |
| 6 | Delhi | 12.9 | 0.5 | 9.8 | 16.5 | 9.9 | 17.0 |
| 7 | Goa | 6.8 | 0.4 | 4.1 | 0.4 | 5.1 | 0.8 |
| 8 | Gujrat | 21.5 | 75.4 | 10.1 | 26.9 | 16.6 | 102.2 |
| 9 | Haryana | 11.6 | 19.4 | 10.3 | 9.4 | 11.2 | 28.8 |
| 10 | Himachal Pradesh | 8.5 | 5.3 | 4.3 | 0.3 | 8.1 | 5.6 |
| 11 | Jammu & Kashmir | 11.5 | 10.7 | 7.2 | 2.5 | 10.3 | 13.3 |
| 12 | Jharkhand | 4.8 | 104.1 | 24.8 | 20.2 | 37.0 | 124.3 |
| 13 | Karnataka | 24.5 | 92.8 | 15.3 | 37.0 | 20.9 | 129.8 |
| 14 | Kerala | 9.1 | 15.5 | 5.0 | 8.5 | 7.1 | 23.9 |
| 15 | Madhya Pradesh | 35.7 | 191.0 | 21.0 | 43.1 | 31.6 | 234.1 |
| 16 | Maharashtra | 24.2 | 150.6 | 9.1 | 47.4 | 17.4 | 197.9 |
| 17 | Manipur | 38.8 | 7.4 | 32.6 | 2.8 | 36.9 | 10.2 |
| 18 | Meghalaya | 12.5 | 3.0 | 9.3 | 0.6 | 11.9 | 3.6 |
| 19 | Mizoram | 35.4 | 1.9 | 6.4 | 0.4 | 20.4 | 2.3 |
| 20 | Nagaland | 19.9 | 2.8 | 16.5 | 1.0 | 18.9 | 3.8 |
| 21 | Orissa | 35.7 | 126.1 | 17.3 | 12.4 | 32.6 | 138.5 |
| 22 | Punjab | 7.7 | 13.4 | 9.2 | 9.8 | 8.3 | 23.2 |
| 23 | Rajasthan | 16.1 | 84.2 | 10.7 | 18.7 | 14.7 | 102.9 |
| 24 | Sikkim | 9.9 | 0.4 | 3.7 | 0.1 | 8.2 | 0.5 |
| 25 | Tamil Nadu | 15.8 | 59.2 | 6.5 | 23.4 | 11.3 | 82.6 |
| 26 | Tripura | 16.5 | 4.5 | 7.4 | 0.8 | 14.0 | 5.2 |
| 27 | Uttar Pradesh | 30.4 | 479.4 | 26.1 | 118.8 | 29.4 | 598.2 |
| 28 | Uttarkhand | 11.6 | 8.2 | 10.5 | 3.4 | 11.3 | 11.6 |
| 29 | West Bengal | 22.5 | 141.1 | 14.7 | 43.8 | 20.0 | 185.0 |
| 30 | Puducherry | 17.1 | 0.7 | 6.3 | 0.6 | 9.7 | 1.2 |
| 31 | A&N Islands | 1.6 | 0.04 | 0.0 | 0.0 | 1.0 | 0.04 |
| 32 | Chandigarh | 1.6 | 0.004 | 22.3 | 2.3 | 21.8 | 2.3 |

| | | | | | | | |
|----|----------------------|------|--------|------|-------|------|--------|
| 33 | Dadra & Nagar Haveli | 62.6 | 1.2 | 15.4 | 0.3 | 39.3 | 1.4 |
| 34 | Daman & Diu | 0.0 | 0.0 | 12.6 | 0.3 | 9.9 | 0.3 |
| 35 | Lakshadweep | 0.0 | 0.0 | 3.4 | 0.02 | 2.8 | 0.02 |
| | All India | 25.7 | 2166.6 | 13.7 | 531.2 | 21.9 | 2697.8 |

*Andhra Pradesh includes the new State born Telangana in year 2014. ** Population as on 1st March 2012 has been used for estimating number of persons below poverty line. (2011 Census Population).

Source: Planning Commission (2014). *Report on the Expert Group to Review the Methodology for Measurement of Poverty*. June 2014. P. 31.

BOP Business

Have MNCs and other big businesses addressed themselves to the production of goods and services for the poor or the bottom of the pyramid population and Jobs for them? The appetite of the poor for the goods and services of modern consumption cannot be rule out. For example, there is said to be a lot of demand for cell phones by the 'aam aadmi' or the common folks, who are the focus of attention of the GOI and the Planning Commission, and 80 or so crore of mobile phone holders in the country include so many common people. Nokia is the leader in mobile phones market in the country supplying mobiles costing even less than Rs. 1000 apiece. It is a windfall for the common people and is a benefit of the fast paced information technology, MNCs leading this technological revolution and national Cos following in their footsteps. According to the Boston Consulting Group (BCG) and Confederation of Indian Industry (CII), India's consumer spending is likely to expand nearly four times to \$3.6 trillion by 2020, fueled by economic growth and rising household incomes, GDP increase 3.6 times from \$ 991 billion in 2010 at an annual rate of 14 per cent. India continues to 'march along a robust growth path despite the current global economic environment' and average household income in the country is forecast to triple but the base remains low at \$2000 a year (Rapoza, 2012). By 2020, poverty level may be brought down to about 15 per cent at an annual rate of decrease in BOP population by about 1 per cent per annum, as seen. Prof. Prahalad's theory of MNC job creation and product supplies. It is doubtful whether MNCs have job creation for the poor on their business agenda. Then, it is product supplies.

Theoretically and practically it is profitable proposition for MNCs and NCs to address themselves to the BOP sector as the new sector to be addressed. They have to imbibe the spirit of serving the poor sweeping the business world across the globe. For, poverty needs to be addressed for business prosperity.

It appears that about 270 million BOP population in the country cannot be neglected by any company. Tea, for example, is the most favored item of consumption of the common man. There is a great BOP market for the product which can be cashed very profitably by any famous Tea brands, Tata's, Brooke Bond, etc. and these famous brands are available for the purpose of consumption of common people in packets of Rs. 10 and even less giving a taste of these tasteful teas to the common people whose day appears to start with a hot and refreshing and energizing cup of tea. In fact, the famous tea brands should concentrate more and more on the common man's market which is enormous and they need to make the common man their mascot or focal point. They need to make new healthier special tea is for the BOP people to make them feel part of the big national tea market. There needs to be a AA Brands-than Adam brands of every MNCs product is doubt, the BOP is being addressed in respect of soaps, washing powders, shampoos, cosmetics etc. by the MNCs in India, like HUL, P&G and others.

What of soaps, tooth pastes, washing powders, face creams, shampoos, etc. The famous lifebuoy brand soap, of Unilever's Hindustan lever, is said to be a soap that fights 10 infections, very apt for the poor people and it is affordable by the common people at about Rs. 10, a cake and even less in packs of 3-5. The famous Fair & Lovely brand face cream is available at Rs. 5 which is within the easy reach of poor households and their female members, especially girls whether in town or villages. The economies of scale of these products appear to make them well affordable by the common peoples and MNCs are known for their economies of scale. There are famous tooth paste brands like Colgate at Rs. 10 a tube well within the reach of the common people. So also well-known washing brands of Rin, Nirma, Tide, Surf, etc., at quite affordable prices of Rs. 10 or so a pack, for the poor and not so poor. Bread as yet might not have become a commoner's consumption item but it is available in a common man's pack of Rs. 10, of Britannia and other well-known bread brands. As far as shampoos are concerned, all famous brands like Pantene are available at a small price of Rs. 1 or 1.50 (special) far more, they are 'marketed' on the small screen by film beauties. What is important is that these famous MNCs branded products are TV advertised by the famous Hindi Cinema heroes and heroines quite near and dear to the common people.

Thus, the poor, in the first instance and to start with, appear to be served by all the well-known consumer brands of the middle and upper classes. For example, Tata tea, Taza is as much an item of consumption of the poor household as of a rich one. Any product, it seems, cannot avoid BOP market segment for full exploitation of market potential. The common man business or economic strength is the sheer numbers, some 300m upward. Among the big business houses of India, the Tata's, led by endearing Ratan Tata, is of common man bent and more plans and products for the poor. They have a water purifier for the poor at a price of Rs.7000. Food security taking care of their primary requirement of food, the common man will have some money to spare for non-food items and it seems incumbent on the part of MNCs and national big corporations to develop goods for the common man's consumptions under Janata brands that would make them proud and famous and common man's icons (Ahmed, 2013b). For instance, the famous Nano car of the Tata's was intended to be a Janata or common man's car at Rs. 1 Lakh a piece. The Tata's seem intent on Nano housing too. This is BOP business spirit. Thus, no small BOP business wave appears to be sweeping India, still, it is quite well known, that the main, focus of attention of MNCs in India is the MOP, the middle of the pyramid/middle class and TOP, top of the pyramid, higher income groups, with the strength of the middle class estimated at about 400 million (Paul, 2008). From these the interests of big businesses have yet to percolate to the BOP, the income of whose people is not yet even \$1 US a day (Pralhad & Hart, 2002). Consumer protection of course in developing economies like India is inadequate and weak, and as a result, there is some room for exploitation (Karnani, 2007, 2011, 2012; Walsh et.al. 2005). This, however applicable to both the poor and affluent.

In summary, with economic growth rate of the country yet to take off fully, MNCs and national big business houses appear not to be much committed to BOP businesses, which is evident from no focus on the common men/women in their print and electronic media advertisement and marketing. It is the haves who are the Advertising and Marketing (A & M) attention, of the MNCs and their Indian counterparts.

And, there are no employment and income increasing initiative by MNCs and NCs for the poor. Their CSR, which is yet to be taken up seriously by the corporates in India seriously, is to be greatly poor-focused, with reference to skills, micro/mini enterprises, finance and marketing and monitoring (The Economic Times, 2015).

Conclusion

Thus, in the context of India, Prof. Prahalad's path breaking BOP business model addressed to MNC at the vanguard of the present day economic development of underdeveloped countries, does not appear to have taken roots to any significant extent. For, not only the rate of growth has yet to take off beyond the 'breaking' point of 10 percent and more, the core of the BOP population also appears to be still greatly preoccupied with fulfilling their basic needs to have any significant interest in MNCs goods and services appearing to be still greatly alien to them. However if there is any poverty -afflicted nation to which the BOP theory is more apt and applicable, it is India with its vast poverty ridden population.

But, eventually, MNC business interests have to percolate to BOP as the Indian economy gears up to its full growth potential. The BOP population is too formidable to be ignored by big national and MNCs. It's a lively population with a great appetite.

Not the least, it is the center and state governments which must first become serious about poverty eradication.

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Entrepreneurial competencies effect on Small and Medium Enterprises performance through the mediation effect of psychological contracting of outsourcing.

An empirical study on the Information Technology Sector in Egypt

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Keyword

Entrepreneurial competencies, SMEs, Psychological contract, Outsourcing, Egypt

Abstract

This study aims to study the entrepreneurial competencies, international outsourcing relationship components and SME performance factors, and to develop a model to test the relationship between entrepreneurial competencies and Psychological contracting of outsourcing, between outsourcing relationship and Small and medium enterprises performance. Finally, it seeks to identify the effect of Psychological contracting on the relationship between the entrepreneurial competencies and Small and medium enterprises Performance. The Study was conducted on SMEs in IT sector, which constitute the whole bulk of the industry. A questionnaire was administrated and the results did a relationship between the above-mentioned variables with varying degrees of importance.

1 Introduction

Small enterprises is defined as independent, single management and a relatively small share of the market (Bolton 1971). Watson et al, 1993 defined small business as owners of sole proprietorship and partnerships. Small business tends to have smaller number of customers (Cosh and Hughes 2000). The role of a small business in any economy is a critical especially in developing nations. Also, the role of its owner do affect the survival of the businesses especially in Small enterprises. This study aims to assess the importance of the owner's competency in an SME success through his ability to develop international relationships with clients or partners.

2. Literature review

2-1 Entrepreneurial Competencies:

Developing a new business venture is one of the most complex degrees and it includes lots of uncertainties and conflicting relationships between behavior and performance along with many interactive factors such as motivations, cognitive abilities and environmental factors. (Campell 2003). Mccloy et al 1994 suggested that a successful entrepreneur would have to possess a requisite knowledge, master the requisite skill and choose to work on the tasks for some period at some level of effort. A successful entrepreneur is defined as an individual with traits, such as specific knowledge, motives, features, self-images, social roles and abilities, which result in venture's success (Bird 1995). Such Knowledge, motives, features would lead us to an entrepreneur is someone with a unique competencies. An Entrepreneurial competency is the capability of entrepreneurs to face effectively a critical situation by making sense of environmental constraints and by activating relational and internal specific resources' (Iandoli, 2007: 17) Man et al, (2002) identified six areas of competencies associated with the firm's performance, i.e., opportunity competencies, relationships competencies, conceptual competencies, organizing competencies, strategic competencies, and commitment competencies.

In addition to competencies required by entrepreneurs, entrepreneurs are engaged in 3 important roles: the entrepreneurial role; the managerial role and the technical role (Baum & Locke 2004). The entrepreneurial role is important at the start of the business while the managerial role was for running the business. (Man & Lau, 2002).

2-2 Outsourcing relationship and Psychological Contracting in ICT sector:

Within the ICT sector, consisting largely of SMEs that develop and commercialize their own technology products, global commercialization is viewed as a necessary imperative, rather than a matter of choice (Crick and Spence 2005; Smallbone and North 1995). Research has identified that for SMEs and entrepreneurial companies, the ability to create and use networks can facilitate product commercialization across international markets (Chetty and Wilson 2003; Coviello and Munro 1997). Nowadays according to recent developments in many industries, outsourcing started to get be deeply involved in more value added and core functions. Many US-based and European companies are getting to outsource main core functions in their businesses. One of the main antecedents of such is cost savings and profit proliferations in many areas. In nearly every industry, traditional ways of operations are getting to be replaced by a new form of operations based on strategic alliances between different functions, the pioneer in such field was the financial sector and still lots to come. (Alvarez, Couta and Disher, 2003). Business Outsourcing can be simply defined as devising a contract with an external organization to take primary responsibility of providing business processes (Yang, Kim, Nam, & Min, 2007). Business outsourcing has become an ever-increasing trend in today's highly competitive markets. Firms can embark either on internal off-shoring (by setting up their own centers or subsidiaries in foreign countries while maintaining full ownership and control) or external off-shoring (by handing over business functions to independent foreign providers). Outsourcing varies significantly from other modes of market entry such international joint ventures (Nahar, Kakola and Huda, 2001 a). In a pure outsourcing contract business relation between outsourcing service provider and outsourcing service user can be terminated after one contract, conversion/migration/re-engineering. International outsourcing or subcontracting can be considered as a one time or short term production cooperation since one company is using the production capacity of the other company. Many software & information system firms internationally outsource on a continuous basis to different outsourcing service providers who can provide high quality and competitive service, whereas in international joint ventures, the partners established a new legal entity.

The development of outsourcing relationships evolves through many phases. It starts with the cost stage where the focus of the outsourcer is to reduce the production costs and maximize his profits. The contract duties and responsibilities, goals underlying the arrangement are emphasized in this phase. However, cooperation is still important for mitigating internal and external hazards (Gottschalk and Saether, 2006). In the second stage, resource stage, the unique resources of the organization both tangible and intangible are viewed as a collection of resources distributed among industries. The value generation potential is a composite of the client characteristics, client vendor relationship & vendor characteristics. Then finally, the last phase in the relationship, the partnership phase, the emphasis is on intangibles such as trust, comfort, understanding, cooperation, shared values goals, and problem solving, interpersonal relationship and regular communication referred to as alliance. According to relational exchange theory, a partnership is dependent on common norms (expectations about behaviors), and norm development. The development of such relationship depended on how well each party meets his obligation, which will lead us to our mean determinant of an outsourcing relationship

between the outsourcer and the outsourcee. Khon et al, 2004. Conducted a qualitative study to identify the supplier and customer obligations in an IT outsourcing relationship. They also conducted a survey to test the effect of such obligations on outsourcing success. They developed six main obligations to be satisfied by suppliers of an IT outsourcing relationship. These were (1) accurate project scoping, (2) clear authority structures, (3) taking charge, (4) effective human capital management, (5) effective knowledge transfer, and (6) building effective interorganizational teams. Kim et al, 2007, tested the effect of psychological contracting as a direct effect between Partnership and outsourcing success and it proved to have a significant mediating effect as well as a direct effect on outsourcing success.

2-3 SME Performance:

Internationalization may reduce costs, extend innovation capabilities, aid knowledge acquisition, and thus produce competitive advantages (Geringer et al., 1989). In addition, the nature of the relationship between internationalization and performance has also been tested. Some scholars have proposed that the relationship between the two is positive due to the opportunities uncovered in other geographical regions (Delios and Beamish, 1999), the influence of corporate entrepreneurship (Luo et al., 2005), and the increase of market power (Kim et al., 1993). Another group of scholars found a negative or non-existent relationship between internationalization and performance, and argued that global diversification represents a cost related to the agency relationship between managers and investors (Denis and Yost, 2002). Some scholars posit a U-shape relationship between international diversification and performance (Lu and Beamish, 2001). In the early stage, internationalization may increase a firm's costs because of newly generated complexity for governance. Nevertheless, performance will start to increase after firms get acquainted with the environment and acquire new knowledge and capabilities. Previous studies provided mixed results on the impact of internationalization on firm performance. Another article investigates the relationship between internationalization and performance. It suggests that performance is not determined by export intensity and the number of international agreements, but by the ability of firms to gain access to specific markets, such as North America. Moreover, the article finds that performance tends to suffer when SMEs internationalize through FDI, a finding that suggests a 'liability of foreignness' effect at international expansion.

However, this negative effect can be offset by the international competencies that SMEs develop through intense export activity (Mazouchi and Zucchilla, 2003), Which led to the choice of less costly modes of internalization as an alternative for IT companies seeking expansion. In order to reach to a measurement criteria, a study was conducted to test the application of balance scorecard dimensions of performance on the SMEs. The results indicated that SMEs usually adopt a bottom up approach. This means that although the framework is very capable of measuring and improving performance, Performance in SMEs is not based on any form of strategy (Hudson et al, 2001). The introduction of new performance measures in these companies was initiated both internally and externally. The main internal trigger was as a reaction to problems that had occurred. This supports the reactive management style found in the majority of SMEs. Other internal triggers focused on attaining a greater level of control, particularly for resource planning. External triggers mainly originated from customers that requested or imposed specific measures. However there are still some businesses who use a simple and may be a limited criteria, businesses apply some non-financial returns to measure its success as they survive longer in business (Chong, 2008). The owner's managers of SMEs use a hybrid approach on measuring performance due to their concerns on meeting the financial

results as well non-financial returns. Financial measures include profits and turnover while non-financial measures are the long-term growth and survivals of the organizations.

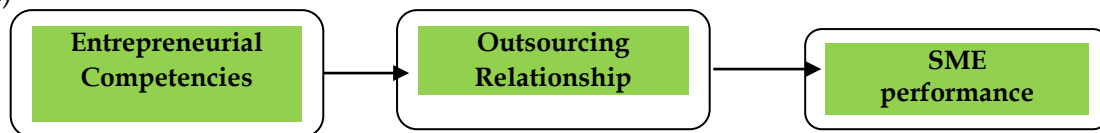
2-4 Entrepreneurial competencies and International Outsourcing Relationship:

Entrepreneurs' networks and international knowledge acts as a moderating factor between internationalization and internationalization (Oviatt & Mcdougel, 2005). Networks help entrepreneurs identify international opportunities, establish credibility, and often lead to strategic alliances and other cooperative strategies. There are strong ties and weak ties in networks. As of Knowledge of the host country and the intensity of such knowledge do affect the internationalization speed. Feeny et al, 2004, developed 12 main vendor capabilities that are critical for Business process outsourcing provider's success. Such capabilities are as follows; Delivery Competency, Transformation Competency, and Relationship Competency.

1- Conceptual Framework

The following is the relationship between the variables, entrepreneurial competencies, outsourcing relationship & SME success.

Fig (1)



2- Hypothesis Development

H1: There is a significant relationship between entrepreneurial competencies and Psychological contracting of Outsourcing.

H1-a: there is a significant relationship between opportunity seeking competencies and Psychological contracting of Outsourcing

H1-b: there is a significant relationship between relationship building competencies and Psychological contracting of Outsourcing.

H1-c: There is a significant relationship between Conceptual competencies and Psychological contracting of Outsourcing

H1-d: There is a significant relationship between organizing competencies and Psychological contracting of Outsourcing.

H1-e: There is a significant relationship between strategic thinking competencies and Psychological contracting of Outsourcing.

H1-f: There is a significant relationship between commitment competencies and Psychological contracting of Outsourcing.

H2: There is a relationship with statistical significance between Psychological contracting of Outsourcing and SME performance.

H2-a: there is a significant relationship between Authority Structure as a component of Psychological contracting of Outsourcing and SME performance.

H2-b: there is a significant relationship between dedicated staff as a component of Psychological contracting of Outsourcing and SME performance.

H2-c: There is a significant relationship between taking charge as a component of Psychological contracting of Outsourcing and SME performance.

H2-d: There is a significant relationship Knowledge sharing as a component of Psychological contracting of Outsourcing and SME performance.

H2-e: There is a significant relationship between effective inter-organizational relationship as a component of Psychological contracting of Outsourcing and SME performance.

H3: The psychological contracting of outsourcing variable is mediating the relationship between Psychological contracting of Outsourcing and SME performance.

3- Research design

A cross sectional research design was conducted. A survey was administrated through a questionnaire using a Likert scale for entrepreneurial competencies, indicating the level of importance to be attached to each dimension for all six competencies dimensions, where 1 represent the least important and 5 is highly important. The scale for entrepreneurial competencies of Man and Lau (2000) was used in this study. The second variable is the outsourcing relationship using the psychological contracting dimensions from a supplier perspective listed in Khon et al, (2004) study. The scale was represent as follows; 1 as not fulfilled and 5 as completely fulfilled. Whereas the SME performance was tested through 5 questions with different categories of choices. The profit increase was measured from 1 to 4, were 1 is the least profit and 4 is the over 20% increase in profits. The increase in number of employees were measured, as 1 is an increase from 5 to 9 and 5 as an increase over 20 new employees. Also, the number of projects and the number of projects conducted with the same client, in addition to the period of time the business has been involved in international outsourcing projects.

4- Sampling Method

The questionnaire was distributed among Egyptian software companies located in Cairo and Alexandria governates in Egypt. The study is cross sectional, using the random sampling of the 200 CEO Managers for 200 companies enrolled, 100 managers were interviewed. The List of companies were collected from the ITIDA governmental institute responsible for supporting software companies in Egypt.

5- Data Analysis

7-1 Factor analysis:

7-1-1 conducting the Factor analysis for the Entrepreneurial competencies:

As of the results of the factor analysis for Entrepreneurial competencies (table 1), there are five factors extracted. Such factors were extracted as of an Eign value higher than 1, also, using both scree plot and the percent of variations as follows:

- 1- The first factor include the following statements (4, 5, 6, 7, 8, 9, 10, 38, and 39), this factor explains 18.468 of total variation and it is called relationship and commitment capabilities.
- 2- The second factor include the following statements (28, 29, 30, 31, 32, 33, 34, 35, 36, and 37), this factor explains 16.813 of total variations and it is called strategic thinking competency.
- 3- The Third factor include the following statements (18, 19, 20, 21, 22, 23, 24, 25, 26, and 27), this factor explains 15.275 of total variation and it is called organization competency.
- 4- The Fourth factor include the following statements (1, 2, and 3), this factor explains 15.128 of total variation and it is called opportunity seeking competency.
- 5- The Fifth factor include the following statements (11, 12, 13, and 14), this factor explains 15.128 of total variation and it is called opportunity seeking competency.

Table (1): Factor analysis for entrepreneurial competencies

| code | Item | Components | | | | | Communalities |
|------------|--|------------|------|------|---|---|---------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| V1-SUB 2-1 | 4. Build and keep relationships with clients for a long period of time | .751 | | | | | .780 |
| V1-SUB 2-2 | 5. Negotiate with business partners | .665 | | | | | .789 |
| V1-SUB 2-3 | 6. Build and keep trust and confidence with employees | .733 | | | | | .763 |
| V1-SUB2-4 | 7. Build and keep trust and confidence with clients | .755 | | | | | .804 |
| V1-SUB2-5 | 8. Maintain a personal network of work contacts. | .756 | | | | | .758 |
| V1-SUB2-6 | 9. Understand what others mean by their words and actions. | .668 | | | | | .621 |
| V1-SUB2-7 | 10. Communicate both formally and informally with employees. | .787 | | | | | .735 |
| V1-SUB6-1 | 38. Dedicate to make the venture work whenever possible. | .621 | | | | | .562 |
| V1-SUB6-2 | 39. Refuse to let the venture fail whenever appropriate. | .581 | | | | | .414 |
| V1-SUB5-1 | 28. Set achievable and realistic goals. | | .627 | | | | .739 |
| V1-SUB5-2 | 29. Set contingency plans. | | .708 | | | | .747 |
| V1-SUB5-3 | 30. Be responsive in your plans to changes in environment | | .762 | | | | .763 |
| V1-SUB5-4 | 31. Move ahead towards achieving goals systematically. | | .593 | | | | .671 |
| V1-SUB5-5 | 32. Redesign the department and/or organization to better meet long-term objectives and changes. | | .702 | | | | .689 |
| V1-SUB5-6 | 33. Align current actions with strategic goals. | | .818 | | | | .779 |
| V1-SUB5-7 | 34. Assess and link short-term, day-to-day tasks in the context of long-term direction. | | .722 | | | | .623 |
| V1-SUB5-8 | 35. Monitor progress toward strategic goals. | | .629 | | | | .653 |
| V1-SUB5-9 | 36. Evaluate results against strategic goals. | | .736 | | | | .802 |
| V1-SUB5-10 | 37. Determine strategic actions by weighing costs and benefits. | | .600 | | | | .679 |
| V1-SUB4-1 | 18. Plan the operations of the business. | | | .698 | | | .788 |
| V1-SUB4-2 | 19. Plan the organization of different resources. | | | .763 | | | .702 |
| V1-SUB4-3 | 20. Keep the organization run smoothly. | | | .717 | | | .709 |
| V1-SUB4-4 | 21. Organize resources. | | | .800 | | | .792 |
| V1-SUB4-5 | 22. Coordinate tasks. | | | .690 | | | .779 |
| V1-SUB4-6 | 23. Set targets and Supervise subordinates. | | | .69 | | | .715 |

| | | | | 0 | | |
|-----------|---|--|--|------|------|------|
| V1-SUB4-7 | 24. Lead subordinates. | | | .684 | | .811 |
| V1-SUB4-8 | 26. Motivate people. | | | .644 | | .648 |
| V1-SUB4-9 | 27. Delegate responsibilities to capable employees. | | | .568 | | .615 |
| V1-SUB1-1 | 1. Identification of services customers want. | | | .763 | | .751 |
| V1-SUB1-2 | 2. Perceive unmet consumer needs. | | | .695 | | .665 |
| V1-SUB1-3 | 3. Take advantage of business opportunities | | | .739 | | .676 |
| V1-SUB3-1 | 11. Analyze, evaluate and make decisions intuitively | | | | .613 | .745 |
| V1-SUB3-2 | 12. Generate alternative solutions for problems | | | | .660 | .785 |
| V1-SUB3-3 | 13. Monitor progress toward objectives. | | | | .566 | .717 |
| V1-SUB3-4 | 14-Innovate in services, image, and use of technology | | | | .752 | .824 |

The scree plot started to slope downward as of the 5th factor where the eigen-value after rotation was 1.117 and the cumulative variation was equal to 71.695%. The Eigen-values for the first 5 factors extracted and their percentage of variance is, total accumulative, 71.695 % percentage which is an acceptable percentage to be considered in the social sciences studies. Also the Kaiser Meyer Olken measure (KMO), the measure for sample adequacy is .931 which is higher than 0.5. Also, most of the communalities is higher than .5 which prove that such variables are highly correlated with factors.

7-1-2 conducting the Factor analysis for the Psychological contracting of International outsourcing relationship components:

As of the results of the factor analysis for psychological contracting (table 2), there are five factors extracted. Such factors were extracted using the both Eigen-value higher than 1 and the percent of variations as follows:

- 1- The first factor include the following statements (17,18,19), this factor explains 16.892% of total variation and it is called Building inter-organizational relationships
- 2- The second factor include the following statements (4, 5, and 6), this factor explains 16.143% of total variations and it is called Authority structure.
- 3- The Third factor include the following statements (1, 2, 3, 10, and 11), this factor explains 16.140 % of total variation and it is called Project scoping and dedicated project staffing.
- 4- The fourth factor include the following statements (7, 8, and 9), this factor explains 15.735 % of total variation and it is called Taking charge.
- 5- The fifth factor include the following statements (13, 14, and 15), this factor explains 14.460 % of total variation and it is called Knowledge sharing.

Table (2): Factor analysis for psychological contracting of international outsourcing

| Code | | Component | | | | | Communalities ^s |
|-----------|--|-----------|---|---|---|---|----------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| V2-SUB6-1 | 17. Invests time in building a good relationship with clients | .862 | | | | | .898 |
| V2-Sub6-2 | 18. Have a common or joint sense of mission and purpose with clients | .901 | | | | | .913 |
| V2-SUB6-3 | 19. Work as a team with clients | .85 | | | | | .881 |

| | | 0 | | | | |
|-----------|---|------|--|------|------|------|
| V2-SUB2-1 | 4. Define precisely the roles of each party | .851 | | | | .884 |
| V2-SUB2-2 | 5. Define precisely the responsibilities of each party | .868 | | | | .914 |
| V2-SUB2-3 | 6. Lay out clearly what each party is to perform | .821 | | | | .896 |
| V2-SUB1-1 | 1. Estimates the contract scope accurately | | | .696 | | .721 |
| V2-SUB1-2 | 2. Accepts scope change without additional charge | | | .894 | | .811 |
| V2-SUB1-3 | 3. Build buffer into contract to accommodate scope changes | | | .670 | | .742 |
| V2-SUB4-1 | 10. Assign adequate staff dedicated to the project (i.e., few staff changes) | | | .565 | | .600 |
| V2-SUB4-2 | 11. Keep customer staff turnover low during the project | | | .499 | | .598 |
| V2-SUB3-1 | 7. Work independently (i.e., minimal reliance on clients) in getting the job done | | | .793 | | .773 |
| V2-SUB3-2 | 8. Complete the job with minimal disruption to client operations | | | .789 | | .786 |
| V2-SUB3-3 | 9. Solve problems with minimal involvement of clients | | | .852 | | .842 |
| V2-SUB5-1 | 13. Transfer knowledge to client's staff | | | | .758 | .786 |
| V2-SUB5-2 | 14. Share best industry practices with clients | | | | .796 | .898 |
| V2-SUB5-3 | 15. Transfer know-how of the product or service to clients | | | | .840 | .913 |

The Eigen-values for the first 5 factors extracted and their percentage of variance is accumulative 79.370% percentage is an acceptable percentage to be considered in the social sciences studies. Also the Kaiser Meyer Olken measure (KMO), the measure for sample adequacy is .836 which is higher than 0.5. Also, most of the communalities is higher than .35 which prove that such variables are highly correlated with factors.

7-2 **Reliability test:** As a result, the following table shows the reliability Cronbach's alpha for the variables as follows:

Table 3: reliability analysis for all variables

| Scale | Cronbach's alpha |
|-------------------------------------|------------------|
| Entrepreneurial competences | .936 |
| Outsourcing relationship components | .923 |
| SME success | .701 |

All of the three main variables have been reliable since we have all of them with Cronbach alpha higher than .936, .923, and .701

7-3 testing the first hypothesis: The Effect of Entrepreneurial Competencies on Psychological contracting

To test the first hypothesis, Correlation & regression analysis was used to formulate a model. The correlation was used and tested using Spearman coefficient at significance level of 5% .Table (4) shows a summary of all correlations between competencies and psychological contracting in international outsourcing.

Table (4): Correlation between entrepreneurial competencies and psychological contracting

| <i>Sentences</i> | <i>Correlation</i> | <i>Sig</i> |
|----------------------------------|--------------------|------------|
| Opportunity Seeking competency | .243 | .000 |
| Relationship building competency | .442 | .000 |
| Conceptual competency | .439 | .000 |
| Organization competency | .250 | .000 |
| Strategic thinking competency | .392 | .000 |
| Commitment competency | .276 | .000 |

As of the Mentioned above table, the p- value is less than 0.05 and the correlations are highest with conceptual competency (.439), Relationship building competency (.442), strategic thinking (.392), which shows that there is a relationship between entrepreneurial competencies and psychological contracting of outsourcing relationship, however this contracting relationship is more significant with specific competencies such as conceptual competency, relationship building and strategic thinking competency.

Multiple Regression between competencies and Psychological contracting

A regression was conducted to test the relationship between entrepreneurial competencies and outsourcing relationship. According to the collinearity diagnostics and correlation between independent variables, the regression conducted using the variables did result, in a high VIF as a result; a factor analysis is used to extract variables, so variables were turned to factors (Lynch 2003). The regression was conducted using the factors extracted from factor analysis. The regression did show the following results in table (5).

Table (5): the multiple regressions results between Entrepreneurial competencies and Psychological contracting

| R-square | .250 | | | |
|--|----------|-------------------|----------------|------------|
| Value | 14.382 | | p-value | .000 |
| | B | Std. Error | t | Sig |
| (Constant) | 3.895 | .035 | 109.871 | .000 |
| Relationship and commitment competencies | .213 | .036 | 5.988 | .000 |
| Strategic thinking competency | .188 | .036 | 5.304 | .000 |
| Organization competency | -.007 | .036 | -.204 | .839 |
| Conceptual competency | .194 | .036 | 5.454 | .000 |
| Opportunity seeking competency | .070 | .036 | 1.970 | .050 |

The results of the R Square are .250, which is a bit lower than the acceptable result for social sciences where the acceptable results, R square lies between .3 and .4. Also the F stat significance was less than .05, the competencies explain 25% of the changes of psychological contracting in international outsourcing. This can be attributed to the fact that there are other

factors than entrepreneurial competencies of the supplier. The client side plays an important part in determining the psychological contracting for the supplier side. This Model illustrates the following as of the entrepreneurial competencies and their relationship with the fulfillment of psychological contracting.

As of the Relationship building and commitment competencies, the more important Relationship building and commitment competencies, the higher the fulfillment of psychological contracting which is plausible to happen. The coefficient of such competency is .204. As a result, we expect an increase in strength of psychological contracting of the relationship by .207 for each unit increase in psychological contracting and commitment competency. We can consider such relationship as the level of significance is less than 5%, As for Strategic thinking competency, the more the importance "Strategic thinking competency", the more fulfillment of the psychological contracting components, the coefficient is .185 which is considered to be with a mild effect on psychological contracting components also the level of error is lower than 5%, .000. As a result, we can consider the effect of such competency on the psychological contracting. As of the Opportunity seeking, this competency has a small coefficient (.049). So the results show that the higher the Opportunity seeking, the higher the fulfillment of the psychological contracting components. However, there is a significance level higher than 5%. As a result, we cannot consider it due to the high level of significance, so we can consider that Opportunity seeking is more of no effect on psychological contracting fulfillment or with zero value. As of the "Conceptual" competency, this competency has a moderate coefficient (.251). So the results show that the more the "Conceptual" competency, the higher the fulfillment of the psychological contracting components which is plausible to happen. Also, there is a significance level lower than 5%, as a result, and so we can consider that "Conceptual" competency is of moderate effect on psychological contracting fulfillment.

As for Organization competency, this competency has an inverse coefficient relative to other competencies (-.016). As of such coefficient, we can say the higher the importance of the effect of planning and organizing resources, the lower is the psychological contracting, which is not plausible to consider taking in consideration the level of significance that is higher than 5%.

On further analysis, the variation of such results among different levels of experience on competencies was tested, the researcher conducted a cross tabulation to identify if there is association between the level of experience and competencies and identify the strength of association. There was a significant association with entrepreneurial competencies and level of experience in IT international outsourcing projects, its chi square is 64.237, with p-value less than 5% and the strength of the association was .487 which is relatively a strong association. So changes in the significance of competencies would vary with increased level of experience.

7-4 Testing Hypothesis 2: The effect of Psychological contracting on SME Performance

In the following section, a summary correlation is made between Psychological contracting and SME performance, then a multiple regression is done to test all psychological contracting components on SME performance. In testing the relationship between all sub-variables and SME performance, table (6) is the summary of the correlations:

Table (6): summary correlation between psychological contracting components and SME performance

| <i>Sub-variable</i> | <i>Correlation</i> | <i>Significance</i> |
|-----------------------------------|--------------------|---------------------|
| Project scoping | .222 | .000 |
| Authority structure | .206 | .000 |
| Dedicated project staffing | .230 | .000 |

| | | |
|---|------|------|
| Taking Charge | .263 | .000 |
| Knowledge Sharing | .093 | .122 |
| Build effective inter-organizational relationships | .255 | .000 |
| Psychological contracting of international outsourcing | .322 | .000 |

As it is clear from the above table, the highest correlation was for taking charge (.263), Build effective Inter-organization (.255), then dedicated project staffing (.230). Each of those components are having a moderate correlation with SME performance. However, Total Psychological contracting did show a higher correlation (.322).

Multiple Regression between Psychological contracting and SME Performance.

On testing the relationship between the outsourcing relationship and SME performance, a multiple regression was conducted and the following regression results are extracted. According to the collinearity diagnostics and correlation between independent variables, the regression conducted using the variables did result, in a high VIF as a result, a factor analysis is used to extract variables, so variables were turned to factors (Lynch 2003). The regression was conducted using the factors extracted from factor analysis. The regression did show the following results in table (7).

Table (7): The multiple regression results between psychological contracting components and SME performance

| R-square | .107 | | | |
|---|-------|------------|--------|------|
| F-value | | p-value | .000 | |
| | B | Std. Error | t | Sig |
| (Constant) | 2.533 | .040 | 63.907 | .000 |
| Building effective inter-organization relationship | .128 | .039 | 3.312 | .001 |
| Authority structure | .092 | .039 | 2.372 | .018 |
| Project scoping and dedicated project staffing | .083 | .038 | 2.179 | .030 |
| Taking Charge | .133 | .039 | 3.458 | .001 |
| Knowledge sharing | -.019 | .040 | -4.82 | .630 |

The results in table () shows the R Square is .107, which is a relatively a low value for R square compared to social sciences result, where the R square lies between .3 and .4. As a result, the relationship components can hardly predict the variations in the dependent variable. However, the F stat significance was less than .05, .000 which shows that this is a significant relationship. This Model illustrates the following as of the fulfillment of psychological contracting of international outsourcing components and SME performance.

As of the **Building effective inter-organization relationship**, Psychological Contracting components, the more the fulfillment of Building effective inter-organization relationship factor, the higher the possibility of SME performance which is plausible to happen. The coefficient of such component is .129. As a result, we expect an increase by 12.9% for each unit increase in relationship component. We can consider this effect, as the level of significance is less than 5%. As for **Authority structure**, the more the fulfillment of "Authority structure", the higher the possibility of SME performance. The coefficient is .092 which is considered to be with a small effect on relationship components, also the level of error is lower than 5%. As a result, we can consider the effect of such component on the SME performance. As for **Project scoping and dedicated project staffing**, this component has a small coefficient (.083) relative to other relationship components. As of such coefficient, we can say the more the fulfillment of Project scoping and dedicated project staffing, the higher the SME performance, which is plausible to

consider taking in consideration the level of significance which is lower than 5%. So we can consider that Project scoping and dedicated project staffing is of an effect on SME performance.

As of the Taking charge, this relationship component has a small coefficient (.133). So the results show that the higher the fulfillment Taking charge, the higher the possibility of SME performance. However, there is a significance level lower than 5%. As a result, we can consider it due to the low level of significance, so we can consider that Taking charge is of an effect on SME performance. As of the Knowledge sharing, this relationship component has an inverse coefficient (-.019). So the results show that the higher the fulfillment of knowledge sharing, the higher the possibility of SME performance. However, there is a significance level higher than 5%. As a result, we cannot consider it due to the high level of significance, so we can consider that Knowledge sharing is of no effect on SME Performance.

On further analysis, the variation of such results among different levels of experience on Psychological contracting is tested, the researcher conducted a cross tabulation to identify if there is association between the level of experience and competencies and the strength of association. There was a significant association with psychological contracting and level of experience in IT international outsourcing projects, its chi square is 39.218, with p-value less than 5% and the strength of the association was .364 which is relatively a moderate association. So changes in the significance of psychological contracting components would vary with increased level of experience.

7-5 Testing Hypothesis three: the Mediation effect of Psychological contracting on the relationship between Entrepreneurial Competencies and SME Performance

In order to test the effect of Psychological contracting on the relationship between entrepreneurial competencies, a mediation test was conducted through testing the significance of the three relationship between entrepreneurial competencies and Psychological contracting in international outsourcing,(the main independent variable and the mediator), entrepreneurial competencies and SME performance (independent variable and the dependent variable), then between Psychological contracting in international outsourcing and SME performance (mediator and dependent variable) (Baron and Kenny, 1986;Mackinnon,Fairchild & Fritz, 2007).

The Effect of Entrepreneurial Competencies on Psychological contracting:

Table (8) shows the results of the regression of entrepreneurial competencies as a total on Psychological contracting.

Table (8): Regression results for total entrepreneurial competencies on Psychological contracting

| | | | | |
|-------------------------------------|---------------|-------------------|----------------|------------|
| R-square | 0.141 | | | |
| F value | 44.148 | P-value | 0 | |
| | B | Std. Error | T value | Sig |
| (Constant) | 1.880 | .306 | 6.153 | .000 |
| Entrepreneurial competencies | .502 | .075 | 6.644 | .000 |

As it is clear from the table (8), that the F value of the relationship is 44.148 and its p-value is less than 5%, as a result we can accept that there is a significant relationship between entrepreneurial competencies and the Psychological contracting variable. This confirms with the results that were tested in the sub-variables; however, we can hardly consider the entrepreneurial competencies are a variable with a high predictive variable by itself due to the relatively small value of the r-square. The coefficient of the Entrepreneurial competencies is

significant, as the t Value is 6.644 and p-value is less than 5% (.000) and it has a value of (.502), also the constant of the equation is significant with t value equal to 6.153 and its p-value is less than 5%(.000) . The low value of the R square can be attributed to the fact that psychological contracting include more than one party and the researcher is testing the supplier side of the transaction only. Also, there are many other variables that affect the supplier and the client which can add to the predictability of the model.

The effect of entrepreneurial competencies on SME performance.

Table (9) shows the results of the regression of the effect of entrepreneurial competencies on SME performance.

Table (9): regression results for the effect of entrepreneurial competencies on SME performance

| | | | | |
|-------------------------------------|--------------|-------------------|----------------|----------------|
| R-Square | 0.095 | | | |
| F Value | 26.182 | P-value | 0 | |
| | B | Std. Error | T value | p-value |
| (Constant) | .890 | .324 | 2.751 | .006 |
| Entrepreneurial competencies | .412 | .080 | 5.117 | .000 |

As it is clear from the table (9), that the F value of the relationship is 26.182 and its p-value is less than 5%, as a result we can accept that there is a significant relationship between entrepreneurial competencies and the SME performance. This confirms with the results that were tested for the multiple regression of entrepreneurial competencies and SME performance; however, we can hardly consider the entrepreneurial competencies are a variable with a high predictive variable by itself due to the relatively small value of the r-square. The coefficient of the Entrepreneurial competencies is significant, as the t Value is 5.117 and p-value is less than 5% (.000) and it has a value of (.412), also the constant of the equation is significant with t value equal to 2.751 and its p-value is less than 5%(.000) . The low value of the R square can be attributed to the fact that SME performance include more than Entrepreneurial competencies, there are other factors attributed to the environment, industry and other constraints on SMEs and the researcher is testing the Entrepreneurial competencies only. There are many other variables that can affect the variable which can add to the predictability of the model.

The effect of Psychological contracting in international outsourcing on SME performance.

Table (10) shows the effect of psychological contracting in international outsourcing on SME performance.

Table (10): Multiple Regression results of Psychological contracting on SME performance

| | | | | |
|----------------------------------|--------------|-------------------|----------------|----------------|
| R-Square | 0.075 | | | |
| F Value | 22.713 | P-value | 0 | |
| Model 3 | B | Std. Error | T Value | p-value |
| (Constant) | 1.486 | .324 | 6.725 | .000 |
| Psychological contracting | .269 | .080 | 4.766 | .000 |

As it is clear from the table (10), that the F value of the relationship is 22.713 and its p-value is less than 5%, as a result we can accept that there is a significant relationship between Psychological contracting and the SME performance. This confirms with the results that were tested for the multiple regressions of Psychological contracting components and SME

performance; however, we can hardly consider the psychological contracting are a variable with a high predictive variable by itself due to the relatively small value of the r-square. The coefficient of Psychological contracting is significant, as the T value is 4.766 and p-value is less than 5% (.000) and it has a value of (.412), also the constant of the equation is significant as the T value equal to 6.725 and its p-value is less than 5% (.000) The low value of the R square can be attributed to the fact that international outsourcing relationship include more than one party both the supplier and the client side. Also, there are many other variables such as environment that can affect the SME performance which can add to the predictability of the model. As it is clear from the results of the above regressions, between entrepreneurial competencies and Psychological contracting, entrepreneurial competencies and SME performance and finally Psychological contracting and SME performance, all of such regressions shows a significant relationships due to the significance of the F value in all regressions also the significance of all coefficients, which would lead us to the conclusion that Psychological contracting is mediating the relationship between entrepreneurial competencies and SME performance.

The effect of psychological contracting and Entrepreneurial competencies on SME performance.

Table (11) shows the results of the effect of psychological contracting and Entrepreneurial competencies on SME performance.

Table (11): regression results of psychological contracting and Entrepreneurial competencies on SME performance

| | | | | |
|------------------------------|--------|------------|---------|---------|
| R-Square | 0.142 | | | |
| F Value | 22.713 | P-value | 0 | |
| Model 4 | B | Std. Error | T value | p-value |
| (Constant) | .448 | .338 | 1.324 | .187 |
| Psychological contracting | .228 | .063 | 3.642 | .000 |
| Entrepreneurial competencies | .303 | .084 | 3.607 | .000 |

As it is clear from the table (11), that the F value of the relationship is 22.713 and its p-value is less than 5%, as a result we can accept that there is a significant relationship between Psychological contracting, Entrepreneurial competencies the SME performance. This confirms with the results that were tested for the multiple regressions of Psychological contracting components, entrepreneurial competencies and SME performance; however, we can hardly consider the psychological contracting and entrepreneurial competencies are variables with a high predictive variable by itself due to the relatively small value of the r-square. The coefficient of Psychological contracting is significant, as the T value is 3.642 and p-value is less than 5% (.000) and it has a value of (.228), and the coefficient of Entrepreneurial competencies is significant, as the T value is 3.607 and p-value is less than 5% (.000) and it has a value of (.303), however, the constant of the equation is significant as the T value equal to 1.324 and its p-value is higher than 5% (.187) The low value of the R square can be attributed to the fact that international outsourcing relationship include more than one party both the supplier and the client side. Also, there are many other variables such as environment that can affect the SME performance which can add to the predictability of the model. As it is clear from the results of the above regressions, that after the addition of psychological contracting to the relationship between entrepreneurial competencies and SME performance, the significance of the

entrepreneurial competencies remained after the addition of Psychological contracting which prove that Psychological contracting is having a partial mediation between entrepreneurial competencies and SME performance. The researcher deducts from that the psychological contracting is important but still it is only partially replacing the entrepreneurial competencies and still it has a significant effect on SME performance.

6. Conclusion

As of the above findings, there is a significant relationship between entrepreneurial competencies and Psychological contracting of Outsourcing. The most important of those competencies was the relationship building and the conceptual competencies for the Psychological contracting. There is a significant relationship between Psychological contracting and SME Performance. Psychological contracting acts as a mediator for the relationship between entrepreneurial competencies and SME performance.

7. Research limitations and further research

This research is conducted on two governers in Egypt, and during research, there has been a sudden shutdown in the number of companies in IT industry, which affected massively lots of the results, and led to loss of many outsourcing opportunities. In addition, many other macro-environmental changes did occur during the field study, which can affect the relationship strength among variables. Another research, could be conducted after macroeconomic stabilization to identify the effect of such Macro-environmental factors on outsourcing relationships.

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Dynamic interaction between inflation and credit Rationing: the case of Nigeria

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Keywords

Inflation; Credit Rationing; Nigeria; ARDL; Toda and Yamamoto

Abstract

This study examines the dynamic interaction between inflation and credit rationing in the case of Nigeria for the period 1970-2011. It uses time-series data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin in its analysis of examining the long run and causal relationship between inflation and credit rationing. In doing so, it employs the Autoregressive Distributed Lag (ARDL) bounds testing procedure suggested by Pesaran et al. (2001) and the Granger causality test suggested by Toda and Yamamoto (1995). Empirical findings reveal that although there is an evidence of a long run relationship between credit rationing and inflation, no pattern of such long run relationship is established. The results reveal further that there is no evidence of causality in either direction between inflation and credit rationing in Nigeria. Consequently, the study recommends, among other policy implications, that financial reforms may be pursued without adversely affecting the purchasing power of the citizenry.

1. Introduction

Developing countries have come to realize the need to put certain mechanisms in place to ensure steady and balanced economic growth and in turn economic development. These factors include well trained and educated labour force, proper regulatory structure, strong political will by the government, and a well developed institutional framework *inter alia*. However, even if all these factors are present, without the adequate working capital and fixed capital, the much needed development would at best be achieved at a very slow pace. This goes on to show that the availability and accessibility of credit facilities is a necessary condition for the attainment of sustainable economic growth and development. Unfortunately, most developing countries are faced with the vicious cycle of poverty and are being addressed with the common development dictum that "a country is poor because the country is poor". This has constantly made most of their development efforts to fall short of desired expectations. Inflation is a pervasive phenomenon and the existence of financial systems and credit markets in all economies makes credit rationing equally pervasive. The financial system, with its organization and structure, to a large extent, dictates the direction and pace of economic activities. A useful justification and confirmation of this could be traced to the global experience of the global economic crisis, the effects of which are still being felt in varying degrees all across the globe.

Credit rationing as defined by (Driscoll, 1991) refers to situations where borrowers' demand is unfulfilled, although he is willing to pay the ruling market price. In other words, credit rationing is the situation that exists when the demand for loans at the going interest rate exceeds the supply made available by financial institutions. Simply defined, credit rationing is

the non-price restriction of loans (Black, 2003). Analysis of the imperfections created by credit rationing, their effects and control are not only important for financial institutions but also for governments especially in issues of policy formulation, implementation and management. This in turn makes the analysis of the causes, measurement, effects and implications, and control of credit rationing very crucial. Academics, practitioners, professionals, policy makers and analysts have endlessly reiterated the importance of credit for a country not to be poor, and in the same vein, pointed to the economic fact that credit rationing influences the transmission of credit (and monetary policy at large) to the real sector of the economy for improved productivity and efficiency in the whole economy. Two types of credit rationing, equilibrium (aka Type I) and disequilibrium (aka Type II) credit rationing have been identified in the literature.

Evidence from the theory reveals that inflation (anticipated or unanticipated) redistributes income and wealth; the redistribution being much smaller with anticipated inflation than with unanticipated inflation. Studies have shown that possible inflationary thresholds exist for different economies for the attainment of sustainable economic growth and development. On the impact of inflation on financial sector performance, Levine and Smith (2000) posit that an increase in the rate of inflation drives down the real rate of return not just on money, but on assets in general. The implied reduction in real returns exacerbates credit market frictions and since these frictions lead to the rationing of credit, therefore, credit rationing becomes more severe as inflation rises. Wahid, Shahbaz and Azim (2011) further reiterated this point by saying that high rates of inflation worsens the efficiency of the financial sector through financial market frictions and slows down the economic performance. Inflation has a direct (or an indirect) link with financial sector performance, financial development, business cycles, credit markets, economic performance, portfolio allocation in the banking system, economic growth and economic development. Various studies have shown that periods of economic recession marked with high level of inflation, witnessed increased credit rationing (Gao et al., 2012). In other words, credit rationing becomes more severe as inflation rises. Others have shown that inflation below or above certain threshold levels may or may not have significant impacts on the economy (see Lee and Wong, 2005).

Inflation and credit rationing have got their places in the Nigerian economy. Since her independence in 1960, the Nigerian economy has had several spells of high inflation and few years of single digit inflation rates. Consequently, various structural adjustment policies ranging from the Structural Adjustment Programme (SAP) of 1986 to the current Transformation Agenda (2011-2015) have aimed at containing inflation at single digit, to its barest minimum. Nigeria's apex financial agency, the Central Bank of Nigeria has also fixed a target of achieving single digit inflation. However and unfortunately, these plans and policies have failed for more years than they have succeeded. The Nigerian economy suffers from both inflation and exchange rate fluctuations, and as such experiences high level of financial uncertainties. Capital accumulation in Nigeria has been very poor. This can be directly observed from the high incidence of poverty in Nigeria, as measured by the international poverty line. Most people live one day at a time; from hand to mouth. The marginal propensity to save in Nigeria is generally low, very low. As such, potential investors, entrepreneurs and business firms find it very difficult to accumulate much saving to finance projects. One may want to suggest that they should alternatively borrow from the credit markets. Yes, they do, but in most cases, they are inevitably faced with the issues of credit rationing, an economic phenomenon begging for attention. Well reasonably enough, one may have not enough reasons yet to agree less that the cloud is darker for the innocent country. This study uses time-series data and seeks to provide

empirically founded answers to two basic questions about the interaction between inflation and credit rationing in Nigeria, and the direction of causality between inflation and credit rationing.

2. Review of Literature

Empirical testing of the interaction between credit rationing and inflation has been very limited. One reason for this might be lack of suitable macroeconomic data with which to undertake direct tests of credit rationing. Driscoll (1991) shows that bank-orientated financial systems seem best equipped to overcome credit rationing and the agency costs associated with market failure resulting from asymmetric information. The study shows that though circumstances can exist in which free credit markets will exhibit credit rationing, evidence on its recent importance in practice is inconclusive. Following the pathway of the relationship between credit rationing and periods of uncertainties, Craigwell and Kaidou-Jefferey (2010) indicate that banks exercise caution in their lending behaviour and are risk averse in an environment of uncertainty (during or following recessionary periods). The study shows that in a credit rationed regime, banks reduce lending and confirms that bank lending to those sectors for which banks have little information (high risk sectors) and those which are unable to provide adequate collateral are more likely candidates of credit rationing. In furtherance of these empirical positions, Mendicino (2011) utilizes model building and analysis based on data collected for different countries, and shows that an increased access to the credit market implies higher asset prices.

In answering the questions about the types of credit rationing that exist and ascertaining their relevance, Berger and Udell (1992) show that information-based equilibrium credit rationing exists, although the study makes it difficult to argue that such rationing constitute an important macroeconomic phenomenon. Following the methodology of Berger and Udell (1992), but with a difference, Crowling (2010) reveals that in the loan market for most small businesses in the UK, credit rationing is not prevalent.

As a way of reiterating Friedman's statement that "Inflation is always and everywhere a monetary phenomenon." Gao, Gu and Hernandez-Verme (2012) show that credit is not rationed for levels of inflation that are either very low or very high; and for the remaining values of inflation, that credit is rationed and the Mundell-Tobin effect holds. Utilizing regression analysis, Druck and Garibaldi (2000) show that an increase in inflation risk creates the incentive to banks to invest in free risk assets, in which case banks reduce the credit lines to firms.

There have been questions about the relationship between inflation and banking sector development. Boyd et al. (2001) reveal that there is a significant and economically important, nonlinear negative relationship between inflation and both banking sector development and equity market activity. The study shows further that as inflation rises, the marginal impact of inflation on banking lending activity and stock market development diminishes rapidly. With evidence of thresholds, the study shows that for economies with inflation rates exceeding 15%, there is a discrete drop in financial sector performance relative to economies with inflation rates below this threshold. Following the same research course, but with a different approach, which involves Tobit analysis of eight countries, coupled with the help of models; Yigit (2002) shows that non-diversifiable risks such as inflation uncertainty will cause financial agents to act in a risk-averse manner, creating grounds for disequilibrium in credit markets directly (by reducing credit availability) and indirectly (by raising the cost of borrowing). The study shows further that inflation fluctuations not only lead to disequilibrium in credit markets, but also negatively affect total amount of credit.

It is generally believed that there must be a minimum level of inflation for a country for its economy to perform optimally. However, there is also a maximum threshold level of inflation beyond which the economy would be affected negatively. Motivated on these theoretical backgrounds, Lee and Wong (2005) show that there is one inflation threshold value in Taiwan, there are two in Japan. The study suggests that when the threshold level of inflation is below 7.25%, financial development may promote economic growth for Taiwan. However, when inflation is above 7.25%, financial development will not generate any significant impact on economic growth. Consequently, financial development that promotes economic growth can only be established under low inflation. As for Japan, The empirical results suggest that when the threshold level of inflation is below 9.66%, financial development has a significantly profound impact on economic growth. However, financial development is detrimental to economic growth when inflation is above the threshold level. As a result, the conclusion that financial development may promote economic growth can be established only when Japan's inflation rate is low or moderate. This argument is consistent with the findings of Huybens and Smith (1999), Bose (2002), and Rousseau and Wachtel (2002). Keho (2009) further examined these empirical positions and reveals from the empirical results of the study that no evidence of longrun relationship between inflation and financial development for six countries and no causality for two countries. Also that financial development causes inflation in four countries, with evidence of reverse causation detected for only two countries. The study reveals further that causality patterns vary across countries and, therefore, indicate that it would be unwise to rely on inference based on cross-section countries studies which implicitly impose cross-sectional homogeneity on coefficients. Employing the ARDL bounds testing approach and Error Correction Method (ECM); Wahid, Shahbaz and Azim (2011) further examine the impact of inflation on financial development in case of Bangladesh for period of 1985-2005. They show that high trends of inflation impede the performance of financial markets in the long-and-short runs, establishing and confirming an inverse correlation between inflation and financial development in the case of Bangladesh. Also, that social spending enhances the performance of financial sector in the long run. Alongside, the study establishes that GDP per capita promotes development of financial sector through its causal channels.

3. Model Formulation and Estimation Technique

The test for cointegration between inflation and credit rationing is done using the autoregressive distributed lag (ARDL) bounds testing procedure suggested by Pesaran et al. (2001). Essentially, the advantage of the ARDL bounds approach is that it does not require knowledge of the order of integration or cointegration ranks of the variables and thus avoids the limitations associated with standard tests for unit roots and cointegration. It can be applied irrespective of whether the regressors are I (0), I (1) or mutually cointegrated. The test involves estimating by ordinary least square the following unrestricted error correction model (UECM) considering each variable in turn as a dependent variable:

$$\Delta CR_t = \beta_0 + \sum_{i=1}^p \beta_{1i} \Delta CR_{t-i} + \sum_{i=0}^q \gamma_{1i} \Delta INF_{t-i} + \phi_1 CR_{t-1} + \phi_2 INF_{t-1} + e_{1t}$$

For short run behaviour of the variables, we use error correction version of ARDL model as following:

$$\Delta CR_t = \delta_1 + \sum_{j=0}^p \delta_2 \Delta INF_{t-1} + \omega ECM_{t-1} + \varepsilon_t$$

The significance of an error correction term i.e. $t-1$ ECM shows deviations in regressed variable.

The Toda-Yamamoto Approach to Granger Causality Test

This is an alternative causality testing procedure that fits a standard vector autoregression in the levels of the variables rather than the first differences, as the case with standard approaches (Keho, 2009). More importantly, the Granger causality tests can be implemented regardless of whether the variables are mixed integrated or integrated of an order more than two. Performed directly on the coefficients of the levels VAR, Toda and Yamamoto methodology minimizes the risk associated with possibly wrongly identifying the orders of integration of the series, or the presence of cointegration relationship (Giles, 1997; Mavrotas and Kelly, 2001). The basic idea of this approach is to artificially augment the correct VAR order, k , with d_{max} extra lags, where d_{max} is the maximum likely order of integration of the series in the system. To undertake Toda and Yamamoto version of the Granger causality, we link the two variables in the following VAR system:

$$\begin{aligned}
 CR_t &= \alpha_0 + \sum_{i=1}^k \alpha_{1i} CR_{t-i} + \sum_{j=k+1}^{k+d_{max}} \alpha_{2j} CR_{t-j} + \sum_{i=1}^k \beta_{1i} INF_{t-i} + \sum_{j=k+1}^{k+d_{max}} \beta_{2j} INF_{t-j} + e_{1t} \\
 INF_t &= \gamma_0 + \sum_{i=1}^k \gamma_{1i} INF_{t-i} + \sum_{j=k+1}^{k+d_{max}} \gamma_{2j} INF_{t-j} + \sum_{i=1}^k \theta_{1i} CR_{t-i} + \sum_{j=k+1}^{k+d_{max}} \theta_{2j} F_{t-j} + e_{2t}
 \end{aligned}$$

4. Data and Estimation Results

This study employs quantitative secondary annual data in Nigeria over the period of 1970-2011. In other words, a time series data is used for this study. The data are obtained from the Central Bank of Nigeria’s Statistical Bulletin. Expectedly, the series are initially transformed to induce stationarity. The variables used for this study are inflation rate (INF) and credit rationing (CR). Inflation as a measure of prices is an index charting changes in the prices paid by consumers. Credit rationing is a measure of financial development indicator as proxied by credit to private sector as share of GDP.

The results of the various tests carried out are presented as follows:

Time Series Properties of the Data

As a usual practice in most studies in economics, the data are examined and tested for unit root problem and their orders of integration using Augmented Dickey-Fuller (ADF) unit root test.

Table 1. Unit Root Analysis

| Variables | ADF at level | | ADF at 1 st difference | |
|-----------|--------------|-------------|-----------------------------------|-------------|
| | Intercept | Prob-values | Intercept | Prob-values |
| CPS | -0.3492 | 0.0466 | -2.1622 | 0.0000 |
| INF | -0.4512 | 0.0159 | -1.4148 | 0.0000 |

Source: Researcher’s computations

In testing the order of integration of the variables, the ADF unit root test is applied. As reported in the table-1, the variables are stationary both at level and at 1st difference. It follows therefore that none of the variables are I (2) and as such we can apply the ARDL bounds testing approach to cointegration to test long run relationship between the variables. The unit root test was primarily carried out to ascertain that the variables are not stationary at higher order. It should be noted that ARDL does not require pretesting of stationarity.

Bounds Testing

In line with the aim of this study, the bounds testing procedure seeks to investigate the evidence of long run relationship between the two variables. To this end, the Wald test is employed and the results are reported thus:

Table 2. Wald Test Results

| Test Statistic | Value | Df | Probability | 5% Critical Value Bounds | |
|----------------|----------|---------|-------------|--------------------------|------|
| | | | | I(0) | I(1) |
| Chi-square | 12.76723 | 1 | 0.0004 | 3.15 | 4.11 |
| F-statistic | 12.76723 | (1, 36) | 0.0010 | | |

The Wald test results are also used to obtain the bounds test results. As reported in table-4 the chi-square value and the F-statistic value are greater than the critical bound values at 5% level of significance both at I(0) and I(1). Alternatively, the probability values are less than 5% and as such we reject the null hypothesis of no cointegration, meaning that the null hypothesis is false and there is an evidence of long run relationship between inflation and credit rationing.

Cointegration Test

There is need to ascertain the reliability of results obtained from the series which have the same order of integration, in this case, I(0). This involves examining whether the two variables are cointegrated or not by verifying the existence of at least one linear long run relationship among the variables. In the light of this, the Unrestricted Cointegration Rank Tests are employed and the results are presented below:

Table 3. Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
|---------------------------|------------|---------------------|---------------------|---------|
| None | 0.296590 | 14.07264 | 14.26460 | 0.0536 |
| At most 1* | 0.166905 | 7.304298 | 3.841466 | 0.0069 |

Max-eigenvalue test indicates no cointegration at the 0.05 level

**denotes rejection of the hypothesis at the 0.05 level*

***MacKinnon-Haug-Michelis (1999) p-values*

The results shown in table-5 reveal that the variables do not have any cointegrated relation, meaning that no pattern of long run relationship is established.

Toda and Yamamoto Granger Causality Test

As a way of achieving one of the objectives of this study, which is examining the direction of causality between inflation and credit rationing, the Toda and Yamamoto approach to Granger causality test is used and the results are presented below:

Table 4. Toda and Yamamoto Granger Causality Test

| Lag length (k) | CPS causes INF | | INF causes CPS | | Direction of causality |
|----------------|----------------|---------|----------------|---------|------------------------|
| | Wald stat | p-value | Wald stat | p-value | |
| 1 | 0.9892 | 0.3199 | 0.4033 | 0.5254 | No causality |

The results of the test at 5% level of significance shown in table-6 reveal that neither does inflation cause credit rationing nor does credit rationing cause inflation. This is as evident from the probability values obtained from the test, which denote statistical insignificance at 5%.

5. Conclusion

This study empirically examined the dynamic relationship between inflation and credit rationing in Nigeria between 1970 and 2011. We employed the framework of Pesaran *et al.* (2001) bounds test approach and Toda and Yamamoto (1995) Granger causality analysis. From the results of the bounds test and cointegration test, it comes out clear that while there is an evidence of a long run relationship between credit rationing and inflation, no pattern of such long run relationship is established. The results of the Toda and Yamamoto Granger Causality test reveal that there is no evidence of causality in either direction between inflation and credit rationing in Nigeria. This result is crucial to financial policies which could be faced with the contradictory choice of either increasing or decreasing prices. It follows from these results that financial reforms may be pursued in Nigeria without adversely affecting the purchasing power of the populace. Also, that policy makers should seek improved and substantial private sector participation which has the tendency of curbing inflation in Nigeria. Much more importantly, that policy makers in Nigeria should give support to the UEMOA criteria aiming at keeping inflation rate below the threshold of 3% as a prerequisite for sustainable growth and real convergence. This policy option follows from the fact that although there is no causality between inflation and credit rationing in Nigeria, there is still the need to contain inflation at a particular threshold level in the economy as it significantly affects other aspects of the economy.

It is however worthy of note that future studies on this subject matter could include interest rate as an intervening variable between inflation rate and credit rationing. This suggestion becomes very important given the roles of interest in process of credit allocation and credit demand.

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Cultivating alternate mindsets to enhance organisational Well-being and creativity

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Keywords

Mindfulness, well-being, creativity

Abstract

In contrast to the traditional mindset (TMS) – the conscious awareness, controlled mental processes, and analytical-logical manipulation of symbols – an alternative mindset (AMS) is viewed as the pre-conscious mental processes (i.e. associative, imaginative, intuitive) and holistic thinking. Since Plato, the West has considered TMS as the hallmark of intelligence and simply of any cognition. Yet, in recent decades various research explored complementary and/or alternative to analytical-logical cognition mental. Alternative mindsets were primarily explored for their individual benefits, while our research focuses on organisational benefits.

To do this, we used a bi-weekly meditative practice to induce an AMS in organisational actors. We hypothesized that following the shift from TMS to AMS, organisational actors will benefit from enhanced creative production and well-being. Empirical experiments were conducted with 144 self-selected participants within three organisations, measuring well-being and creativity, consisting of eight 20 minute mindfulness meditation sessions, with a “placebo” relaxation technique for control groups.

Statistical analysis showed significant increase in well-being and creativity for experimental compared to control groups as of six sessions. As AMS organisational benefits span from enhanced well-being and creative production, as our experiments show, to potentially higher employee engagement, health and relaxation, AMS could potentially aid in minimizing occupational stress.

Introduction

Alternate mindsets (AMS) are characterized in literature by the pre-conscious (i.e. potentially available to the consciousness) awareness, uncontrolled mental processes (i.e. associative, imaginative, intuitive) and holistic thinking (Davis-Floyd and Arvidson 1997; Dane and Pratt, 2007; Hodgkinson et al 2009). In contrast, the traditional mindset (TMS) is characterised by the conscious awareness, controlled mental processes, and analytical-logical manipulation of symbols. Since Plato, the West has considered TMS as the hallmark of intelligence and simply of any cognition. Yet, in the last several decades various research showed complementary ways and alternatives to analytical-logical cognition mental systems (e.g. Damasio 1994; Nisbett et al., 2001; Wagner and Sternberg 1985). Alternate mindsets represent an array of such systems which were partly explored for its individual benefits. Our focus is on the AMS use and benefits in the organisational context.

Much attention has been given to how intuition and insight can bring benefits to managers and organisations, but often the processes in order to obtain such insights and wisdom have been overlooked in research. We delve into the processes which bring about alternate mindsets and what potential benefits and organizational applications could be implemented.

Spirituality in the Workplace

While many of the techniques that workplaces are using to facilitate the cultivation of alternate mindsets are secular, as described in the introduction in regards to corporate wellness

programs, many of these techniques are imbedded in religious philosophy and traditions. Therefore, literature linking spirituality and religion to management and organisational behaviour position this topic compared to related streams of research.

Framing AMS practices within spirituality could allow to increased acceptance of them within organisations by avoiding extensive debate that risks them being viewed as something that must be kept out of the workplace. Though, it remains to be seen whether AMS techniques will voluntarily be fully embraced within organisations, and if so, whether they will bring the same benefits as their ancient religious counterparts?

While religious practices in workplaces have been controversial and largely regulated, with a traditional mentality of religion needing to be kept separate from work, spirituality has been welcomed to a greater extent and recognised as a way for employees to meet their needs of seeking support and a sense of purpose. They emphasise the growing prevalence of meditation, visualisation practices and spiritual contemplation within organisations, and suggest a shift is occurring towards an alternative business mentality that sees spirituality and its various contemplative practices as part of life at work, not only outside of work. However, does divorcing spirituality from its religious roots negate its underlying philosophy? Perhaps further exploration is needed to merge workplace spirituality with contemplative traditions and practices, such that it upholds the main tenets of its philosophy.

Other research literature from this domain connects workplace spirituality and meditation with productivity, encouraging the utilisation of AMS practices. AMS techniques can emerge from within the framework of spirituality and related disciplines to have increasing organisational applications, and become a source of competitive advantage for firms, and a source of human flourishing within organisations. Perhaps management research on AMS and spirituality can challenge traditional models of doing business, bringing a focus on compassion in addition to self-interest.

But is spirituality being brought into the workplace solely for competitive advantage? Ample research has shown increased productivity, profitability and other benefits of spirituality, including developing AMS; however, will the advantages be lasting if the motivating intention is higher profits and not higher purpose? Perhaps a shift from competition to collaboration and co-opetition between firms could align corporate values with spiritual practices. For that to happen, it is likely that the gap between academic research and organisational practices will need to narrow for research findings to be practically applied.

In summary, the notion of workplace spirituality has been growing at a rapid pace, and its applications and implications are increasing. Various reflections and contemplations arise in this process, as, for instance, there is an unclear division between religious and secular practices. Now we proceed to literature related to exploring alternate mindsets.

Theory

To situate our research topic, we begin by looking at theory underlying the exploration of various levels of consciousness.

Exploration of states of consciousness

To start with, a leading theorist, Wilbur, paved a way for alternate mindsets to be explored, by drawing together different paradigms from Western and Eastern cultures in his 'Integral Theory', as well as relating consciousness levels with their theoretical bases in ontology, epistemology, and methodology (Wilbur et al 2011). His theories have been applied to executive leadership and organisational development, by Young (2002) and others, on how the developing higher levels of consciousness, a parallel notion to our research exploration of

developing alternate mindsets, can enhance effectiveness, problem solving capabilities and bring greater self-fulfillment within organisational settings.

Research sources for the exploration of alternate mindsets

A number of existing fields of established research provide a basis for the exploration of alternate mindsets and potential AMS organisational benefits. These include psychology, organisational science and cognitive neuroscience, which provide the context for understanding and evaluating organisational applications of these mindsets.

To provide a framework for developing our conceptual model, we outline key research in this field. To begin with, Sedlmeier and his colleagues (2012) in a meta-analysis on psychological effects of mindfulness meditation and other forms of meditation, found a medium average effect size of meditative techniques. Their meta-analysis summarised both Western and Eastern theoretical approaches on AMS techniques, thus is consistent with Wilbur's integral approach to the exploration of states of consciousness, and, in our case, mindsets.

Positive psychological and organisational science. Mental states compatible with AMS have been explored within the domains of positive psychology and positive organisational science, as a way of enhancing individual and organisational performance. We posit that the demonstrated benefits of the former are indications of the benefits of AMS.

Positive psychology and positive organisational science literature convey individual benefits of AMS relay how enhanced performance and a sense of fulfillment can result from positive and growth mindsets, mental states compatible to AMS. For example, Rogers (1961) explored how people can adapt, and develop, mental states towards openness, awareness and self-acceptance – important individual benefits.

Next, Quinn (1990) showed how being in a mindset that is results-centered, internally directed, focused on others and externally open – a state compatible with AMS – yield leadership excellence. Similarly, Csíkszentmihályi (1990) showed that the state of flow, compatible to AMS, provides enjoyable and valuable experiences through complete absorption in an activity. Further, Taylor and Gollwitzer (1995) discussed the effects of mindset on positive illusions, describing how manipulating one's mindset can correspond to improvements in how one makes decisions and implements them. In a similar vein, Gardner (2004) offered a framework for changing one's mindset to enhance intelligence, creativity and leadership.

In addition, Dutton and associates (2005) showed how people are at their best and most highly motivated when utilising intrapsychic and interpersonal resources, such as in AMS. Also, Seligman and associates (2009) looked at how approaching life with an optimistic mindset of anticipation, energy and excitement brought greater satisfaction in work and life. Finally, Dweck (2006) discussed a growth mindset – which focuses on learning, as opposed to a fixed mindset – and how it enhances performance and achievements.

To summarize, diverse lines of positive psychology and positive organisational science research which explored mindsets compatible with AMS – showed several areas of potential benefits: a mindset which embraces positivity and possibility provides (1) greater benefits and sense of personal fulfillment; and (2) enhances performance and self-actualisation compared to a negative, fixed or other TMS mindset. After now having explored the psychological and organisational science sources of AMS, we turn to the neurophysiological ones.

Neurophysiology. In terms of neurophysiological research, two areas are particularly relevant to AMS: (1) brain structure has plasticity and changes throughout one's lifetime; this supports the possibility of move from TMS to AMS, and (2) there are reliable techniques to train the brain to access alternate mindsets.

In terms of brain plasticity, Davidson and associates (2007) looked at the changeable structure of the brain (neuroplasticity), and discovered experience-dependent alterations in brain function. Further, Luders (2009) found that the brain continues to change during one's lifetime thus indicating the potential to move from TMS to AMS. In a similar vein, Plowman and Kleim (2010) found that the brain is capable of profound structural and functional change throughout one's lifespan. Overall, these lines of research indicate that the brain's structure and function are changeable, giving the possibility to shift from TMS to AMS.

In terms of training the brain to access and develop AMS, Brefczynski-Lewis and associates (2007) showed how meditative techniques (using focused attention) enhanced concentrative abilities, increased awareness and widened scope of perception, characteristic of AMS. Further, Lagopoulos and associates (2009) outlined several studies which have evidenced changes in spectral band frequencies during meditation. Similarly, Halsband and associates (2009) showed plasticity changes in the brain result from meditative practices, which indicates that the brain can enter AMS through meditative techniques. Next, Luders and associates (2009) showed how meditation changes the physical structure of the brain to have more gray matter (indicating more efficient or powerful information processing) in regions of the brain that are important for attention, emotion regulation, and mental flexibility.

Further, Williams (2010) outlined how meditation can lead to differences in brain structure, allowing subjects to separate their directly experienced self from the "narrative" self, as is possible with AMS. Support for this is provided by Zeidan and colleagues' (2011) brain imaging study findings that as few as four 20-minute sessions of mindfulness, a prominent AMS technique, was effective in relieving pain by reducing the brain's emotional response to painful stimuli. Also, Siegel and colleagues (2013) proposed that, with practice, mindful awareness allows for positive changes -- those that AMS provide -- through an "internal attunement." Overall, this diverse research indicates that brain can be trained -- namely, using meditative techniques -- to enter AMS - allowing us to propose within our model that various mechanisms can induce AMS.

Accessing mindfulness

AMS have been explored within psychology and other domains in the context of mindfulness. Mindfulness, a well-researched AMS, is defined by Langer (1989) as an ever-ready state of mind that is alert, open to new perspectives and information. Similarly, Baer and colleagues (2006) define mindfulness as non-judging of inner experience, observing but not evaluating sensations and emotions, as well as non-reactivity to inner experience, allowing thoughts and feelings to be noticed and let go of, such as in AMS. Onwards, Jha and associates (2010) present mindfulness as a mental mode which gives full attention to each passing experience, without judging, elaborating upon or reacting. This mirrors Kabat-Zinn's definition of mindfulness as 'paying attention, on purpose, in the present moment, non-judgmentally' (2002). Overall, the literature on entering a mindful mindset is parallel to entering AMS. Next, we explore how another prominent AMS, flow, can be accessed.

Accessing flow

AMS have been explored within psychology in the context of flow states. The researcher who created the notion of flow, Csíkszentmihályi (1975) defines it as a holistic sensation felt when one is fully involved in what they are doing - similar to AMS. Csíkszentmihályi and Csíkszentmihályi (1988) describe flow states as involving developing focused attention in a balanced and enjoyable way that enhances one's self-esteem and personal complexity, such as in AMS. Next, Csíkszentmihályi and LeFevre (1989) discussed how subjects accessing flow feel

relaxed and motivated and in a positive frame of mind, such as in AMS. Next, we describe how positive mindsets, another type of AMS, can be accessed.

Accessing a positive mindset

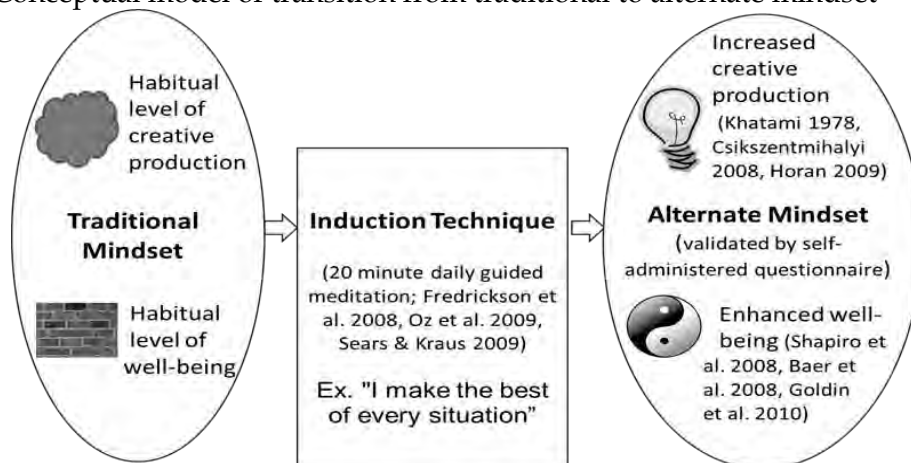
Accessing AMS has been explored within the domains of positive psychology and organisational science, as a way of enhancing individual and organisational performance. First, Quinn (1990) showed how accessing a state of mind that is results-centered, internally directed, focused on others and externally open—a transition comparable to TMS to AMS— yield leadership excellence. Similarly, Csíkszentmihályi (1990) presented the notion of entering flow as providing enjoyable and valuable experiences through complete absorption in an activity, as occurring when AMS are accessed. Next, Taylor and Gollwitzer (1995) showed the effects of mindset on positive illusions, in how manipulating one's state of mind (e.g., from TMS to AMS) corresponds to how one makes and implements decisions. Further, Gardner (2004) offered a framework for changing one's mindset, and the impacts of AMS for enhancing intelligence, creativity and leadership. Also, Dweck (2006) discussed the enhanced performance and achievements possible from a growth mindset (like AMS) where there is a focus on the process of learning, rather than being in a fixed mindset (TMS). Finally, Seligman et al (2009) looked at how approaching life with a mindset of anticipation, energy and excitement, as that of AMS, brought greater satisfaction in work and life. Thus, the growing field of positive psychology can add to the understanding and exploration of AMS, as it bridges humanistic with mainstream psychology. We now proceed to describe our conceptual model.

Purpose of research and conceptual model

Our model proposes that by regularly practicing a technique which has been shown by research literature to induce a psychological transition from a traditional mindset to an alternate mindset. By doing so, organisational actors have the potential to reap the benefits associated with these states, such as heightened awareness, enhanced creativity and reduced stress. Over time, AMS has the potential to become a regular state of mind.

Specifically, we propose introducing a bi-weekly meditative practice into organisations, a psychological mechanism evidenced in research literature to induce an alternate mindset (AMS). As a result of shifting from a traditional mindset (TMS), typified by habitual levels of creative production and well-being, towards an alternate mindset, organisational actors benefit from enhanced levels of these traits. The conceptual model shows these two mindsets and their connecting psychological mechanism:

FIGURE 1: Conceptual model of transition from traditional to alternate mindset



The conceptual model describes the transition from the traditional mindset, a habitual way of being that typifies the mode of consciousness having non-optimal levels of well-being, creativity and other aspects, to an alternate mindset, with optimal levels of well-being, creativity and other qualities. A mechanism to bring about this psychological transition (guided mindfulness meditation, chosen for its organisational feasibility) is practiced individually to bring about a shift to an alternate mindset. We next explain the concept of mindset.

Mindset refers to frame of mind, one's outlook or perspective, a mental model or mentality, alternatively, an emotional disposition. Rather than seeing mindset as a fixed mental attitude that predetermines a person's responses to and interpretations of situations, this research views mindset as an inclination or habit that is changeable over time; a state which each individual can consciously choose to maintain or alter. Thus, a mindset is a characteristic state, and not a trait. The ability for mindset to change, and in reference to TMS-AMS transition, to improve, has been explored in philosophical and research literature. Socrates wrote of brain plasticity, that similar to athletes, the mind can be seen like a muscle, in that it is malleable. This notion of the mind as an organ that is changeable was addressed by Rousseau, with his view that human beings are perfectible, that our sense apparatus can be trained, to improve how experiences are perceived and handled. After discussing the concept of mindset, we turn to the discussion of the traditional and alternative mindsets.

Traditional mindsets defined and characterised

Prior to studying the transition from a traditional mindset to an alternate mindset, we define and characterise traditional mindsets, which, like alternate mindsets exist within a range on a continuum that connects these two groupings of mindsets. A traditional mindset is a normal, habitual state of mind, an ordinary waking state of consciousness is severely sub-optimal, and is accompanied by habitual levels of well-being and creativity. TMS is an active though slightly anxious mode, although the anxiety can seem temporarily exciting and pleasurable. Next, we define and characterise alternate mindsets.

Alternate mindsets defined and characterised

The term alternate mindset is interchangeable with mindfulness, flow and other states for which enhanced well-being (Shapiro et al. 2008, Baer et al. 2008, and Goldin et al. 2010), increased creative production (Khatami 1978, Csíkszentmihályi 2008, Horan 2009) and other benefits have been shown to result from. To clarify what is being referred to with alternate mindsets, these mindsets include the mindsets of mindfulness, flow and other states, which themselves are concepts that often overlap in their definitions and characteristics. Although terminology and traits of the various mindsets that AMS encompasses vary, for the purposes of this research they are grouped together to build upon several lines of existing research.

Neuropsychological substrates of traditional and alternate mindsets

For neuropsychology research studies, it is apparent that the brain is modifiable. Regarding the neurophysiology of alternate mindsets, Davidson et al. (2007) suggest that humans possess an innate potential for directing attention. Next, Brewer and colleagues (2011) describe how meditation quiets brain regions in the default mode network. Overall, alternate mindsets are evidenced to have distinct neuropsychological substrates from traditional mindsets. We now proceed to describe benefits of alternate mindsets.

AMS individual level benefits

Research has shown that being in an alternate mindset brings several types of individual level benefits. A first type of benefits concerns improved information processing, heightened awareness and a widened perception of reality. For example, Quinn (1990) showed how the

holistic perspective which AMS provide allows managers and leaders to function more effectively with the paradoxes and competing demands they are presented with, all the while remaining calm and focused. Next, Payne and associates (1993) found that being in an alternate mindset enables a more complex data processing – through receiving a wider span of information – and more integrated processes, rather than linear, as with TMS. In a similar vein, Stovovich and West (2000) studied two parallel information processing systems – cognitive (rational analytical) and experiential (similar to intuitive) – and found that AMS balances these two processing systems allowing for a dual, improved information processing, rather than relying solely on the cognitive processing system, as with TMS. Further, Kabat-Zinn and Santorelli (2002) have shown that AMS – through heightened awareness of thoughts, feelings, and bodily sense, such as established by body scan techniques – allow for deeper perception, understanding, and way of making sense of the world. They, and other researchers, displayed how body scan techniques improve functioning of the insular cortex and its related neural functions, including increased self-awareness and empathy, enhanced perception and cognitive functioning, and better regulation of the body's homeostasis, emotions and consciousness (Craig 2004; Lutz 2008; Singer 2008). Finally, Sadler-Smith and Shefy (2004) show how an alternate mindset slows synthetic and integrative information processing, rather than linear and fragmented processing, as with TMS. Overall, this diverse research indicates that AMS bring individual benefits in terms of improved information processing, heightened awareness and a widened perception of reality.

A second type concerns the increased ability for managers to focus and concentrate. For example, Kabat-Zinn (2002) showed that mindful states—a form of AMS—allow senior managers to focus better, sustain attention for longer periods of time, and at the same time, bring additional benefits of reduced stress, improved health and heightened creativity. Similarly, Weick and Putman (2006) found that being alert and mindful, as in AMS, fosters better concentration, and greater ability to sustain focus over longer durations than with TMS. Further, van den Hurk and associates (2010) found that mindfulness meditation, leading to AMS, resulted increased efficiency in attentional processing, notably, that the practice led to faster response time and fewer errors made in given tasks. Next, Zeidan and associates (2010) showed that the mindfulness quality, of AMS, significantly improved visuo-spatial processing, working memory (allowing for better recall), and executive functioning. Finally, Langer and associates (2010) discovered that manipulating mindset (changing from TMS to AMS) can overcome physiological limitations, allowing subjects to have better visual abilities, as well as improved health and longevity. Overall, this diverse research indicates that AMS bring individual benefits in terms of increased ability for managers to focus and concentrate.

A third type of AMS individual benefits concerns enhanced intuition and greater wisdom. For example, Barnard (1938) found that an alternative way of knowing that AMS provides allows for non-logical processes, known through judgment, decision, and action, and consisting of “good sense,” intuition, inspiration, or even ‘genius’. Next, Showers and Chakrin (1981) showed how being in an alternate mindset and allows one to appraise a situation holistically and pull patterns together, thus allowing for greater insight and enhanced sense-making abilities. Further on, Davis-Floyd and Arvidson (1997) found that AMS provide an inductive way of knowing which allows for more insights than TMS. Also, Kabat-Zinn (2002) studied mindfulness (the mind as a sense organ allowing for extended sensory perception) and found that in a mindful state people exhibit enhanced creativity, sense-making capabilities, decision-making ability and are more engaged and experience greater fulfillment. In a similar

vein, Sinclair and Ashkanasy (2005) showed that alternate mindsets enable non-sequential, holistic thinking, comprising of both cognitive and affective elements, and resulting in direct knowing (i.e., without formal reasoning). Similarly, Rowley (2006) found that AMS provide for greater wisdom, allowing for better knowledge management and strategic leadership. Finally, Weick and Putnam (2006) have shown that AMS improves mental alertness and organisational abilities, thus leading to enhanced innovation and agility among people.

Lastly, a fourth type of individual benefits is better judgment in problem-solving. For example, Simon (1947) found that while in AMS, people have an increased willingness to make decisions when all the facts are not available, which is beneficial for decision-making in organisational situations with incomplete information. Next, Blattberg and Hoch (1990) pointed out that AMS allows one to judge when normative analyses break down. Further, Dane and Pratt (2007) showed AMS allow for affectively charged judgments that arise through rapid, non-conscious, and holistic associations. Finally, Ericson (2010) showed how AMS allows organisational actors to conceptualize a broader view of strategic decision making, leading to enhanced sense-making. Overall, this diverse research indicates that AMS bring individual benefits in terms of better judgment and sense-making. We turn now to organisational benefits.

AMS organisational level benefits

Research has shown that being in AMS brings several types of organisational level benefits. A first area of benefits concerns how teamwork is enhanced through a greater sense of connectedness amongst organisational actors. For example, Sheldon and McGregor (2000), and Sheldon and Osbaldiston (2000) pointed to how the intrinsic focus of AMS leads to more cooperation and pro-social behaviour in organisational groups, as well as better ability to solve social problems benefiting the group. Further on, Imel and associates (2008) showed that mindfulness-based stress reduction (MBSR) – a process inducing AMS – provides the group benefits. Next, Yeganeh and Kolb (2009) showed how mindfulness – which organisational actors experience while being in AMS –cultivates experiential learning, reduces automaticity and enhances quality of life within organisations. Similarly, using the example of musicians, Langer and associates (2009) showed how being mindful enhances the creative process, allowing orchestras, in this case, to make music that is more enjoyable to perform and to hear, through the nuanced and novel approach that AMS allows. Also, Langer and associates (2010) conducted research showing how mindfulness results in reduced negative consequences of social comparisons, which could allow for better group relatedness and cohesiveness. Finally, Shapiro and associates (2010) looked at how mindfulness, as that of AMS, can bring interpersonal attunement, fostering better interpersonal relationships. In sum, AMS leads groups to better inter-relations, and better organisational performance.

A second type of organisational level benefits concerns improved organisational competitiveness and international business strategy resulting from the global, holistic perspective provided by AMS. For example, Kedia and Mukherji (1999) have shown that a global outlook, as in AMS, moves an organisation's structure, process, people, and culture from a set of highly autonomous business units to one that becomes an integrated and effective global network. In a similar vein, Lahiri and associates (2008) found that a global mindset, as in AMS, allows viewing the world with a broad perspective, allows thinking beyond geographic boundaries and hence, viewing globalization threats as growth opportunities, valuing integration across borders, and appreciating regional and cultural diversity. Further, Solomen and Schell (2009) explored how a global mindset's, spanning cultural and geographic divides, as in AMS, is crucial for building business relationships. Onwards, Cohen (2010) points to how a global mindset, as in AMS,

improves global business strategy and develops effective global leadership. Overall, AMS enable organisations to strengthen their global competitiveness.

In sum, research explored diverse types of organisational benefits of AMS showing enhancement of a variety of organisational processes benefiting organisations. After discussing several key concepts related to our model we turn now to presenting our hypotheses.

Hypotheses

Each variables' interaction with sessions for experimental compared to control groups:

Levels of employee well-being. Our first three hypotheses evaluate levels of the first dependent variable, well-being.

Hypothesis 1: Start of day well-being will increase over the duration of the sessions

Hypothesis 2: End-of-day well-being will increase over the duration of the sessions

Hypothesis 3: Difference in well-being (End-of-day minus start-of-day) will increase over the duration of the sessions

Levels of creativity: The three hypotheses relate to the second dependent variable.

Hypothesis 4: Start-of-day creativity will increase over the duration of the sessions

Hypothesis 5: End-of-day creativity will increase over the duration of the sessions

Hypothesis 6: Difference in creativity (End-of-day minus start-of-day) will increase over the duration of the sessions

Cultivation of alternate mindsets: In addition, we posit that mindfulness will grow.

Hypothesis 7: Level of mindfulness will increase over the duration of the sessions

Having presented our hypotheses that we seek to explore in relation to research literature, we proceed to our research methodology.

Methods

Participants

A letter offering the research study was sent to 19 organisations in Canada and 17 in France. Three organisations accepted hosting the research study - employees from Vancouver City Hall, an investment and real estate development private company in Vancouver, Canada (which we shall call Aleph for confidentiality reasons), and ESCP Europe School of Business in Paris, France were recruited, via email. Willing—self-selected—employees were invited to contact the researcher directly. Each participant signed up for eight bi-weekly sessions.

Procedure

The experimental procedure, including which self-reported questionnaires were completed, is summarised below in Table 1.

Table 1: Interventions for measuring well-being and creative production

| | Well-being | Creativity |
|---------------------|---|--|
| Preparatory Session | N/A | List several current challenges faced in the workplace |
| Pre-test | Satisfaction with Life Scale | Adjective Checklist |
| Technique | Guided meditation (Experimental groups) / Relaxation (Control groups) | |
| After technique | Mindful Awareness Attention Scale | |
| End of workday | Satisfaction with Life Scale | Solutions to selected challenge, and Adjective Checklist |

Having briefly presented our methodology, we move to outlining our research findings in light of our hypotheses.

RESULTS

Statistical model selection

All models included the following predictors: sessions (1 to 8), condition (experimental versus control) and interaction between sessions and condition. Akaike Information Criterion (AIC) was used to compare models including random effects with models with only fixed effects to discover whether context affected the experiment or not, as reported in Table 2.

Table 2

Fixed and random effects models comparisons using AIC

| | Fixed effect Model AIC | Random effect Model AIC |
|-----------------------------|------------------------|-------------------------|
| Start-of-day Well-Being | 1805.64 | 1826.83 |
| End-of-day Well-Being | 1821.46 | 1819 |
| Start-of-day Creativity | 2295.85 | 2315.26 |
| End-of-day Creativity | 2277.19 | 2298.12 |
| Average Creativity | 994.44 | 1632.75 |
| Mindfulness (extent of AMS) | 1569.34 | 1573.85 |

Note: The AIC is an indicator used to compare the suitability of the fixed effects model with the random effects model for the data sets.

Except for end-of-day well-being, the results suggest that the effect of the experiment was the same in the different contexts, either versus location or experiment's time. Given the statistical insignificance of variability across contexts for start-of-day well-being, mindfulness, start-of-day creativity, end-of-day creativity and the average creativity evaluation, further analyses are based on the fixed effect models, as it was determined to be more appropriate for our data sets. For the end-of-day well-being, corrected estimates of the random effect model are reported and analysed.

Predicting well-being, creativity and mindfulness

The estimates of the models are reported in Table 3.

Table 3

Estimates of the GLMs predicting morning well-being, afternoon well-being, morning and afternoon creativity, average creative production evaluation and mindfulness

| | Start-of-day well-being | End-of-day well-being | Start of-day creativity | End-of-day creativity | Average creative production | Mindfulness |
|---------------------------|-------------------------|-----------------------|-------------------------|-----------------------|-----------------------------|-------------|
| Session | -0.02 | .01 | -0.01 | 0.01 | 0.01 | 0.00 |
| Condition (Exp.) | -0.42* | -.32 | -0.82 | 0.82 | 0.07 | 0.01 |
| Session: Condition (Exp.) | 0.13*** | 0.10*** | 1.03*** | 1.20*** | 0.14*** | 0.12*** |

* $p < .05$; *** $p < .001$; Intercepts are not reported but are all significantly superior to zero.

This analysis used the fixed effects model to look at impacts per session and overall of experimental groups compared to control groups for each of the well-being measures for the three locations combined, as well as each of the creativity measures for the two locations where

it was tested, and finally, for mindfulness levels for the three locations, as an indicator of extent of AMS. The table above reports the estimated values from the generalised linear model used, of what predicted levels of well-being, creativity and mindfulness would be expected for a participant to experience from experimental sessions, based on the average values across all participants in each data set.

For all variables, no simple effect of sessions was observed. The score of start of day well-being was found to be significantly lower in the experimental condition: $B=-.42$; $p<.05$. Except for this variable, no simple effect of the condition was observed. The interaction between session variable and condition is positive and significant for all the variables: the level of start-of-day well-being ($B=.13$; $p<.001$), the level of end-of-day well-being ($B=.10$; $p<.001$), the level of mindfulness ($B=.12$; $p<.001$), the level of start-of-day creativity ($B=1.03$; $p<.001$), the level of end-of-day creativity ($B=1.20$; $p<.001$), and the average creativity evaluation ($B=.14$; $p<.01$) all indicate that the cumulative positive effect of sessions on the levels of well-being, mindfulness and creativity is significantly stronger in the experimental condition.

Identifying the necessary number of sessions to observe an effect

To identify how many sessions were necessary to obtain an effect, a series of GLM were computed, increasing progressively the number of sessions taken into account. When the interaction became significant, it was considered that this number of sessions was the threshold from which the experimental condition started to be efficient. That is, we tested for differences across session 1 data, then with the first two sessions, first three sessions and onwards until we found a significant effect start to occur, and it was considered significant if the significant differences remained for the following remaining sessions.

For start-of-day well-being, end-of-day well-being, mindfulness and average creativity, the interaction was significant as of the sixth session. For start-of-day and end-of-day creativity, the interaction started to be significant at the fifth session. In conclusion, the effect of the experimental condition on start and end-of-day well-being, mindfulness and average creativity was significant as of the sixth session. The effect of the experimental condition on start and end-of-day creativity was significant as of the fifth session.

Predicting the increase of well-being between start-of-day and end-of-day

Increases in well-being (end-of-day minus start-of-day) and creativity (end-of-day minus start-of-day) were introduced as dependent variables in two GLM. The predictor variables were: condition (Experimental versus Control), session (session 1 through session 8) and interaction between the two variables. Estimates of these GLM are reported in Table 4.

Table 4 Estimates of the GLMs predicting increases in well-being creativity

| | Well-being increases | Creativity increases |
|-----------------------------------|----------------------|----------------------|
| Session | 0.03 | 0.02 |
| Condition (Experimental) | 0.46*** | 1.65** |
| Session: Condition (Experimental) | 0.00 | 0.18 |

** $p<.01$; *** $p<.001$; Intercepts are not reported but are all significantly superior to zero.

The results suggest that both the increases of well-being and creativity are significantly higher in the experimental condition than in the control condition within each session day.

Discussion of Results

As the above presented statistical results show, as of six experimental session, significant increases in well-being, creativity and mindfulness. Support was found for each hypothesis as outlined here.

Levels of employee well-being

Hypothesis 1: Results indicate that the cumulative positive effect on start-of-day well-being is significantly stronger in the experimental than control conditions as of session six.

Hypothesis 2: Results indicate that the cumulative positive effect level of end-of-day well-being is significantly stronger in the experimental than control conditions as of session six.

Hypothesis 3: Results indicate that the daily improvement in well-being is significantly stronger in the experimental condition than the control condition.

Levels of creativity

Hypothesis 4: Results from both tests of creativity levels indicate that the cumulative positive effect of sessions on start-of-day creativity is significantly stronger in the experimental condition than in the control condition as of the fifth session.

Hypothesis 5: Results from both tests of creativity levels indicate that the cumulative positive effect of sessions on the level of end-of-day creativity is significantly stronger in the experimental condition than the control condition as of the fifth session.

Hypothesis 6: Results from both tests of creativity levels (one that measures creativity ability and the other that measures creative production) indicate that the daily improvement in creativity is significantly stronger in the experimental condition than the control condition.

Creativity scores, based on both creative production and Domino's creativity scale, increased over the duration of the sessions. This could be explained by the notion of creative adaption (Valliant 2000; Meneely and Portillo 2005, p 156) which integrates theories from Gardner, Domino, Csíkszentmihályi and others to describe how people adapt to situations in a way that 'involves flexibility in thinking, responsiveness to environment (self-adaptation), and transformation and evolution of the environment (domain adaptation).

Cultivation of alternate mindsets

Hypothesis 8: Results indicate that the daily improvement in level of mindfulness is significantly stronger in the experimental condition than the control condition as of session six.

We now move to discussing key organisational implications resulting from our significant findings in regards to heightened well-being and creativity from alternate mindsets.

Organisational Implications

We now transition to explaining the implications of our research findings, firstly those resulting from enhanced well-being and then from enhanced creativity.

Impacts of increased workplace well-being

Our experiments show a significant improvement in well-being levels resulting from implementing AMS mechanisms in the workplace, leading to organisational benefits including enhanced productivity and pro-social behavior.

Productivity and performance. Better workplace performance can result from employees experiencing greater well-being. First, those with higher well-being levels are significantly more likely to receive high ratings from customers (Gallup Poll 2006). Second, in a meta-analysis of 225 academic studies, Ljubomirsky, King and Diener found that employees with high well-being

have, on average, 31% higher productivity and 37% higher sales. Thus, AMS enable higher productivity and performance.

Pro-social behaviour and engagement. Next, enhanced well-being has been linked with more pro-social development such as displaying greater empathy, compassion and consideration of others. As a result, employees who score high on providing social support are 40% more likely to receive a promotion, have higher job satisfaction, and feel ten times more engaged at work than those in the lowest quartile (Anchor 2008). As well, corporate culture can improve and employee turnover can decrease, from having stronger social bonds and employees having greater commitment to their employer (Goleman 1998). Thus, the AMS benefit of enhanced well-being extends beyond the individual - of being more empathic, satisfied and engaged at work - to enhance organisations.

Having looked at a few of the many beneficial impacts of increased well-being, we now present the impacts of increases in the second dependent variable, creativity.

Impacts of increased workplace creativity

Maximising employee creativity through AMS mechanisms has substantial potential value for organisations. Creativity can be seen as applied imagination, the process of having valuable original ideas, and innovation can be seen as putting good ideas into practice. Given that many individuals and workplaces typically operate in TMS, active imagination may be inadvertently discouraged and new ideas may be rejected. AMS mechanisms could enable the expression creative potential, leading to optimal organisational innovation and strategy.

Here, we address two potentially valuable categories of organisational implications of enhanced creativity resulting from AMS – technical innovation and intrapreneurship.

Technical innovation. The enhanced creative production resulting from AMS could benefit firm performance by improving technical innovation. To begin with, Torrance (1959) explained the serendipitous nature of technical innovation and called for ‘renewed energy for continuous adaptation’. In light of this, Collins and Porras (1997) pointed to the need for ‘mechanisms of progress’, systematic approaches, for continuous improvement and innovation from all organisational actors. In support of this, Robinson and Stern (1998) state that firms’ creative potential is typically greater than their creative performance. These researchers, along with Torrance, also emphasise that creativity tends to occur in unplanned and unexpected ways. Along this vein, Getz and Robinson (2003) propose implementing processes for managing ideas (SMI), that ‘use of an entirely different process than a traditional suggestion scheme’. AMS techniques respond to this need, enabling corporate creativity as an open system to which all employees can contribute, and derive a sense of meaning, given a suitable workplace environment.

Thus, enhanced technical innovation can result from boosted creativity resulting from AMS techniques. Now we address a second factor of how increased employee creativity from AMS techniques impact organisations- improved intrapreneurship.

Intrapreneurship. Intrapreneurship is defined by Shabana (2010) as internal entrepreneurship, that is, employees using their creative ideas and entrepreneurial skills towards devising and implementing innovation. Also referred to as corporate entrepreneurship, intrapreneurship utilises creativity by allowing employees to use their experiences to come up with insights to devise and exploit opportunities (Rerup 2005). In view of the development of alternate mindsets, Kok and Fredrickson (2013) suggest that a mechanism by which AMS techniques allow participants to display greater intrapreneurship by strengthening self-regulation improve social skills, self-awareness and other necessary components of

intrapreneurship. AMS techniques can provide impetus for greater intrapreneurial activity by uncovering innate creative potential via a mindset that enables maximal use of creative ability.

In sum, organisational outcomes are optimised as a result of increased well-being and creativity from cultivating AMS, through enhanced work performance and other factors.

Limitations

Self-selection bias

For all three locations, participants were self-selected, which has the advantage that there was good attendance as they were motivated to attend, however has the drawback that certain characteristics of the volunteers might be different from those who chose to not participate, for instance, their propensity to cultivate alternate mindsets.

Motivation to participate

Only a portion of employees may be self-motivated to attend and participate meditation sessions on their own time without pay or incentives, thus another solution could be sought if all employees are to participate, and thus benefit, from sessions. It would be important that employees are given choice to participate or not, to avoid resentment and other destructive emotions and behavior from being deprived of freedom and autonomy (Carney and Getz 2009).

Now we turn our attention to suggested future research, giving focus to potential changes and additional experimental factors that can best contribute to this growing field.

Future research

The experiments conducted for this research had significant findings in regards to two important AMS benefits, well-being and creativity, and showed the potential for AMS techniques to cultivate a greater extent of AMS amongst participants at three workplaces. Yet, additional research in promising directions could translate into more robust research findings that could minimise methodological limitations described above, supplement significant findings and advance potential applications. We begin our discussion of future research possibilities with possible replications and adaptations.

Replications with additional or different criteria

In terms of further research, it could be advantageous to replicate experiments at additional organisations, measuring: (1) the same individual benefits of AMS, to strengthen the ecological validity of results and have sufficient data to make demographic comparisons and/or (2) additional AMS benefits, at the individual (such as level and duration of concentration, level of fulfillment, perceived stress levels or work engagement), team (such as group cohesiveness, team productivity or extent of synergy) or organisational level (such as corporate citizenship, turnover levels, absenteeism levels or productivity).

Conclusion

Recognising the accelerating pace of organisational change and intensified pressures of modern work settings, alternative mindsets have great promise for bringing numerous benefits on the individual, group and organisational level. More than simply benefiting individuals, AMS have organisational implications including greater productivity and engagement, ultimately enabling greater innovative ability and competitive advantage.

Yet, methodological issues and other limitations need to be overcome in order to strengthen findings within this field of research, and additional well-designed and rigorous studies, particularly those applying AMS techniques within organisational settings, will advance research in this domain, allowing for greater understanding of AMS and beneficial applications of cultivating these types of mindsets.

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Impact of economic partnership agreements: the case of EAC's manufactured imports from EU

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Keywords

East African Community, EU EPA, manufacturing products, imports, welfare

Abstract

This study uses a partial equilibrium model to analyse the impact of East African Community elimination of import duty on imports of manufactured products from the European Union on preferential basis under the proposed EAC-EU Economic Partnership Agreement. Results show possibility of a 9% increase of manufactured goods imports from EU into the EAC region. Imports from EU found to be likely to increase the most are those with higher tariffs of 25% or 10%. EAC tariff elimination is found to be likely to lead to lower prices for manufactured goods, leading to small consumption gains of about 0.03% of the region's GDP. We recommend that EAC countries take measures to improve the competitiveness of their manufactured goods in order to compete with EU's manufactured products once the EAC-EU EPA comes into effect.

1.0 Introduction

Since 2002, the East African Community (EAC) partner states of Burundi, Kenya, Rwanda, Tanzania and Uganda have been negotiating an Economic Partnership Agreement (EPA) with the European Union (EU). Although the EAC-EU EPAs covers several cooperation areas of interest to the EAC and EU economies such as development issues, the main objective of cooperation in goods trade is the liberalization of trade between the two regions.

For long, trade between EAC partner states and EU member countries' was governed by the African Caribbean Pacific (ACP) group of countries and EU Agreement trading regime. The ACP-EU trading regime provided un-reciprocal market access to EU of products exported from the ACP countries, with exports from the former (including EAC partner states) entering the EU market on duty free basis, while exports from EU to EAC countries were subject to import duty.

Once negotiations are completed and the Agreement comes into force, the EAC- EU EPA will provide a reciprocal preferential trading arrangement between EAC partner states and the EU member countries. EAC's liberalization of EU imports is progressive; starting two years after the EAC- EU EPA comes into effect with import duty being targeted for elimination within a period of 17 years after the EAC- EU EPA comes into effect (EAC, 2008).

Manufacturing sector contributes about 10% of EAC partner states' GDP while the exports share of merchandise is slightly over 20% for Kenya, Tanzania and Uganda but less than 10% for Burundi and Rwanda. The main export destination markets for EAC's industrial goods include EAC itself, European Union (EU) and USA, with exports in these markets being under preferential trading arrangements.

Manufactures account for the largest share (60 %) of merchandise imports in the region. United Arab Emirates was the leading import source market in 2011 followed by China. Together, EU member countries are also an important source market for EAC's manufactured

goods imports and Kenya is among the largest import source markets of manufactured goods for other EAC partner states.

Tariffs applicable to EAC partner state imports of various manufactured products from third countries are in line with EAC's Common External Tariffs (CET). The CET is a three band tariff structure of 0%, 10% and 25% for raw materials, intermediate, and finished goods respectively. Products considered sensitive in the EAC region face applied tariffs which are higher than the general 25% applicable to finished goods. Import of Portland cement for example attracts a duty rate of 55%, while other products including matches, textile products (such as table, bed linen, toilet and kitchen linen, textile fibres), Manganese dioxide, Mercuric oxide, silver oxide, Lithium, primary cells and primary batteries attracts duty rates well over 25%.

A significant proportion of manufactured goods imported into the EAC region from various countries globally are not dutiable, with the largest proportion of dutiable imports to the region originating from Japan. Apart from imports from Kenya (which trades with other EAC partner states under EAC Customs Union trading regime), imports from other countries into EAC region face tariffs greater than 10%. The goal of EAC's regional industrial policy is to achieve structural transformation of the manufacturing sector through high value addition and product diversification based on comparative and competitive advantages of the region (EAC, 2012). Specific objectives of the policy include diversifying the manufacturing base and expanding trade in manufactured products and transforming micro, small and medium enterprises (MSMEs) into viable and sustainable business entities, among other objectives. Imports of manufactures account for about 65% of total EAC merchandise imports, accounting for over 21% of the region's GDP. Manufactured imports from EU account for about 22% of the total manufactured imports into the EAC region.

Currently EAC countries have duty free, quota free market access to EU market, while imports from EU to EAC are subject to import duty rates according to the EAC CET. EAC-EU trade liberalization under EPAs will offer no additional market access benefits to EAC partner states to EU market, but it will enhance market access for EU exports into the EAC region. In view of this, what is the likely impact of preferential trade liberalization under EPAs on EAC's imports of manufactured goods? And what is the likely impact of these imports on the welfare of EAC partner states? This study seeks to address itself to these questions.

1.1 Objectives of the Study

The objectives of this study are to:

- i. Analyse the impact of tariff elimination by EAC countries under EPAs on EU imports of Industrial goods into the EAC partner states
- ii. Identify manufactured products in EAC which are likely to be affected by liberalization Under EPAs
- iii. Analyse the welfare implications of EAC industrial goods liberalization under EPAs on EAC countries

2. Literature Review, results and discussion

2.1 Literature review

That free trade benefits all countries has been well documented starting with Smith (1776). Other authors including Gans et. al., (2011) and Krugman, Obstfeld and Melitz (2012), have also recently shown that reduction in tariffs or free trade leads to lower prices in the importing country thereby leading to an increase in consumer surplus and a decrease in producer surplus. Studies by Bhagwati (1993); Bhagwati and Panagariya (1999); and Bhagwati

(2008) have shown that regional trade agreements may lead to diversion of trade away from the most efficient global producers to regional partners, thereby leading to loss in welfare. According to Viner (1950), tariff reduction under preferential trading arrangement leads to ambiguous welfare effects, the net welfare effects being determined by the extent of both trade creation and trade diversion.

Recent studies on effects of regional trading arrangements (RTA) have shown mixed results with some RTAs experiencing trade diversion and others trade creation. Clausing (2001) analysed the effects of Canada- United States Free Trade Area (CUSFTA) and found that CUSFTA contributed to increased trade with trade increasing the most for goods which experienced the largest tariff reduction during the liberalization process. His results did not show evidence of trade diversion.

Khorana, Kimbugwe and Perdakis (2007) assessed trade creation and trade diversion in Uganda as a result of EAC Customs Union (CU) using a partial equilibrium model. They estimated trade, welfare and revenue effects under EAC-CU and analysed the impact of tariff reductions under the EAC-CU on different product groups for Uganda. Their findings did not show adverse trade impact of the EAC-CU on Ugandan products. Several studies also attempted to analyse the impact of EPAs on African countries. The studies such as those of the United Nations Economic Commission for Africa (UNECA, 2005); Busse et al. (2004); and Ndlela & Tekere (2003) found that EPAs were likely to lead to increased imports from the EU.

In the EAC region, Milner et al. (2005) analysed trade creation and diversion and welfare and revenue impacts of EPAs on three EAC partner states of Kenya, Tanzania and Uganda. The study used partial equilibrium models to identify sectors which were likely to be most affected by EPAs. They found that EPAs were likely to lead to loss in revenue and to increased welfare, albeit small, of the countries. Fontagné et al. (2008) analysed the impact of EU- ACP EPAs on various ACP groups negotiating EPAs with EU, using a partial equilibrium analysis model. Their study found that although there were revenue losses likely to be experienced by each ACP region negotiating an EPA; in general there would be minor trade diversion on ACP domestic production because EU products were not in direct competition with ACP production.

In a nutshell, it is evident that most of the impact studies on EPAs have been modelled on partial equilibrium and they show that EU is likely to gain more from EPAs than from the ACP countries' imports from EU. They also confirm that ACP countries' imports from EU are likely to increase significantly, while prices are likely to decrease and welfare to increase in EU. Studies also show that ACP countries are likely to lose revenue.

2.2 Estimation Method

This study uses a partial equilibrium model based on the System of Market **Analysis** and Restrictions of Trade (SMART) model, embedded in World Integrated Trade Solution (WITS) data retrieval system. The model allows estimation of the impact of tariff reductions on bilateral, preferential or multilateral levels on trade flows, tariff revenue, and welfare (Laird and Yeats, 1986). The SMART model has been used to analyse the impacts of MFN tariff cuts on trade values by Yeats (1994), Jachia and Teljeur (1999), IEA (2008), Karingi and Fekadu (2009), and Makochekanwa (2012). The two main advantages of the partial equilibrium models are the minimal data requirements and provision of analysis at a fairly disaggregated level.

In this study we estimate the EAC- EU EPA preferential impacts by assuming that both EAC and EU member countries eliminate their industrial goods tariffs on bilateral basis. Based on this we; estimate import flow impacts of EPAs; identify manufactured products most affected

and; determine the welfare effects of EAC countries eliminating tariffs under the proposed EAC-EU EPA.

2.2.1 Model Estimation

Estimation of trade creation, trade diversion and welfare effects is based on Laid and Yeats (1986). The import demand function for EAC partner states for a manufactured good can be expressed¹ as:

$$M_{ijk} = f(Y_j, P_{ij}, P_{ik}) \dots\dots\dots 1$$

The supply function of the exporting country can be expressed as:

$$X_{ijk} = P_{ikj} \dots\dots\dots 2$$

Combining (1) and (2) gives an expression for the partial equilibrium:

$$M_{ijk} = X_{ikj} \dots\dots\dots 3$$

Assuming a free trade situation, the domestic price of a manufactured good (*i*) in EAC importing country (*j*) is equal to the price in the exporting country (*k*) plus transport and insurance costs. The price in EAC partner state is therefore expected to rise by an amount equivalent to the tariff (ad valorem) applied to the good. Therefore:

$$P_{ijk} = P_{ikj}(1 + t_{ijk}) \dots\dots\dots 4$$

Trade Creation

The trade creation effect is defined as the increased demand for commodity (*i*) in EAC country (*j*) from any exporting country (*k*) as a result of price decrease associated with the assumed full transmission of price changes when tariffs are eliminated. Based on equations (1) to (5), the trade creation expression is derived. Starting with equation (4) the total differential of domestic price with respect to tariffs and foreign price is derived as shown in equation 5:

$$\partial P_{ijk} = P_{ikj} \cdot \partial t_{ijk} + (1 + t_{ijk}) \cdot \partial P_{ikj} \dots\dots\dots 5$$

An expression for the elasticity of import demand with respect to the domestic price is obtained from rearranging equation 6 as follows;

$$\frac{\partial M_{ijk}}{M_{ijk}} = Em \left(\frac{\partial P_{ijk}}{P_{ijk}} \right) \dots\dots\dots 6$$

Substituting equation (4) and (5) into equation (6) we obtain:

$$\frac{\partial M_{ijk}}{M_{ijk}} = Em \left(\frac{\partial t_{ijk}}{(1+t_{ijk})} + \frac{\partial P_{ikj}}{P_{ikj}} \right) \dots\dots\dots 7$$

An expression for the elasticity of export supply with respect to the world price is expressed as:

$$\frac{\partial P_{ikj}}{P_{ikj}} = \left(\frac{\partial X_{ikj}}{X_{ikj}} \right) / Ex \dots\dots\dots 8$$

From equation (3) it follows that the equilibrium in EAC market can be rewritten as:

$$\frac{\partial M_{ijk}}{M_{ijk}} = \frac{\partial X_{ikj}}{X_{ikj}} \dots\dots\dots 9$$

¹ Notations used in the explanation as follows:

M – imports; Mn - imports from non EPAs party countries; X – exports; V - output in EAC countries; P – price; W – welfare; t – EAC applied tariff rate; Y - national income; Em - elasticity of import demand with respect to domestic price; Ex - elasticity of export supply with respect to export price; Es - elasticity of substitution with respect to relative prices of the same product from different sources of supply; TC - trade creation; TD - trade diversion; i – manufactured product; j - importing (EAC) country; k exporting country; K- alternative exporting country; ∂ – change. P_{ijk} - Price of commodity i in country j imported from country k (i.e. domestic price in the importing country); P_{ikj} - Price of commodity i from imported from country k to country j (i.e. export/world price j); M_{ijk} - Imports of manufactured product i by EAC country j from country k.

Substituting equation (9) into (8) and the result into (7) gives the expression for trade creation effect. From equation (3), trade creation is equivalent to the growth of exports of commodity (i) to country (j) in exporting country (k). The equation for trade creation is written as:

$$TC_{ijk} = \frac{M_{ijk} \times E_m \times dt_{ijk}}{[(1 + t_{ijk}) \times (\frac{E_m}{E_x})]} \dots\dots\dots 10$$

Since in our model, the elasticity of export supply with respect to the world price is assumed to be infinite, the denominator on the right hand side of equation (10) is unity and is ignored.

Trade Diversion

Trade diversion in the model accounts for substitution of goods from one source (the rest of the World) to goods from EU in response to the change in the import price of supplies from EU but not from the rest of the world. Thus, if prices fall in EU there will be a tendency to purchase more goods from EU and less from other countries whose exports are unchanged in price. Trade diversion in our case occurs because of elimination of tariffs on imports from EU by EAC countries on preferential basis, while treatment of same imports from other source countries remain unchanged.

In this model, the value of elasticity of substitution is assumed to be 1.5, and is defined as a percentage change in relative shares associated with a 1% change in relative prices of the same product from alternative sources. This is expressed in equation 11:

$$Es = \frac{\frac{\partial(\frac{\Sigma M_{ijk}}{\Sigma M_{ijK}})}{\frac{\Sigma M_{ijk}}{\Sigma M_{ijK}}}}{\frac{\partial(\frac{P_{ijk}}{P_{ijK}})}{\frac{P_{ijk}}{P_{ijK}}}} \dots\dots\dots 11$$

Based on this expression, the percentage change in the relative shares of the alternative suppliers in terms of the elasticity of substitution, the percentage change in relative prices and the original relative shares of imports from the alternative sources is presented. By extensive expansion, substitution and rearrangement, Equation 11, which shows the change in imports from one country (trade diversion (TD) gain or loss), as a result of the change in duty paid prices relative to the prices from EU sources resulting from EAC elimination of tariffs under the EPAs, is expressed as in equation 12.

$$TD_{ik} = \frac{M_{ijk}}{\Sigma M_{ijK}} \cdot \frac{\left(\Sigma M_{ijk} \cdot \Sigma M_{ijK} \cdot Es \cdot \frac{\partial(\frac{P_{ijk}}{P_{ijK}})}{\frac{P_{ijk}}{P_{ijK}}} \right)}{\Sigma M_{ijk} + \Sigma M_{ijK} + \Sigma M_{ijk} \cdot Es \cdot \frac{\partial(\frac{P_{ijk}}{P_{ijK}})}{\frac{P_{ijk}}{P_{ijK}}}} \dots\dots\dots 12$$

The relative price changes in the above equation are specified in terms of changes of the tariffs for the two foreign sources.

The Total Trade Effect

The total trade effect is obtained by summing up the trade creation and trade diversion effects.

The Price Effect

Since our assumption is that export supply elasticity is infinite, it follows that there is no price effect on exports.

The Welfare Effect

In this model, welfare effect arises from the benefits consumers in EAC partner states obtain from the lower domestic prices after elimination of tariffs under EPAs. For the pre-existing level of imports, import duty elimination to the consumer represents a transfer from the government

tariff revenue (import duty) and therefore no net gain to the country as a whole. For the increase in imports, there is a net welfare gain equal to the value of EAC countries' consumption (represented by the value of extra imports minus the cost of extra imports at supply price i.e. excluding tariffs). Net welfare gain is therefore estimated as the increase in import value times the average between the import duty before and after their elimination. The welfare is an increase in consumer surplus and is expressed as;

$$W_{ijk} = 0.5(\partial t_{ijk} \cdot \partial M_{ijk}) \dots\dots\dots 13$$

With: W denoting welfare, while ∂ , t , i , j , k and M notations are as presented earlier.

2.2.2 Assumptions of the Model

Three main assumptions are made with respect to elasticities:

- i. Export supply elasticities of EU are infinite. This is because EAC partner states are small economies by global economy standards. EAC is therefore assumed to be a price taker.
- ii. Armington assumption on substitutability for export supply, which means that, exports of EU and other countries exporting to EAC partner states, although similar, are imperfect substitutes.
- iii. Import substitution elasticity of 1.5, implying that similar products from different countries are imperfect substitutes.

2.2.3 Data Type and Sources

Data sets used in this study are obtained from UNCTAD's Trade Analysis and Information System (TRAINS). Data used is for the year 2011 or other available latest year. The data comprises of over 3836 manufactured products at Harmonised System (HS) code at 6- digit level of aggregation, imported into the EAC from various countries of the world. Other data include: exports (both total and those specific to EAC) of manufactured products from various countries exporting to EAC region including the EU; applied tariffs applicable to manufactured products imported from various countries to EAC partner states, and supply and demand elasticities as discussed above.

2.3 Results and discussion

4.1 Impact of EAC Countries Liberalizing to EU under EPAs

Table 1 reports the simulation results of partial equilibrium analyses of the effect of EAC countries eliminating tariffs for manufactured goods imported from the EU² under EPAs. If EAC eliminates the current applicable import duty for manufactured goods imported from the EU on preferential basis i.e. through the EPAs, manufactured imports from EU to the region are likely to increase by about 9% as is shown in Table 1.

| Country | EU imports into EAC | | Trade Total Effect | Trade Creation Effect ('US \$ 000) | Trade Diversion Effect ('US \$ 000) | Old duty rate (%) | Increase in imports from EU (%) |
|---------|---------------------|--------------------|--------------------|------------------------------------|-------------------------------------|-------------------|---------------------------------|
| | Applied duty before | Applied duty after | | | | | |
| Burundi | 94342.1 | 102841.7 | 8499.6 | 5745.9 | 2753.7 | 9.6 | 9 |
| Kenya | 2014582 | 2193955 | 179256.5 | 106162.2 | 73094.2 | 11.8 | 9 |
| Rwanda | 192538.1 | 213379.7 | 20841.6 | 13073.5 | 7768.1 | 9.8 | 11 |

² Refers to the 27 member countries of the EU (EU 27).

| | | | | | | | |
|----------|----------|----------|----------|----------|----------|------|---|
| Tanzania | 1470906 | 1597497 | 126640.8 | 65283.9 | 61356.9 | 12.1 | 9 |
| Uganda | 609722.6 | 666631.6 | 56909.0 | 32370.5 | 24629.3 | 11.4 | 9 |
| EAC | 4382091 | 4774306 | 392147.5 | 222636.0 | 169602.2 | 10.9 | 9 |

Table 1: Changes in EAC Imports of Manufactured Goods from the EU

Source: TRAINS Accessed through WITS (2012)

Simulation results show that if EAC countries eliminate tariffs applicable to manufactured goods imported from EU while tariffs applicable to imports from other countries remain, then imports from EU to EAC region are likely to increase by a value of about US\$ 392 million or by about 9% of the current import values. This value accounts for about 0.4% of the region's GDP of about US\$ 99.8 billion. The rise in imports from EU is due to increased consumption of EU imports as relative prices of goods imported from EU (relative to prices of similar goods imported from non EPA party countries) reduce due to elimination of import duty by EAC partner states. These results are in agreement with those of Busse et al. (2004) and Ndlela & Tekere (2003), who found that EU imports into various EAC countries are likely to increase on formation of EPAs. In absolute terms, the increase in imports of manufactured goods from EU is likely to be highest for Kenya (which accounts for over 50% of the import increase) than in other EAC countries. Tanzania, Uganda, Rwanda and Burundi then follow in that order.

The increase in imports is due to both trade creation and trade diversion, with most of the increase (about 57%) being a result of trade creation effect (Table 2). Trade creation occurs because consumption shifts from a high cost (less efficient) producer to a low cost (more efficient) producer. Assuming that EU is a more efficient producer of some manufactured goods compared to other exporters of such goods, then after the EAC-EU EPA comes into effect, EAC countries import manufactured goods from EU duty free, translating to lower prices and an efficiency gain to EAC consumers of manufactured goods.

Trade diversion occurs when consumption shifts from a lower cost (more efficient) third party producer in a trading arrangement to a higher cost (less efficient) one within the trading arrangement. With the EAC-EU EPA, elimination of tariffs by EAC countries makes the EU manufactures cheaper as the EAC CET remains for manufactures from third party countries. EAC countries switch consumption to EU manufactures, whose production (at least for some products) may be more costly than that of other EAC suppliers leading to a reduction in efficiency. Trade diversion is from both regional trading partner countries including those in COMESA and EAC and non- regional trading partner countries. For Burundi for example, regional countries that are likely to experience large trade diversions include Kenya, Uganda and Egypt. Manufactured exports from these countries face applied tariffs of zero as they are a part of the EAC Customs Union and COMESA FTA respectively. South Africa and China exports also lose out in the Burundi market.

In the Kenyan market, diversion is mainly from China, Japan, South Africa, Egypt and Tanzania exports. Egypt and Tanzania trade with Kenya under preferential COMESA and EAC Customs Union trading regimes, respectively. In Rwanda market, China, Tunisia, Japan, Kenya and Uganda exports experience the largest trade diversion. In Ugandan market India, China, South Africa, Kenya and Tanzanian exports experience the largest diversion while for China, India, Tanzania, Kenya and South Africa experience the largest trade diversion.

2.4 Results

2.4.1 Most Affected Products

Appendix A1 - A5 show the products likely to have the largest import increase into the EAC market. For all the EAC countries, these are products with higher tariffs of 25% or 10% in

line with EAC's Common External Tariff (CET). Among these products are iron, steel, vehicles and vehicle spare parts; generally products which can be classified as high technology products.

2.4.2 Welfare Implications of EAC Liberalizing to EU under EPAs

Because EAC countries experience both trade creation and diversion, the region will also experience both gains and losses in welfare. Overall, preferential liberalization of manufactured products by EAC partner states under EPAs is likely to make them better off on average as shown in Table 2. As a result of increased consumption and increased consumer surplus, the welfare of EAC partner states is likely to increase by about US\$ 26 million (about 0.03% of EAC GDP). These findings are in agreement with Milner et al., (2005); and UNECA (2005). The welfare gain is as a result of a possible fall in price that is expected to accompany elimination of import duty on imports from the EU market.

| EAC Partner State | Trade creation (US\$' M) | Welfare (US\$'M) | Old Weighted Average duty rate (%) |
|-------------------|--------------------------|------------------|------------------------------------|
| Burundi | 5.7 | 0.6 | 9.2 |
| Kenya | 106.3 | 12.6 | 11.0 |
| Rwanda | 13.1 | 1.4 | 8.8 |
| Tanzania | 65.3 | 7.6 | 10.9 |
| Uganda | 32.4 | 3.8 | 9.9 |
| EAC | 222.7 | 26 | 9.9 |

Table 2: Welfare Effects of EAC Liberalizing under EPAs

Source: TRAINS (2012)

Of the five EAC countries, Kenya is likely to experience the largest gains in welfare followed by Tanzania, Uganda, Rwanda and Burundi, in that order. Although EAC is likely to experience welfare gains from liberalizing trade in manufactured goods under EPAs, the increased imports from EU may have a negative impact on the development and transformation of the much needed manufacturing sector in the region as it is likely to reduce producer surplus (manufacturers' gains). The manufacturing sector in EAC remains far less developed and less competitive as compared to the EU manufacturing.

3.0 Conclusion and Recommendations

Several conclusions can be drawn from the findings of this study: First, if EAC countries eliminate tariffs on imports from EU under EPAs, imports of manufactured goods from EU are likely to increase by about 9%, replacing exports from other EAC partner states among other country imports including those from China. Second, imports of manufactured products likely to increase the most are those with higher import duty rates. Third, regional partners most affected by increased imports from EU to the EAC market are Kenya, Tanzania, Egypt and South Africa. Lastly, elimination of tariffs by EAC partner states on manufactured products from EU is likely to lead to welfare gain albeit small, due to a likely increased consumption as a result of reduction in prices caused by tariff elimination.

It is recommended that EAC countries need to take measures to increase competitiveness of their manufactured products to compete better with EU in their domestic market when the EPAs eventually come into effect. Notably, the EAC partner states need to step up measures to improve quality and standards of manufactured products for better competitiveness, especially for products where EU imports to the region are likely to increase the most. They should also encourage research, development and innovation as well as industry-research institutions linkages. Addressing domestic factors that present binding constraints to the manufacturing

sector such as transport, energy and telecommunications infrastructure challenges; insecurity and macroeconomic challenges including ensuring access to affordable investment and trade finance for manufacturing sector entrepreneurs is necessary. Finally there is need to intensify value addition of the current manufactured products to ensure export of high technology products to EAC market and beyond.

4. Research limitations and direction for further research

4.1 Research limitations

The economic Partnership Agreement between EAC Partner States and the EU covers all the economic sectors. This study covered only the manufacturing sector, thus providing crucial information to policy makers. Because of limitations of time and data, the study could not be extended to cover other sectors under EPA negotiations, specifically agricultural and services' sector.

4.2 Direction for further research

It is recommended that in the future the research could be extended to cover the agricultural and services sector, thus providing the effect of EPAs on the whole economies of the EAC.

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6.0 Appendices

Appendix A: Products whose imports from EU are likely to increase most

A1: In Burundi

| Product Code | Product Name | Trade Total Effect (US\$' 000) | Trade Creation Effect (US\$' 000) | Trade Diversion Effect (US\$' 000) | Average Duty Rate Before (%) |
|--------------|---|--------------------------------|-----------------------------------|------------------------------------|------------------------------|
| 630491 | Knitted or Crocheted, Other Furnishing Articles | 782.9 | 605.5 | 177.4 | 12.5 |
| 391723 | Tubes, Pipes, Hoses of Polymers of Vinyl Chloride | 376.4 | 316.9 | 59.4 | 25 |
| 730799 | Iron or Steel, Other Tube or Pipe Fittings | 322.9 | 287.9 | 35.1 | 25 |
| 870899 | Vehicles accessories and other parts | 312.34 | 186.4 | 125.8 | 10 |
| 870332 | Compression-ignition Engine (diesel) of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc, other vehicles | 274.5 | 243.9 | 30.5 | 12.5 |
| 850720 | Lead-acid Accumulators, Other | 216.4 | 175.7 | 40.7 | 25 |
| 730719 | Cast Iron, Other Tube or Pipe Fittings | 196.9 | 162.0 | 34.8 | 25 |
| 620322 | Cotton Men's or Boys' Ensembles | 172.7 | 171..8 | 0.95 | 25 |
| 681091 | Prefabricated structural components for building or civil engineering | 151.3 | 128.6 | 22.8 | 25 |
| 482110 | Printed labels of paper or paperboard | 139.6 | 133.9 | 5.7 | 17.5 |
| 391729 | Tubes, Pipes, Hoses of Polymers Plastics (Rigid), other | 136.3 | 58.4 | 77.9 | 25 |
| 870899 | Parts & access for motor vehicles (head 8701-8705), other | 134.7 | 79.5 | 55.2 | 10 |
| 491110 | Trade advertising material, commercial catalogs | 110.7 | 53.8 | 56.8 | 25 |

Source: TRAINS (2012)

A2: In Kenya

| Product Code | Product Name | Trade Total Effect (US\$' 000) | Trade Creation Effect (US\$' 000) | Trade Diversion Effect (US\$' 000) | Duty Rate Before (US\$' 000) |
|--------------|---|--------------------------------|-----------------------------------|------------------------------------|------------------------------|
| 852352 | Smart cards | 5899.4 | 5406.0 | 493.4 | 10 |
| 870323 | Spark-ignition Engine Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc, Other Vehicles | 4019.3 | 1685.8 | 2333.5 | 12.5 |
| 870323 | Spark-ignition engine Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc, Other Vehicles | 3341.8 | 1398.0 | 1943.8 | 12.5 |
| 870332 | Compression-ignition Engine (diesel) of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc, Other Vehicles | 3058.9 | 2375.4 | 683.5 | 12.5 |
| 481092 | Multi-ply | 2992.9 | 2477.3 | 515.7 | 25 |
| 480257 | Weighing 40 g/m ² or more, Other | 2868.4 | 1783.0 | 1085.4 | 25 |
| 853710 | Bases for Electric Control or the Distribution, Not Exceeding 1,000v | 2412.8 | 1751.3 | 661.5 | 10 |
| 480421 | Unbleached kraft paper & paperboard, uncoat nesoi, rolls etc | 2274.0 | 1688.0 | 586.0 | 25 |
| 480411 | Unbleached kraft paper & paperboard, uncoat nesoi, rolls etc | 2108.9 | 1163.4 | 945.5 | 25 |
| 381121 | Additives for Lubricating Oils (Containing Petroleum Oils or Bituminous Oils) | 2074.5 | 1575.1 | 499.4 | 10 |

Source: TRAINS (2012)

A3: In Rwanda

| Product Code | Product Name | Trade Total Effect ('US\$ 000) | Trade Creation Effect in (US\$ '000) | Trade Diversion Effect (US\$ '000) | Old simple average duty rate (%) |
|--------------|---|--------------------------------|--------------------------------------|------------------------------------|----------------------------------|
| 854420 | Co-axial Cable and Other Co-axial Conductors | 1514.4 | 578.0 | 936.4 | 25 |
| 761490 | Aluminium Stranded Wire, Cables, Plaited Bands and the Like, Other | 1341.9 | 1339.0 | 2.9 | 10 |
| 852352 | Smart cards | 695.03 | 602.4 | 92.6 | 10 |
| 870332 | Compression-ignition Engine (diesel) Of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc, Other Vehicles | 686.5 | 587.7 | 98.8 | 12.5 |
| 870323 | Spark-ignition Engine Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc, Other Vehicles | 494.3 | 228.4 | 265.9 | 12.5 |
| 854420 | Co-axial Cable and Other Co-axial Conductors | 442.4 | 160.8 | 281.6 | 25 |
| 721491 | Rectangular (other than square) cros | 439.4 | 437.7 | 1.9 | 10 |
| 870332 | Compression-ignition Engine (diesel) Of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc, Other Vehicles | 404.0 | 345.5 | 58.6 | 12.5 |
| 851770 | Elec apparatus for line telephony, telephone sets, Parts | 398.78 | 163.0 | 235.8 | 10 |

| | | | | | |
|--------|---|-------|-------|-----|----|
| 731300 | Iron or steel twisted hoop or single flat wire, barbed or not, and loosely twisted double wire, Barbed wire of fencing, iron or steel | 335.6 | 329.8 | 5.9 | 25 |
|--------|---|-------|-------|-----|----|

Source: TRAINS (2012)

A4: In Tanzania

| Product Code | Product Name | Trade Total Effect (US\$' 000) | Trade Creation Effect (US\$' 000) | Trade Diversion Effect (US\$' 000) | Duty Rate before (%) |
|--------------|--|--------------------------------|-----------------------------------|------------------------------------|----------------------|
| 300490 | Minced: Surim, Alaska pollock (Theragra chalcogramma), Other | 7838.5 | 3582.5 | 4255.9 | 10 |
| 481910 | Cartons, boxes and cases, of corrugated paper or paperboard: | 4028.6 | 3127.4 | 901.2 | 25 |
| 870323 | Spark-ignition Engine Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc, Other Vehicles | 2545.8 | 1054.0 | 1491.8 | 12.5 |
| 843149 | Parts of Derricks, Cranes, Graders, Levellers, Scrapers or Pile-drivers | 2542.8 | 1205.6 | 1337.1 | 10 |
| 401120 | New Pneumatic Tyres of Rubber, of a Kind Used On Buses or Lorries | 2306.8 | 906.7 | 1400.1 | 17.5 |
| 870333 | Compression-ignition Engine (diesel) Of a cylinder capacity exceeding 2,500 cc, Other Vehicles | 2221.6 | 946.1 | 1275.6 | 12.5 |
| 330210 | Mixtures of Odoriferous Substances for Food or Drink Industries | 1754.9 | 804.3 | 950.7 | 10 |
| 870421 | Motor vehicles for the transport of goods GVW not exceeding 5 metric tons | 1581.9 | 645.4 | 936.5 | 12.5 |
| 350691 | Adhesives Based On Rubber or Plastics (Including Pratifical Resins) | 1436.3 | 1411.8 | 24.6 | 25 |
| 851770 | Elec apparatus for line telephony, telephone sets, Parts | 1302.8 | 639.9 | 662.8 | 10 |

Source: TRAINS (2012)

A5: In Uganda

| Product Code | Product Name | Trade Total effect (US\$' 000) | Trade Creation effect (US\$' 000) | Trade diversion effect (US\$' 000) | Duty rate before (%) |
|--------------|--|--------------------------------|-----------------------------------|------------------------------------|----------------------|
| 730890 | Iron or steel structures and parts, there off | 2756.5 | 1274.3 | 1482.2 | 25 |
| 480411 | Unbleached kraft paper & paperboard, uncoat nesoi, rolls etc | 2079.1 | 1503.7 | 575.3 | 25 |
| 852352 | Smart cards | 1962.8 | 1647.5 | 315.4 | 10 |
| 870323 | Spark-ignition Engine Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc, Other Vehicles | 1511.2 | 576.6 | 934.6 | 12.5 |
| 730890 | Iron or Steel Structures and Parts, Other | 1407.0 | 638.0 | 768.9 | 25 |
| 721420 | Concrete reinforcing bars and rods, Hot-rolled, Hot-drawn, Hot-extruded | 1393.8 | 1032.9 | 360.9 | 10 |

| | | | | | |
|--------|--|--------|-------|-------|----|
| 330210 | Mixtures of Odoriferous Substances for Food or Drink Industries | 1263.4 | 624.6 | 638.7 | 10 |
| 350691 | Adhesives Based On Rubber or Plastics (Including Pratifical Resins) | 920.6 | 903.2 | 17.4 | 25 |
| 690890 | Glazed Ceramic Flags | 835.1 | 425.8 | 409.2 | 25 |
| 490700 | Unused postage, revenue or similar stamps of current or new issue in the country to which they are destined; stamp-impressed paper; banknotes; check | 824.3 | 804.2 | 20.1 | 5 |

Source: TRAINS (2012)

Appendix B: Countries Likely to Face Largest Trade Diversion

B1: In Burundi Market

| Partner Name | Trade Total Effect (US\$' 000) | Trade Diversion Effect (US\$' 000) | Average Applied Duty Rate (%) |
|----------------------|--------------------------------|------------------------------------|-------------------------------|
| China | -539.4 | -539.3 | 16.1 |
| Japan | -436.2 | -436.2 | 9.6 |
| United Arab Emirates | -421.6 | -421.6 | 15.6 |
| Kenya | -320.4 | -320.4 | 0 |
| Uganda | -143.4 | -143.4 | 0 |
| Egypt, Arab Rep. | -64.1 | -64.2 | 0 |
| South Africa | -62.3 | -62.3 | 13.1 |
| Switzerland | -59.7 | -59.7 | 16.7 |

Source: TRAINS (2012)

B2: In Kenya Market

| Partner Name | Trade Total Effect (US\$, 000) | Trade Diversion Effect (US\$, 000) | Average Applied Duty Rate (%) |
|----------------------|--------------------------------|------------------------------------|-------------------------------|
| China | -18380.4 | -18380.4 | 12.4 |
| Japan | -11158.6 | -11158.6 | 11.9 |
| India | -8450.6 | -8450.6 | 11.1 |
| South Africa | -8101.3 | -8101.3 | 12.1 |
| United States | -4598 | -4598 | 12.4 |
| United Arab Emirates | -2961 | -2961 | 13.4 |
| Egypt, Arab Rep. | -2909.5 | -2909.5 | 0 |
| Thailand | -1651.2 | -1651.2 | 15.4 |
| Tanzania | -1638 | -1638 | 0 |
| Japan | -1445.1 | -1445.1 | 12.5 |
| Korea, Rep. | -1184.1 | -1184.1 | 11.9 |

Source: TRAINS (2012)

B3: In Rwanda Market

| Partner Name | Trade Total Effect (US\$, 000) | Trade Diversion Effect (US\$, 000) | Average Applied Duty Rate (%) |
|--------------|--------------------------------|------------------------------------|-------------------------------|
| China | -1728.8 | -1728.8 | 14.3 |
| Tunisia | -842.2 | -842.2 | 10.2 |

| | | | |
|----------------------|--------|--------|------|
| Japan | -829.4 | -829.4 | 11.6 |
| Kenya | -760.1 | -760.1 | 0.0 |
| United Arab Emirates | -751.8 | -751.8 | 15.2 |
| India | -382.1 | -382.1 | 11.3 |
| Uganda | -356.9 | -356.9 | 0.0 |
| Hong Kong, China | -311.9 | -311.9 | 13.7 |
| Japan | -301.0 | -301.0 | 12.5 |

Source: TRAINS (2012)

B4: In Uganda Market

| Partner Name | Trade Total Effect (US\$, 000) | Trade Diversion Effect (US\$, 000) | Average Applied Duty Rate (%) |
|----------------------|--------------------------------|------------------------------------|-------------------------------|
| India | -4957.2 | -4957.6 | 10.5 |
| China | -3890.1 | -3890.1 | 13.5 |
| South Africa | -2853.1 | -2853.1 | 12.7 |
| Japan | -2462.9 | -2462.9 | 12.4 |
| United Arab Emirates | -2391.7 | -2391.9 | 14.1 |
| Kenya | -2121.7 | -2121.7 | 0.0 |
| United States | -938.5 | -938.5 | 13.1 |
| Swaziland | -474.3 | -474.3 | 16.1 |
| Singapore | -469.9 | -469.9 | 14.1 |
| Turkey | -431.3 | -431.3 | 15.7 |
| Tanzania | -430.5 | -430.5 | 0.0 |

Source: TRAINS (2012)

B5: In Tanzania Market

| Partner Name | Trade Total Effect (US\$, 000) | Trade Diversion Effect (US\$, 000) | Average Applied Duty Rate (%) |
|----------------------|--------------------------------|------------------------------------|-------------------------------|
| China | -13896 | -13896 | 12.7 |
| South Africa | -10855 | -10855 | 12.4 |
| India | -6480 | -6480 | 11.91 |
| United Arab Emirates | -5961.1 | -5961.1 | 12.9 |
| Japan | -5148.2 | -5148.2 | 12.8 |
| Kenya | -3938.7 | -3938.7 | 0 |
| United States | -3096.1 | -3096.1 | 12.9 |
| Singapore | -1525.2 | -1525.2 | 12.3 |
| Australia | -1272.7 | -1272.7 | 12.5 |
| Swaziland | -1024.2 | -1024.2 | 14.5 |

Source: TRAINS (2012)

A theoretical reflection of celebrity endorsement in Nigeria

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Keywords

Celebrity endorsement, brand recognition, over-endorsement, multiple endorsement, overshadowing

Abstract

The use of celebrities such as movie stars, sports heroes, entertainers, music experts and all the likes as endorsers by marketers in promoting brand awareness, recognition, and preferences, has become the order of the day in advertising practices both in developed and developing economies. It therefore behooves on marketing professionals to design possible techniques to enhance its effective use by companies. This instigated the researchers to theoretically examine what celebrity endorsement is all about, celebrity-worship relationship and endorser effects, risks associated with the use of celebrity endorsement and celebrity endorsement selection criteria.

A critical review of extant literature revealed that celebrity endorsement makes advertisement more memorable and the company in the short-run generates high brand awareness as well as an increase in market share. There are certain risks associated with celebrity endorsement such as negative publicity, overshadowing, multiple endorsement, over-endorsement, extinction and cost implications. The study indicated that, successful celebrity endorsement is a combination of attributes such as trustworthiness, expertise, similarity, familiarity, likeability, and a match between the celebrity and the message (brand,). To ensure the effective use of celebrity endorsement, the paper highlighted some strategic options.

1. Introduction

As competition to create consumer attention and interest in a product brand intensifies, it is critical that marketers develop better advertising appeal to get the consumer's attention, create his interest, arouse his desire, and instigate his purchase action of the brand. In achieving this purpose, marketers often engage individuals who have achieved some form of celebrity status to serve as spokespersons for their brands. According to Silvera and Austad (2004), a celebrity is a person who enjoys public recognition by a large share of a certain group of people and has distinctive characteristics, such as attractiveness, and trustworthiness. He has the ability to transfer his image to specific product that is being advertised. Marketers have taken this opportunity into account and use celebrity as an advertising tool to gain high brand awareness, recognition and preference. Breen (2003) states that celebrity endorsement is any individual who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an advertisement.

Many marketers have realized the importance of celebrity endorsement as an advertising tool because it has an effect that influences the message (brand) the company is trying to send from someone that the consumers feel a sense of similarity with. According to Erdogan, Baker

and Tagg (2001), consumers tend to evaluate information from a communicator that has a similar goal, interest or lifestyle with them than someone else. Celebrity endorsement makes advertisement more memorable and the company in the short- run generates high brand awareness among a larger audience as well as an increase in market share (Dimed. and Joulyana, 2005). Companies use celebrity endorsement for very good reasons. It is believed that celebrity endorsement facilitates instant awareness and immediate action. Considering the huge amount of money companies are ready to pay for celebrity endorsement, it shows that many companies have had considerable success using famous names and faces as advertising strategy.

The trend in the usage of celebrity endorsement by marketers, has engineered the interest of the researchers to critically examine

- i. What celebrity endorsement is all about
- ii. Celebrity worship relationship and endorsement effects.
- iii. Risks associated with the use of celebrity endorsement.
- iv. Celebrity endorsement selection criteria.

2. Literature Review

Celebrity endorsement is an advertising strategy whereby companies use people of public recognition as spokespersons for their products. It is frequently used in recent times by companies in order to increase sales and perhaps extend their market share. According to Belch and Belch (2001), most of the celebrities that are hired by a company to pitch their products or services are popular people, movie stars, entertainers, athletes, or pop-stars, although occasionally a politician or some other well-known public figure may be used. For instance, Kanu Nvankwo leads the way, featuring in multi-category endorsements from peak milk to pepsi soft drink, to USAIDS/NACA anti-AIDS campaign among long list of other notable brands. Other high profile endorsers include Taribo West for money gram, Sunday Olise for western union money transfer, Banky W for etisalat, Pete Edochie, Jide Kosoko, and Saint Obi for Boska pain reliever, Tuface Idibia for airtel, D. Banj for virgin Nigeria Airlines, Kate Henshaw for Onga food, Stella Darnasus for Delta soap, Sunny Neji, Jim lyke, Ini Edo, and Uche Jumbo for glo.

When a company decides upon using celebrity endorsement, the main focus lies in exposing their brand (Kotler, Armstrong, Saunders and Wong, 2001). To be able to develop an effective campaign, a company has to select their endorser appropriate to different channels and media, such as source, message, and receiver (Till and Shimp, 1998). The brand can be seen as the message the company is trying to send to the audience. Moreover, the source which is intended to send this message in an endorsement strategy is the celebrity while the receiver of the message is the consumer. According to Erdogan and Baker (2004), there are several reasons why companies choose to use celebrity endorsement to a larger extent. Marketers seek to refresh the brand image, awareness and attention getting and also to add new dimensions to the brand image. According to Pringle (2004), identifying the best celebrity for promoting a brand, is one of the most important decisions considering how consumers will perceive the brand. There are less important decisions for a brand compared to the choice of celebrity such as what it is named, places where it is seen and sold and what kind of advertising campaign it runs. These considerations are taken into account and this is also the reason why many companies are ready to invest a huge amount of money in choosing and using a certain celebrity whose identity fits well with their brand.

However, celebrity endorsement strategy is not only the involvement between celebrity and the brand, the consumers are also integrated. Soderlund (2003) argues that celebrity

endorsement is not profitable to be used in a long-run perspective if it is not maintaining relevance with the consumers. This is an issue for companies because consumers are easily adapting to another celebrity because sometime one cannot fully predict the life-span of a celebrity. This can affect the brand image and also the level of loyalty a consumer has towards a brand.

The basic questions marketers could ask themselves to make celebrity endorsement effective are-how famous is the celebrity? How well does the celebrity fits with the brand, which facets of the celebrity can best work for the brand profile? And how much of the celebrity endorsement can the brand finance? Many studies such as Dimed and Joulyana (2005), and Bielli (2003) show that the deeper the fit between the celebrity and the brand the more effective is the celebrity endorsement. Therefore Pringle (2004) advised that marketers should strive to create a close connection as possible between the celebrity and the brand so that the advertising objective-awareness, interest, desire, and action, as modeled by Strong (1991) can be achieved.

Marketers need to be aware that consumers perceive celebrities in different ways based on what personal characteristics them possess. When a celebrity is in a particular situation and promoting different products or services, the consumers tend to prefer a celebrity who is an expert and trustworthy within that situation. Moreover, the celebrity should preferably be likeable among the targeted consumers and have similar goals, and interest. These attribute in combination and a fit between the celebrity and the product could be the winning concept in a celebrity endorsement strategy.

Celebrity-worship relationships and endorser effects

For some time, companies use different sports andentertainment celebrities as effective and profitable tools to advertise their products, cashing in on the celebrities fame and success as well as drawing people to consider their brands. Research has shown that celebrity endorsement helps create a positive effect on the consumers brand avareness, brand trust (Agrawal and Kamakura 1995), brand preference (Kamins et al, 1989) and purchase intentions (Ohanian 1991). These endorser effects are attributed to the celebrities' influence and their ability to transfer their values onto the brands they endorse. The current literature focuses on three particular processes: source credibility, affect transfer and image congruity (Mittelstaedt, Riesz and Burns 2000) as key explanations for endorser effects. Source credibility states that when a communication source has particular expertise in a topic of interest, the expertise equips the source with authority and believability so that communication from the source will be regarded as trustworthy or credible.

Affect transfer refers to the lateral process through which celebrities improve brand awareness and brand familiarity. When a celebrity endorses a brand, the consumer will pay more attention to the endorsed brand thereby improving its awareness and attributing it with a positive image (Kahle and Homer 1985). This effect would likely be stronger among fans of the celebrity. Positive relationship with the celebrity also entices adolescents to pursue fan-tracking activities. Some even imitate the icons behavior. Thus. The psychological foundation for endorser effect may originate from the relations between consumer and celebrity. In a multiple product study in the Chinese context, Chan (2008) reports that celebrity appeal is the most commonly used appeal that surpasses even sexual appeal. Another way celebrities may successfully endorse a brand is through image congruity, that is, consumers may subscribe to the values the celebrity possesses (Mathur, Mathur, and Rangan 1997).

Football superstars such as Austin Okocha popularly known as Jay-Jay is known to be very committed to winning each game that the plays in and thrives to be a leader of his team.

Such values inspire the public as well as football fans to regard Austin Okocha as a role model. Yet, from what basis does source credibility, source attractiveness and image congruity emerge? One probable source is the positive relations between consumers and the celebrity; without which, a celebrity may not be able to convince viewers to trust the endorsed brand. Similarly, without favorable consumer- celebrity relations; no positive values can be transferred onto the brand.

How people relate to celebrities

As consumers become familiar with celebrity figures as a result of increased media exposure, they form one- way, imaginative para-social relations with the celebrity. These relationships are real in the consumers' perceptions and constitute an important part of the consumers' subjective social experience. This phenomenon can be a powerful driver for the demand of luxurious brands in emerging markets (Zhou and Belk 2004). Indeed, the country's cohort of young adults who grew up during its years of robust economic growth is increasingly "global" and "materialistic" in their pursuit of brands (Hung, GU and Yim 2007). Compared with older cohorts, Generation Y individuals in China, especially those living in urban cities, are more individualistic, more embracing of western influence, and more inclined to pursue self-actualization rather than pure capitalistic "get rich" orientations in career aspirations. In addition, these individuals have greater tools and avenues of exposure to entertainment-based media, as they are much more embracing of new technology, especially the internet (Arora 2005).

Celebrity worship thus becomes more prevalent and profound, as celebrities represent idealized role models that consumers of this generation, deviating from the traditional career expectations of their parents, can more easily pursue and aspire to. Consumers form parasocial relations that correspond notably to a variety of specific actual social relations. Some viewers regard their favourite television performer as a friend. Others regard their favorite celebrity as a father figure, a big sister, or a lover. While the parasocial relations may serve a need fulfillment function, some researchers suggest that relationship importance can be assessed on a cost/reward basis. Since the celebrity is attractive and the relationship is under the fan's control, parasocial relations are high reward/low cost exchanges (Perse and Rubin 1989). Meanwhile, there is growing evidence that shows that parasocial relations involve not only calculative commitment but also affective commitment that stem from people's intense emotional involvement with the celebrity. As an Elvis Presley fan suggests, "I can feel him in my heart. I can see him in my dreams; I can see him on my wall in my posters, that's the stuff that's the real Elvis (Fraser and Brown 2002).

A celebrity is often regarded as a hero, a role model, or even a god-like figure to take on a dimension larger than life, allowing the fan to achieve a kind of higher existence (Kozinet 2001). Another Elvis fan, a devout Catholic, speaks with a religious fervor and suggests that "there is a distance between human beings and God. That is why we are close to Elvis. He is like a bridge between us and God" (Doss 1999) Belk, Wallendorf, and Sherry (1989) developed a list of sacredness properties that included sacrifice, commitment, ritual, and ecstasy. These properties illustrate how people dignify and ennoble the celebrities they revere. When people have strong feelings for and form an admiration relationship with a celebrity, the relations may take on a fantasy dimension so that the admirer may fantasize about meeting with the celebrity (e.g. going out drinking), becoming someone like he celebrity (e.g. becoming one's daughter). Or even becoming the celebrity him/herself (Caughey 1984). These fantasies reflect a deeper identification with the celebrity's values and other characteristics and they promote important

attitudinal and behavioral changes in the admirer (Boon and Lomore 2001). Andy Lau, who is among the most popular entertainer in China with an extensive network of fan clubs across the nation, has drawn many imitators, impersonators and self-proclaimed lovers.

Dimensions of celebrity worship

In recent studies, researchers are paying increased attention to what is now known as celebrity-worship, which is the act of giving reverence to a celebrity. McCutcheon, Lange and Houran (2002), have proposed multiple levels of the phenomenon. One commonly used scale, the Celebrity Attitude Scale, developed by McCutcheon et al, (2002) was validated in subsequent studies (Giles and Maltby 2004; Maltby et al 2002), the multiple dimensions of celebrity worship are traceable to different underlying motivations.

The first dimension underlying celebrity-worship is entertainment based motivation. This motivation represents the casual admiration that people hold towards the celebrity as well as the entertainment values a celebrity provides that gives pleasure to the public. Many consumers enjoy learning about the celebrity, discussing with others about the celebrity, and deriving satisfaction knowing the celebrity's life story and recent moves (McCutcheon et al, 2002). The second motivational dimension is characterized by intense attachment towards the celebrity. People who exhibit this motivation perceive that they are personally connected with the celebrity. They think constantly about the celebrity and associate parasocially with the celebrity. When the celebrity is successful (or in distress), they share his/her joy (or sadness). In short, the intense attachment bond "transmits" what the celebrity feels, encounters and experiences to the fans. This celebrity worship dimension falls between the extremes of a rational, distant relationship and an obsessive, compulsive bond that could advance to becoming pathological (McCutcheon et al, 2002).

The last dimension of celebrity worship motivation is characterized by individuals who take the relationship to an extreme and form a pathological tie with the celebrity. This strong tie causes the followers to engage in extremes, doing practically anything, often going beyond normal judgment and reasoning to be with the celebrity (McCutcheon, et al, 2002). This level of celebrity worship may be closely linked to a psychological disorder known as Erotomania, described in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association 1994). Hung, Chan and Tse (2010), propose that entertainment-based and intense attachment relational components are separate sub-constructs of celebrity-worship with their own magnitudes of high and low. They postulate that the entertainment-based component assesses the enjoyment or satisfaction level of a person who worships a celebrity whereas the intense attachment component assesses the strength of the bond between the follower and the celebrity. Using these two behavioral dimensions, they are able to capture more of the complexity of how consumers relate to celebrities. This is as depicted in the figure below, figure 1

Their study involves a survey of respondents' self-rated relationship with an entertainment (Andy Lau) and a sports celebrity (Yao Ming) using their translated and pretested version of the Celebrity-Attitude Scale. Respondents also rated their evaluation of brands endorsed by these celebrities (value-transfer) and their purchase intentions towards these brands. They postulate that consumer-celebrity relations are behavioral antecedents to endorser effects, thus they hypothesize that consumer celebrity relationships (measured by entertainment and intense attachment components) are positively related to how consumers evaluate the endorsed brands and their purchase intent towards these brands.

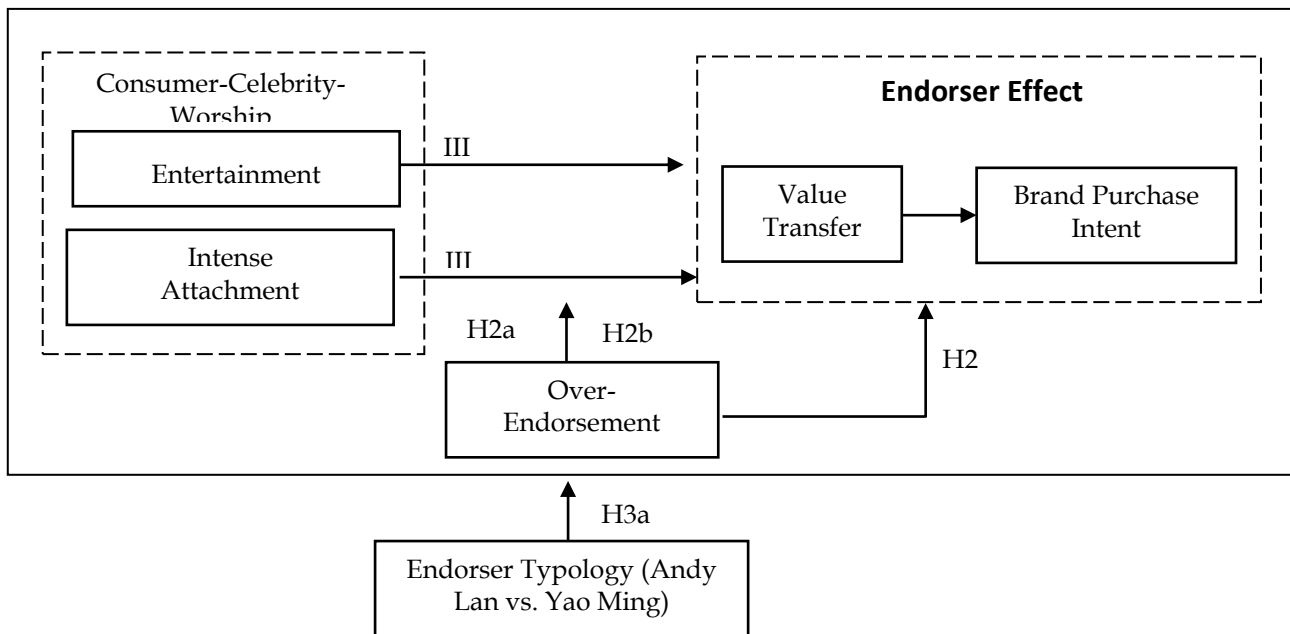


Figure 1; Celebrity Worship Relations

Risks associated with celebrity endorsement

According to Till (1998), despite well-publicized celebrity miscues such as Bill Clinton Sexual harassment, Mike Tyson's rape conviction, and Michael Jordan's gambling debt, the use of celebrity endorsers continues unabated. Although endorsers can be used for a variety of purposes such as getting attention and penetrating commercial clutter, the high cost of endorsements suggests that marketers expect to get far more value from the endorsement than simply the use of a clever executional device designed to attract consumer attention. Despite the popularity of celebrity pitchmen, many commercials using celebrity endorsers do not live up to advertisers' expectations (Liu, 2009). However, used appropriately, celebrity endorsers can serve a valuable role in developing brand equity and enhancing a brand's competitive position.

However, there are certain risks associated with the use of celebrity endorsement. A review of related literature revealed the following risks. One risk associated with the use of celebrity endorsers is the possibility of negative information or publicity regarding the celebrity. If the celebrity is strongly associated with the brand then the occurrence of negative publicity about the celebrity can spill over to the brand. Many companies have been badly affected by negative publicity from celebrity misdeeds, like celebrity endorsers involved in drug scandals, rape, and murder. The harm brought to the reputations of these companies may decrease the trustworthiness and credibility held by the consumer (Liu, 2009). Once a celebrity gets associated with negative information, the marketer has to consider various relations to be able to maintain a good position in the market and a similar level of brand recognition as the all. Till and Shimp (1998), suggested that negative publicity about a celebrity can be reduced or cancelled through consistent news story by the marketer making a disclaimer of the negative information. For instance the sex scandal between Geneve Nnaji and former Vice-President Atiku Abubakar was disclaimed by makers of lux soap. More so, is the case of Tuface Idibia when his baby- mother issue came up, he was on the payroll of Guinness.

If a celebrity endorser is used, the risk of consumers focusing on the celebrity and not on the brand exists. To solve this, advertisers should use a celebrity endorser who will attract

attention and enhance the sales message, yet not overshadow the brand. Overshadowing occurs when the celebrity endorser occurs in the presence of multiple other stimuli which all compete to form a link with the celebrity endorser: While the advertiser intends for an associative link to develop between the celebrity and the endorsed brand, overshadowing suggests that the celebrity endorser is most likely to build a link with the most dominating stimulus, which must not be the featured brand in the advertisement execution. Therefore, the celebrity and the brand should be the two strongest elements in the advertisement (Liu, 2009).

Another risk of using celebrity endorsees is that the credibility of the brand and the celebrity may suffer when the celebrity choose to endorse several different products simultaneously and becomes overexposed. Researchers found that the more products a celebrity endorses, the less credible he is seen by the consumer (Kaikati, 1987). The reason is that consumers may question whether the endorser really believes in and uses all the products he or she endorses or he is purely motivated by financial gains. Overexposure is a common occurrence between highly competing brands and highly recognized and well-liked endorsers. This disloyalty to a company could lead to lowered credibility and loss of trust in a brand. It can also make the consumers confused and unable to correctly recall which brands the celebrity stands for (Liu, 2009). For instance Z. B endorses both Arnatem and Enizor paracetamol. However, one has to be aware that multiple- endorsement does not have to imply that it is useless. Researchers have shown some potential positive effects like transfer of positive brand image, endorsing more brands allows the consumers to have additional opportunities to strengthen their bond with celebrity (I-Tung, 2010).

Advertisers sometimes use many different celebrities to endorse a brand or product. (One reason is that the advertiser use different celebrities to appeal to different market segments through different media and programs. Another reason is that the competition for celebrities could heat up just like competition for other resources. In that case, a company may sign up a celebrity to prevent another company from using that celebrity. For instance, Lillian Bach, and Stella Damascus were used at different times in promoting Delta soap.

Johansson and Sparredal (2002) as cited by Liu (2009) are of the opinion that a company's use of multiple endorsers could have some undesired results. Since each endorser has a unique image, a multiplicity of endorsers might blur the image of the brand. Even if these endorsers were used in different media or programs, because of segment overlap across media, multiple endorsers could still blur the brand image. The use of multiple endorsers may lead to the reduced effectiveness of this means of persuasion. This is true for endorsers as for any other means of persuasion. Overuse of a celebrity endorser may lead to declining popularity for advertising using celebrities.

The favourable responses that have been engendered to a particular brand because of its association with a celebrity may weaken over time, particularly if the brand receives significant exposure without association with the celebrity (Liu, 2009). The celebrity may be very famous and successful in the beginning of the contractual term, but then become less successful or lose their fame. For example, an athlete who wins a gold medal in the Olympics may be a very good endorser for a particular brand. If the athlete gets injured or becomes less successful due to other circumstances and disappear from the spotlight, he or she might no longer be the endorser a company would sought after. If the advertiser has signed a contract that last for many years, the advertiser is stuck with a celebrity who does not have the same fame and impact on the target segment that he or she used to have.

Another prominent risk associated with the use of celebrity endorsers is the cost implication. At some point in the decision to use celebrity endorsers, advertisers have to consider the cost effectiveness of the choice. The endorser who appears to have the highest potential, tend to be the most popular and therefore the most expensive to hire as endorser. The demand for entertainment and sports celebrities has increased and these individuals are sometimes very expensive to use as endorsers. In this situation, the advertiser must decide if a celebrity endorser is worth the investment. Rather than pursuing a popular endorser, advertisers can do well by looking for a less known, less expensive endorser who nicely matches, the message of the brand and appeals to the target segment (Dimed, and Joulyana, 2005, Liu, 2009; Hung et al, 2010).

Celebrity endorsement selection criteria

Celebrity endorsers have been found to produce more positive responses towards advertising and greater purchase intentions than a non-celebrity endorser. To understand how these celebrity endorsers are able to transfer their personality to products, it is important to understand what attitudes an endorser must exhibit to successfully influence a company or product image. American practitioners believed that, as baseline criteria for consideration, celebrities must be trustworthy, recognizable, and affordable, generate minimal controversy or risk, and be appropriately matched with target audiences (Liu, 2009).

1. Source attributes

Johansson and Sparredal (2002) as cited by Liu (2009) developed three basic categories of source attributes: credibility, attractiveness and power. Each category influences the recipient's attitude or behaviour through different processes referred to as internalization, identification and compliance.

a. **Source credibility:** Celebrities are generally viewed by consumers as credible sources of information about the product or firm they endorse. Source credibility can be defined as "a communicator's positive characteristics that affect the receiver's acceptance of a message". The source credibility model analyses the factor leading to the perceived credibility of the communicator. The model contends that the effectiveness of a message depends upon the perceived level of expertise and trustworthiness associated with an endorser or communicator (Belch and Belch, 2001). Information from a credible source influences beliefs, opinions, attitude and behaviour through a process known as internalization. This occurs when the receiver adopts the opinion of a credible source since customers believe information from this source is accurate. A highly credible source is particularly important when the message recipient have a negative position toward the product, service, brand or issue being promoted. The credible source is likely to inhibit counterarguments and reduced counter arguing should result in greater message acceptance and persuasion. For instance, Abel Ubeku and M.K.O. Abiola because of their celebrity status endorsed the Nigerian Airways, which was initially perceived as unreliable by the market, such endorsement alters the consumers' perception in favour of Nigerian Airways.

i. **Celebrity expertise:** Ohanian (1990), define expertise as "the extent to which a communicator is perceived to be a source of valid assertions. It refers to the perceived level of knowledge, experience, or skills possessed by an endorser". Celebrities with higher levels of expertise have been found to be more persuasive and can generate more intentions to buy the brand. For instance, medical doctors have been found to generate consumer's awareness, interest, desire and action in advertising pharmaceutical products.

ii. **Celebrity trustworthiness:** According to Ohanian (1990), trustworthiness is the degree of confidence consumers place in a communicator's intent to convey the assertions he considers most valid. Favourable disposition, acceptance, psychological safety, and perceived supportive climate are as favourable consequences of trust. A highly trustworthy communicator produces an effective attitude change, while non-trusted communicators' impact proved immaterial. Perceived communicator trustworthiness has also been shown to produce a greater attitude change than perceived expertise. When a celebrity is perceived more trustworthy, the message will be more effective and the consumer will be more integrated.

b. **Source Attractiveness:** Attractiveness is the second category of source attributes, attractiveness encompasses similarity, familiarity and likability. Similarity is the supposed resemblance between the source and the receiver; familiarity arises through knowledge of the source via repeated exposure. Likability occurs from affection for the source due to the physical appearance, behaviour or other personal characteristics (Ohanian, 1990). Source attractiveness leads to persuasion through a process of identification, whereby the receiver is motivated to seek some type of relationship with the source and thus adopts similar beliefs, attitudes, preferences, or behaviour (Liu, 2009). Advertisers have chosen celebrity endorsers on the basis of endorsers' physical attractiveness to gain from the dual effects of celebrity status and physical appearance. There is no doubt that attractive celebrity endorsers enhance attitudes towards advertising and brands, but whether celebrities are able to create repeat purchase intentions is less clear.

c. **Source Power:** The third and the final source attribute is source power. This occurs when a source has the ability to administer rewards or punishments. As a result of the power, an endorser may be able to induce another person to respond to the request or position the source is advocating. As a source characteristic, power is very difficult to apply in advertising. This attribute is most commonly used for spokespersons in personal selling (Salomon, 2002).

2. Match-up Hypothesis/Product Fit

Amos et al (2008) as cited by Liu (2009), comment that the celebrity/product fit, also called the "match-up hypothesis", refers to the harmony of the match between the celebrity endorser and the product being endorsed. Advertisers must match the product or company's image, the characteristics of the target market, and the personality of the celebrity, to establish effective messages. The determinant of the match between celebrity and brand depends on the degree of perceived "fit" between brand and celebrity image. Messages conveyed by the celebrity image and the product message should be congruent for effective communication. Special attention should also be paid to employ celebrities who have a direct connection with the endorsed product and who are perceived to be experts by the target audiences. If there is no congruency, then the audience remembers the celebrity and not the product. If the product is not appropriately matched to the endorser, as specified by the match-up hypothesis, then the meaning of the message that is transferred to the consumer may not be effective (Silvera and Austad, 2004).

Wheeler (2003) suggests that before picking an endorser, marketers must consider which traits are most important to the brand. (1) Ensure that the celebrity has qualities that fit the image suitable for the organization. (2) Find someone with a logical connection to the organization, someone who is familiar with the target group or constituency. (3) Choose someone who has a story and can tell it well. Not all celebrities can communicate a meaningful and compelling story. Good communicators make the most powerful spokespeople. (4) Consider the long-term

value of the celebrity, weight the desire to pick someone who is “hot” against the celebrity’s staying power.

3. Conclusion and Recommendations

There is a growing popularity of celebrity endorsement by marketers across the globe. Marketers spend great sums of money to have celebrities promoting their products with the expectation that consumers, will react positively to the celebrity’s association with the brand. A number of studies have explored how consumers relate to celebrities that they adore focusing on the nature of celebrity-worship behaviours and investigating the imaginative parasocial bonds people develop with icons. Consumers may say to themselves “if she uses it, it must be good” and if I use it, I will be like her”. The consumers relationship with a celebrity is driven by entertainment and fun, intense attachment, and pathological urge. Since celebrity endorsement has been widely recognized as advertising strategy by companies and marketers, it is therefore imperative to enhance the effectiveness of its usage to achieve the desired result. As a result, the following should be taken into consideration for effective use of celebrity endorsement.

- (i) Celebrity’ endorsements will be more effective when used consistently over time to increase the strength of the link between the celebrity and the endorsed brand;
- (ii) When using a celebrity endorser, keep the advertisement execution simple, clean, and free of irrelevant design elements;
- (iii) When selecting a celebrity endorser, choose a celebrity who is not already strongly associated with another product or service;
- (iv) When selecting a celebrity endorser, consider carefully the “fit”, “congruence”, or “belongingness” of the celebrity and brand;
- (v) Test potential brand-celebrity combinations to ensure that the impression and image of the celebrity is positive for the target audience;
- (vi) Celebrity endorsers can be used to effectively reinforce and/or create an image for a product or service;
- (vii) Celebrity endorsements will be more effective for less familiar brands;
- (viii) Celebrity endorser will be more effective for brands for which consumers have limited knowledge/facts;
- (ix) increased value from a celebrity endorser comes from utilizing the celebrity across the marketing mix, not just in advertising; and
- (x) Caution in choice of celebrity endorser is warranted given the potential risk of tarnishing the brand’s image.

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Dynamic relationships between oil revenue, government spending and economic growth in Oman

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Keywords

Oil revenue, Government spending, economic growth, macroeconomic variables, Oman

Abstract

This paper investigates the short-run and long-run relationships between three main macroeconomic variables in Oman using the Johansen multivariate co-integration techniques as well as the stationary VAR for the period between 1971 and 2013. The results indicate that there is a long-run relationship between these three macroeconomic variables; the real GDP, the real government expenditure and the real oil revenues. The estimated coefficients for the real oil revenues and the real government expenditure are correctly signed and statistically significant at 5% level. Both variables depict positive relationship with GDP which are 0.672 and 0.872 respectively. The impulse response functions and the variance decomposition from the stationary VAR show that these variables are very important to the short-run dynamics of the Omani economy. Overall, government expenditure appears to be the main source for economic growth in long-run, and in short run variations in government expenditure are generally derived by oil revenue shocks. Therefore, the volatility in oil revenue requires public expenditure management reforms and the need to diversify income sources in order to enhance economic stability and growth.

1. Introduction

Oil exporting economies have witnessed multiple oil shocks over the last 50 years. This oil price fluctuating and its impact on output have attracted attention of many economists who attempted to explain the impact of oil shocks and government expenditure behaviour on economic growth (Hamdi and Sbia, 2013). The transmission channels through which oil shocks may affect the overall economy have been investigated deeply in oil importing countries. The research studies of Hamilton (1983), Mork and Hall (1980), Sachs (1981), Rasche and Tatom (1981), Darby (1982), and Burbidge and Harrison (1984) helped to establish the foundation for the nature of relationship between oil prices and macroeconomy effects.

Sachs (1981) argued that oil price shock of 1973 have different effects, while it benefited OPEC countries, it generated increasing deficit in developed countries. The existence of a negative relationship between oil prices and macroeconomic activities become widely accepted since influential paper by Hamilton (1983) who investigated the oil price-output nexus in US over the period 1948-1980 using VAR framework. Hamilton's results showed that oil price changes have a strong causal and negative correlation with future real U.S. GNP growth. After that, there are many studies extended Hamilton's work and confirmed his results. Burbidge and Harrison (1984) used different data and methods for U.S and got the same negative impact of oil and energy shocks on real activity for U.S. Hooker (1996) used data for the period 1948-1972 and confirmed Hamilton's results that oil price changes exert influence on GDP growth.

However, oil prices may have asymmetric effects on economic growth because of other variables not taken into account. More specifically, oil price changes may affect output

adversely for oil-importing countries for two reasons. First, as argued by Pindyck (1991) that oil price changes raise uncertainty and thus causes decrease in private investment. Second, such changes induce resource reallocation from productive to non-productive sectors which is costly for the economy (Lilien, 1982). Thus, Hamilton's (1983) specification suffers from omitted variables problems because it does not take into considerations the impact of volatility. Recent studies have used more sophisticated econometrics models and included the effects of price volatility in addition to oil price changes. The results reveal that price volatility has also a significant negative impact on output. Ferderer (1996) argued that both oil price changes and volatility have a negative impact on economic growth, but volatility has an immediate impact whereas oil price changes effects take longer time to occur. Moreover, the evidence of non-linear relationship between oil prices and output has been supported for OECD countries as reported in Gunado and de Gracia (2003) and Jimenez-Rdriguez and Sanchez (2005) works.

It is clear from related literature that most studies of oil prices-macroeconomy nexus are concentrated on developed oil importing countries. The impact of oil price shocks on economic growth and their transmission mechanism in oil-exporting countries are different from those in oil-importing countries. A few numbers of studies have investigated this kind of relationship for oil-exporting countries. The channels by which oil prices may affect economic performance have not been systematically documented in oil-exporting countries, but several studies have argued that variations in the fiscal behaviour, which in turn reflects changes in oil price driven fiscal revenue have exacerbated output cycles (Erbil 2011). Therefore, some recent researchers argue that fiscal policy and its procyclicality is one of the main channels of natural resource curse. Bleaney and Halland (2009) investigated fiscal policy volatility channel by entering primary product exports and volatility together in a growth regression and run the model for 75 countries over the period 1980-2004. They found that the volatility of government consumption is explained by natural resource exports and greater fiscal volatility acts as a transmission mechanism for the resource curse.

Tazhibayeva et al. (2008) used a panel VAR analysis and associated impulse responses to assess the impact of oil price shocks on the non-oil economic cycle in oil exporting countries. In their model, they capture transmission oil shocks to the economy and found that oil shocks affect economic cycle through fiscal policy. Pieschacon (2009) analysed how oil price shocks affect macroeconomy activity in an oil-exporting economy using DSGE model for Mexico and Norway, two oil-rich countries with different fiscal policy framework. He found that fiscal policy is a key mechanism in transmitting the oil shocks to economy through influencing the output level, output volatility, and growth. Fasano and Wang (2002) examine the direction of causality between total revenue and total government spending for GCC countries including Oman, over the period 1980-2000, using a cointegration and error-correction models. The results show that increase in revenue causes an increase in government expenditure in the first period for all GCC countries which means that government expenditure is pro-cyclical to changes in oil revenue.

Oman as a small oil-exporting country, mostly the policy of public spending linked to oil revenue which accounts for a substantial part of public budget. Therefore, the response of fiscal policy to rising oil prices is expansionary and when the prices fall the government cut the expenditure, and in this context, the role of fiscal policy might be a channel through which the fluctuations in the oil prices or oil revenue transmitted to the rest of the economy. Hence, as it is argued from the Keynesian theories that a reduction in public expenditure causes a fall in total demand, consumption, investment which will adversely affect economic growth. On the other

hand, when oil prices increase, public spending, investment and economic growth will rise as a result of spending effect multiplier.

This paper will focus on the effect of oil revenues on economic growth and the mechanisms through which that effect can be transmitted to economic growth through government expenditure. I will use time-series analysis to examine how oil revenues affect economic growth both directly and indirectly through fiscal policy channel. Most literature in this area uses cross-country growth regressions, but as shown in the literature there is some case studies. In contrast with existing cross-country growth regression, using of time series cointegration technique and Granger causality models to examine the causal chain linking oil windfalls to economic performance through fiscal policy channel for specific case study (Oman) would add some contribution to this literature. This chapter therefore is an attempt to empirically examine oil revenue changes and fiscal policy through government spending on the Omani economy.

This paper presents a dynamic model to analyse increasing dependence of government expenditure on oil revenue and measures the extent of the government's ability to afford such continuing expenses in the face of oil revenues decrease. Furthermore, the impact of oil revenue and public expenditure on Oman economic growth is testified in this model.

The rest of the paper is structured as follows. Section 2 reviews historical data on public revenues, expenditures and GDP to illustrate the economic dilemma faced by Oman. Section 3 presents the theoretical and empirical background of natural resources effects in general and more specifically oil revenues on economic performance of oil-exporting countries. Section 4 presents the methodology used to analyse the dynamic relationships between the variables, namely oil revenue, government expenditure and GDP. Section 5 discusses the research findings and Section 5 concludes.

2. Historical Data on Oman Economic Structure, oil revenues and Public Expenditure

Petroleum sector is the main engine of the Omani economy; it represents the largest proportion of GDP compared to other economic sectors over the last forty years. The percentage of its contribution to GDP during the study period ranges from 45% to 51%. Also the contribution of oil exports in total exports ranges from 74% to more than 96% over the same period. Regarding public revenue, oil revenues alone apart from gas rents mostly accounted for more than 75% for most years covered in the sample. Despite this prominent position occupies by petroleum sector in Omani economy, it works as a closed sector, in that it does not contribute to local market factors. It employs small proportion of total local labor force due to capital-intensive investments nature of the sector. Thus, the most serious challenge faced by Omani economy is diversifying with the aim of developing other sources of income so that it can rely less on petroleum sector which faces the threat of depletion.

2.1 Oil Revenues

The public budget structure in most oil abundant countries has followed a similar pattern in that oil revenues constitute the biggest part of public budget and tax revenues is a fragile component. There are a number of factors affecting the development of oil revenues such as nominal crude oil prices, political decision, oil reserves and oil production capacity. All these factors cause evident fluctuations in the size of oil revenue and it is clearly shown in Figure 2 where the highest peak was in 2013 and the lowest was in 1986.

Since the early 1970s oil revenues have increased sharply because of phenomenal rises in oil prices. Figure 1 shows the ratio of oil revenue to total revenues in Oman. Over the whole period, 1980-2012, oil revenues constitute more than 64% of total revenues and the sharp decline

was from 1983 to 1986, when oil prices dropped, as a result, this ratio decreased sharply from 90% of total revenue in 1982 to about 75.4% in 1986. However, when oil prices rose after 1986, the ratio went up again reaching about 82% in 1990. Afterwards, it fluctuated dramatically, but with downward trend until it reached the lowest percentage, 64.7% in 2006. The bulk of the increase in oil revenues has been recorded during the period from 2007 to 2013 because of unusual rise in the price of oil, which exceeded \$100 per barrel between 2008 and 2009. As a result the contribution of oil revenue in public budget increased rapidly. It is clear from this figure that there is a strong dependence of public budget on oil revenues in Oman.

Oil Revenue Percentage of Total Revenue

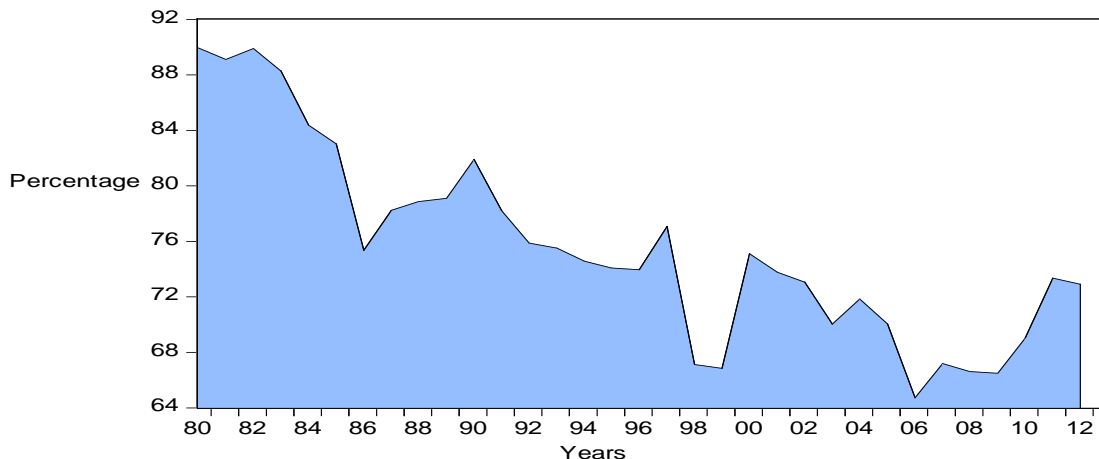


Figure 1

Figure 2 shows the pattern of Oman government revenues for the period 1980 to 2013. From 1980 to 2000, the volume of oil revenues had risen gradually but in small proportions. In 2001 and 2002, the oil revenues have seen a decline as a result of the sharp drop in oil prices because of USA economic recession, which aggravated after the events of September 2001. As the US economy is the key in determining the path of global economic growth due to its impact on the economies of the rest of the world, the rates of total demand in global economy decreased and influenced the global demand for oil causing huge fall in oil prices. However, in Oman the volume of oil revenues headed towards increase in spite of the relative decrease in the level of oil prices that reached about \$23 per barrel in 2001. The reason is due to the increase in rate of oil production because of new technologies have been used to extract oil from the ground and so the oil revenue collections increased from Rail Omani (R.O) 1.8 billion in 2001 to more than R.O 2.2 billion in 2002.

Net Oil Revenue

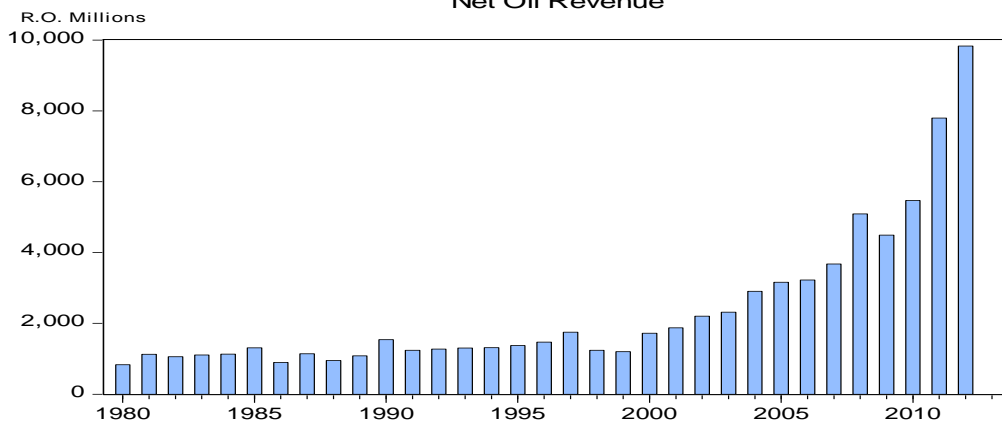


Figure 2

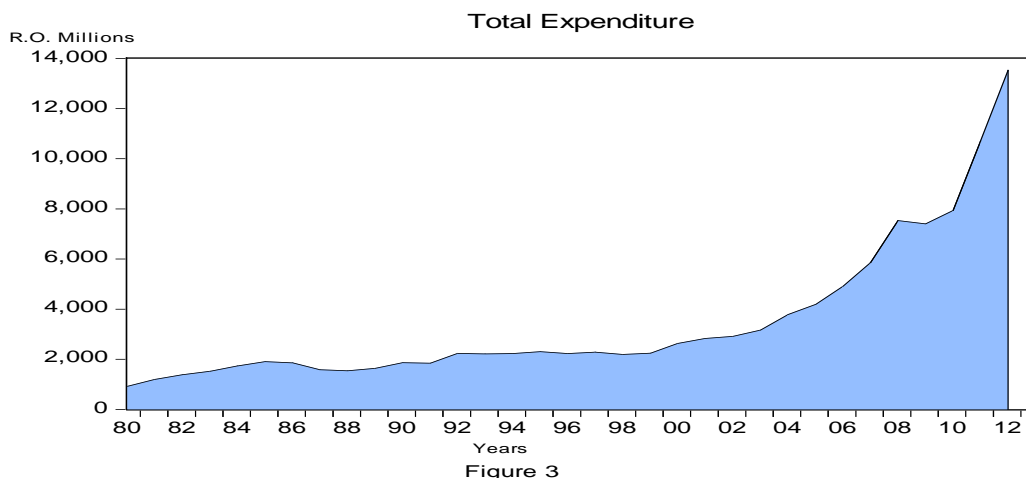
It can be noted from the data presented in Figure 2 that oil revenues have seen a significant increase in size during last decade (2003-2013), rising from R.O. 2.3 billion in 2003 up to R.O.10 billion in 2013, which is a quadruple change during the decade. This increase took place due to the rise in global prices of crude oil from \$27/barrel in 2003 to above \$140 per barrel in 2008, which is the highest level reached. Also accompanied the rise in oil prices is the increase in the quantity produced and continued high global demand for Oil. All these developments created and nurtured huge fiscal policy expansion in Oman.

2.2 Government Expenditure

In 1970s and 1980s Oman has embarked on modernisation programme that moved the economy into a new phase. This was assisted by revenue derived from the export of oil and the successive rises in prices of oil. This phase necessitated a strong intervention of the state into economic activities, which resulted in high government spending during this period rising from R.O. 46 millions in 1975 to more than R.O. 1.9 billion in 1985. These big government expenditures especially huge public investments raised domestic economic growth rates and created a good number of jobs for Omani youth. Such good economic growth rates push state to continue this approach supported and financed by the oil revenues, which represented the most important source of funding.

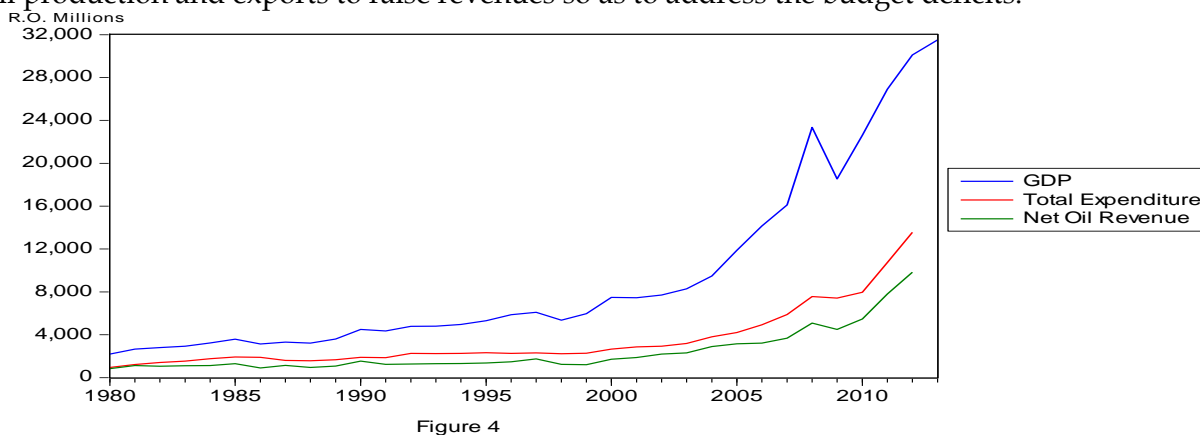
The crisis of oil prices in 1986 had a big impact on Omani economy which showed the weakness of Omani economic system, especially regarding access to the financial resources and also revealed the fragility of the country's tax system. Since the beginning of 1990s the government began considering economic reforms in order to change the pattern of economic structure and mitigate the dependency of fiscal policy on oil revenues. However, this situation did not lead to low rates of government spending, but on contrary the volume of public expenditure doubled from R.O. 2.2 billion in 1993 to R.O. 4.2 billion in 2005, owing primarily to significant expansion of services and social welfare provided by the government. During this time and specifically in 1999, rises in oil prices gave a kind of financial comfort to the government. Efforts to exploit alternative revenue sources led to further expansionary fiscal policy in terms of high volume of public spending to support their developments. This Trend clearly expresses the desire of the state to pursue Keynesian fiscal policy to activate the aggregate demand by stimulating major public investment projects. Fiscal policy has contributed significantly to the improvement of some economic indicators, most notably the rate of economic growth, which reached 7% in 2001.

The period from (2005-2013) has seen a clear increase in the size of government expenditure, as a result of the continued high oil prices and increased oil productivity, thus oil revenues jumped from R.O. 4.2 billion in 2005 to about R.O. 7.9 billion in 2010 as shown in Figure 3. Such government spending continues increasing because it is important in the volume of economic activity from the point view of the government officials. From 2010-2013, Government expenditure rose to R.O. 13.5 billion in 2013 as depicted by Figure 3. This increase is due to a rise in recurrent expenditure, especially in the area of wages, salaries and social benefits where government was forced by youth demonstrations during Arab Spring of 2011 to employ large numbers of job seekers in various government sectors. The Actual problem facing the government that most of these expenses are not flexible and cannot be reduced in case of declining oil revenues, which makes it difficult for the government to address.



2.3 The Relationship between Real GDP, Government Expenditure and Oil Revenues

Figure 4 shows the relationship between GDP, the total government expenditure, and the oil revenues of Oman during the period 1980-2013. It is clear that government expenditure rises with rises in oil price, but does not fall when oil prices fall. This can be attributed to inflexibility of recurrent expenditure that does not decrease easily when oil revenues fall because of high social pressure on the government against salary reduction. The other characteristic of Oman public budget is that when oil revenues increase, total expenditures rises at accelerated rates exceeding total revenues. For example, between 1980 and 1985, oil revenues increased by 57%, but government expenditures rose by about 103%, causing budget deficit in 1984 (about 18% of total revenues). Such deficits in oil-exporting country such as Oman create pressure to expand oil production and exports to raise revenues so as to address the budget deficits.



Since 1987, oil revenues increased gradually until 2006. Thereafter, oil revenue had raised sharply and by the result the government expenditure and GDP immediately follow oil revenue trend and increased in the same speed until all these three macroeconomic variables reached the peak in 2008. In 2009, all these variables witnessed the same sort of decrease due to the effects of the global financial crisis, which impacted the global demand for oil, causing a decrease in prices. From the 2010, oil revenues returned back to rising trend again dramatically and thus driving both government expenditure and GDP to rise at accelerating rates.

In general, we can deduce from Figure 4 that there have been increases in size of government expenditure over the research period driven by the rises in oil prices and increased in production of oil which is the main financier of the government’s budget in Oman. These

injections into the economy boost Oman GDP to \$80.57 billion in 2013. Therefore, these three macroeconomic variables appear to have positive correlation. However, this relationship weakens between government spending and revenues when oil revenues declines because some key components of government expenditures are not flexible to decline such as employees' salaries and the result is an asymmetric adjustment.

3. Theoretical Background and Previous Empirical Works

(Frankel, 2012), there is a large body of literature that focuses on the relationship between resource-abundance and economic growth. Simple economic intuition would suggest that an increase in natural resources would have a potential beneficial role in fostering economic development by converted into capital to support future output levels (Rodriguez, 1999). Theoretically, resource abundance can give a "big push" to economy through more investments in health and education programs, construction of roads and modernization of telecommunication systems and so the whole economy benefits of such resource rents Iimi (2007).

However, experience over the last decades reveals that natural resources frustrate economic growth rather than promoting it. The major contribution was by Sachs and Warner (1995), conducting a large cross-country study, argue that there is a negative association between natural resource abundance and growth. Thereafter, literature focuses on such disappointing economic performance of natural-resource-rich countries and thus the phenomenon "resource curse" begin to enter the literature (ie. countries that are rich in natural resources tend to perform badly in terms of economic growth) (Iimi, 2007). Many papers considered the natural resource curse from different perspectives. Some focus on the negative association between resource abundance and growth-inducing activities others concentrated on stability and quality of the political system and few on government behaviour and its use of these rents.

Empirical evidence seems consistent that an abundance of natural resources may reduce the quality of foreign, social, human and physical capital and so hinder economic growth (Gylfason, 2001). Dalmazzo and de Blasio (2003) argue that natural resource income has same characteristics of foreign aid in that both are income-impeding crowding-out logic (Dalmazzo and de Blasio, 2003). The clear difference between them is that aid is often monitored by international agencies with conditions to be utilized for investment projects whereas natural resource rents are unconditional income and so the government misused such windfalls (Papyrakis and Gerlagh, 2006).

The literature suggests different channels through which natural resources could retard economic growth. These channels can be described as crowding out channels, that natural resources crowd out other types of capital which are important for development and therefore it retard economic growth (Gylfason, 2001). As argued by Sachs and Warner (2001) that natural resources are not harmful to income per se but tend to affect negatively several income-supporting activities such as physical capital, human capital, and institutional capital which affect growth. There is no general accepted theory in this literature of natural resource curse, but only possible explanations for the curse of natural resources based on Sachs and Warner (2001) crowding-out logic (Cerny and Filer, 2006). The structure of recent models just state that an abundance of natural resources affect some variables or mechanisms "X" which in turn hamper economic growth. The real challenge for empirical researchers and theorists in this field is to identify these variables and mechanisms that transmit the adverse effect to economic performance (Gylfason, 2001).

The first identified channel is the Dutch disease channel, where exporting of primary commodities leads to appreciation in exchange rate and this in turn leads to a contraction of the tradable sector (Krugman, 1987). Moreover, the natural resource-based industries in rich-abundance countries usually pay higher wages than other manufacturing industries and thus make it difficult for the latter to make profit leading to reallocation of factors of production from manufacturing towards the booming sector (Corden and Neary, 1982). Since it is the manufacturing sector that is important in increasing return to scale and positive externalities, this shifting away from competitive manufacturing sector would reduce the productivity and profitability of investment and therefore, affects economic growth negatively (Wijnbergen, 1984).

The second channel is the education and human capital. Natural resources reduce investment in skill-labor and high-quality education {Papyrakis, 2006 #25}. Since manufacturing sector contracts as result of resource booms, returns to education and high-skilled labour force which is the main production factor of manufacturing sector decline because of a decrease in demand for such capital. Gylfason (2001) run unrelated regression (SUR) estimates of a system of two equations for 85 countries over the period 1965-1998 and he found that natural resources crowd out human capital, therefore slowing the economic performance of natural-abundant countries. Using a stepwise regressions approach incorporating a wide range of plausible explanatory variables, Kronenberg (2004) examine the impact of natural resource on economic performance of the group of transition countries between 1989 and 1999. He found that basic education was neglected in the rich-resources countries and tertiary enrolment rates declined while they increased in the poor resource countries. These results support the human capital explanation for natural resource curse.

The third channel, investment and physical capital, natural resource abundance reduce the incentives to save and invest and so impede economic growth (Gylfason, 2001). There are various mechanisms that can explain the crowding-out of investment. For example, Natural resources provide a continues stream of future wealth that is less dependent on public saving for future period, so this would decrease the need for savings and investment (Gylfason and Zoega, 2001). Additionally, heavy dependence on natural resources exposes the country to volatility which creates uncertainty for investors in resource-abundance countries {Mikesell, 1997 #15}. Furthermore, governments in most developing countries that are resource-abundant spend their resource rents on public consumption rather than public investment which is more conducive for economic growth (Atkinson, 2003). Gylfason (2001) shows that an increase in natural resources by 25% points goes with a decrease in the investment ratio by 5% points which in turn decrease economic growth by 1% point.

Papyrakis (2004) argues that investment channel is the most important channel as it accounts for 41% of indirect negative effect of natural resources on economic growth. Atkinson, (2003) used cross-country regressions for 91 countries over the period 1980-1995 and found that rich-resources countries which have suffered from a resource curse are those where natural resources, public expenditure and macroeconomic policies have led to negative or low genuine savings (saving adjusted for resource depletion).

The fourth channel is the political economy effects. That is governance and public institutions quality. It is argued that natural resource booms in conjunction with ill-defined property rights, which tend to put large amount of resource in hands of state and thus promote rent-seeking competition rather than productive activities. That reduces institutional quality by inducing corruption and rent-seeking behavior. Martin and Subramanian (2003) stated that oil

and minerals exert a negative impact on economic growth via their harmful impact on institutional quality. Also abundance of resources with lax legal structures may lead to the emergence of powerful interest groups that attempt to influence politicians to adopt policies that may not be beneficial to the general public (Mauro, 1998). Furthermore, natural resource rents may induce economic agents to bribe the administration to gain benefits of them (Ascher, 1999). In this corruption environment, natural resource can be seen as seeds of conflict among citizens, politicians, local developers and local tribes (Iimi, 2007). Robinson et al. (2006) claim that countries that are most possibly getting benefits of natural resources are those that have good institutions, but those that do not are more probably to be exposed to resource curse. Hence institutions are very important in mitigating the resource curse.

The fifth channel is the oil price volatility and its impact on public revenue. Indeed, oil price fluctuation is really one of the most challenges facing oil exporting countries. Such volatility puts the economy under the risk of exogenous fluctuations which hampers planning, increase inflation, boost deficits, raise debt and lead to exchange rate appreciation. These fluctuations reflect their impact on economic policies and therefore the high correlation with oil is added to instability and uncertainty in the global oil markets, making these economies vulnerable to shocks in oil prices. Van der Ploeg (2009) presents cross-country estimates on the effect of volatility in oil prices on economic growth and he shows that the resource curse is foremost a problem of volatility. He concludes that the key determinant of volatility of growth in income per capita of resource-abundant countries is fluctuations in commodity prices.

Ramey and Ramey (1995) found that countries with large volatility of economic growth tend to have lower economic growth in average. Blatman, Hwang and Willianson (2007) use a panel database for 35 countries to examine the impact of terms of trade volatility and secular change on country performance for the period 1870-1939 and they found that countries that specialized in commodities with high price volatility have more fluctuations in their terms of trade, less foreign investment and have lower economic growth than countries specialised in more stable prices and industrial leaders. However oil price impact is not the same among all countries. The impact depends on the country's institutional structures, sectoral compositions and its economic development (Farzanegan, 2009).

The reading of the historical relationship between oil price fluctuations and macroeconomic variables highlight the impact of such shocks on the producing and consuming countries alike, but the size of such effect varies from one country to another and from one period to another. The most important studies in this regard, which include Darby, 1982; Hamilton, 1983; and Burbidge & Harrison, 1984) find statistically significant evidence of the relationship between oil prices and aggregate economic performance in developed countries.

Although there are plenty of studies that tested the relationship between oil price and macroeconomic aggregates, but most of these studies are for developed countries (Emami, 2012). Such studies of oil-importing countries have shown that oil price shock affect industrial production negatively. These studies include among others, Hamilton (1983), Burbridge and Harrison (1984), Gisser and Goodwin (1986), Hamilton (1988), Morry (1993), Lee et al. (1995), Hooker (1996), Rotemberg and Woodford (1996), Huang et al. (2005) and Schmidt and Zimmermann (2007). Nevertheless, most of these studies pointed to the fact that the strength of relationship of oil-economy nexus has not been stable for these economies over time. It is clear that oil price fluctuation effect on developed economies become weaker during the eighties (Farzanegan and Markwardt, 2009).

Recently, several empirical studies have been published on developing oil producing countries. An oil boom, according to Mehrara (2008), would release foreign exchange constraints and so stimulating economic performance for oil-exporting countries from both supply and demand sides. Furthermore, the government would follow expansionary fiscal policy and would use such money to finance its development and infrastructure which will induce investment, consumption and economic growth (Emami, 2012). However, such positive effect could be weakened by real exchange rate appreciation which leads to the contraction of tradable sectors and so the country will be under the risk of Dutch disease. In addition, when oil prices decrease, governments are not able to adjust its current spending immediately. This will lead to budget deficits which are one of critical issue for most developing countries (Farzanegan, 2011).

Eltony (2001) use a vector Autoregressive model (VAR) and (VECM) models to examine the impact of oil price volatility on seven macroeconomic variables for Kuwait. They found evidence that oil price shocks affect the key macroeconomic variables in Kuwait and the causality running from oil prices and oil revenue to government current and development expenditure; which are key drivers of Kuwait economy. Tijerina-Guajado and Pagan (2003) examine the intertemporal relationship between government spending, oil duties, taxes, and GDP for Mexico over the period 1981-1998 using VAR, they found a substitution effect between tax revenues and oil duties and tax revenues are not capable to absorb temporary decline in oil duties.

Ayadi (2005) examine the effects of oil price shocks on some macroeconomic variables in Nigeria for the period 1980-2004; using VAR model and he found that oil price affect industrial production indirectly, but such relationship is not statically significant and he concludes that oil prices does not necessarily lead to increase in industrial production. These finding were supported by another study by Lwayemi and Fowowe (2011). They employ Granger-causality tests, impulse response functions, and variance decomposition for the same country, Nigeria, and they found that positive oil price shocks have not caused government expenditure, inflation, real exchange rate and output. Their results suggest the existence of asymmetric effects of oil price shocks.

Jbir and Zouari-Ghorbel (2009) employ VAR, to study oil prices and macroeconomic relationship (used 5 macroeconomic variables: oil prices, government spending, inflation, real exchange rate and industrial production). They analysed the role of subsidy policy in Tunisia for the period 1993 Q1 to 2007 Q3. Their results show that oil price shocks have only indirect effect on economic activity and the most important channel by which the impact transmitted is government expenditure.

Some papers emphasis on differences in responses of macroeconomic activities to oil shock effects when they are either positive or negative. Symmetry responses of oil prices shocks means that the reaction of output to a positive oil price shock is exactly same as negative one, whereas asymmetry implies that the response of economy to a positive oil price shock is not equal to negative influence. Farzanegan (2009) study the asymmetric effects of oil price shocks on Iranian economy for quarterly data 1975-2006 and using VAR of 6 variables (oil prices, inflation, government expenditure, real effective exchange rate, industrial production, imports). He found strong positive relationship between increasing oil prices and industrial production and both positive and negative oil prices shocks significantly increase inflation. Mehrara (2008) explores non-linear relationship between oil revenues and industrial production for 13 oil exporting countries. He applied a dynamic panel model and two measures of oil shocks. He found that the relationship between output and oil revenues is non-linear and so the GDP

responds to oil shocks in an asymmetric way. The results suggest that the magnitude of response of decreasing oil revenue is negative and more influential than positive oil shocks which have limited role in inducing economic growth. The Middle East and North Africa

Berument, Ceylan and Dogan (2010) study the effects of oil price shocks on output growth (proxied by industrial production) for a selected the Middle East and North Africa (MENA) countries, including Oman. They use several VAR models for the period 1960 to 2003. Their results show that the impact of oil price on GDP of Iraq, Algeria, Kuwait, Oman, Jordan, Syria, Qatar, UAE and Tunisia are significantly positive, but not significant for other countries in their dataset. I extend this analysis by using more data, using a higher dimension VAR models and considering other key macroeconomic variables such as government expenditure, government revenue.

Bouchaout and Al-Zeaud (2012) used a Vector Error Correction Model (VECM) and Variance Decomposition analysis (VD) to explore the effect of oil price volatility on Algerian economy during the period 1980-2011. Their results reveal that oil prices changes have a very limited impact on most macroeconomic variables in short run except a positive effect on inflation and negative influence on real exchange rate. However, in the long run oil prices changes have positively affected real GDP and inflation and have a negative effect on unemployment and real effective exchange rate. Ito (2008) investigated impact of oil prices and monetary shocks on the levels of inflation, interest rate and real gross domestic product (GDP) for Russia during the period 1995:Q3-2007:Q4, using the co-integrated VAR model. The results show that an oil price increase has a positive effect on real GDP and inflation and this shock effects are greater than monetary shock for Russia.

The channels by which oil prices may affect economic performance have not been systematically documented, but several studies have argued that variations in the fiscal behaviour, which in turn reflects changes in oil price driven fiscal revenue have exacerbated output cycles (Erbil 2011). Therefore, some recent researchers argue that fiscal policy (sixth Channel) and its procyclicality is one of the main channels of natural resource curse. Bleaney and Halland (2009) investigated fiscal policy volatility channel by entering primary product exports and volatility together in a growth regression and run the model for 75 countries over the period 1980-2004. They found that the volatility of government consumption is explained by natural resource exports and greater fiscal volatility acts as a transmission mechanism for the resource curse.

There are many studies in this area show that developing countries are the ones suffering most from fiscal policy pro-cyclicality which have detrimental implications for their economies. Michael and Perotti (1997) were the first economists to discover the existence of fiscal policy pro-cyclicality in the countries of Latin America, as they proved that fiscal policy tends to be expansionary in good times while it is contractionary in bad times. Talvin and Vegh (2000) stated in their study that fiscal policy pro-cyclicality is the norm in most developing countries in their path for economic development, and found that the coefficient of positive correlation between the components of public spending and GDP for a sample of 36 developing countries is about 0.53 on average. For industrialized countries (G7 countries), it was found on average the correlation coefficient is not significant which means that the pro-cyclicality of fiscal policy in these countries does not exist.

Mpatswe, et al. (2011) examine fiscal cyclicity in six African countries during 1980-2008 using equations with the lagged values of explanatory variables as proxies for the long-run values and run the regression in their first differences. Their results show that total public

expenditure is strongly pro-cyclical and although the cyclical coefficients vary from one country to another the public investment is the most pro-cyclical component, which overreacts to economic growth with elasticity of more than a unity.

With regard to oil-exporting countries, mostly the policy of public spending linked to oil revenue which accounts for a substantial part of public budget. Therefore, the response of fiscal policy to rising oil prices is expansionary and when the prices fall the government cut the expenditure, and in this context, the role of fiscal policy provides a channel through which the fluctuations in the oil prices or oil revenue transmitted to the rest of the economy. Hence, as it is argued from the Keynesian theories that a reduction in public expenditure causes a fall in total demand, consumption, investment which will adversely affect economic growth. On the other hand, when oil prices increase, public spending, investment and economic growth will rise as a result of that spending effect multiplier.

Erbil (2011) examines the cyclical of fiscal policy in 28 oil-exporting countries during the period 1990-2009, using pooled OLS regression, Diff-GMM and Sys-GMM methods and found that all fiscal variables are strongly pro-cyclical in the full sample, but results are not the same across income groups. The results show that government expenditure is pro-cyclical in low and middle-income countries, while it is countercyclical in the high-income countries. Husain et al. (2008) assess the impact of oil price shocks on non-oil economic cycle in 10 oil-rich countries, including Oman over the period 1990-2007. The obtained results from a panel VAR show that in countries where the oil sector is dominant, oil price changes affect the economic cycles through the fiscal policy channel.

In their examination of the behaviour of government expenditure during boom-bust in commodity price cycles of 32 oil-rich countries over the period 1992-2009, Arezki and Ismail (2013) found that current spending downwardly rigid, but increase in good times, whilst capital spending behaviour is just opposite to that. In the same line, Pieschancon (2009) used a vector autoregressive (VAR) model to assess the impact of oil prices on government revenue, government purchases, tradable and non-tradable output, transfers, private consumption and the real exchange rate for Norway and Mexico over the period 1980-2006. He found that fiscal policy is the most responsive policy to oil prices and argue that is the main transmission channel through which it determines the degree of exposure of the economy to oil price volatility.

The role of the government as well as reallocation process in the economy caused by the fiscal policy is taken into consideration by Cologni and Manera (2011). They address the effects of oil shocks and the expansionary fiscal policy on the business cycle of GCC countries (Oman, Kuwait, Bahrain, Saudi Arabia, UAE and Qatar) by using the real business cycle model. Results revealed that the negative impact of oil shocks on private output, capital and employment can be more than offset by the positive effects of oil shocks on government revenue and expenditure which cause a shift of productive factors from private sector to public sector and so government employment and output both expand causing a boost in the total output

The causality and long-run relationship between government revenue and government expenditure in oil-exporting countries are also documented in the literature. Petanlar and Sadeghi (2012) used panel VAR framework to assess such relationship for 15 oil-exporting countries for 2000-2009. The analysis shows that a 1% increase in oil revenue induces an increase of public expenditure of 1.16%. . Fasano and Wang (2002) examine the direction of causality between total revenue and total government spending for GCC countries including Oman, over the period 1980-2000, using a cointegration and error-correction models. The results show that increase in revenue causes an increase in government expenditure in the first period

for all GCC countries which means that government expenditure is pro-cyclical to changes in oil revenue.

This paper will focus on the sixth channel: the effect of oil revenues on economic growth and the mechanisms through which that effect can be transmitted to economic growth through government expenditure. I will use time-series analysis to examine how oil revenues affect economic growth both directly and indirectly through fiscal policy channel. Most literature in this area uses cross-country growth regressions, but as shown in the literature there is some case studies. In contrast with existing cross-country growth regression, using of time series cointegration technique and Granger causality models to examine the causal chain linking oil windfalls to economic performance through fiscal policy channel for specific case study (Oman) would add some contribution to this literature. This paper therefore is an attempt to empirically examine oil revenue changes and fiscal policy through government spending on the Omani economy.

4. The Data and Research Methodology

4.1 Details about the Variables

Three macroeconomic variables are used to analyse the dynamic relationship between oil revenues, government expenditure and GDP for Oman. The variables are REV = Real Oil Revenues, EXP = Real Total Government Expenditure and GDP = Real Gross Domestic Product (GDP).

The time period of the study is from 1980 to 2013. Oil revenues, total government expenditures, and GDP are the main variables in this study. Data are sourced from National Statistical Hand Book of Omani economy released by National Centre for Statistics and Information.

4.2 The Research Methodology

The objective of this paper is to investigate the dynamics of the relationship between oil revenue, government expenditure and economic growth in Oman using the annual data for the period 1980 to 2013. In this study, the variables are real oil revenue (OilR), real government expenditure (RGE) and real GDP (RGDP). All the variables are taken in their natural logarithms to avoid heteroscedasticity. There is a large number of macroeconomic variables which affects economic growth and may equally be considered, beside oil revenue and government expenditure. Including such variables into the specification increase the fit of the model, but would decrease the degree of freedom. For this reason the model is restricted to only these three interested variables.

To reach the purpose of this study some econometrics techniques are employed in this study such as cointegration and error correction technique. Moreover, some useful tools on these techniques such as impulse response functions and variance decomposition are used to examine the dynamic effects of oil revenue shocks on the Omani macroeconomy. The entire estimation consists of three steps: first, unit root test, second, cointegration test, third, the error correction models used.

4.2.1 Unite Root Test

As a first step we check the stationarity properties of the used variables. The order of integration for each variable is determined using Augmented Dickey- Fuller (1979) and Philips and Perron (1988) tests. Augmented Dickey-Fuller (ADF) unite root tests consists of running a regression of the first difference of series against the series of lagged once, lagged difference terms and optionally, a constant a time trend as following:

The investigation of non-stationarity properties of time series is the basic test in empirical investigation in order to avoid spurious results. There are a number of alternative tests of time series properties. In this paper Augmented Dickey-Fuller (ADF) test is used to check the order of integration of variables in our data set. The Augmented Dickey-Fuller (ADF) test is designed to distinguish between stationary either about mean or trend and non-stationary processes (Lloyd and Rayner; 1993). A series X_t is said to be integrated of order d denoted by $X_t \sim I(d)$ if it becomes stationary after differencing d times and thus X_t contains d unit roots (Lloyd and Rayner; 1993). The general form of the Dickey and Fuller test can be written as follows:

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \sum_{j=1}^p \beta_j \Delta Y_{t-j} + \varepsilon_t \quad (1)$$

The null hypothesis here is that the investigated variable has a unit root. So if the null hypothesis of $\alpha_1 = 0$ is not rejected, it can be said that the series is non-stationary with a unit root. But if it is rejected which means then X_t is stationary and integrated of order $I(0)$.

4.2.2 Cointegration Test

After establishing that interested variables include unit root and they are integrated of the same order one, $I(1)$, the next step is to check whether there is any long-run relationship among them. Johansen's (1988) approach is applied to allow us to test for the presence of multiple cointegration relationships, r , in a single-step procedure. Here we want to determine if oil revenue, total government expenditure and GDP are co-integrated. Cointegration explains how a set of economic variables behaves in the long-run equilibrium. "If several variables integrated, then they may drift apart in the short-run. But in the long-run, economic forces will draw them back to their equilibrium relationship" (Yuk 2005, pp. 11).

In general, a set of variables is said to be cointegrated if a linear combination of the individual variables is stationary. So if X_t and Y_t are both non-stationary and integrated of order 1 and if residuals (ε_t) of cointegration regression are stationary [i.e., $I(0)$], then we can say that X_t and Y_t are cointegrated. Pesaran and Pesaran (1997) argued that Engle-Granger cointegration test is inefficient and can lead to contradictory results, but Inder (1993) mentions that it is good regression for modelling long-run equilibrium relationship. Holden and Thomson (1992) argue that this approach is efficient because it reduces the problem of multicollinearity. Indeed, most researchers that used bivariate system prefer to use Engle-Granger two steps approach.

The long run relationships between Oil revenue, government expenditures and Gross domestic product (GDP) are estimated by ordinary least square (OLS) (i.e., cointegrating regression) as following:

$$\ln GDP_t = \alpha + \beta \ln OILR_t + \beta_2 \ln GE_t + \varepsilon_t \quad (2)$$

Where GDP_t is real GDP, $OILR_t$ is real oil revenue, and GE_t is real total government expenditure. Equation (2) presents an estimation of the long-run relation between total government expenditure, Oil Revenue and gross domestic product (GDP) all are in natural log and real terms.

4.2.3 Error Correction Model (ECM)

After cointegration is confirmed between variables, then the third step is developing a class of models that embodies the notion of correction. This term is known as the error correction term since the deviation from long-run equilibrium is corrected gradually through a series of short-run adjustments. The whole system is referred to as Error Correction Model (ECM) and it is used to allow for short-run adjustment dynamics and indicate the speed of such

adjustment to the long-run equilibrium state. In general, an ECM derived from the Johansen test can be expressed as follows:

$$\begin{aligned} \Delta x_t &= \mu_x + \alpha_x ECT_{t=1} + \sum_{k=1}^p \beta_{xx,k} \Delta x_{t-k} + \sum_{k=1}^p \beta_{xy,k} \Delta y_{t-k} + \sum_{k=1}^p \beta_{xz,k} \Delta z_t + \varepsilon_{xt} \\ \Delta z_t &= \mu_{zx} + \alpha_{zx} ECT_{t=1} + \sum_{k=1}^p \beta_{zx,k} \Delta x_{t-k} + \sum_{k=1}^p \beta_{zy,k} \Delta y_{t-k} + \sum_{k=1}^p \beta_{zz,k} \Delta z_t + \varepsilon_{zt} \\ \Delta y_t &= \mu_y + \alpha_y ECT_{t=1} + \sum_{k=1}^p \beta_{yx,k} \Delta x_{t-k} + \sum_{k=1}^p \beta_{yy,k} \Delta y_{t-k} + \sum_{k=1}^p \beta_{yz,k} \Delta z_t + \varepsilon_{yt} \end{aligned}$$

where $ECT_{t=1}$ is the error correction term lagged one period, α is the short-run coefficient of the error correction term ($-1 < \alpha < 0$), X , Z , and Y are the three endogenous variables in the system; and $\beta_{ij,k}$ describes the effect of the k th lagged value of variable j on the current value of variable i ; $i, j = x, y, z$. The ε_{it} are mutually uncorrelated white noise residuals.

The error correction term represent the long-run relationship. A negative and significant one indicates the presence of long-run relationship. However, the coefficients of lagged explanatory variables indicate a short-run causality relationship between the examined variables.

4.2.4 Impulse Response Functions (IRF)

Because we are interested on checking the dynamic effects of oil revenue shocks on government expenditure and economic growth, IRF are the most appropriate tool to use for such purpose. Through IRF we can observe the effect and statistical significance of these variables responses to one standard deviation increase in oil revenue shock.

4.2.5 Variance decomposition analysis

The relative importance of oil revenues shocks in changes of other variables in the VAR system can be traced by using the variance decomposition analysis. It shows the percentage of change in a specific variable in connection with its own shock against the shocks to the remaining variables in the system. The whole system is studied by examining the variance decomposition of the system. The higher the share of explanation of error variance, the more important the variable compared to other variables in the system. The Choleski decomposition method is used to construct the variance decompositions.

5. Discussion of the Estimated Results

5.1 Unit Root Tests Results

It is essential to determine the level of the integration of the variables so as to determine whether it is appropriate to conduct the Johansen cointegration. The test requires all the variables should be non-stationary and should belong to the same level of order of integration. Augmented Dickey Fuller, ADF and the Philips-Perron, PP tests were used for that purpose. Table 1 reports the results for ADF and PP test for the level of integration of the variables. It is evident from the results that all the variables are non-stationary $I(1)$ on levels and stationary $I(0)$ on first difference. Therefore, it is appropriate to use the Johansen cointegration test in order to explore the long-run relationship between these macroeconomic variables.

| Table 1 Unit Root Tests | | | | |
|----------------------------|-------|--------|--------|------|
| ADF Test | | | | |
| Variables | LRGDP | LRGREV | LRGEXP | LROP |

| | | | | |
|--|----------|----------|----------|----------|
| Levels | 6.302 | -0.504 | -1.858 | -1.501 |
| First Difference | -4.124** | -6.510** | -5.372** | -6.520** |
| Philips-Perron Test | | | | |
| Levels | -2.416 | -0.437 | -1.845 | -1.505 |
| First Difference | -4.097** | -6.568** | -5.372** | -6.489** |
| ** Signifies rejection at the 0.005 level. | | | | |

5.2 Johansen Cointegration Results

The Johansen cointegration tests, discussed in Section 4.2.2, are carried out on the macroeconomic variables in the model specified in equation 2. In addition, real oil prices, ROP, were used in place of the real oil revenue variable. The results for the two models are reported in Table 2. Both the Trace and the Max-Engen Statistics for the two estimated models show that the null of no cointegration among the variables is rejected in favour of the alternative.

Table 2 reports the results for the long-run equilibrium relationship between the variables. The estimated coefficients for the real oil revenues and the real government expenditure (LRGREV and LGEXP) are correctly signed and statistically significant at 5% level. Both variables depict positive relationship with GDP which are 0.672 and 0.872 respectively. This is consistent with Hamdi and Sabia (2013) findings for Bahrainan economy, which is an oil-exporter. Theoretically, for oil-importing countries, a negative sign is expected as recorded for New Zealand by Grounder and Barleet(2007) and Japan by Jin (2008).

| Table 2 | | |
|---|-----------------|-----------|
| Johansen Cointegration Test Results | | |
| Model 1: RGDP, RGREV, RGEXP | | |
| Hypothesised No. of CE(s) | Trace Statistic | Max-Engen |
| None** | 34.585 | 26.497 |
| At most 1 | 8.085 | 7.378 |
| Model 2: RGDP, RGREV, ROP | | |
| Hypothesised No. of CE(s) | Trace Statistic | Max-Engen |
| None** | 44.729 | 26.480 |
| At most 1 | 18.249 | 11.439 |
| ** Denotes rejection of the hypothesis at the 0.05 level. | | |

Thus, we can derive the cointegrating equation from the above results with the log of real GDP as dependent variable while log of real oil revenue and log of real government expenditure as regressors, as follows:

$$\text{LRGDP}_t = 4.572 + 0.672 \text{LRGREV} + 0.872 \text{LRGEXP}$$

Looking critically at the numerical values of the coefficients and the their effects, The above equation is saying that a 10% permanent increase in oil revenue will cause the real GDP to increase by 6.7%, while the same 10% increase in government expenditure will increase real GDP by 8.7%. This shows that Oman's GDP increase more by fiscal policy channel and this is consistent with Bleaney and Halland (2009) Who argue that fiscal policy acts as a transmission mechanism for natural resource effects.

| Table 3 Results of the Long-run Equilibrium Relationship The Dependent Variable is LRGDP | | |
|---|---------------------|-----------------|
| Regressors | Coefficients | t-Values |
| LRGREV | 0.672** | 2.198 |
| LRGEXP | 0.871** | 2.557 |
| C | 4.572** | |
| ** Denotes significance at 5% level. | | |

The results of the estimated ECM are represented by Table 4. The results show the short-run dynamics of the variables in the model. It is evident from the table that real oil revenues recorded a significant negative response to the real GDP. The negative effect of oil revenue on economic growth in the short run could be attributed to oil price volatility where most oil-abundant countries vulnerable to boom-bust cycles leading to economic instability (Mehrara, 2008). Budina and Wijnbergen (2008) stated that managing oil revenue volatility is the main challenge facing oil-rich countries. Oman should use oil funds and fiscal rules to de-link public expenditure from volatile oil revenue by accumulating large oil funds assets to lower vulnerability to financial crises and debt overhang problems.

| Table 4 The ECM Results | | |
|--|---------------------|-----------------|
| Regressors | Coefficients | t-Values |
| Δ LRGREV(1) | -0.238 | -3.696 |
| Δ LRGREV(2) | -0.323 | -4.966 |
| Δ LRGEXP(1) | 0.120 | 0.032 |
| Δ LRGEXP(2) | -0.079 | -0.701 |
| ECM | -0.299 | -4.051 |
| Diagnostics Tests | | |
| White Test | Chi-Sq. | Prob. |
| | 82.237 | 0.534 |
| LM Test (Serial Correlation) | LM-Stat. | Prob. |
| | 7.836 | 0.551 |
| Normality Test | Jarque-Bera | Prob. |
| | 2.397 | 0.880 |

The ECM has the expected sign (negative) and highly significant. The coefficient of the ECM indicates that the system converges back to equilibrium in about three years whenever it deviates from the equilibrium. The lower part of Table 4 reports the diagnostic tests of the model. It is clear from the reported results that the model's residuals are free from serial correlation, hetroskesdascity and are normal, which means the estimated model is adequate.

5.3 Causality Test Results:

Table 5 reports results from Granger Causality Test based on the estimated VEC model discussed above. The results for model with the real GDP as a dependent variable indicate that the null of real government revenue does not Granger cause real GDP is rejected in favour of the alternative. Similarly the null of real government expenditure does not Granger cause real GDP is also rejected in favour of the alternative. The combine effects of both the real revenue as well as the real government expenditure show that they have significant impact on the real GDP as the null is rejected. However, both models where the dependent variables are real government

expenditure and real government revenue, the null could not be rejected as none of the variables are significant at any conventional level. This is the case with the individual variables and their combined effects.

The conclusion, therefore, is that the direction of the causation between these series is uni-directional from real government expenditure and real government revenue to real GDP. That is the real government expenditure and the real government revenue Granger causes the real GDP, but not the other way round. This result is consistent with with Eltony and Al-Awadi (2001) about Kuwait, and Hamdi and Sbia (2013) about Bahrain economy.

| Dependent | Independent | Chi-Square | Prob |
|-----------|-------------|------------|--------|
| GDP | GREV | 36.31** | (0.00) |
| | GEXP | 18.45** | (0.00) |
| | All | 8.45** | (0.00) |
| GREV | GDP | 10.20 | (0.12) |
| | GEXP | 8.71 | (0.19) |
| | All | 14.60 | (0.24) |
| GEXP | GDP | 6.87 | (0.33) |
| | GREV | 2.69 | (0.65) |
| | All | 9.58 | (0.65) |

** signifies rejection at 5% level of significance.

5.4 Impulse Response Functions

Figure 1 (Appendix A) reports the impulse response functions, IRFs, of the estimated stationary VAR explained in Section 4.2.5 above. The IRFs show the magnitude and the directions of how a variable respond to a shocks within the model. The reported result shows that real government expenditure responded positively to a positive real oil revenue and real GDP shocks immediately after the shock and lasted for about half of a year for the former and for about one year for the latter. Importantly, the real GDP has responded positively to a positive real expenditure for up to about three years. This and the positive long-run coefficients reported in Table 3 indicate that the Omani economy appears to have escaped from the resource curse as suggested by Abidin (2001).

5.5 Variance Decomposition

Variance decomposition shows the contribution of each variable to the variations of a variable within the estimated VAR model. Table 1 (Appendix A) reports the variance decomposition of the estimated tri-variate VAR mode as explained in Section 5.2.6.

- GDP:

The table shows that the variation of GDP is due to itself in the short-run, but the oil revenue accounted for about 50% of volatility in GDP by the eighth year and continued to rise up to about 52% by the tenth year.

- Oil Revenue:

The real GDP contributed by about 28% of the oil revenue variations by the second year and its contribution to the changes in the oil revenue declined a little to about 22% by the tenth year.

Government expenditure affected oil revenue at long lags, the results shows that in the first year, government expenditure did not contribute to shocks in oil revenue, but then increasing effects continue until it reaches 17% in the eighth year. This might be attributed to public investment in oil production which does not produce outcome in the short-term.

- Government Expenditure:

Variations in government expenditure are generally due to the real GDP and the oil revenue. An interesting aspect of the result is that oil revenue shocks effects on government expenditure jump from 2.5% in the first year to 21% in the second year and 39.5% in the fifth, then it level off around 45%. This confirm the need of introduction of fiscal rules and fiscal stabilization policy to avoid oil revenue variability. This result contradicts with Farzanegan and Markwardt (2008) study who show that oil shocks have insignificant effect on government expenditure variation.

6. Conclusion and Policy Implication

This paper investigates the short-run and long-run relationship between three macroeconomic variables in Oman using the Johansen cointegration techniques as well as the stationary VAR. The results indicate that there is a long-run relationship between the three macroeconomic variables; the real GDP, the real government expenditure and the real oil revenues. The long-run coefficients indicate that there are positive long-run relationship between the real GDP, real government expenditure and the real oil revenues. These indicate that the Omani economy has escaped the resource curse as suggested by by Abidin (2001).

As suggested by Mashaekhi (1998) government is an important institution in the development process and good fiscal policy could play an important role in switching the natural resource curse to be blessing. In general, oil revenue is beneficial to economic growth in Oman, but could be more effective if associated with fiscal policy de-linking fiscal expenditures from oil revenue to insulate the economy from oil revenue volatility (Mehrara, 2008)

The impulse response functions and the variance decomposition from the stationary VAR show that these variables are very important to the short-run and long-run dynamics of the Omani economy. Importantly, the real expenditure appears to have positive impact on the real GDP and variations in government expenditure are generally derived by the changes in the oil revenue. Thus, we can argue that the transmission channel that oil revenue affect GDP is through government expenditure, hence, Oman should control its expenditure manage oil revenue instability and be more inductive for economic growth.

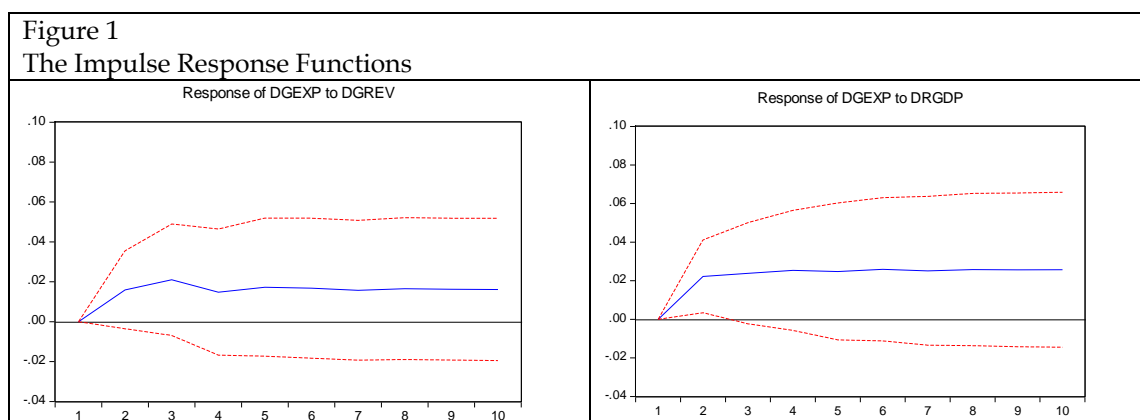
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Appendix A:



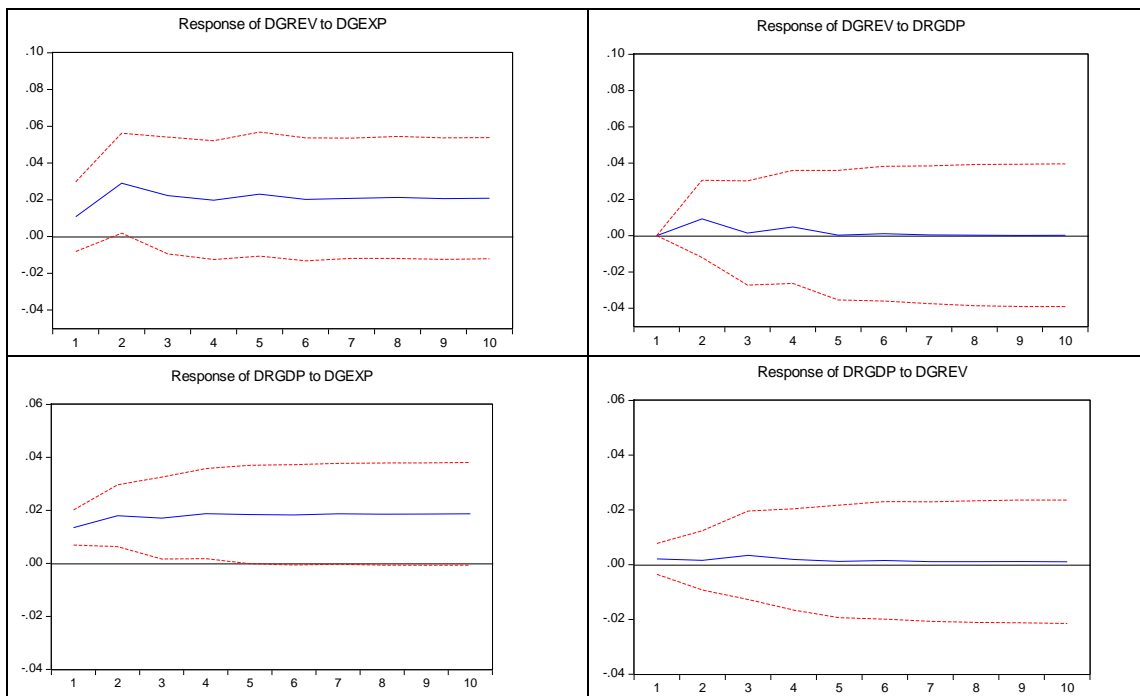


Table 1

| Variance Decomposition of LRGDP: | | | | |
|----------------------------------|----------|----------|----------|----------|
| Period | S.E. | LRGDP | LRGREV | LRGEXP |
| 1 | 0.019236 | 100.0000 | 0.000000 | 0.000000 |
| 2 | 0.025780 | 96.00899 | 3.754790 | 0.236217 |
| 3 | 0.027746 | 93.51303 | 4.680203 | 1.806768 |
| 4 | 0.029393 | 93.28294 | 4.861236 | 1.855829 |
| 5 | 0.032227 | 80.50164 | 17.94302 | 1.555337 |
| 6 | 0.036232 | 65.88419 | 32.41498 | 1.700836 |
| 7 | 0.040550 | 55.16743 | 43.40800 | 1.424575 |
| 8 | 0.044203 | 48.68998 | 50.11113 | 1.198887 |
| 9 | 0.046374 | 46.30299 | 52.47709 | 1.219918 |
| 10 | 0.047235 | 47.11831 | 51.70587 | 1.175822 |

| Variance Decomposition of LRGREV: | | | | |
|-----------------------------------|----------|----------|----------|----------|
| Period | S.E. | LRGDP | LRGREV | LRGEXP |
| 1 | 0.057371 | 7.354833 | 92.64517 | 0.000000 |
| 2 | 0.077145 | 27.83866 | 69.66278 | 2.498566 |
| 3 | 0.087401 | 22.13717 | 72.09963 | 5.763205 |
| 4 | 0.093227 | 21.34961 | 70.07387 | 8.576517 |
| 5 | 0.097830 | 23.85404 | 67.59860 | 8.547356 |
| 6 | 0.099280 | 24.02743 | 66.34343 | 9.629139 |
| 7 | 0.101690 | 22.98328 | 63.27484 | 13.74189 |
| 8 | 0.104283 | 21.85471 | 61.09466 | 17.05063 |
| 9 | 0.105141 | 22.27976 | 60.21450 | 17.50574 |
| 10 | 0.105296 | 22.30394 | 60.21295 | 17.48311 |

Variance Decomposition of LRGEXP:

| Period | S.E. | LRGDP | LRGREV | LRGEXP |
|--------|----------|----------|----------|----------|
| 1 | 0.047059 | 46.83415 | 2.573061 | 50.59279 |
| 2 | 0.066897 | 53.34415 | 21.06897 | 25.58687 |
| 3 | 0.078759 | 46.50137 | 32.80002 | 20.69860 |
| 4 | 0.083580 | 45.89488 | 34.17667 | 19.92844 |
| 5 | 0.087847 | 42.35642 | 39.51189 | 18.13169 |
| 6 | 0.091434 | 39.09842 | 44.10727 | 16.79431 |
| 7 | 0.092242 | 38.99979 | 44.49896 | 16.50125 |
| 8 | 0.095503 | 36.43489 | 46.91820 | 16.64690 |
| 9 | 0.096875 | 35.73676 | 48.08446 | 16.17879 |
| 10 | 0.097428 | 36.26905 | 47.71461 | 16.01634 |

Chinese steel production and shipping freight markets: A causality analysis

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Keywords

Freight market, Commodities, Granger causality, Impulse Response analysis, Shipping

Abstract

This paper provides statistical evidence in support of the view, widely held in the dry industry, that there is a lead-lag relationship between Chinese steel production and dry bulk freight rates. Furthermore, this raises an important question about the direction of their relationship. Despite the plethora of studies on micro and macro economic determinants of freight rates, there have been no studies addressing these issues. Hence, this paper undertakes such an investigation using Co-integration analysis, VAR based Granger Causality tests and Impulse Response analysis. Another contribution is that we apply our methodology separately to the spot and period freight markets, and empirically examine and analyze the differences among the causal relationships of four different vessel categories. The results are generally in line with industry expectations and contribute to the understanding of commodity and freight market movements.

1. Introduction

In recent times, China has developed into the major iron ore importer, while its steel industry accounts for over 50% of world steel production. At the same time, the dry bulk freight market has largely been moving on the back of Chinese iron ore imports – the basic component of steel. In this context, it is interesting to investigate how China's steel output interacts with the entire dry cargo market.

An abundance of research has been done to establish the key economic drivers of freight rates. For example, Zanettos (1966) adopted a structural approach to investigate the relationship between time charter rates and a set of variables, including London Interbank Offered Rate (LIBOR), oil price, Air (index for air transportation), tonnage in lay up, tonnage scrapped and Operating Expenses (OPEX). Strandenes (1984), and Beenstock and Vergottis (1989, 1993) find that the freight rates are determined by macroeconomic factors such as oil prices, world economic activity, the growth of industrial production, commodities trade, as well as by internal factors, such as newbuilding ship orders, deliveries and demolitions.

In another study, Kavussanos and Nomikos (2003) perform causality tests and impulse response analysis to investigate the relationship between futures and spot prices in the freight futures market. One year later, Haigh et al. (2004) implement Directed Acyclic Graphs (DAG's) and Error Correction Models to investigate the dynamics of the freight rates and routes that compose the Baltic Panamax Index (BPI) and they find that the index may not be appropriately weighted.

Dikos et al. (2006) use system dynamics modeling and look at causality effects, to assess the macroeconomic factors that determine the tanker time charter rates. They determine the flow of supply of tonnage through entry, exit and lay-up decisions and they compare it with the demand. Finally from their interaction they determine the key factors that affect tanker rates. Yu et al. (2007) employ co-integration analysis and algorithms of inductive causation on directed

acyclic graphs to examine the relationship between US grain and freight markets and find significant dynamic relationships. In addition, Poulakidas and Joutz (2009) examine how a spike in oil prices affect tanker rates. Their analysis of the lead-lag relationship between crude oil prices, crude oil inventories and tanker rates is based on co-integration and Granger causality, and their results are indicative of significant lead-lag relationships.

However, there is a gap in the literature, as there have been no comprehensive studies attempting to determine the underlying relationship between these variable at an empirical level. The general consensus is that the level of steel production is a bellwether of the demand for raw materials and, consequently, of freight rate fluctuations; though, so far this has only a theoretical grounding. Hence, the current paper intends not only to cover this gap, but also assess the relations in the context of both the spot and period charter market for four different vessel sizes (i.e. Capesize, Panamax, Supramax and Handysize).

The aim of this paper is to examine the relationship between Chinese crude steel output and dry bulk freight rates. For this purpose, we employ contemporary and sound econometric techniques, such as Co-integration analysis, VAR based Granger Causality and Impulse Response analysis. More specifically, we apply our methods both on the spot and period market of each vessel category and we juxtapose and analyze the results.

The results are of interest to maritime practitioners and academics alike, as they shed some light on the interactions between steel production and freight rates.

The structure of the paper is as follows. Section 2 describes the methodology and presents the theoretical background. Section 3 discusses the data and their properties. Section 4 presents the empirical results, while section 5 concludes the paper.

2. Theoretical Framework

The lead-lag relationship refers to the situation where the values of a leading variable are linked to the values of a lagged variable at later times.

In our analysis, first of all, we need to test for unit roots performing the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test. Should all the series are found non-stationary, we have to examine the existence of co-integration, using the Johansen test. Then, we set up a VAR model in the levels of the data, determining the appropriate lags using various lag length criteria, such as the sequential modified LR test statistic (LR), the Final prediction error (FPE), the Hannan-Quinn information criterion (HQ), the Schwarz information criterion (SC) and the Akaike information criterion (AIC). After that, we check if the model is well specified by looking at its R-squared, and by applying the VAR Residual Serial Correlation LM test and the VAR Residual Heteroskedasticity Test. Based on this model, we test for Granger causality, employing Wald tests. Finally, we carry out Impulse Response (IR) analysis to determine if changes in one variable have a positive or negative effect on the other and how long this effect will last. It should be noted that if two variables are co-integrated, the IR analysis should be based on a VECM model and if not, on an unrestricted VAR.

a) Co-integration

When two non-stationary time series are integrated of the same order and there is at least one stationary linear combination between them, then they are co-integrated and have a common stochastic drift. The co-integration implies the existence of a long run equilibrium relationship characterized by short run deviations.

In our study we adopt the Johansen test (1991, 1995) in order to test for co-integration.

b) Unrestricted Vector Autoregression (VAR)

The VAR framework models each endogenous variable as a function of its own lags and the lags of all other variables in the system. The VAR models can be employed as an appropriate econometric specification for investigating the relations between variables, such as the Granger causality, as they describe the joint generation process of the variables involved.

The mathematical representation of a VAR with n lags, VAR (n), is:

$$y_t = c + A_1 y_{t-1} + \dots + A_n y_{t-n} + Bx_t + \varepsilon_t$$

Where c is a vector of intercepts, A_i and B are matrices of coefficients and ε_t is a vector of error terms which are uncorrelated with their own lags and there is no serial correlation in individual error terms.

c) Vector Error Correction Model (VECM)

The VECM is actually a restricted VAR, which is designed to capture the dynamic interrelationship between non-stationary but co-integrated variables. In this model, the variables are differenced and an error correction term (obtained from co-integration) is incorporated. This term accounts for the gradual short-run adjustment of the deviation from long-run equilibrium.

In our bivariate case the VECM can be written in the form:

$$\Delta y_t = b_{y1} + b_{y2} \Delta y_{t-1} + \dots + b_{yn} \Delta y_{t-n} + \gamma_y \Delta x_{t-1} + \dots + \gamma_{yn} \Delta x_{t-n} - \lambda_y (y_{t-1} - \alpha_1 - \alpha_1 x_{t-1}) + \varepsilon_t^y$$

$$\Delta x_t = b_{x1} + b_{x2} \Delta x_{t-1} + \dots + b_{xn} \Delta x_{t-n} + \gamma_x \Delta y_{t-1} + \dots + \gamma_{xn} \Delta y_{t-n} - \lambda_x (x_{t-1} - \alpha_1 - \alpha_1 y_{t-1}) + \varepsilon_t^x$$

where $y_t = \alpha_0 + \alpha_1 x_t$ is the long-run co-integrating relationship and λ_x and λ_y are the error correction parameters.

d) Granger causality

In the general sense, correlation does not necessarily imply causality. Therefore, we make use of the Granger (1969) approach. Granger causality, in the case of two variables, y and z is defined as follows:

“z is Granger-caused by y, if z can be better predicted using the lagged values of both variables, than by using only its own lagged values, or equivalently, if the coefficients of the lagged y’s are statistically significant.”

Mathematically, we test for Granger causality using the VAR model below:

$$z_t = a_0 + a_1 z_{t-1} + \dots + a_n z_{t-n} + b_1 y_{t-1} + \dots + b_n y_{t-n} + u_t$$

$$y_t = c_0 + c_1 y_{t-1} + \dots + c_n y_{t-n} + d_1 z_{t-1} + \dots + d_n z_{t-n} + v_t$$

H₀: b₁ = b₂ = ... = b_n = 0 (y does not Granger-cause z), against H₁: 'Not H₀'

and

H₀: d₁ = d₂ = ... = d_n = 0 (z does not Granger-cause y), against H₁: 'Not H₀'

According to Toda and Yamamoto (1995), in order to test for Granger causality, we have to set up a well specified VAR model in the levels of the data, regardless of the unit roots. Even if the data are non stationary (which is our case), we need to set up a VAR model in levels (as we would also do with stationary data), adding one extra lag (which we should not include also in the test formulation) in order to fix up the distribution of the Wald test in such a way as to be asymptotically chi-square distributed. Then we can perform the Granger causality tests and the results are reported in Table 3.

It should be noted that this VAR model in levels of I(1) data, is appropriate only for Granger causality. It should not be used for other purposes, such as IR analysis. Thus, in our IR analysis that follows, we shall use a VAR in first differences for those data which are non stationary but not co-integrated, and a VECM model for the co-integrated variables.

e) Impulse Response (IR) Analysis

IR analysis complements Granger-causality providing a further insight into the interactions between the variables under examination. In particular, it identifies the reaction of one variable with regard to an impulse to another, within a system that may involve a number of other variables as well. The impulse enters the system through a positive shock of one standard deviation to the residual and then an impulse response function traces the effect on the endogenous variables in the VAR model.

3. Data

We perform our analysis using the EViews software and we employ monthly data taken from Clarkson’s Research Services Ltd (CRLS) database, which cover the period starting from January 1999 to July 2014. The dataset considers representative vessels of four separate categories: Handysize (10,000 - 39,999 dwt), Supramax - Ultramax (50,000 - 64,999 dwt), Panamax - PostPanamax (65,000 - 99,999 dwt) and Capesize (100,000+ dwt). Also, Clarksons provides historical average spot and trip rates for each vessel type. Thus, in our analysis we use these rates as representative of the spot market.

In addition, for the purposes of our analysis, we collect data (from CLRS database) for the Chinese crude steel production over the same time period.

4. Empirical Results

The KPSS unit root test is carried out on the log-levels and log-differences of the freight rates and Chinese steel production, for all vessel sizes, and tests the null hypothesis of stationarity under two different assumptions: First the series have an intercept, and second, a constant and a linear trend. The results, which are presented in Table 1, reject the null hypothesis in almost all cases of level forms suggesting that the series are non-stationary.

| | Log-Levels | | Log-first differences | |
|---|-------------|----------------|-----------------------|----------------|
| | Intercept | Const. & trend | Intercept | Const. & trend |
| Capesize | | | | |
| avg spot | 0.354555* | 0.329984*** | 0.143769 | 0.043076 |
| 6-m tc 170k | 0.419046* | 0.262273*** | 0.154757 | 0.062233 |
| Panamax | | | | |
| avg spot | 0.34391 | 0.332426*** | 0.154909 | 0.025768 |
| 6-m tc 75k | 0.276823 | 0.273947*** | 0.115373 | 0.037239 |
| Supramax | | | | |
| avg trip | 0.420360* | 0.267649*** | 0.172491 | 0.036858 |
| 6-m tc 52k | 0.318756 | 0.261730*** | 0.294308 | 0.044679 |
| Handysize | | | | |
| avg trip | 0.468322** | 0.139939* | 0.093198 | 0.09537 |
| 6-m tc 30k | 0.475894** | 0.335320*** | 0.225578 | 0.038353 |
| Ch_steel_pr | 1.611345*** | 0.389544*** | 0.25282 | 0.10718 |
| <i>Notes:</i> | | | | |
| *** denotes rejection of H ₀ at 1% level, **at 5% and * at 10% | | | | |
| H ₀ : the series is stationary, H ₁ : the series is non stationary | | | | |
| The bandwidth for each test is chosen on the basis of the Newey-West selection using Berlett kernel | | | | |

Table 1: KPSS test

Since the variables are non stationary, we investigate the existence of co-integrating relations through the Johansen Co-integration. The results are presented below:

| Ves sel Size | Pair of variables | Lags | Hypothesized No. of CE(s) | Trace | 0.05 CV (trace) | Max Eigenvalue | 0.05 CV (Max Eigen.) |
|---|---------------------------|------|---------------------------|----------|-----------------|----------------|----------------------|
| Capesize | avg spot - Ch_steel_pr | 3 | None | 18.21567 | 20.26184 | 11.11145 | 15.8921 |
| | 6-m tc 170k - Ch_steel_pr | 2 | None* | 21.32890 | 20.26184 | 14.73266 | 15.8921 |
| | | | At most 1 | 6.59625 | 9.164546 | 6.596250 | 9.164546 |
| Panamax | avg spot - Ch_steel_pr | 3 | None | 18.00954 | 20.26184 | 12.68389 | 15.8921 |
| | 6-m tc 75k - Ch_steel_pr | 3 | None | 19.3286 | 20.26184 | 13.72006 | 15.8921 |
| Supramax | avg trip - Ch_steel_pr | 3 | None* | 21.26618 | 20.26184 | 13.58359 | 15.8921 |
| | At most 1 | | 7.682594 | 9.164546 | 7.682594 | 9.164546 | |
| Handysize | 6-m tc 52k - Ch_steel_pr | 3 | None | 18.95875 | 20.26184 | 12.34651 | 15.8921 |
| | avg trip - Ch_steel_pr | 2 | None | 11.42643 | 20.26184 | 6.38637 | 15.8921 |
| | 6-m tc 170k - Ch_steel_pr | 3 | None | 19.28369 | 20.26184 | 13.75657 | 15.8921 |
| Notes: | | | | | | | |
| * denotes rejection of the hypothesis at the 0.05 level. | | | | | | | |
| The tests assume a restricted intercept in the co-integrating equation and no deterministic trends in the series | | | | | | | |
| The trace statistic tests H ₀ : r cointegrating relations against H ₁ : k cointegrating relations. | | | | | | | |
| The max eigenvalue statistic tests H ₀ : r cointegrating relations against H ₁ : r+1 cointegrating relations. | | | | | | | |

Table 2: Johansen Cointegration test

On the basis of the VAR framework, we conduct the Granger Causality test to capture the lead-lag relationship between freight rates and crude steel production. Table 3 summarizes the test results.

The results suggest that for the Capesize, there is significant causality from Chinese steel production to freight rates in the spot market and less significant in the period (10% level). In fact, a bi-directional relationship exists between China’s steel production and Capesize rates. A similar two-way lead-lag relationship is generated in the Supramax sector as well. However, for the Panamax, the Chinese steel production leads both the spot and period freight rates, but the opposite is not true. As for the Handysize, there is a bi-directional lead lag relationship in the period market and a unidirectional in the spot (Chinese steel production causes average trip rates).

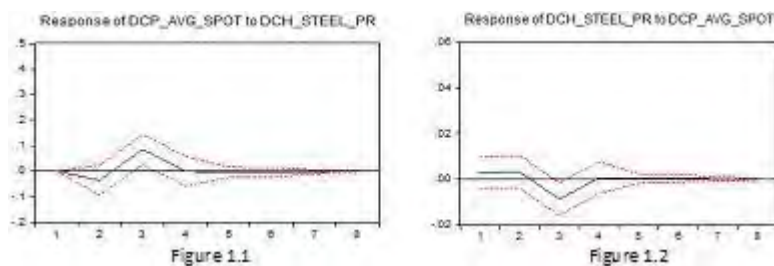
| Vessel size | Dependent variable | Excluded variable | Lags | Chi-sq. (p-value) | Outcome | Residual Serial Corr. LM test | Residual Heteroskedasticity | R-sq. |
|-------------|--------------------|-------------------|------|-------------------|------------------|-------------------------------|-----------------------------|----------|
| Capesize | avg spot | Ch_steel_pr | 3 | 0.0105** | causality at 5% | 0.9696 | 0.0000*** | 0.845481 |
| | Ch_steel_pr | avg spot | 3 | 0.0628* | causality at 10% | | | |
| | 6-m tc 170k | Ch_steel_pr | 2 | 0.0592* | causality at 10% | 0.3098 | 0.1194 | 0.917079 |
| | Ch_steel_pr | 6-m tc 170k | 2 | 0.0226** | causality at 5% | | | |
| Panamax | avg spot | Ch_steel_pr | 3 | 0.0001*** | causality at 1% | 0.3096 | 0.0000*** | 0.911647 |
| | Ch_steel_pr | avg spot | 3 | 0.2578 | no causality | | | |
| | 6-m tc 75k | Ch_steel_pr | 3 | 0.0563* | causality at 10% | 0.7607 | 0.0609* | 0.950389 |
| | Ch_steel_pr | 6-m tc 75k | 3 | 0.1012 | no causality | | | |
| Supramax | avg trip | Ch_steel_pr | 3 | 0.0000*** | causality at 1% | 0.8926 | 0.0000*** | 0.932998 |
| | Ch_steel_pr | avg trip | 3 | 0.0004*** | causality at 1% | | | |
| | 6-m tc 52k | Ch_steel_pr | 3 | 0.0085* | causality at 1% | 0.9921 | 0.0074*** | 0.948135 |
| | Ch_steel_pr | 6-m tc 52k | 3 | 0.0041* | causality at 1% | | | |
| Handysize | avg trip | Ch_steel_pr | 2 | 0.0156* | causality at 1% | 0.0557 | 0.0945* | 0.785554 |
| | Ch_steel_pr | avg trip | 2 | 0.4091 | no causality | | | |
| | 6-m tc 30k | Ch_steel_pr | 3 | 0.0497 | causality at 5% | 0.6074 | 0.0006*** | 0.966965 |
| | Ch_steel_pr | 6-m tc 30k | 3 | 0.0004* | causality at 1% | | | |

Notes:
 *** indicates rejection of H₀ at 1% level, **at 5% and * at 10%
 H₀: All lagged terms of excluded variable insignificant
 The test statistic follows the chi-square distribution under H₀
 VAR Residual Heteroskedasticity Tests: No Cross Terms / H₀: homoscedasticity in residuals
 VAR Residual Serial Correlation LM test / H₀: no serial correlation at lag order h

Table 3: Granger Causality Test

Finally, the results reported in Table 3 show that our model is acceptable in terms of goodness of fit and residual diagnostics.

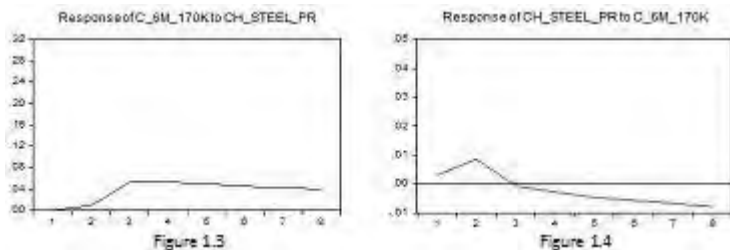
The last step of our methodology involves Impulse Response analysis. The results are provided in figures 1.1-1.16 respectively. The horizontal axis represents the number of months after the shock, while the vertical axis measures the magnitude of the effect on the variables.



In Figure 1.1 it is observed that a positive shock to steel output, initially triggers a negative reaction of the spot market, which can be attributed to market nervousness, as the Capesize spot market is highly dependent on Chinese iron ore imports and a high output may create worries of overcapacity. However, the high level of steel production creates the need to restock the raw materials utilized in the steel mills, and usually this process starts taking place one month later. This explains the positive response of the Capesize spot market after approximately 1.5 month, as the graph shows. At some point the restocking phase ends, leading to a decline in the demand for transport and consequently Capesize spot rates. Eventually, the effects of the shock die out, as no co-integration relationship exists.

Figure 1.2 illustrates that for the first 1-1.5 month the steel plant’s reaction to a positive shock on Capesize freight rates is relatively neutral, as the high output does not create the need

for immediate restocking. However, the stockpiles at some point need replenishment, but the high freight rates add up to the production cost and lead to the decision to lower the steel production until the freight rates are adjusted downwards and then scale it up. This process is depicted in Figure 1.2, where the response is steady, then negative and then positive until it abates.



Looking at the period Capesize market, in Figure 1.3, it is noticeable that the period rates, contrary to the spot, are not negatively affected over the first 1-1.5 month, but they rather remain relatively steady. This is reasonable, since the t/c rates are not so much affected by the sentiment concerning the current state of the market, but mainly by the expectations of its future direction. Following that, the period rates start to increase, corresponding to the expectation of a new seasonal increase in production and imports of raw materials. In this case, after some overshooting, the rates and the steel production reach a long term equilibrium stemming from their co-integration.

The steel response is different in the case of a positive shock to period rates. A rise of a 6-month time charter actually implies that the expectation is that there is a positive freight market expectation for the next 6 month period. From the point of view of the steel plants, since they prefer low transport costs, this is alarming and leads them to import more and increase their stockpiles in view of a likely future upswing in transport costs. Therefore, the raw materials imports spur a short term growth in the steel production, as Figure 1.4 depicts, which is followed by a longer term and continuous limitation of production due to the high freight rates, until the level of production reaches its equilibrium level (coming from co-integration).

The rest of the graphs can be found in the Appendix. It is worth noting that in all other sizes the respective responses fluctuate in a similar manner.

The main difference is that in smaller vessel sizes (Handysize and Supramax), as the vertical axis displays, the magnitude of the effect on their freight rates is much lower than in the larger categories (Panamax and especially Capesize). In fact, the results reveal that the magnitude of the effects on larger vessel freight rates can be twice as high, in maximum value terms. This is a consequence of the higher dependence of the larger types on the iron ore trade, as it constitutes their main cargo (together with coal for Capezizes and coal and grain for Panamaxes). On the other hand, the smaller Handysize and Supramax are more versatile, as they target a variety of cargoes, including minor bulks. Therefore, this characteristic makes them less dependent on iron ore trade and in turn less influenced by a shock in steel production.

5. Conclusions

This paper investigates the interactions between Chinese steel production and dry bulk freight rates. The study contributes to the literature by examining this relationship using causality analysis. Our analysis focuses on four different vessel types, in the context of both the spot and the period freight market.

The empirical results support the existence of a causal relationship between China's steel production and freight rates, which is unidirectional for Panamax and the spot market of Handyseize, and bi-directional in all other segments.

Furthermore, the Impulse Response analyses identifies the responsiveness of the dependent variables to a positive shock and indicates that freight rates of larger vessels are more affected by a change in steel production.

At the practical level, our study contributes to the better understanding of the relationship between freight rates and Chinese steel production, and can improve operational management and budget planning decisions.

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**Appendix
Panamax**

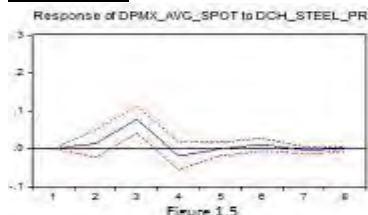


Figure 1.5

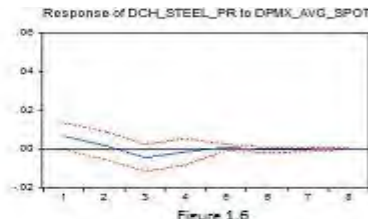


Figure 1.6

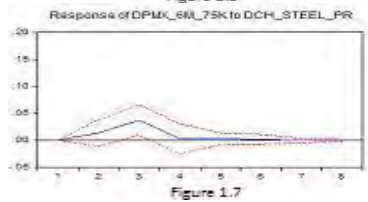


Figure 1.7

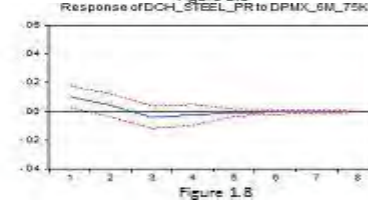


Figure 1.8

Supramax

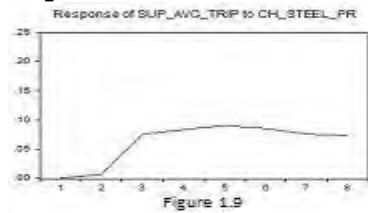


Figure 1.9

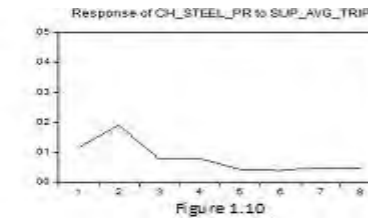


Figure 1.10

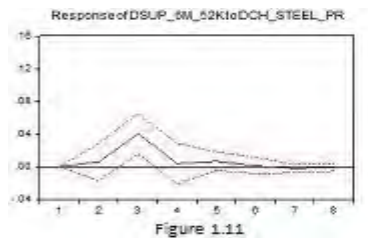


Figure 1.11

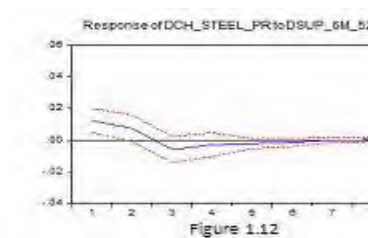


Figure 1.12

Handysize

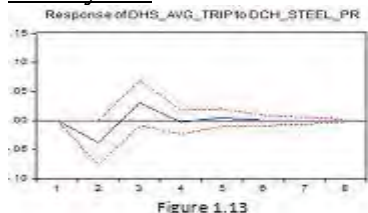


Figure 1.13

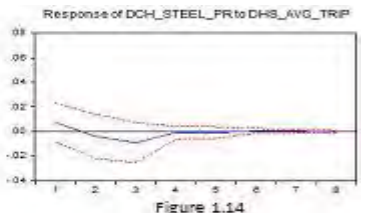


Figure 1.14

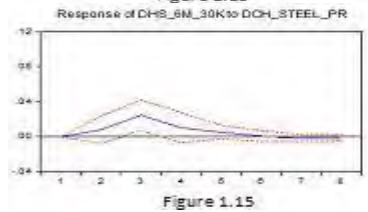


Figure 1.15

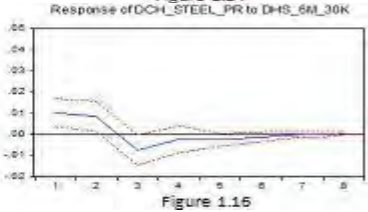


Figure 1.16

International Journal of Business and Economic Development (IJBED)

www.ijbed.org

General Author Information

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As a publisher **The Academy of Business & Retail Management** (ABRM) has substantial experience of journal publishing and pioneering new journals.

Our philosophy is to map new frontiers in emerging and developing business areas in research, industry and governance, and to link with centres of excellence world-wide to provide authoritative coverage in specialist fields.

Our goal is to foster and promote innovative thinking in business, economics and management fields. We collaborate with numerous fields rather than segment into specific areas of research. Hence, our objectives are to build new links, networks and collaborations between the global communities of researchers in order to stimulate and enhance creativity.

Our continued success lies in bringing together research dimensions to encourage industry and public sector growth throughout the world. Thus, research on global businesses and economics are highly within the areas of our interest. Similarly, expert opinions and professional commentaries are also published in order to set collaborative directions for the future researchers.

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- Decision will be taken as to the acceptability of the paper on the basis of the recommendation of the reviewers.
- Should further revision be found necessary it will be communicated to the author accordingly.
- Based on the outcome of above the date of publication will be decided and acceptance letter to be issued to the author(s).
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The following guidelines must be adhered to when submitting the papers: **No manuscript will be accepted without the Required Format. All manuscripts should be professionally proofread before the submission**

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- 1.1 Manuscript should be written in English and should be submitted to the Editor-in-chief electronically through the online system as e-mail attachment to editor@abrmr.com
- 1.2 If electronic media is not available, the original paper may be submitted on standard CD to the Editor by using full postal address which is, **The Academy of Business & Retail Management, 183 Exeter Road, Harrow, Middlesex HA2 9PG.**
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- 2.1 **Margin:** Set the paper size to A4 with One (1) inch on all sides (Top, bottom, left, right)
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- 2.3 Major and secondary headings must be **BOLD**, left-justified and in lower case.
- 2.4 **Spacing and punctuation:** Space once after commas, colons and semicolons within sentences. The body of the papers should be single spaced.
- 2.5 **Line spacing:** Single spaced throughout the paper, including the title page, abstract, body of the document, tables, figures, diagrams, pictures, references and appendices.
- 2.6 **Length of the Paper:** The paper length should not exceed 15 pages maximum including figures, tables, references and appendices.
- 2.7 **Paragraphing:** A blank line between paragraphs should be left without indent.

3. Structure of the Manuscript

3.1 Cover page

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- (i) **Title of the Article** –Paper title to be centered on the page, uppercase and lowercase letters, Font size 14, bold
- (ii) **Author (s) name (s)**: Uppercase and lowercase letters, centered on the line following the title, font size 12, bold
- (iii) **Institutional affiliation**: name of the institute and country, Uppercase and lowercase letters, centered on the line following the author(s) name, font size 12
- (iv) **Authors note**: Provide information about the author's departmental affiliation, acknowledgment for any financial and non financial assistance, mailing address for correspondence, email addresses for all co-authors
- (v) **Key words**: Maximum 6 key words, font size 11

3.2. Abstract: The abstract is self contained summary of the most important elements of the paper

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3.3. Body of the manuscript

From the second page the rest of manuscript should be included the introduction/background, main body of the paper which can be divided into section and sub-sections. Section and sub-section should be numbered and should be typed in BOLD. The manuscript should be organised as follows:

1. The Introduction
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3. Discussions and conclusions
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6. Appendices (if any)

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- (a) All tables are to be centered and numbered sequentially, with their title centered below the table.
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- (c) All equations must be typeset with the same word processor and type in Math type (please visit the website at www.mathtype.com for free limited trial).

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The Harvard System of referencing should be used for all manuscript(s) submitted to ABRM's Conferences and Journals for **all** sources. All sources should be listed together; there should not be separate lists for books, journal articles and electronic sources. Making a list of what you have used must be appropriate to the type of source used; the **details you need to record will vary according to the source.**

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- » International Business Issues
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This journal is indexed by SCOPUS, ProQuest, EBSCO Host, Cabbell`s Directory, J-Gate and ISI

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- ☒ Gender and socio-economic development
- ☒ Geopolitics of development
- ☒ Globalisation, liberalisation and development
- ☒ Health service management
- ☒ Industry sectors and development
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- ☒ Macro economic parameters and growth
- ☒ Microfinance and development
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- ☒ Natural resources and their internationalisation as leverages
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ITARC-2015, London, UK

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6th International Trade & Academic Research Conference

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15-16th February 2016
International Conference on Globalisation & Emerging Economies

ICBED-2016, New York, USA International Conference on Business & Economic Development (ICBED)

4-5th April 2016

ROGE-2016, University of Oxford, Oxford, UK 6th International Conference on Restructuring of the Global Economy

20-21st June 2016

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(Print) ISSN 2054-984 (Online) ISSN 2054-9857

Aims and Objectives

IJHEM is a peer reviewed journal and is a research publication platform for international scholars. Their research can be in any aspect teaching & learning covering the interests of developed and emerging countries alike. The Journal seeks to reach a worldwide readership through print and electronic media. The main aims of the Journal are:

- Publish high quality and scholarly empirical based research papers, case studies, reviews in all aspect of teaching & learning, education management and leadership with theoretical underpinnings.
- Offer academics, practitioners and researchers the possibility of having in depth knowledge and understanding of the nature of teaching and learning practices and.
- Create a forum for the advancement of education management research for the High Education sector.

Subject coverage

- λ Educational policy and Policy impacts on education
- λ Management of education and Relations between lecturers and students
- λ Psychology of education, Psychology of student and teacher/lecturer
- λ Quality of education and Improvement method
- λ Global education and Its challenges and opportunities
- λ E-teaching/E-learning, Educational software and multimedia for education
- λ Teacher education
- Distance education and Education quality
 - Methodology of educational research, Adult and continuing education
 - Special education, Gender, diversity and difference, Vocational education
 - Assessment processes and mechanisms
 - Language Education, Listening and acoustics in education environment
 - Education History
 - Innovative teaching and Learning methodologies; Multi-virtual environment
 - Application of educational technology
 - Education reforms and Practical teaching reform

- Frequency:** Twice a year: February & August
Review process: Blind peer review
Indexing with: Ebesco Host, ProQuest, Open J-Gate, Cabell`s Directory

Preference will be given to papers which are conceptually and analytically strong and have empirical relevance. All papers will be reviewed according to the Journal's criterion. The Journal's website is www.ijhem.abrmr.com . For further information please write to Editor at editor@abrmr.com or call on +44(0)2088689883

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(Print) ISSN 2059-660X

(Online) ISSN 2059-6618

IJBCS is a scholarly and refereed journal that provides an authoritative source of information for scholars, academicians, policy makers and professionals regarding business and cyber security. It is peer reviewed journal that is published twice a year and serves as an important research platform. IJBCS is committed to publishing articles that provide insight and informs best practice. Contributions should therefore be of interest to scholars, policy makers, practitioners and researchers internationally. The Editors and Editorial Board of the IJBCS are committed to championing original academic papers that demonstrate academic rigor, originality and integrity. IJBCS seeks to minimise cyber-risk through insight and vigilance.

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- Critical Infrastructure Protection; Building and maintaining cyber resilience
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Present

International Conference on Globalisation, Entrepreneurship & Emerging Economies (ICGEE), 15-16th February 2016, Alexandria, Egypt

It gives us immense pleasure to inform you that Academy of Business and Retail Management (ABRM) is hosting International **International Conference on Globalisation, Entrepreneurship and Emerging Economies (ICGEE)** in Alexandria, Egypt scheduled during 15-16th February 2016, at Arab Academy of Science, Technology and Maritime Transport (AASTMT), Alexandria, Egypt

ICGEE-2016 offers various tracks which include: The Finance, Accounting and Organisational structure, The Growth and Economic Development, the Globalisation and International Trade, Education and teaching for the Life Long Learning Sector, The HRM, Marketing & Information Technology, Health and Social care Management. Authors are invited to submit their original research papers, case study, review, work in progress, reports, abstract, students' papers or research proposals within the broad scope of each conference. Author's submission will be published in both the conference proceeding under **The Business & Management Review** (Printed copy) and online. ABRM utilises **double blind review** process for all submitted papers.

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The Academy cordially invites you to be a part of this anniversary occasion.

www.abrmr.com



International Journal of Business & Economic Development

Volume - 3 Number - 2 July 2015

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Articles

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Vlatka Skokic; Alison Morrison

BOP theory in an emerging market economy: India under the microscope

Gouher Ahmed; Manoj Kumar

Entrepreneurial competencies effect on Small and Medium Enterprises performance through the mediation effect of psychological contracting of outsourcing.

An empirical study on the Information Technology Sector in Egypt

Noha. A. Bendary; Aisha El Minyaw

Dynamic interaction between inflation and credit Rationing: the case of Nigeria

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Cultivating alternate mindsets to enhance organisational Well-being and creativity

Marie Holm

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Mary Lucia Mbithi; Seth Omondi Gor; Kennedy Otwor Oso

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