

MEDICAL TRAVEL OF INTEGRATED MEDICINE FOR STROKE IN TAIWAN

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ABSTRACT

Medical Travel is a modern business combining travel and medical care. Thailand was a successful model in this field. Taiwan, with a well-set medical system, has started to promote medical travel since 21st century. Changhua Christian Hospital (CCH) followed the trend and provided a high quality medical service to the world.

Since 2008 CCH has got the accreditation of JCIA (Joint Commission International Accreditation), it proved that the medical quality of CCH has been achieving an international high standard. Besides the traditional services, CCH also provided a unique integrated medicine for stroke patients (IMS). There were 311 patients receiving IMS program from July 2008 to December 2009. Major diagnosis were including Hemorrhage (28.9%), Infarction (62.9%), SAH (1.6%) and others. The result of NIHSS (National Institute of Health for Stroke Score) showed significant improvement after receiving IMS program, especially recovery of motor functions ($p=0.001$).

IMS program of CCH is a great medical service for medical travel. We encouraged people from all over the world to come to Taiwan and experience the IMS program.

Keywords: Medical Travel, Integrated Medicine, Stroke

INTRODUCTION

Medical Travel is a modern business combining travel and medical care.¹⁻⁵ It is driven by high medical expense and the trend of globalization. People seek inexpensive medical care throughout the world. Certain country or regions provide good medical care with travel to attract customers/patients from other places. Thailand was a successful model in this field.^{6,7} Taiwan, with a well-set medical system, has started to promote medical travel since 21st century. Especially after the universal health insurance dominates the medical market, which lowers the profit of the medical institutions.⁸ Many hospitals have to find a way out. Changhua Christian Hospital (CCH) followed the trend and provided a high quality medical service to the world.

Since 2008 CCH has got the accreditation of JCIA (Joint Commission International Accreditation), it proved that the medical quality of CCH has been achieving an international high standard.⁹ Through JCIA, CCH offered many good services to people from other countries. The patients, who receiving medical services from CCH, can get the reimbursement from their original insurance coverage. Besides the traditional medical services, CCH also provided a unique integrated medicine for stroke patients (IMS).¹⁰

IMS program is an integrated medicine including western medicine and Traditional Chinese Medicine (TCM) for the care of stroke. The patients with stroke were admitted and received a regular western medical care. At the same time, a TCM consultation would perform to the patients. Acupuncture, Chinese herb and Chinese massage would be prescribed to the patients. People gave positive feedback of the IMS. The study demonstrated the effectiveness of the IMS from the past.

METHOD

A retrospective study was performed using the patient's chart database of CCH. We collected the in-patients with cerebrovascular diseases (ICD9 code 430-438) who receiving IMS program between July 2008 and December 2009.(Table 1) Gender, age, diagnosis, intervention of western medicine and TCM, NIHSS (National Institute of Health for Stroke Score) and Barthel Index were recorded. Pair t-test and Mix model regression were used to test the effect of IMS. SPSS 12.0 and Microsoft Excel 2003 were used to carry out the calculation. The study had been approved by Institutional Review Board of CCH. (No:101203)

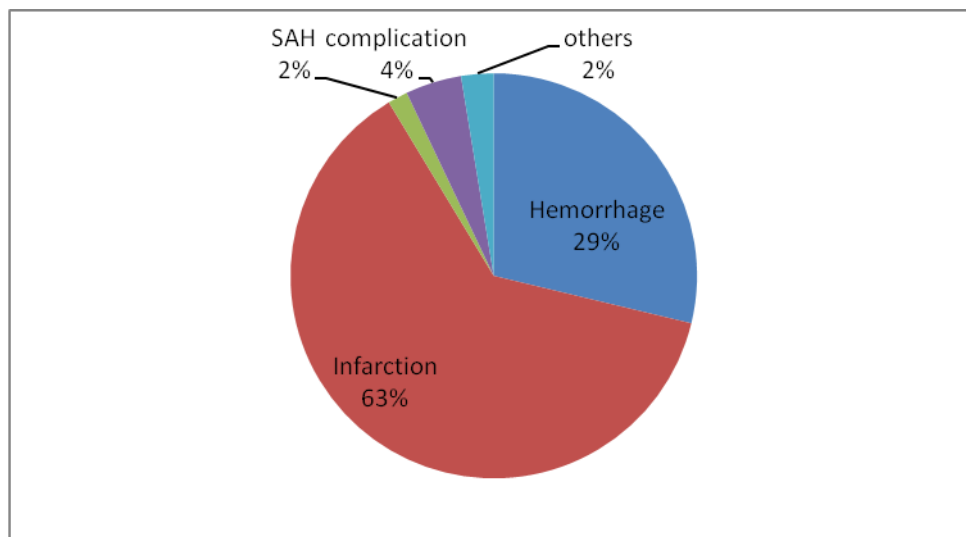
Table 1
Cerebrovascular Disease 430-438

430	Subarachnoid hemorrhage
431	Intracerebral hemorrhage
432	Other and unspecified intracranial hemorrhage
433	Occlusion and stenosis of precerebral arteries
434	Occlusion of cerebral arteries
435	Transient cerebral ischemia
436	Acute, but ill-defined, cerebrovascular disease
437	Other and ill-defined cerebrovascular disease
438	Late effects of cerebrovascular disease

RESULT

There were 311 patients receiving IMS program from July 2008 to December 2009. The subjects included 54.3% male and 45.7% female. The average age was 68.32. The average treatment period was 15.98 days. Major diagnosis were including Hemorrhage (28.9%), Infarction (62.9%), SAH (1.6%) Post Stroke complication (4.5%) and others (2.6%). (Fig. 1) Although all subject received western medicine and TCM at the same time. There were only 88.7% patients receiving rehabilitation in the program. In the analysis of NIHSS, motor function and speech improved significantly ($p<0.05$) in patients receiving acupuncture and Chinese herb. Facial expression and right leg improvement were noted in the patients with acupuncture and patent Chinese herb. There was no significant difference regarding Barthel index. Overall NIHSS of IMS evaluation showed significant improvement of the consciousness, motor function and speech. In Mixed model regression, NIHSS showed improvement ($p=0.001$) by control age and treatment period. However there was no significant difference regarding to Barthel Index using the same regression model.

Figure 1 The distribution of the diseases of IMS



CONCLUSION

IMS program of CCH is a great medical service for medical travel. It proved an effective and affordable solution for post stroke care. 11 This is a new field for medical travel. We encouraged people from all over the world to come to Taiwan and experience the IMS program.

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GAP INVESTIGATION IN SUSTAINABLE TOURISM DEVELOPMENT IN THAILAND, A CASE STUDY OF KOH SICHANG CHONBURI

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ABSTRACT

Abstract At this time, tourism is one of the steadiest and fastest-growing industries in the world. It is one of the most significant industries that generate the major source of foreign currency for countries all over the world, including Thailand. The concept of sustainable tourism development became popular and many destinations tried to make several destinations to be more sustainable, however, there still have some gaps which do not reach the criteria of sustainable tourism development. Therefore, it is important to explore what obstructs the development of tourism to be sustainable. The objectives of this research are to study problems which obstruct tourism in Koh Sichang and to propose guidelines for sustainable tourism development. The populations of the research were 1) 400 tourists travelled at Koh Sichang, data collected by accidental sampling and 2) representatives of residents at Koh Sichang, tourism businesses, government sectors, and tourists. 15 people were selected from each category based on the purposive sampling. The research findings revealed that tourists' satisfaction on accommodation attractions, transportation, and cooperation of the public and private sector were in excellent level. On the other hand, activities and facilities were in average level. According to comparisons of tourists' satisfaction in each aspect, it found that 1) male and female had different opinion with the statistical significance of .05 in amenities 2) tourist who had different times of travelling had different opinion with the statistical significance of .05 in accommodation 3) tourist who had different number of travel companies had different opinion with the statistical significance of .05 in accommodation. According to the study, there are several gaps impeding tourism development in Koh Si Chang such as the development of attractions, facilities and services, activities. Moreover, the promotion of identity of attractions, the environmental management, the cooperation of local communities, and tourists need to be considered. Guidelines for sustainable tourism development consist of several suggestions which are support and reinforcement of the local community to conserve their cultural identity and local history. Furthermore, the management of natural resources and environment, cooperation from all sectors, both public and private sectors and local community, and the awareness of tourists are also the important factors for sustainable development.

INTRODUCTION

Tourism is a large service industry created the highest growth in the service sectors representing a total value of more than one third of the value of all trade and services which plays an important role to the global economy also to Thailand's economy. In 2013, there were a total of 26,735,583 visitor arrivals, exceeding the year's original target of 26.1 million and representing a 19.6 per cent increase over 22,353,903 international tourists in 2012 (TAT, 2014). For the eastern part of Thailand, especially Chonburi province is defined as one of the wealthiest region because of the abundance of natural resources, natural attractions as well as the historical and fascinating cultural traditions which are well known by both Thai and foreign tourists. In 2013, there were more than 11 million of tourist arrivals which were 4.4 million and 6.7 million of Thai visitors and international visitors respectively generated revenue up to 101,835 million Baht (ASTV Online Manager, 2013).

Koh Sichang or Sichang Island, one of the famous destinations in Chonburi province attracted both domestic and international visitors situated in the Gulf of Thailand, where tourists can travel

around the remains of a former royal palace which was built as a summer retreat for King Chulalongkorn. The royal residence was abandoned in 1893 when the French occupied the island during a conflict with Thailand over who would control Laos. The island also has many places of religious interest and value where attract a lot of tourists every single year.

However, currently, the standardization of tourism and well-managed tourism are required in various destinations in Thailand, including Koh Sichang. These highly affect on both domestic and international tourism leading to leaking in economic growth and the unconformities of sustainable tourism model. Besides, infrastructure and tourism facilities, such as public transport systems are extremely needed (Pachana, K., 2010). Most importantly, according to the growth of economy and tourism, well-prepared and managed in attractions, natural resources and environment are significantly needed to be long-term sustainable development.

Accordingly, the aim of this study is to investigate the problems which obstruct tourism in Koh Sichang and to propose guidelines for sustainable tourism development. To achieve this aim, gaps in sustainable tourism development in Koh Sichang were investigated and identified for the long-term of sustainable tourism development.

LITERATURE AND THEORY

2.1. Tourism sustainable development

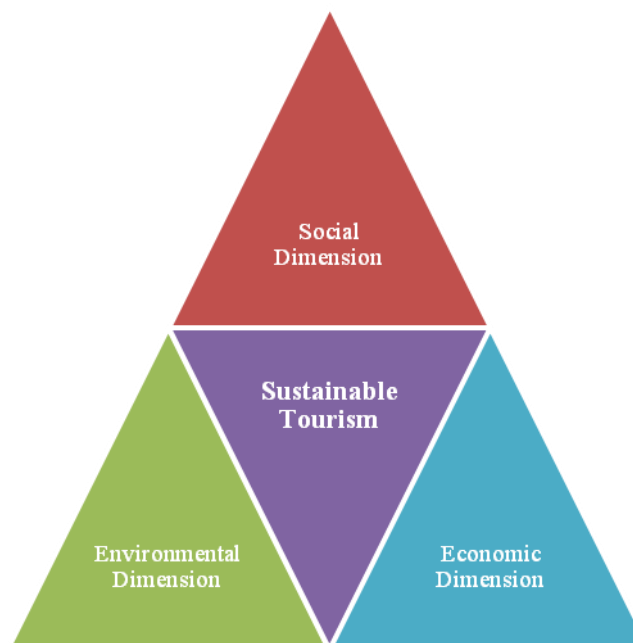
Sustainable tourism development is defined as an adaptive paradigm, a part of the original concepts of development and sustainable development (Tosun, C, 2001, 290). Furthermore, sustainable development can be defined as sustaining the existence of all living creatures together in harmony and without any threat to each other (Ekinci, M.B., 2014, 178). In terms of tourism aspects, UNWTO (2013) defines sustainable tourism that 'Tourism that takes full account of its current and future environmental, economic, and socio-cultural impacts, addressing the needs of tourists, the industry, the environment, and host communities'. However, to concrete the terms of tourism sustainable tourism, various perspectives need to be considered, not only the environmental concerns, economic importance, effects on socio-cultural views, local community or the awareness of tourists, but also the cooperation and participation from all related sectors both national and local administration.

2.2. Sustainable tourism development: Perspective of Thailand

Tourism Authority of Thailand (2001) have held the title "The Development of Sustainable Tourism or Sustainable Tourism Development for Thailand", which provided feedback on the development of sustainable tourism into eight areas: 1) measures to protect the environment, 2) the potential to accommodate tourists, 3) the protection of societies and cultures, 4) participation of local community in tourism 5) strategic development in tourism products 6) the development of stakeholders' roles in tourism 7) the cooperation among tourism related organizations, and 8) the collaboration within the regions. According to the mentioned above, it has been proposed to adjust marketing strategy to raise the quality of potential tourists to stay longer and spend more money. However, these criteria mainly focused on the distribution of benefits in terms of economic importance, not sustainable development. Jittungwattana (2005, 7) supports that main characteristics of sustainable tourism composites of all types of natural attractions, historical artifacts, cultural heritage emphasizing on the value and uniqueness of each destination and also the responsibility of tourism resources, tourism and environment. It should provide opportunity to tourists to learn and experience nature and culture. Furthermore, the benefits should be provided back to local communities, natural resources and local environment. Therefore, in 2013, Designated Area for Sustainable Tourism

Administration (Public Organization) or DASTA released model of sustainability in tourism development composed of three dimensions. Firstly, tourism development in social dimension mainly focuses on the standards certification of community and ensures that community benefitting through tourism. Secondly, tourism development in environmental dimension concentrates on wastewater management and reuse, solid waste management and water and energy efficiency. Thirdly, tourism development in economic dimension will use creative tourism as a tool for community - based tourism development (DASTA, 2013). Therefore, this model will be used in order to explore gaps in tourism sustainable development in Koh Sichang for a long-term development in tourists

Figure 2:
Dimensions of Sustainable Tourism



Source: Adapted from DASTA (2013)

III. Related work and Discussion

Pudtita Klinphoh (2009) studied about the evaluation of the implementation of policies in order to promote tourism in Koh Sichang, Chonburi province. The samples were collected from 1) 50 people from government and private sector 2) 105 people from tourism businesses such as accommodation, restaurant, local shops and transportation, 3) 380 local people who has been living in Koh Sichang more than 5 years. The result showed that environmental issues were subjected to take a consideration. Moreover, the implementation of the policy, in terms of tourism promotion needed to be in parallel with the development of tourism in the aspects of planning for sustainable tourism development. This research focused on environmental issues related to tourism development; however, holistic view of sustainable tourism development needed to be concerned.

Yuwarintorn Bubpha (2007) studied about tourism development in Koh Sichang by collecting the sample from Thai (466) and international tourists (80) who were over 18 years old and living in urban areas, and community leader / tour operator (20). The results showed that the current physical characteristic affected on tourism. Besides, development and management such as the

limitation of facilities on site, quality infrastructure such as parking, room services, and public relation were required. Also, making destination to be more attractive was needed. However, in terms of sustainable development, it is not only physical term is adequate, but various kinds of aspects and stakeholders in tourism need to be reviewed.

Mantana Sangsivarit (2010) conducted a research about the involvement of local participation in order to develop Samet Island for a sustainable development. The samples were collected by 295 people living on Koh Samet, Rayong province. The research found that level of local participation in tourism, environmental management, and information was in low level. Moreover, local people participation in society, economy as well as public health was just in moderate level. It could be summarized that in case of sustainable development, local participation is a significant factor that need to take a consideration.

METHODS

In conducting research, primary and secondary data are fundamental sources of data were used. To collect the primary data, mixed-method will be used, which consists of two techniques, quantitative and qualitative, because the results converge, mutually validate, and support the similar conclusion.

4.1. Population and sample size

This research targeted only the populations of (1) 400 domestic and foreign tourists in Koh Sichang. The population is based on the non-probability (Kusmayadi and Sugiarto's, 2000). (2) 15 people per each group of local community leaders, local tourism entrepreneurs, and representatives of public sectors related tourism were selected by using purposive sampling.

Purposive sampling and accidental random sampling were applied in this research, where the author takes samples based on some considerations according to the aim of the research, time constraints, cost and the survey instruments. Therefore, the elements in the sampling were simple, where the researcher took 400 respondents from both Thai and international tourists.

For the groups of local community leaders, local tourism entrepreneurs, and representatives of public sectors related tourism, in-depth interview was used to widen information and gain more qualitative data. To widen the scope and ensure a big sample for the research, the questionnaires were conducted in two languages Thai and English.

4.2. Data Collection

4.2.1. Primary Data

To collect quantitative data, the researcher was allowed to get the information from Municipality of Koh Sichang. The data from both Thai and international tourists were collected by using face-to-face questionnaire interview. The questionnaire construction was divided in to 4 main sections. Section three aims at acquiring information about the demographic profile of respondents; and questions about gender, age, and the people accompanying respondents on this journey, educational level and occupation will be asked. Section two contains eight questions concerning about travel pattern, which related to factors affecting on decision-making for travelling in local tourist attraction. The third part concerns the general characteristics of the journey and how tourists find out about Koh Sichang in terms of social dimension; cooperation from local community in tourism will be asked. Next, environmental dimension such as attractions and natural management will be focused. Lastly, economic dimension will focus on both private and public sectors in terms of generating businesses and making policies such as accommodation, entertainment and activities, amenities and accessibility. To gather qualitative data, open-end questions including interview had used the similar

questions to reach the aim and objectives of research. For example, what are factors that obstruct sustainable tourism development in Koh Sichang? , and what are your suggestions to make Koh Sichang more sustainable in tourism development?

4.2.2. Secondary Data

Secondary data are collected from Tourism Authority of Thailand (TAT), textbooks, journal both from academic and non-academic sources have been collected and reviewed.

4.3. Statistic Treatment

In this study, a quantitative approach was employed to collect data; therefore, the data was analysed using the computer for Windows. Mean analysis, t-testing and analysis of variance (One-way ANOVA) were used.

RESULT

5.1 Perspectives of stakeholders on sustainable tourism development in Koh Sichang

5.1.1. Tourists

The research findings revealed that tourists' satisfaction on accommodation attractions, transportation, and cooperation of the public and private sector were in excellent level. According to comparisons of tourists' satisfaction in each aspect, it found that male and female had a significant different opinion with the statistical significance of .05 in amenities. Also, tourist who had different times of travelling and different number of travel companies had a significant different opinion with the statistical significance of .05 in accommodation.

In terms of sustainable development, both Thai and foreign visitors agreed that Kho Sichang needs to boost up local traditions, natural attraction development, transportation and accommodation which should be seriously concerned with long-term development. Moreover, the participation of local people has to be considered as well.

5.1.2. Community leaders and local citizens

Koh Sichang is still insufficient in cooperation and participation in tourism activities. To improve destination to be sustainable, the cooperation among the parties, whether on the part of government, private sector and local communities is significantly needed. Moreover, the deficiency of local awareness such as disposal in public place, destruction of their natural habitat through trampling are also required to be improved. Furthermore, passenger and cargo ships as well as should be reorganized because the scenic surroundings of the island are blocked by those ships.

5.1.3. Travel agents and tourism businesses

The representatives of local tourism businesses agreed that transportation; for example, the allocation of buses on a weekend to tourists and delays in the transmission from local transportation to ferries is inadequate. Turning to accommodation, it is not enough tourists during the high season and also the quality of local accommodation should meet the standardization. Water consumption such as fresh water is one of the main problems in Koh Sichang. When visitors come to Koh Sichang, water is not enough for the consumption of both local residents and tourists, especially in high season which may affect the sustainable development of tourism. Lastly, the cooperation of tourists to keep the attractions clean and to respect local ways of lives also needed.

5.1.4 Government and public organizations

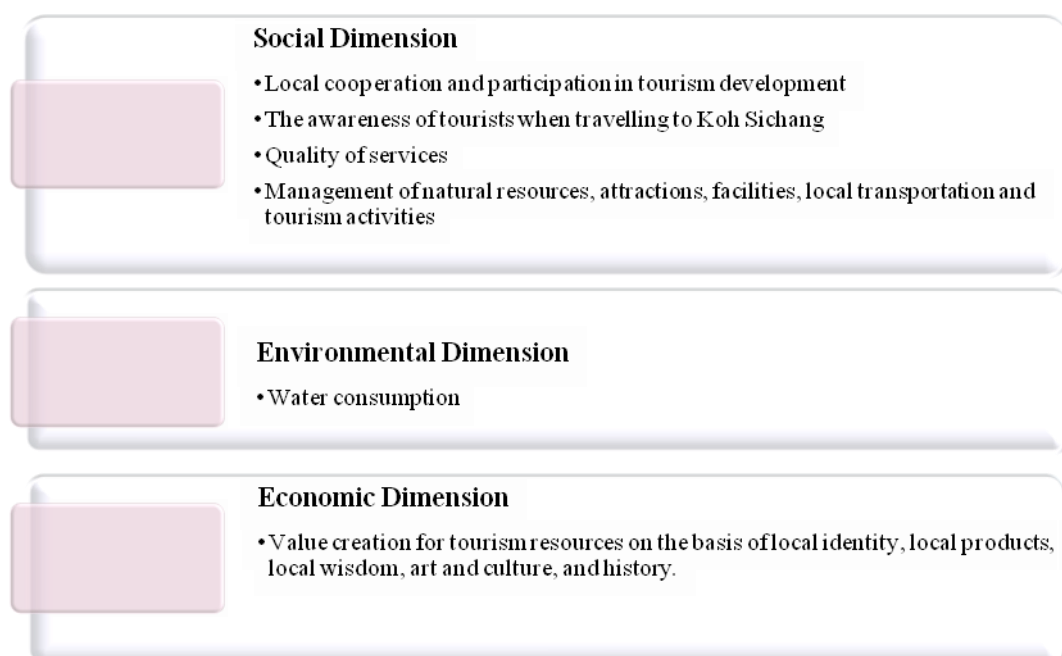
According to the views of public sector, services of local transportation are inadequate for the needs of travelers because it is controlled by the local administration, which is concerned for the environmental effects and avoid the local conflict among local mini-van providers. Next is the

standardization of accommodation and restaurant which need to be resolved in terms of policy and taking action. Then, there should have updated information through various kinds of media including the Internet access. Most importantly, Koh Sichang lacks of local identity and the awareness of tourists in case of keeping clean in public places.

5.2 Gaps in sustainable tourism development in Koh Sichang

According to the result, factors that impede the sustainable tourism in Koh Sichang can be categorized into five distinguish aspects which are; management in attractions, facilities and services, local transportation, tourism activities, the awareness of tourists and local cooperation and participation in tourism development, creative tourism in case of focusing on value creation for tourism resources on the basis of localness, such as the way of life, local wisdom, art and culture, and history.

Figure 3:
Gaps in Sustainable Tourism Development in Koh Sichang



5.3. A potential guideline for sustainable tourism development in Koh Sichang

Sustainable tourism development in Koh Sichang requires cooperation from all sectors such as the government organizations involved in the issuance of the policy in tourism management. What are more, local tourism businesses and local residents have to cooperate and perform their role and their functions, particularly in local people. It necessitates to better understanding on sustainable tourism development because they play are important mechanism of long-term development. Consequently, the development must comply with the local planning development and policies. However, the development has to rely on local context because each destination has different background in natural resources, cultures & traditions, education etc. Meanwhile local community does not necessarily adjust for serving tourists in every aspect because that will lead to the lack of identity.

VI. Conclusion and Future Work

The investigation in sustainable tourism development in Thailand, a case study of Koh Sichang Chonburi found that there are many gaps regarding to sustainable tourism development in terms of social, environmental and economic dimensions. However, all mentioned gaps subject to be resolved and cooperate with all stakeholders in tourism industry both in local administration and national policies.

Recommendation for future work, this research was an initial phrase aimed to explore the gaps to propose the local administration for a long-term development, which concentrated on overview of tourism management in Koh Sichang. It would be better if each aspect is explored in detail with qualitative method which will provide great benefits to local community and Thailand tourism to improve their destination to be more sustainable.

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EXPLORING RELATIONSHIP MARKETING FUNCTION IN EGYPTIAN TRAVEL AGENCIES

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ABSTRACT

Relationship marketing is an old idea but a new focus now at the forefront of services marketing practice and academic research. It constitutes a major shift in marketing theory and practices. It is often presented as the opposite to transaction marketing, the one-shot deal. Within relationship marketing focus is, therefore, on the relationship rather than the transaction. The purpose of this paper is to describe the nature and contents of the relationship marketing function in Egyptian travel agencies as service organisations and how this function is related to other business functions particularly organisational performance. Initial data shows that relationship marketing does exist in the agencies as individual behavior rather than business strategy.

Keyword customer relationship marketing- customer loyalty- employee performance

INTRODUCTION

Since introduced explicitly by Berry (1983), the terms relationship marketing (RM) has been extensively promoted in marketing literature (Kumar et al, 2003). Relationship marketing has been proposed as a new theory in marketing due to the challenges associated with reaching consumers using traditional marketing approaches. Firms increasingly rely on relational marketing tactics to increase customer patronage with the firm (Ashley et al, 2011). Within relationship marketing focus is, therefore, on the relationship rather than the transaction. An early definition of relationship marketing is provided by Gronroos (1990, p. 7): "The role of relationship marketing is to identify, establish, maintain and enhance relationships with customers and other stakeholders, at a profit, so that the objectives of all other parties involved are met; and that this is done by a mutual exchange and fulfillment of promises". So, concerning customers, Relationship marketing strategies are typically designed to gather information in order to help firms identify and retain their best customers and to maximize customer value and profitability (Ashley et al, 2011).

The purpose of this study is to examine the extent to which travel agencies in Egypt are applying the term in their business as well as identify issues relating to its nature and how this function does work in reality.

Why focus on relationship marketing in Egypt now?

Most of travel agencies businesses in Egypt are small enterprises which could be described as human-intensive organisation. They are depending on their front-line staff as part-time marketer (Gummerson, 1991). Taking into consideration the current situation of Egypt after 25th (2011) revolution, all travel agencies as SMEs are searching for ways to survive in market. Since, relational marketing tactics helps businesses to increase customer patronage. Therefore; the function of relationship marketing is fully sufficient and important for their businesses. Further, it seems an appropriate time to provide an insight for the relationship marketing phenomenon in order to come across implication to assist these businesses.

This study will be divided as follows: section 1 will focus on relationship marketing perspective, section two and three will address the methodology of the study as well as the results respectively. Finally section four will conclude.

1- Relationship Marketing Perspective

Marketing literature has widely advocated relationship marketing (Groenroos, 1994; Reichheld et al, 2000; Reinartz and Kumar 2003; Kumar et al, 2003; Harker and Egan, 2010). Previous studies revolved around number of topics such as relationship marketing orientation, relationship marketing programs relationship intention, and relationship quality and relationship consequence (see (Palmatier et al, 2007; Adjei et al., 2009; Sivaraks et al, 2011).

No review of relationship marketing would be complete without reference to Customer Relationship Management (CRM) (Harker and Egan, 2010). CRM is as the key to the accomplishment of relational strategy. According to Wetsch (2003: 4) “the elements of relationship marketing, when combined with ‘customer-centric’ marketing serve as a foundation for CRM”. Day and Van Den Bulte (2002) define CRM as a cross-functional process for achieving a continuing dialogue with customers, across all their contact and access points, with personalized treatment of the most valuable customers, to increase customer retention and the effectiveness of marketing initiatives.

Chaffey (2003) presents a three-stage model of CRM which shows how customer relationships can be managed. His model proposes that customers are first acquired via clear communication of a powerful value proposition. They are retained via good service; and the relationship extended via the delivery of tailored products/services to clearly defined customer segments.

It has been argued that CRM can lead to number of payoffs. Generally, the most common components of relationship outcomes found in previous studies are customer loyalty, customer retention, and willingness to recommend (Sivaraks et al, 2011). Concerning the SMEs, It has been argued that focusing on the customers is becoming a key factor for SMEs to continue to exist in the competitive market (Ozgener & Iraz, 2006). It is acknowledged that it takes up to five times more money to gain a new customer than to get a presented customer to make a new deal. Hence, customer retention is in particular significant to SMEs because of their limited resources (Baumeister, 2002). CRM plays a major role in the competence development of SMEs (Skaates & Seppanen, 2002). SMEs are embracing it as a major element of business strategy because technological applications permit a precise segmentation, profiling and targeting of customers and competitive pressures require a customer-centric culture (Gurau, Ranchhod, & Hackney, 2003). Managing those relationships can help businesses enhance their customer relationships by attracting more profitable customers and establishing stronger and more durable customer relationships (Falk, 2004). CRM gives sales force more time to sell, improves customer response times and quality of customer service, and allows marketing to better understand customer issues and trends. At businesses, CRM philosophy leverages best practices that value customer information as a corporate asset. It is committed to helping businesses implement strategies and solutions improving the way they sell, communicate service and analyze customers (Skaates & Seppanen, 2002).

What makes both employees and customers engage in relationship marketing.

Kahn (1990) proposed that employee engagement is associated with three psychological conditions: meaningfulness, safety and availability. People are more willing to expend additional effort if they feel they will be protected and rewarded in a way that matters to them. Alrubaiee & Al-Nazer's (2010) study confirmed that the extent to which a company engages in developing a long term relationship with its customers has a multi-dimensional constructs consisting of five behavioral components: Trust; Commitment; Communications; Bonding, and Satisfaction.

Concerning customers, Noble and Phillips (2004) propose several key factors that may hinder customer engagement in firms' relationship marketing programs: convenience concerns benefit concerns, and privacy concerns. There are other customer factors that may affect the meaningfulness, safety and availability conditions. In addition to privacy concerns, other customer factors that are

likely to affect engagement in relationship marketing programs include customer involvement with the firm, variety seeking in the firm's sector, and shopping frequency. These factors loosely relate to the idea of availability, since customers who shop more at the target firm have more opportunities to engage with the firm. Customer may repeatedly buy from a firm because of one or more of many factors such as price advantage, inertia, convenience, trend, social influence, high switching costs, and their emotional attachment with the firm (Kumar et al, 2003). Purchase frequency is predicted to increase consumer receptiveness to relationship marketing tactics. Customers who buy from a firm more frequently get greater value from the benefits of relationship marketing programs. Purchase frequency has been used as a proxy for social distance because the likelihood that a shopper feels close to a store or its employees increases with purchase frequency (Ashley et al, 2011)

Is any relationship with the customers considered to be worthless?

Jarvelin and Lehtinen (1996) described relationship quality as a customer's perceptions of how well his or her expectations, predictions, goals, and desires concerning the whole relationship are fulfilled. (Sivaraks et al, 2011). Hennig-Thurau and Klee (1997) mentioned that relationship quality could be recognized as the level of adequate fulfillment of the needs of the customer associated with the relationship. Accordingly, it forms the overall impression that a customer has relating to the whole relationship that he or she has with a business, including different dealings (Wong & Sohal, 2002). Relationship quality comprises several key components that reflect the overall nature of relationships between firms and their customers (Hennig-Thurau, et al, 2002). Although there is no agreement on the dimensions of relationship quality, a literature review indicates common dimensions of trust (i.e., confidence in the exchange partner's reliability and integrity; Morgan and Hunt 1994), commitment (i.e., a desire to maintain a relationship; De Wulf et al, 2001), stability (i.e., an exchange that is secure, steady, and with a long-term orientation; Johnson, Sohi, and Grewal 2004), and communication quality (i.e., the exchange of information that is frequent, timely, accurate, useful, and credible between partners; Mohr and Spekman 1994; Morgan and Hunt 1994). Relationships with higher levels of these specific dimensions can be leveraged by the firm as a resource (e.g., Barney and Hansen 1994). Consequently, the most frequently identified three constructs of relationship quality are trust, satisfaction, and commitment (Sivaraks, et al., 2011).

METHODOLOGY

CRM implementations based on data collected from small and medium-sized tourism enterprises in Egypt were analyzed. A structured questionnaire was used to measure the constructs. The previous discussed literature review was used to develop the questionnaire which was pre-tested by 32 post graduate students in the faculty of tourism and hotels- Alexandria University to refine of measures and instructions. It was also reviewed and by academic colleagues to ensure its validity and clarity. Their feedback was used to modify the questionnaire.

Interviewers were used to distribute 400 questionnaires to Egyptian SME's front office employees with the help of post graduate students in the faculty of tourism and hotels to ensure a high response rate. The overall response rate was approximately 64% (256 usable questionnaires), which is acceptable for this kind of study (see recent IMM publications including (Leek, Turnbull, & Naudé, 2006; Kingshott, 2006; Zhao & Cavusgil, 2006). Measures were indicated on a 5-point scale with an agree/disagree continuum (1 strongly disagree, to 5 strongly agree).

Data was then coded analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive analysis was used to recognize the characteristics of both front office employees as well as the customers. Moreover, means and standard deviations for each variable as well as Pearson correlation coefficient were also calculated to test the relationships between variables. In addition to

Chi-squared tests which was used to identify the existence of an association between qualitative variables.

The study started in February 2013 and took about three months to gather data. The sampling is from Egyptian small- and medium-sized tourism enterprises. Reliability can be thought of as a consistency in measurement. To establish the reliability of the questionnaire Cronbach's alpha was calculated. The scale was found to be internally reliable ($\alpha = 0.887$) that is greater than Nunnally's (1978) recommended level of 0.70.

The questionnaire was divided into 7 sections; the first section is concerned with characteristics of employee (the experience of the employee in the field as well his experience in the enterprise), the second section is devoted to CRM implementation (the existence of costumer database and the percentage of customer engaged with the company, as well as the main benefits of CRM implementations. The key factors that may hinder customers engagement in firm's relationship marketing programs and the characteristics of the customer's engaged with the company, as well as the identity of the customer whom the employee inflicted to his data base respectively were investigated in the third section. The fourth section is concerned with the CRM quality dimensions. The fifth section addressed the type of services the customer engaged in the relation asks for as well as the most services bought by these customers respectively. Finally, the sixth and seventh sections inquire about the characteristics of the customer who is intending to return in addition to the cause of retention, as well as customer loss and its causes.

RESULTS

Starting with the employees' characteristics, 53% of respondents had from 1 to 5 years as work experience in the company, less than 1, 5 to 10, and more than 10 years categories have approximately equally proportions 15%. Furthermore, 43.9 % of employees had from 1 to 5 years as experience in the field, less than 1, 5 to 10, and more than 10 years categories had 10.6 %, 21.2 %, and 24.2 % respectively.

Concerning CRM implementation, 71.2 % of respondents believed that their company possesses a database for customers, 57.5% of them agreed that they possess themselves database for customers, although 40.95 % agreed that they possess themselves customers database in an unofficial manner. These results refers to that most of employees in the Egyptian tourism enterprises gather information in order to help firms identify and return their best customers, but sometimes in an unofficial and casual manner. Moreover, the majority of respondents believe that most of their customers are engaged in relation with the company. 43.9% and 40.9 % of respondents stated that the percentage of these customers is from 20% to 50%, and more than 50% respectively. This result emphasized that the majority of employees think that they have a CRM with the majority of their clients.

Focusing on the benefits of CRM; minimize negative impacts during crises 60.6 % (Mean 3.64, Std. Deviation 1.028) was the most important benefit, followed by cover basic expenses 56 % (Mean 3.55, Std. Deviation 0.911), then minimize marketing expenses 51.5 % (Mean 3.32, Std. Deviation 1.006), at last ensure the minimum of the company's expenses 50 % (Mean 3.52, Std. Deviation 0.977). This result is very important as Egypt suffer recently from different crises which seriously affect different sectors especially the tourism sector. Therefore, efforts should be made to care about CRM to minimize negative impacts during crises and minimize marketing expenses and consequently increase tourism enterprises profit. This result highlights the importance of CRM implementation in Egyptian tourism SME.

When calculating the Pearson correlation coefficient to investigate the existence of relationship between both work experience in the enterprise and experience in the field with possessing database, $r = -0.1$ (sig(2 tailed)= 0.941) and $r = 0.169$ (sig(2 tailed)= 0.214) implying that there is no significant relationship between both work experience in the enterprise and experience in the field with possessing database respectively. Similarly, investigating the existence of relationship between work experience in the enterprise and the size of customers engaged with the company, the Pearson correlation coefficient $r = -0.068$ (sig(2 tailed)= 0.619) implying that there is no significant relationship between work experience in the enterprise, and the size of customers engaged in relation with the company. These results imply that the work experience in the company as well as the experience in the field generally does not affect the implementation of CRM.

In terms of whom the employee will start a CRM with him, 80.3 % of employees preferred to start a relationship with customers that deal with the company for a long time. Although 39.3% of them agreed that they start a relationship with customers that buy more than one service even once. This result demonstrates that employees are more concerned with customers that deal with the company for a long time. This result emphasized that employees preferred a long term relation when building CRM.

Concerning customers that employees prefer to include in their database, 66.6 % of employees include customers that deal with the company for a long time in their database, and 62.6% include customers that buy more than one service even once in their database. However, 51.5% of the employees include customers with high expenditure in their database. Only 33.4% of respondents include customers who buy one service even once to their database. These results demonstrate that employees are more concerned with customers that deal with the company for a long time. This implies that companies have terms concerning customers who are considered their best customers.

Focusing on the nature of customers engaged in relation with the company, 63.2 % of respondents believed that the majority of them are independent people. However, 36.8 % of them believed that the majority of these customers are representatives of bodies. Furthermore, concerning the attributes of these customers employees believe that 53% of customers do not like risk, they seek safety (mean 3.35, Std. Deviation 1.011), 54.5% like to feel important and distinctive, they seek distinction (mean 3.39, Std. Deviation 1.196), 39.3% do not have experience in travel, they seek knowledge and experience (mean 3.02, Std. Deviation 1.084), and 39.4% depend on the company to take travel decisions, they seek comfort, relax, avoiding problems (mean 3.18, Std. Deviation 1.118). The following table illustrates type of services bought by customers engaged in relation with the company.

Table 1
Type of services bought

	Mean	Std. Deviation	Percentage
Nature of service			
Packages	3.55	1.007	83.9 %
Simple service (hotel booking, ticket, ...)	3.24	1.106	63.6 %
Complicated service	3.14	1.117	74.2 %
Type of service bought			
Flight ticket	3.29	1.233	62.1 %
Accommodations	3.38	1.06	81.7%
Transportation	2.94	1.061	49.1%
Packages	3.33	1.12	66.6%

Table 1 emphasized the results of customers' attributes; seeking safety, comfort, knowledge and experience agreed with the results that most of the services bought through CRM are packages and complicated services, where safety, knowledge and experience are more required in these services unlike simple services.

When respondents were inquired about the characteristics of customers whom respondent believe that he will continue to buy from the company, 60.6% (Mean 3.53, Std. Deviation 1.080) of them believe that these customers who are satisfied with services prices, 68.2% (Mean 3.64, Std. Deviation 1.072) have been dealing with the company for a long time, 60.6 % (Mean 3.39, Std. Deviation 1.283) are satisfied with his last deal with the company (linking with the result concerning long lasting relation). The cause of continuity was the good relationship with one of the company employee (emotional attachment) 68.1 % (Mean 3. 8, Std. Deviation1.201), good quality of services 54.4% (Mean 3. 45, Std. Deviation 1.006), good prices 62.2% (Mean 3. 52, Std. Deviation1.095).

When spotlighting Customer RM quality dimensions, employees think that they can achieve it through gaining customer trust and dealing honestly, trust 80.7% (Mean 4, Std. Deviation 1.272), dealing with professionalism, Communication quality 77.3 % (Mean 4.03, Std. Deviation 1.185) , to achieve customer interest, commitment 79.3 % (Mean 4.06, Std. Deviation 1.171), and stability 59.1 % (Mean 3,62, Std. Deviation 1.208). Chi- Square tests were then used to examine the existence of association between customer RM quality dimensions and customer retention. (Pearson Chi-Square=172.769* (.001)) reveal that there is a significant association between customer continuity in dealing with the company and customer retention.

Table 2 demonstrates the Pearson correlation coefficient between the causes of continuity in CRM and RM quality dimensions.

Table 2
The correlation coefficients between causes of continuity in CRM and RM quality dimensions

Causes of continuity in RM \ RM quality dimensions	Trust	commitment	Communication quality	Stability
Good prices of services	0.714** (0.000)	0.657** (0.000)	0.648** (0.000)	0.531** (0.000)
Satisfied with the last deal with the company	0.573** (0.000)	0.448** (0.001)	0.577** (0.000)	0.597** (0.000)
Good relationship with one of the employees in the company	0.648** (0.000)	0.467** (0.000)	0.612** (0.000)	0.513** (0.000)
Good quality of services	0.669** (0.0000)	0.534** (0.000)	0.690** (0.000)	0.467** (0.000)

The results shown in table 2 imply that there exist a significant positive relationship between causes of retention in relationship marketing and relationship marketing quality dimensions.

Finally, Causes of Customer loss are investigated: the most important reason was loss of confidence 63.6% (Mean 3,44, Std. Deviation 1.321), dissatisfaction with service quality 51.5 % (Mean 3,26, Std. Deviation 1.176), high prices 43.9 % (Mean 3,2, Std. Deviation 1.094), and at last misunderstanding 30.3 % (personal dispute) (Mean 2.85, Std. Deviation 1.136). This result agreed with the RM quality dimension results.

In terms of studying the relationships of customer characteristics and customer retention and loss, the correlation coefficient was again used. Table 3 demonstrates the correlation coefficients.

Table 3

The correlation coefficients between customer characteristics, customer retention and loss

Customer characteristics	Customer Retention	Customer Loss
Does not like risk	0.332* (0.012)	-0.052 (0.706)
Like to feel that he is important	0.603* (0.000)	0.21 (0.121)
Does not have travel experience	-0.139 (0.307)	0.085 (0.534)
Dependent in the company to take travel decisions	0.222 (0.1)	-0.305* (0.022)

Table 3 showed that there is a positive significant relationship between customers who do not like risk and customer retention. Moreover, there also exists a positive significant relationship between customers seeking distinction and customer retention. This result implies that customers seeking safety and distinction are more likely to continue with the company. Concerning customer loss, results showed a negative significant relationship between customers who are dependent in the company to take travel decisions, seeking for comfort and relax and customer loss. This result demonstrates that this kind of customers can be easily lost compared with other customers.

Pearson correlation coefficient was again used to investigate the existence of a relationship between causes of customer retention and both customer retention and customer loss.

Table 4

The correlation coefficients between causes customer retention, customer retention and customer loss

Causes of customer retention	Customer Retention	Customer Loss
Good prices of services	0.701** (0.000)	-0.026 (0.085)
Satisfied with the last deal with the company	0.692** (0.000)	-0.295** (0.027)
Tight relationship with one of the employees	0.617 ** (0.000)	-0.0411** (0.02)
Good quality of services	0.732 ** (0.000)	-0.322 ** (0.024)

Results in table 4 showed that that there exist significant inverse relationship between Good qualities of services, Satisfaction with the last deal with the company, and Good relationship with one of the employees in the company with customer loss. Conversely, good prices of services has an insignificant relationship with customer loss which implies that if there exist a successful relationship with the company, prices are not among causes that might lead to lose this relationship. Concerning customer retention all the causes of continuity in RM showed a strong positive significant relationship with customer retention.

CONCLUSIONS

The function of Relationship marketing with regard to CRM does exist within Egyptian travel agencies. However, it is implemented in casual manner (without being a part from the business strategy). RM tactics such as loyalty card programs, company credit cards, opting in for personalized offers delivered via mailing and via e-mail lists, and rebate offers (Berry, 1995; Bolton et al., 2000; Noble and Phillips, 2004) are not applied officially.

The benefits of CRM are clear in the minds of the front-line employees (they verify that CRM was a crucial during the Egyptian crisis as it plays an important role in minimizing negative impacts of the recession.

Purchase frequency has been used as a proxy for choosing the targeted customer for the relationship building

Aspects such as good prices of services, satisfaction with the last deal, tight relation with one of the employees and service quality are important causes of customer retention. However, when the customer is engaged in a relationship with the company for longtime, prices are not among the causes which may led to customer loss as the relationship bonds and ties become so strong the customer will not mind paying a premium price while buying the product (Kumar et al, 2003).

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IS THERE ANY OPTIMAL SELLING TIMING FOR HOUSING DEVELOPERS?

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ABSTRACT

Deciding when to sell is an essential task for housing developers. In this paper, we have developed a theoretical function that can determine the optimal selling time for developers by estimating optimal home selling prices within a real option framework. The findings of our numerical analysis indicate that developers can delay pre-sales longer (make pre-sale agreements later) as initial investments grow. A longer project period has a converse effect on the optimal selling time. Developers who have the ability to obtain funding will delay pre-sales longer, pending additional market information that will benefit their corporate vision. Our results provide an optimal selling time strategy that can be used as a reference for developers.

Keywords: optimal selling time, real option, comparative static analysis

INTRODUCTION

It is widely realized that the decision to invest is a decision to exercise a real option and that many insights from the theory of financial options apply to real investment decisions (Dixit and Pindyck, 1994). It is same conception for housing selling timing issue. Selling timing, decisions for pre-sales or sale after completion, is an important issue for housing market. Pre-sale contracts allow developers to disperse the construction cost and housing price volatility in the future. In addition, housing buyer also can avoid for large sum of money at once and confirm housing price as pre-sale contract was established. On the other hand, housing sell later, even it had been completed, let developer hold exercise right longer for predominating more market information. Caballero (1991) argues that imperfect competition is vital to predicting a negative relationship between uncertainty and investment. However, previous researches of real estate have rarely been studied for optimal selling timing (or best selling timing) for housing with comprehensive theoretical model. Lai et al. (2004) model a pre-sale decision in a real options framework and some researches also provide empirical evidence that supports the “option to wait” theory (Quigg, 1993; Bulan et al., 2009; Schwartz and Torous, 2007; Buttimer et al., 2008). Housing pre-sale is a common phenomenon in many Asian real estate markets, it had become more attention in western countries in recent years. How to make the selling timing decision for developers? In this paper, we develop a real option model to realize the selling timing issue.

The ability to delay investment decisions is valuable when the investment is irreversible and the future is uncertain (Bulan, 2005). If managers can wait for the resolution of uncertainty before deciding to pursue the irreversible investment, they can avoid potentially large losses by foregoing the investment altogether when the outcome is unfavorable. Real option models apply most directly to individual investment projects and predict that trigger prices (Bulan et al., 2009). Studies that use project level data have been able to investigate the effect of uncertainty on the timing (as opposed to the level) of investment, which is a direct test of the optimal exercise of real options (Hurn and Wright, 1994; Quigg, 1993; Moel and Tufano, 2002; Collett et al., 2003).

Landowners have to decide what time to develop (e.g., for residential or commercial). Decisions of this type include land-redevelopment decisions where the density of residential or commercial development. Developer starts a construction expected a projected future demand. They take the risk that the demand might not be realized when the projects are completed. Williams (1991) indicates the owner optimally develops his property as development maximizes its market value if investors can trade substitute securities continuously without transaction costs in a perfectly competitive capital market. Developers will be in a difficult financial position if demand has unexpectedly fallen at the time of completion. Fortunately, pre-sale contracts provide solutions. Collett et al. (2003) indicate that high transaction costs are associated with longer holding periods and higher return volatility will cut short the holding periods which are provided by proportional hazards model. Lai et al. (2004) mentioned that the pre-sale method not only helps developers deal with the uncertainty of future demand and potential bankruptcy costs, but can also substantially reduce, even clear up, developers' inventory costs (holding vacant buildings). Wong et al. (2006) argue that futures market system reduces the volatility of spot prices in real estate market. Chan et al. (2008) observe that pre-sales mitigate a developer's financing constraint by providing development equity and reducing financing costs. Under the same concept of development timing, in this paper, considering the real options framework, we estimate the optimal housing price to sell then decide the decision of selling timing. Developers need to determine the housing selling timing, make pre-sale contracts or sell it as the construction has been completed.

The pre-sale contracts in housing market has been very popular in Asia, however, little attention has been paid to the selling timing characteristics of this strategy for developers. We make two significant contributions towards finding support for optimal selling timing of housing. First, developing a housing developer's selling strategy using a real options framework, considering multidimensional determinates for optimal housing price to sell and then realizing the optimal selling timing decision. Second, we pay attention on determinants which effect optimal housing selling timing by sensitivity analysis. Our model, in this paper, is established on developers perspective. Following the concepts of land development timing to develop a comprehensive theoretical model by real option framework. Compared with similar research issue or model, Capozza and Li (2002) models the development decision when net rents are growing geometrically and uncertainly, and capital intensity is variable. Lai et al. (2004) analyze the rationale for the existence of the presale method and develop strategies to design a presale contract using a real-options framework. Chan et al. (2008) provide a simple equilibrium model in a game-theoretical framework to throw light on the relationship between presales and developers' pricing and production decisions. Edelstein et al. (2012) provide a theoretical foundation on market equilibrium analyses to explain the extensive worldwide practice of residential real estate presale agreements for uncompleted dwellings.

We consider many characteristics of corporation to develop an integrated estimation, such as the housing price volatility, housing return, depreciate rate, capital structure of developer, risk-free rate, corporate tax rate, initial investment, initial housing price, related cost and the integrated period. Then, estimating optimal housing price to get imply optimal selling timing and providing suggestions of selling decisions for developers. Our application of real option to selling decisions provide a number of important new results by sensitivity analysis for the determinants of optimal housing selling timing. We can generalize that housing price volatility, initial investment, capital structure of developer, depreciation rate, corporate tax rate and risk-free rate are positive relationship with optimal selling timing. On the other hand, housing return, housing price growth rate and integrated period are negative relation with optimal selling timing. Our model can provide the optimal selling timing strategy for developers by sensitivity analysis. Furthermore, we also can realize the implied meaning for selling timing.

Previous researches indicated that optimal timing issues had become a popular practice for property developments. Follow the same concept, we develop a real option model to describe housing selling situation. This chapter is organized as follows: Chapter 2 "Literature Review" reviews the literature as well as highlights the previous studies on the selling decisions of residential units.

Chapter 3 “Real option model for optimal development timing” derives the optimal land development decision by real option framework. Chapter 4 “Sensitivity analysis of the best timing to develop” presents the comparative static results and strategies influence. Chapter 5 “Chapter Summary.

LITERATURE REVIEW

Theoretical work suggests that if the future is uncertain and an investment is durable and illiquid, then the ability to pursue a different investment (or not to invest at all) in the future has economic value, often referred to as a “real option” (McDonald and Siegel, 1985; McDonald and Siegel, 1986; Titman, 1985; Lai et al., 2004; Buttimer et al., 2008). Cunningham (2007) also considers the irreversibility condition for real options. Built structures satisfy these two conditions that are both highly durable and inseparable from land if without demolition. Reviewing optimal timing issues, most researches focus on the land development part, which considered the relationship between the volatility of land price and option premium.

Williams (1991) argues that real estate development is much like exercising an option. He models an option which can solve analytically and numerically for the optimal date and density of development, the optimal date of abandonment, and the resulting market values of the developed and undeveloped properties. Capozza and Helsley (1990) and Batabyal (1996) have addressed the question of land development under uncertainty in a many-period setting. Real options in land markets arise from uncertainty as to the optimal use of a site (Cunningham, 2007). Land may be undeveloped to preserve its real option value. Bulan et al. (2009) have evidence that increases in both idiosyncratic and systematic risk lead developers to delay new real estate investments. They find one-standard deviation increase in the return volatility reduces the probability of investment by 13 percent, equivalent to a 9 percent decline in real prices. It is now widely accepted that the decision to develop a building site is ultimately a choice to exercise a real option (Cunningham, 2007).

The land development question is modeled in a dynamic and stochastic framework. In this setting, an answer is provided to the when-to-develop-land question. This answer involved a comparison of the revenue obtainable from developing at time t , with the expected revenue to be obtained by preserving and waiting for new information beyond time t . To measure development timing, Capozza and Li (2002) model the development decision when net rents are growing geometrically and uncertainly, and capital intensity is variable. Collett et al. (2003) use a proportional hazards model to shed light on investor behavior with marked differences by type of property and over time. They mentioned that high transaction costs are associated with longer holding periods. Return volatility, by contrast, is associated with shorter holding periods. In addition, they also support that there might be an optimal holding period. Wong et al. (2006) examine the effect of forward sale (pre-sale) activities on the volatility of spot prices in the real estate market. The results contribute to the long lasting debate on whether the introduction of a futures market reduces the volatility of spot prices. Cunningham (2007) estimates proportional hazard models which includes time-invariant measures of building-site quality, time-varying measures of new-housing demand, and time- and location varying measures of expected future prices and price uncertainty. Numerous scholars have presented the land development with real option framework. However, previous researches rarely mentioned housing selling timing. Will developers make pre-sale contracts or sell it as completed? Any characteristics effect the selling decisions of developer? We follow the optimal development concepts to solve the selling timing issues for housing.

Developers consider to start a construction based on a projected future demand and take the risk that the demand might not be realized when the projects are completed. Lai et al. (2004) mentioned that there are at least three methods to deal with the risk associated with demand uncertainty. One of the methods is to presell a project. The pre-sale system offers developers an opportunity to share risks with buyers (Chan et al., 2008). Pre-sale agreements have become a pervasive worldwide practice for residential sales, especially in many Asian markets. Residential builders use pre-sale real estate agreements in order to secure buyers for either un-built or under-construction dwellings. Shyy (1992)

and Lai et al. (2004) develop two prior theoretical models for pre-sales contracts, based upon compound real options. Chan et al. (2008) indicate that a developer can sell a property before its completion (or even before its construction) by pre-sale method.

There are many pre-sale cases have become a popular practice for property transactions in practice. However, we can find only a few studies to address pre-sale issue. One group of studies treats a pre-sale as a forward or futures contract (ignoring a buyer's option to default) and addresses issues such as pricing factors (Chang and Ward, 1993) and the relationship between pre-sale pricing and future spot sale pricing (Wong et al., 2006). Another stream of the literature treats a pre-sale contract as an option contract, and addresses issues such as its impacts on a developer's development strategies (Lai et al., 2004) and its influence on market structure (Wang et al., 2000). Bulan (2005) investigates real options behavior in capital budgeting decisions. Cunningham (2007) explores growth controls (specifically new development density restrictions) in the presence of the real options and empirically tests a theoretical prediction that growth controls may affect the timing of land development differentially in the presence of uncertainty. Chan et al. (2008) explores the impacts a pre-sale contract has on a developer's pricing and production decisions in a game theoretical framework. Edelstein et al. (2012) create a set of interrelated theoretical models for explaining how and why developers and buyers engage in pre-sale contracts for non-completed residential dwellings. Housing pre-sale is a common phenomenon. How to make the selling timing decision for developers? It is an important issue. We estimate the optimal housing price for the implied selling timing in response.

1. Real option model for optimal development timing

To model the effects of a presale contract in the real estate market, we begin with a real option framework which can make the optimal housing price decision and get implied development timing as maximizing developers' market value. Follow this model, we can realize the pre-sale developed timing for real estate. Is there pre-sale agreements or sell it as the project completed. Moreover, we can find out the influence for pre-sale developed timing from variables.

$$\frac{dH}{H} = (u - \delta)dt + \sigma dW \quad (3.1)$$

where

H is housing price.

u is housing price return.

δ is housing depreciate rate.

σ is standard deviation of housing price (housing price risk).

α is housing price growth rate.

$$\alpha = u - \delta$$

Developers have the choice for what time to sell the housing project before the project completed, therefore, it is a real option for developers. The developer has to be charged with related costs, b , for holding the land to develop (Markusen and Scheffman, 1978). The related costs such as the payment of land buying, design and construct the building, interest payment, etc.. The real option value will satisfy the partial differential equations within the risk neutral assumptions as follow:

$$F_t + 0.5F_{HH}H^2\sigma^2 + F_H(r - \delta)H - rF - b = 0 \quad (3.2)$$

where

b is related costs.

the general solution for equation (2) is

$$F(H) = A_0 + A_1 H^{\beta_1} + A_2 H^{\beta_2} \quad (3.3)$$

the boundary condition as follow:

$$F(0) = \frac{-b}{\alpha-u} \left(e^{(\alpha-u)T} - 1 \right) \quad (3.4)$$

$$F(H^*) = H^* - I - \frac{b}{\alpha-u} \left(e^{(\alpha-u)t} - 1 \right) \quad (3.5)$$

where

T is the integrated period.

H^* is optimal selling timing.

I is the investment from developer at t_0 .

T is the periods from developer become the land owner to complete the construct project. We assume the invest payment have been paid as the beginning. t is the selling timing of the construct project from equation (3.4). As $t < T$ means it's a pre-sale agreement. We consider t is a function of optimal selling price of housing, H^* . In other words, H^* is the price at optimal development timing. The optimal selling price of housing equal to $H^* = H_0 \cdot e^{\alpha t}$. Equation (3.5) will be modified to equation (3.6).

$$F(H^*) = H^* - I - \frac{b}{\alpha-u} \times \left[\left(\frac{H^*}{H_0} \right)^{\frac{\alpha-u}{\alpha}} - 1 \right] \quad (3.6)$$

where

H_0 is the housing price at t_0 .

Crowding to equation (3.4) and (3.6), the general solution of equation (3.2) will be

$$F(H) = \frac{-b}{\alpha-u} \left(e^{(\alpha-u)T} - 1 \right) + H^* \left(\frac{H}{H^*} \right)^{\beta_1} - I \left(\frac{H}{H^*} \right)^{\beta_1} - \frac{b}{\alpha-u} \left[\left(\frac{H^*}{H} \right)^{\frac{(\alpha-u)}{\alpha}} - 1 \right] \left(\frac{H}{H^*} \right)^{\beta_1} + \frac{b}{\alpha-u} \left(e^{(\alpha-u)T} - 1 \right) \left(\frac{H}{H^*} \right)^{\beta_1} \quad (3.7)$$

Tax shield would be existing because of the developers build constructions with rising debt (Markusen and Scheffman, 1978; Anderson, 1986; Bulan, 2005):

$$TS = \frac{1}{r_b} \gamma \cdot I \cdot t_c \cdot (e^{r_b t} - 1) \quad (3.8)$$

where

γ is capital structure of developer.

t_c is the corporate tax rate.

r_b is the cost of debt

The benefit for developers would equal to the housing selling income deduct from related costs and investment at beginning. Furthermore, coupled with tax shield effect:

$$F(H^*) = \frac{-b}{\alpha - u} (e^{(\alpha - u)T} - 1) + H^* \left(\frac{H}{H^*} \right)^{\beta_1} - I \left(\frac{H}{H^*} \right)^{\beta_1} - \frac{b}{\alpha - u} \left[\left(\frac{H^*}{H} \right)^{\frac{(\alpha - u)}{\alpha}} - 1 \right] \left(\frac{H}{H^*} \right)^{\beta_1} + \frac{b}{\alpha - u} (e^{(\alpha - u)T} - 1) \left(\frac{H}{H^*} \right)^{\beta_1} + \frac{1}{r_b} \gamma \cdot I \cdot t_c \cdot (e^{r_b t} - 1) \quad (3.9)$$

Then, we use the smooth-pasting condition approach with equation (3.9) to get the optimal selling price of housing:

$$H^* = I + \frac{b}{\alpha - u} (1 - e^{(\alpha - u)T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 \alpha} \quad (3.10)$$

$$\beta_1 = 0.5 - \frac{(r - \delta)}{\sigma^2} + \sqrt{\left[\frac{(r - \delta)}{\sigma^2} - 0.5 \right]^2 + \frac{2r}{\sigma^2}} \quad (3.11)$$

where

r is risk-free rate.

There is a growth rate in real estate market. It is the best selling timing for developers as the housing price become H^* . We assume developers would rationally choice the optimal developed timing to make pre-sale agreements basing on maximize their market value. Developers would sell dwellings earlier with lower H^* . As $t < T$, which means developers make pre-sale contracts. On the other hand, Developers would sell dwellings later with higher H^* . As $t > T$, which means developers sell the dwellings as accomplished.

$$E(H_t) = H_0 \times e^{\alpha t} \quad (3.12)$$

$$t^* = \frac{\ln \left(\left[I + \frac{b}{\alpha - u} (1 - e^{(\alpha - u)T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 \alpha} \right] \times \frac{1}{H_0} \right)}{\alpha} \quad (3.13)$$

The land development question is modeled in a dynamic and stochastic framework. In this setting, an answer is provided to the when-to-develop-land question. This answer involved a comparison of the optimal developed timing from developing at time t^* . Equation (3.12) shows expected price of sold housing at time t . The optimal developed timing for pre-sale is showed at equation (3.13) with the expected price of sold housing equal to optimal housing price to sell. H_0 is the housing price at start date of planning. Developers would sell dwellings more earlier even the dwellings is not completed when t^* is lower, in other words, developers make pre-sale contracts. And vice versa.

2. Sensitivity analysis of the best timing to develop

We employ sensitivity analysis to investigate the effective to optimal selling timing from variables. Such as the housing price volatility, housing return, initial investment and capital structure of developer. We develop a general function with real option framework to realize the best timing to sell. For the purpose of the sensitivity analysis, the real estate market parameters, the interest rate and the taxes should be obtained. We summarize the parameters and numerical values for the real estate market and mortgage parameters in Table 4.1.

Table 4.1: Real estate market parameters

Real estate market parameters	Symbol	Numerical values
Housing return	u	20%
Housing depreciate rate	δ	3%
Housing price volatility	σ	20%
Capital structure of developer	$\gamma \square$	60%
Risk-free rate	r	1%
The cost of debt	r_b	3%
The corporate tax rate	t_c	20%
The investment from developer at t_0	I	30,000,000
The housing price at t_0	H_0	30,000,000
Related costs	b	1,000,000
The integrated period (year)	T	2

4.1 Housing price volatility

$$\frac{\partial \beta_1}{\partial \sigma} = \frac{2}{\sigma^3} \cdot \left\{ (r - \delta) - \frac{\left[\frac{(r - \delta)}{\sigma^2} - 0.5 \right] \cdot (r - \delta) + r}{\sqrt{\left[\frac{(r - \delta)}{\sigma^2} - 0.5 \right]^2 + \frac{2r}{\sigma^2}}} \right\} \quad (4.1)$$

$$\frac{\partial t^*}{\partial \beta_1} = \frac{-(I \cdot \gamma \cdot t_c - b)}{\left[I - \frac{b}{\delta} (1 - e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 (u - \delta)} \right] \cdot [\beta_1 (u - \delta)]^2} \quad (4.2)$$

Housing price volatility is a function of β_1 also as equation (3.4.1) showing. The relationship between risk-free rate and β_1 would effect positive/negative sign between optimal developed timing and β_1 in equation (3.4.2). We find out the relationship between t^* and housing price volatility by numerical approach with our parameters setting which shows in Figure 4.1. We can realize the positive trend for t^* as sigma increasing, moreover, the marginal increase become lower as sigma getting higher. The positive relationship also indicates developers would prefer to sell housing when it completed as housing price volatility increased. Same way, developers are more motivated to sell housing later, even completed, because the housing price maybe get a higher level with higher housing price volatility (Titman, 1985; Williams, 1991; Cunningham, 2007).

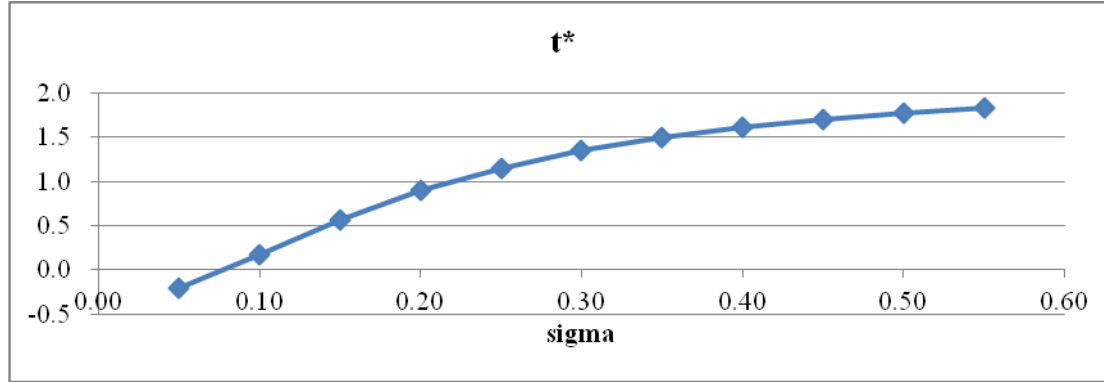


Figure 4.1. The optimal selling timing is changed by housing price volatility

4.2 Housing price growth rate

$$\frac{\partial t^*}{\partial \alpha} = \frac{\left\{ \frac{\left[\frac{-b \cdot [1 + ((\alpha - u) \cdot T - 1) \cdot e^{-\delta T}]}{(\alpha - u)^2} + \frac{\beta_1 \cdot (\gamma \cdot I \cdot t_c - b)}{(\beta_1 \alpha)^2} \right]}{\left[I + \frac{b}{(\alpha - u)} (1 - e^{(\alpha - u)T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 \alpha} \right]} \right\} \cdot \alpha + \ln \left\{ \left[I + \frac{b}{(\alpha - u)} (1 - e^{(\alpha - u)T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 \alpha} \right] \cdot \frac{1}{H_0} \right\}}{\alpha^2} \quad (4.3)$$

The relationship between housing growth rate and optimal developed timing shows on equation (4.3). Figure 4.2 shows the numerical result and indicates negative relationship trend. The result determines developers would prefer to launch pre-sale contracts as housing price growth rate increasing. Developers would not to hold the right of selling timing as housing growth rate is higher.

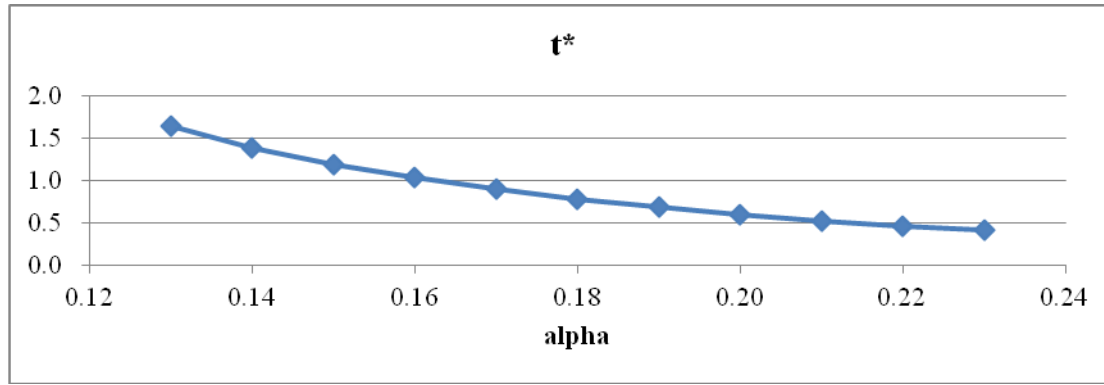


Figure 4.2. The optimal selling timing is changed by housing price growth rate

4.3 The housing return

$$\frac{\partial t^*}{\partial u} = \frac{\left\{ \frac{\left[\frac{\beta_1 \cdot (\gamma \cdot I \cdot t_c - b)}{[\beta_1(u-\delta)]^2} \right]}{\left[I - \frac{b}{\delta}(1-e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1(u-\delta)} \right]} \cdot (u-\delta) + \ln \left\{ \left[I - \frac{b}{\delta}(1-e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1(u-\delta)} \right] \cdot \frac{1}{H_0} \right\} \right\}}{(u-\delta)^2} \quad (4.4)$$

We assume housing return is positive because of land development usually arises in booming market. Equation (4.4) and Figure 4.3 show the characteristic for optimal selling timing and numerical results. We can recognize it in the figure with our setting even the relationship is not clear in the function. Numerical results indicate their relationship basically are negative. Moreover, we can find out that higher housing return makes developer prefer to sell pre-sale agreements earlier. Developers would not to hold the right of selling timing as housing return is higher.

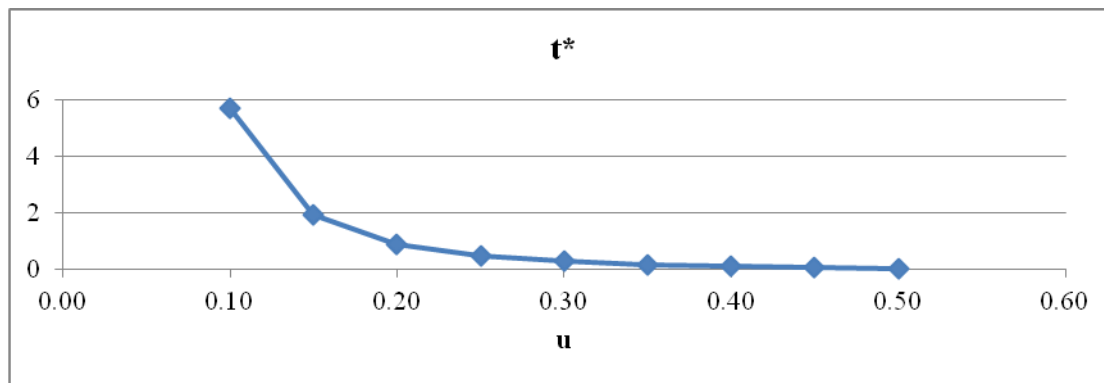


Figure 4.3. The optimal selling timing is changed by housing return

4.4 Housing depreciate rate

$$\frac{\partial t^*}{\partial \delta} = \frac{\left\{ \frac{\left[\frac{b - (T+1) \cdot b \cdot e^{-\delta T}}{\delta^2} + \frac{\beta_1 \cdot (\gamma \cdot I \cdot t_c - b)}{[\beta_1(u-\delta)]^2} \right]}{\left[I - \frac{b}{\delta}(1-e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1(u-\delta)} \right]} \cdot (u-\delta) + \ln \left\{ \left[I - \frac{b}{\delta}(1-e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1(u-\delta)} \right] \cdot \frac{1}{H_0} \right\} \right\}}{(u-\delta)^2} \quad (4.5)$$

Equation (4.5) shows the relationship between housing depreciate rate and optimal developed timing. We still can't make sure their relationship in the function. Figure 4.4 shows the relationship trend by numerical approach. The results indicate positive relation which means developers would housing as complement if housing are highly depreciate rate. Ceteris paribus, the depreciate rate would deduct the housing price growth rate. Housing with higher depreciate rate imply useful life would be shorter. Means that, developer may sell the shorter useful life housing when the construction is near completion.

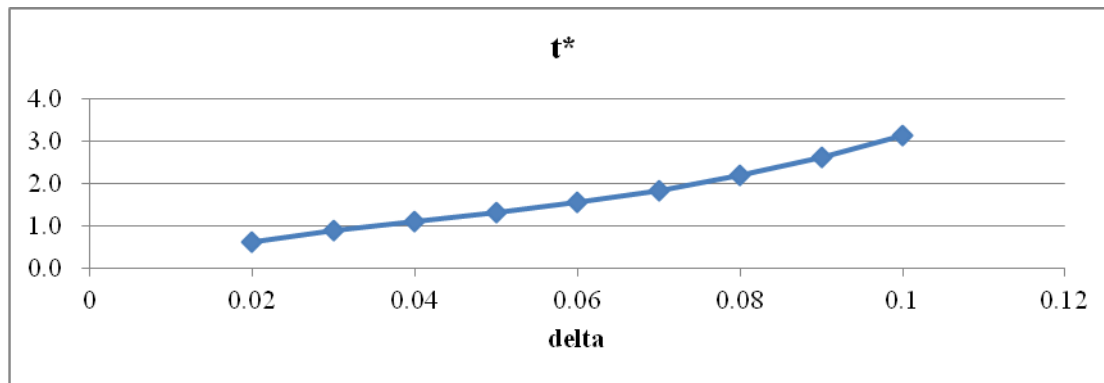


Figure 4.4. The optimal selling timing is changed by housing depreciate rate

4.5 Initial investment

$$\frac{\partial t^*}{\partial I} = \frac{1 + \frac{\gamma \cdot t_c}{\beta_1(u - \delta)}}{\left[I - \frac{b}{\delta}(1 - e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1(u - \delta)} \right] \cdot (u - \delta)} \quad (4.6)$$

To analyze the characteristics of basis process, we derive the sensitivity of the optimal developed timing for initial investment. Base on equation (4.6), we find that the relationship between the optimal developed timing and initial investment depends on many variables. Figure 4.5 shows the numerical result for the relationship with our parameters setting. There is positive trend for t^* as I increase that means the optimal selling timing would be closer to construction complement as initial investment higher. In other words, developers may hold exercise right, make pre-sale agreements, later as initial investment higher.

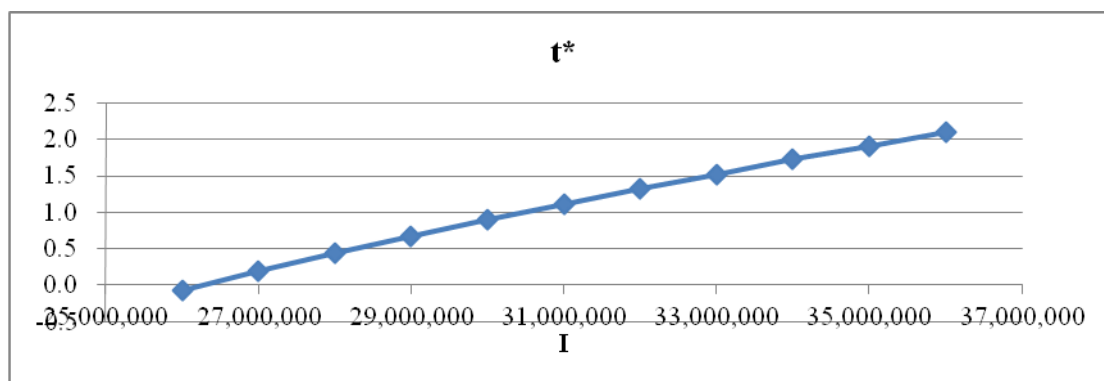


Figure 4.5. The optimal selling timing is changed by initial investment

4.6 The integrated period

$$\frac{\partial t^*}{\partial T} = \frac{-b \cdot e^{-\delta T}}{\left[I - \frac{b}{\delta} (1 - e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 (u - \delta)} \right] \cdot (u - \delta)} \quad (4.7)$$

Base on equation (4.7), we derive the relationship between the optimal developed timing and the integrated period. Figure 4.6 shows the negative relationship trend by numerical approach. The negative relationship means the developer would make pre-sale contracts earlier as integrated period longer. A bigger development project may extend the integrated period, developer may reduce uncertainty of the future by make pre-sale agreements earlier.

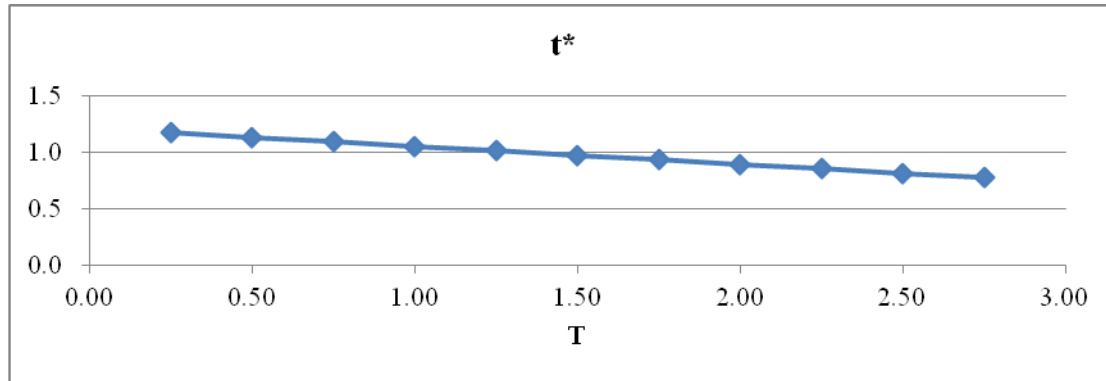


Figure 4.6. The optimal selling timing is changed by integrated period

4.7 Capital structure of developer

$$\frac{\partial t^*}{\partial \gamma} = \frac{I \cdot t_c}{\left[I - \frac{b}{\delta} (1 - e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 (u - \delta)} \right] \cdot \beta_1} \quad (4.8)$$

The relationship between capital structure of developer and optimal developed timing shows on equation (4.8). Figure 4.7 shows the numerical result and indicates positive relationship trend. The result indicates developer would not prefer to launch pre-sale contracts as their debt ratio increased. The credit level of developer, business cycle, housing market circumstances, etc. all can effect debt ratio of developer. After obtaining funds, developer would hold exercise right longer for predominating more market information.

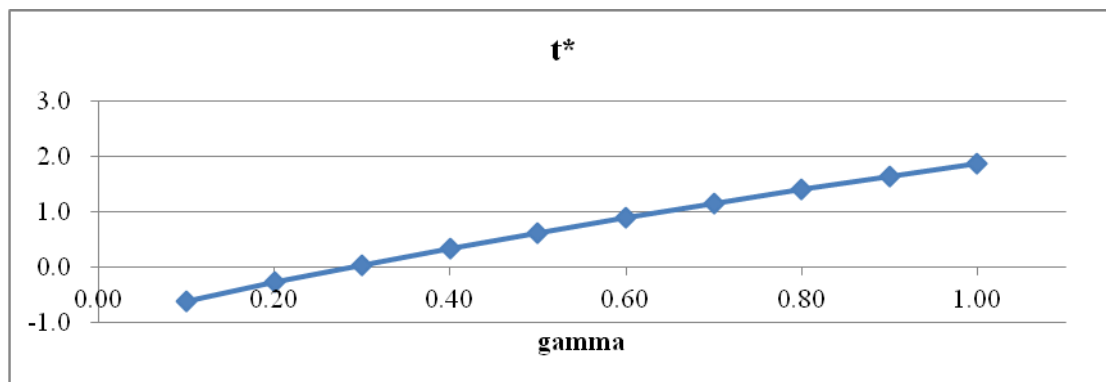


Figure 4.7. The optimal selling timing is changed by capital structure of developer

4.8 Corporate tax rate

$$\frac{\partial t^*}{\partial t_c} = \frac{\gamma \cdot I}{\left[I - \frac{b}{\delta} (1 - e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 (u - \delta)} \right] \cdot \beta_1} \quad (4.9)$$

Equation (4.9) and Figure 4.8 show the trend for optimal developed timing and numerical results. The relationship is not clear in the function but we can recognize it in the figure. Numerical results indicate their relationship are positive which means developers would not prefer to launch pre-sale contracts as corporate tax rate increased. Developers are more motivated to sell housing later, even completed, because the housing price which is close to completed date collect more market information. It's more equitable to tax for developers

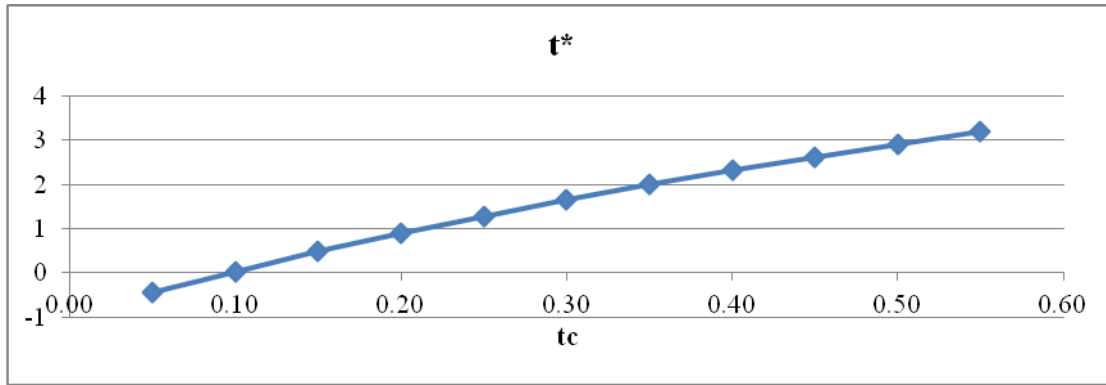


Figure 4.8. The optimal selling timing is changed by corporate tax rate

4.9 Risk-free rate

$$\frac{\partial \beta_1}{\partial r} = -\frac{1}{\sigma^2} + \frac{\left[\frac{(r - \delta)}{\sigma^2} + 0.5 \right]}{\sigma^2 \cdot \sqrt{\left[\frac{(r - \delta)}{\sigma^2} - 0.5 \right]^2 + \frac{2r}{\sigma^2}}} \quad (4.10)$$

$$\frac{\partial t^*}{\partial \beta_1} = \frac{-(I \cdot \gamma \cdot t_c - b)}{\left[I - \frac{b}{\delta} (1 - e^{-\delta T}) + \frac{\gamma \cdot I \cdot t_c - b}{\beta_1 (u - \delta)} \right] \cdot [\beta_1 (u - \delta)]^2} \quad (4.11)$$

Risk-free rate is a function of β_1 as equation (4.10) showing. Consequently, the relationship between risk-free rate and β_1 would effect positive/negative sign between optimal developed timing and β_1 . Equation (4.11) can't clearly indicates the relationship between optimal developed timing and β_1 . Figure 4.9 shows the numerical result which indicates positive trend for t^* and risk-free rate with our parameters setting. The result shows that developers would prefer to sell housing when it completed as risk-free rate increased.

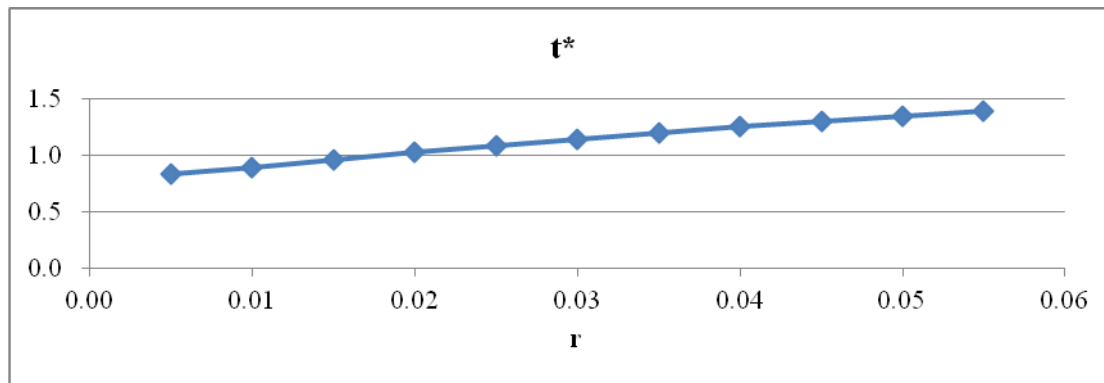


Figure 4.9. The optimal selling timing is changed by risk-free rate

In this paper, we model a general function by real option framework to handle the best selling timing issue. Furthermore, we employ sensitivity analysis to investigate the effective to optimal selling timing from variables. The results indicate that housing price volatility, housing depreciate rate, initial investment, capital structure of developer, corporate tax rate and risk-free rate are positive relationship with optimal selling timing. On the other hand, housing price growth rate, housing return and integrated period are negative relation with optimal selling timing. We can generalize the optimal selling timing strategy for developers by sensitivity analysis. Incidentally, the cost of debt would not effect selling timing decision.

CHAPTER SUMMARY

Selling timing has become one of the most popular issues for housing transactions, maybe pre-sale or completed housing selling. This issue has got more attention in America and Europe areas in recent years. Because of pre-sale contracts, if it is necessary, can spread real estate valuation risks between developers and consumers and among consumers with varied expectations about future real estate prices. Pre-sale not only can help developers as aforementioned, but also stabilize the financial situation. If developers can wait for the resolution of uncertainty before deciding to pursue the irreversible investment, they can avoid potentially large losses. Real option provides assistance for our consideration on research. Previous studies on real option models apply most directly to individual investment projects in empirical and predict the trigger prices. The other part, empirical studies investigate the effect of uncertainty on the timing of investment, which is a direct test of the optimal exercise of real options. In this paper, we have developed a comprehensive theoretical function, using a real option approach, for analyzing the decision to sell housing under uncertainty while highlighting the role of variable intensity.

We provide an optimal selling timing function for developers by estimating optimal selling housing price on real option framework. It is a comprehensive theoretical function which includes the characteristics of corporation. Numerical approach provides the basis of comparative static analysis with our parameters setting. The numerical results indicate, developers are more motivated to sell housing later, even completed, because the housing price maybe get a higher level with higher housing price volatility, developers may hold exercise right (make pre-sale agreements later) as initial investment higher. The longer integrated period (project period) makes reversed effective for optimal selling timing. Higher housing return (housing price growth rate) makes developer prefer to sell pre-sale agreements earlier. There are different depreciate rate for different locations, construction and planning purposes. The results indicate positive relation which means developers would housing as complement if housing are highly depreciate rate. Developer who have the ability to obtain funding would hold exercise right longer for predominating more market information on corporation sight. Developers also prefer to sell housing when it completed as risk-free rate and corporate tax rate increased. This model also recognizes that developers could optimally presell whenever they are allowed to. In addition, the presale system exists because it allows the developer to share risk (and profit) with buyers (Lai et al., 2004). Sometimes, they want to reserve the value of real option for

more market information. We summarize the relationships of determinates with best selling timing (t^*) in Table 5.1.

Table 5.1: The relationships of determinates with t^*

	t^*
u	—
δ	+
σ	+
γ	+
r	+
r_b	×
t_c	+
I	+
T	—

Note: 「+」 means positive relationship, 「—」 means negative relationship, 「×」 means the t^* decision-making will not be changed.

Over the past five decades, pre-sales have become a popular practice for property transactions, particularly in many Asian markets. Most residential condominium sales in Hong Kong, Taiwan, China, Korea, and Singapore. It can clearly be seen, developers care about the selling timing decisions. This research not only provides the optimal selling timing strategy for developers by sensitivity analysis but we can realize the implied meaning for selling timing.

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EFFECTIVENESS OF MONETARY POLICY IN STABILIZING THE NIGERIAN ECONOMY

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ABSTRACT

This research work is on the effectiveness of monetary policy in stabilizing the Nigerian economy. The main objective of this research work is to ascertain the extent to which monetary policy instruments have been able to control inflationary pressures in the country, secondary data were used, and the researcher employed the ordinary least square (OLS) method of analysis. It was observed that monetary policy alone has no significant impact on money supply and inflation in Nigeria. To this end, the researcher recommends among others that physical and fiscal instruments should be employed due to the rigidities in the economy that are not monetary in nature.

KEY WORDS: Stabilization, Regulation, Inflation, Effectiveness, Monetary policy

INTRODUCTION

Monetary policy has been a tool that government through the central bank of Nigeria [CBN] uses to correct macro-economic mal-adjustment in the economy. Since the inception of the CBN in 1959, it has performed the traditional role of regulating the money stock in order to promote social welfare, this it does with the use of monetary policy instruments, and it is pertinent at this point to define what monetary policy is.

Monetary policy refers to the deliberate action of government through the use of a set of instruments which are monetary in nature to control the cost availability and direction of credit in order to achieve some macro- economic objectives. The targets or objectives of monetary policy may be the achievement of price stability, desired level or rate of growth of the GDP, Exchange rate stability or achieving a balance of payment equilibrium. There are different methods at the disposal of government to achieve these goals or targets; these include open market operation which implies the sale and purchase of government securities to control money supply, changes in the reserve requirement ratios of commercial banks and other financial institutions, changes in the central banks minimum lending rate.

Monetary policy works through the effects of the cost and availability of loans on real activity. The economic environment that guided monetary policy before 1986 was characterized by the dominance of the oil sector ,the expanding role of the public sector in the economy and the over-dependence on the external sector, therefore to maintain price stability and a healthy balance of payment position, monetary management depends on the use of direct monetary instruments such as credit ceilings, selective credit controls, fixed interest and exchange rates as well as cash reserve requirements and special deposit. The use of market-based instrument was not feasible at that point

because of the underdeveloped nature of the financial markets {especially the money market} and the deliberate restraint on interest rates.

However, there are a lot of factors that can help influence the supply of money in an economy, some of the factors are within the control of the CBN [the endogenous factors] while others are outside the control of the CBN[the exogenous factors].Monetary policy focuses on the relationship between the rates of interest in an economy and the total supply of money, the CBN can use a variety of instruments to control one or both of these to influence economic growth and development, inflation, exchange rates and unemployment. This paper intends to analyze the extent to which monetary policy has been able to control or influence these variables in Nigeria bearing in mind that the effectiveness of monetary policy on economic stability is reflected in its impact on the sectors and sub-sectors of the economy.

Statement of Research Problems

Some of the major objectives of monetary policy in Nigeria are price stability, balance of payment equilibrium, full employment etc. Despite the various monetary policies like open market operation[OMO],Legal Reserve Ratio ,Cash Deposit Ratio, that have been adopted by the CBN over the years. Nigeria is still experiencing serious imbalances in the form of high unemployment rate, high inflation rate, high external debts etc. it would appear that the policy measures used to steer the economy on the path of growth and development have not been effective. It is observed that Nigeria has not attained an optimal utilization of its capacity, no wonder the level of unemployment is so high, prices of goods and services are sky-rocketing and the attendant slow rate of growth.

Objective of the Study

The broad objective of this research is to analyze the effectiveness of monetary policy in stabilizing the Nigerian economy, whereas the specific objectives are to ascertain

- 1 The impact of money supply on inflation.
- 2 The impact of money supply on exchange rate.
- 3 The impact of money supply on Gross Domestic Product.

Research Questions

Does any relationship exist between money supply and inflation?

Does money supply impact on inflation?

Does money supply impact on GDP?

HO1 There is no significant relationship between money supply and inflation.

HO2 Money supply has no impact on exchange rate.

HO3 Money supply has no impact on GDP.

PART B

LITERATURE REVIEW

Thematic approach shall be used in this part to review some related literature to this research topic. Monetary policy in Nigeria is to ensure domestic price and exchange stability since it is critical for the attainment of sustainable economic growth and external sector viability [sanusi, 2002.p.1],

This is mainly achieved by linking the surplus unit [savers] to the deficit units [investors] i.e. making savers money available to the potential investors for investment purposes through appropriate interest rate structures, stemming wide fluctuations in the exchange rate of naira, proper supervision of banks and related institutions, to ensure soundness in the financial sector and to maintain efficient payment system.

Theoretical Literature

The classical school headed by some economics like Irving fisher, Newcomb etc believed that the stock of money in an economy determines the prices at which goods and services are sold, they also explain the determination of savings and investment with respect to money, according to this school of thought, changes in the general price level can be traced to changes in the stock of money, therefore the fisherian equation is given thus $MV=PT$. Where m =money supply V =velocity of circulation i.e. the number of times that a unit of money exchanges hand. This is the left hand side of the equation, it represents the supply side. Whereas $PT=$ i.e. P =price level T =total transaction or volume of trade is the right hand side and it represents the demand for money.

The classical monetarist believes that , if V and T are held constant, increases or decreases in m will bring a proportionate increase or decrease in the price level no wonder they said that “inflation is everywhere a monetary phenomenon”. In the monetarist view [Anyanwu] 1993 money supply is the key factor affecting the wellbeing of the economy, therefore in order to promote steady growth rate, money supply should grow at a fixed rate rather than been regulated and altered by monetary authorities. Keynes on the other hand maintained that monetary policy alone is not effective in stimulating economic activity because it works through indirect interest rate mechanism. Friedman argued that since money supply is substitutive not just for bonds but also for many goods and services, changes in money stock will therefore have both direct and indirect effect on spending and investment respectively.

In the work of Brunner and Meltzer, spending was modeled and the result showed that the demand for money will depend upon relative rate of return available for different competing assets in which wealth can be. The modern approach is the restatement of the quantity theory, which resulted into a new and detailed explanation of the quantity theory in a way that makes it amenable to emperical test. In this approach, velocity of circulation was viewed as a stable function of a number of variables [jhingan] i.e. velocity bears a stable and predictable relationship to a limited number of other variables and determines how much money people will hold therefore, Friedman gave the equation of exchange as

$$MD = F(r_b, r_e, 1/p \cdot dp/dt, w, \lambda, y)$$

Where

r_b = return on bond

r_e = return on equity

p = the general price level

$1/p \cdot dp/dt$ = the rate of price change over time

w = rate of human to non human wealth

λ = proxy for taste and preference of the wealth holder

y = income of the wealth holder

Therefore according to this approach, the demand for money is not a fixed quantum, but varies in a predictable fashion with the variables afore mentioned.

Techniques of Monetary Policy

There are two categories of control *vis a vis*

1 Market control approach

2 Portfolio control approach.

The Market Control Approach

This is the traditional or indirect approach of monetary control, this include the use of open market operation and discount rate. Open Market Operation; This refer to the buying and selling of government securities by the central bank. The CBN goes to the commercial bank or open market for either long or short term securities the CBN can either buy or sell these securities depending on whether the aim is to expand or contract the level of money supply. If the aim is to contract money supply, the CBN sells securities to the commercial banks and collect money thereby reducing the commercial banks balance with the central bank and their ability to create money will reduce and vice versa

Discount Rate; This induces a fall or a rise in commercial banks lending rate since both of them are closely linked, the manipulation of the discount rate helps to control the volume of money in circulation. In Nigeria the interest has been very high, no wonder the level of investment has been sluggish since demand for money is interest elastic and it depends also on the marginal return on investment.

Portfolio Control Approach

This is a direct or non-traditional approach of monetary control it works through the instruments namely Reserve requirements, Special deposit with central bank, selective credit controls, and moral suasion.

RESERVE REQUIRMENT; Commercial banks are required to keep some reserves with the CBN increase or decrease in the bank reserve requirement affects the bank's ability to lend. When banks are

required to hold more liquid assets in reserve fewer assets will be left for them to lend to the general public and vice versa.

SELECTIVE CREDIT CONTROL; this is used to control the flow of bank credit to different sectors of the economy by this measure resources are allocated to the preferred sectors of the economy and resources are efficiently allocated.

MORAL SUASION;

This involves the use of persuasive instructions to commercial banks to control the flow of credits to the economy moral suasion is an appeal by the CBN soliciting for the banks compliance over some credit guidelines.

Direct Measures.

The direct measures involve the use of interest rate ceilings, lending ceilings and qualitative lending guidelines. The CBN may decide to place a limit on the rate of interest and in such a situation, there is a limit on the amount of fund that could be lent to the public for that period of time. If an economy with financial regulation starts to observe a steady upward trend in the velocity of monetary base M1 and M3 without a corresponding growth in gross domestic product[GDP] the ultimate economic monetary policy would be in addition to informing the banks of this view by way of consultation to increase the interest, raise the special reserve deposits ratio and thus force the bank to reduce their asset base, because of the existence of controls, change in the reserve ratio has a direct impact on bank's lending. The system of regulatory measure devised to protect investors and to maintain the stability of financial market and institution failed to achieve the set objective as financial institutions devised other means of operations to circumvent the regulatory body controls. It was observed by [Anyanwu] 2003; the regulation had allowed the banks to emerge as highly profitable institutions but with a declining market share and at a high cost to depositors. Inflation is one of the reasons why regulation of financial institution is ineffective; inflation has the potentials of increasing the opportunity cost of holding money balances. Osuber [2006] opined that monetary authorities could switch to financial deregulation to set in motion changes in a manner in which monetary policy is transmitted to the real sector and stabilizes the interest rate elasticity of demand for money. He stressed that monetary policy in a deregulated financial system, strengthens the role of market force in determining operations and the real economy through changes in interest rate. With greater competitions therefore, changes in interest rate, tend to spread quickly through the whole range of financial assets and liabilities. Specifically, in the deregulated financial environment, the value of deposit is determined by both demand and supply consequently, any tightening of monetary policy will induce a rise in deposit rate resulting in an increase in the supply of deposits and offsetting to some extent the authorities effort to reduce the growth of money, thus making the banks better able to protect their deposit base and to sustain their lending than they had been in the regulated frame work in which the volume of deposit was primarily determined. The demand for credit may also become

less sensitive to interest rate in the deregulated system, increased use of floating interest rates and moral suasion and flexible loan packages may result in less discouragement to marginal borrowers as rate rises.

Monetary Policy in Nigeria

The two major economic policies often use to stabilize any economy of the world are monetary and fiscal policies and their cardinal tools are money supply and government expenditure respectively (Asogu 1998). In Nigeria specifically before SAP, there had been an undue emphasis on the use of fiscal policy at the expenses of monetary policy (Darrat 1984). It was in 1987 after SAP that emphasis shifted on monetary policy following the wake of deregulation of money market which prevents money from becoming a major source of disturbance in the Nigerian economy. Today fiscal and monetary policies are inextricably linked in macroeconomic management as development in one sector directly affects development in the other. Moreover, there is consensus among economists that monetary and fiscal policies are either jointly or individually affecting the level of economic activities but the magnitude and relative potency of these policies has been the subject of debate and controversies between the Keynesian and the monetarist and it is also the focus of this paper.

The most popular instrument of monetary policy was the issuance of credit rationing guidelines, which primarily set the rate of change for the components and aggregate commercial bank loans and advances to the private sector.

The main aim of fixing the interest rates at relatively low levels was done mainly to promote investment and growth. Occasionally, special deposits were imposed to reduce the amount of forced reserve and credit creating capacity of the banks. Minimum cash ratios were stipulated for the banks in the mid 1970's on the basis of their total deposit liabilities, but since such cash ratios were usually lower than those voluntarily maintained by the banks, they proved less effectively as a restraint on their credit operations. From the mid 1970's it became increasingly difficult to achieve the aims of monetary policy. Generally, monetary aggregates, government fiscal deficit, GPD growth rate, inflation rate and balance of payments position moved in undesirable directions. Compliance by banks with credit guidelines was less than satisfactory. The major sources of problems in monetary management were the nature of the monetary control framework, the interest rate regime and the non-harmonization of fiscal and monetary policies. The monetary control frame work which relied heavily on credit ceilings and selective credit controls, increasingly failed to achieve the set monetary targets as their implementation became less effective with time.

The rigidly controlled interest rate regime, especially the low levels of the various rates, encouraged monetary expansion without promoting the rapid growth of the money and capital markets. The low interest rates on government debt instruments did not sufficiently attract private sector savings and since the CBN was required by law to absorb the unsubscribed portion of government debt instruments, large amounts of high-powered money were usually injected into the

economy. In the oil boom era, the rapid monetization of foreign exchange earnings resulting in large increases in government expenditure which substantially contributed to monetary instability.

In the early 1980's receipts were not adequate to meet increasing level of demand and since expenditures were not rationalized government resorted to borrowing from CBN to finance huge deficits. This had adverse implications for monetary management.

In line with the general philosophy of economic management under the Structural Adjustment Programme [SAP], monetary policy was aimed at inducing the emergence of a market-oriented financial system and efficient resource allocation. The main instrument of the market-based framework is the open-market operations; this is complemented by reserve requirements and discount window operations. The adoption of a market-based framework such as OMO in an economy such as Nigeria that had been under direct control for a long period of time, required substantial improvement in the macro-economic, legal and regulatory environment. In order to improve macroeconomic stability, efforts were directed at the management of excess liquidity, thus a number of measures were introduced to reduce liquidity in the system, these included the reduction in the maximum ceiling on credit growth allowed for banks, the recall of the special deposits requirements against outstanding external payment arrears to CBN from banks, abolition of the use of foreign guarantees/currency deposits as collaterals for Naira loans and the withdrawal of public sector deposits from banks to the CBN. Also effective from August 1990, the use of stabilization securities for purposes of reducing the bulging size of excess liquidity in banks was re-introduced. Commercial banks' cash reserve requirements were increased in 1989, 1990, 1992, 1996 and 1999.

Empirical Literature

Over the years different scholars have researched on how effective monetary policy has been in the Nigerian economy.

In the works of Ogwuma (2008:8) on the effectiveness of monetary policy on commercial banks, from his empirical analysis, minimum rediscount rate has influence on bank total credit. This suggests that there is a positive and strong relationship between monetary policy and commercial bank credit.

Nnanna (2004) in his "Evolution of Nigeria's Monetary Policy" his findings showed that the growth in money supply was substantial during the review period. Money supply M1 and M2 grew rapidly from 16.3 and 19.4 percent in 1995 to 48.1 and 62.2 percent in 2001 respectively despite the implementation of the monetary policy instruments used over the years.

In the study carried out by Mbachu (1995), to examine monetary policy as an instrument of economic stabilization for the period 1970 – 1999, he constrained his research to only two economic indicators; exchange rates and unemployment rates in Nigeria. The result of the data analysis shows that increase in money supply leads to an increase in unemployment. To him, this position can be explained by the fact that government expenditures are not efficiently appropriated. For example, a

situation in which government expenditure is directed towards bill discounting, and payment of salaries to a large number of public sector employees on the grounds of social protection, cannot bring about an increase in GDP. He noted that this form of expenditure will obviously lead to unemployment since nothing is done by way of production that would have ensured employment for the unemployed members of the society.

Another researcher Oshobugie (2000), in his “panacea to macro-economic instability” regressed money supply and unemployment rate in Nigeria between the periods of 1979-1999. His findings showed that money supply has not sufficiently been effective in the reduction of unemployment rate. He added that the problems of unemployment can easily be tackled through the creation of employment and self employment opportunities and this can only be achieved by way of injecting more funds into the productive sectors of the economy.

Ogunleye (2000), conducted the same research, he made sure that data used were those approved by Federal Ministry of Labour, Employment and Productivity, and his scope covered a period of sixteen years (1982-1998). He got the same result that Oshobugie got, that money supply has not sufficiently reduced unemployment rate in Nigeria. However, he added that other factors have compelled private sector operators to reduce their workforce, thereby increasing the unemployment rate. These factors range from high cost of production, multiple levies and taxes and low aggregate demand among others.

Having reviewed some of the theoretical literature and empirical studies available on the effectiveness of monetary policy in stabilizing the economy using some economic indicators, one can arrive at a conclusion that these effects are mainly dependent on the circumstance prevailing in a particular economy. On August 14 2007, the governor of CBN professor Soludo announced his intention to re-denominate the naira by moving two decimal points to the left from August 1, 2008, based on his calculation the Naira/US dollar exchange rate will become #1.25 to \$1 and all naira assets, all prices and all contracts will be re-denominated accordingly. However, this policy is erroneous because it did not come at the right time perhaps it would have made sense in 1991-95 which represented the worst five years in economic performance. In 1991-95 the average annual real output growth rate had declined to just 1.4% the average inflation rate had increased to 48.9%, the average annual unemployment rate had increased three folds. The inflation rate had increased to 72.85% in 1995, so the economy was under serious inflationary pressure internally and externally, the average annual capital inflow was \$8.36 billion, as compared to the outflow of \$11.8 billion, the naira which was 0.77 to \$1 in 1984, had persistently lost its value over time, as its value fell rapidly by an unprecedented rate of 100% from #34 to \$1 in 1994 to #68 to \$1 in 1995, #90 in 1996-2000 to #125 in 2001-2005 then #127 in 2007, and #160 in 2013 this did not augur well for the growth of the economy, because most of the machinery, equipment and spare parts needed for production have to be imported

In 1995, the average annual interest rate had jumped over the 25% mark and this had crippled real capital formation, by 1996 the Nigerian economy had become stagnant and political unrest was rife in the nation

PART C

This research investigated the following models using the OLS method.

MODEL 1

Ho1 – There is no significant relationship between money supply and inflation rate in Nigeria.

$$\text{Inf} = f(\text{MS})$$

Where

Inf = inflation rate

F = functional relationship

MS = money supply.

MODEL 2

Ho2 – Money supply has no impact on exchange rate in Nigeria.

$$\text{Exchr} = f(\text{MS})$$

Where

Exchr = Exchange rate (Dependent Variable)

MS = Money Supply (Explanatory Variable)

MODEL 3

Ho3 – There is no significant relationship between money supply and Gross Domestic Product (GDP)

$$\text{GDP} = f(\text{MS})$$

Where

GPD = Gross Domestic Product (Dependent Variable)

MS = Money Supply (Independent Variable)

Therefore the research investigated this models based on the following data

TABLE 1.1: Money Supply (MS), Inflation Rate (INFR), Exchange Rate (EXCHR), and Gross Domestic Product (GDP); 1980 – 2010

S/N	YEAR	MS	INFR	EXCHR	GPD
1	1980	4047.40	9.90	0.647	49632.30
2	1981	4785.80	20.90	0.606	47619.70
3	1982	6146.60	7.70	0.593	49069.30
4	1983	9226.80	23.20	0.546	53107.40
5	1984	9744.80	39.60	0.610	59622.50
6	1985	10048.80	5.50	0.673	67908.60
7	1986	11282.40	5.40	0.72Q4	69147.00
8	1987	12204.10	10.20	0.765	105222.80
9	1988	13267.80	38.30	0.894	139085.30
10	1989	13105.00	40.90	2.020	216797.50
11	1990	14905.90	7.50	4.020	267550.00
12	1991	20052.70	13.00	4.540	312139.70
13	1992	46222.90	44.50	7.390	532613.80
14	1993	64902.70	57.20	8.040	683869.80
15	1994	86152.50	57.00	9.910	899863.80
16	1995	129085.40	72.80	17.300	1933211.60
17	1996	198519.10	29.30	22.330	2702719.10
18	1997	2669449.00	8.50	21.890	2801972.60
19	1998	318763.50	10.00	21.890	2708430.90
20	1999	370333.50	6.60	21.890	3194015.00
21	2000	429731.40	6.90	21.890	4582127.30
22	2001	525637.60	18.90	21.890	4725086.00
23	2002	699733.70	12.90	85.980	6912381.30
24	2003	1036080.00	14.00	102.500	8487031.60
25	2004	1315869.10	15.00	11.000	11411066.90
26	2005	1599494.60	17.90	120.500	14572239.10
27	2006	1985192.00	8.50	128.500	18564594.70
28	2007	2263588.00	9.60	134.000	20657317.70
29	2008	2814856.00	10.30	130.150	24296329.30
30	2009	4027902.00	11.40	122.500	24712669.90
31	2010	5809827.00	10.50	117.750	29498000.00

Source: CBN Statistical Bulletin: Golden Jubilee Edition (2008) and 2010 edition – various issues

Summary of the Estimated Model

MODEL I

Ho1: There is no significant relationship between money supply and inflation rate in Nigeria.

Ha1: There is a significant relationship between money supply and inflation rate in Nigeria.

$R=0.315=31.5\%$

$R^2=.100=10\%$

Adjusted $R^2=.068=6.8$

$t_{bo}=6.642$

$t_{b1}=-1.790$

Durbin-watson = .903

Level of significance = .84

MODEL II

Ho2: Money supply has no impact on Exchange Rate in Nigeria

Ha2: Money supply has impact on Exchange rate in Nigeria

$R=.772=77.2\%$

$R^2=.596=59.6$

Adjusted $R^2=.582=58.2\%$

$t_{bo}=1.956$

$t_{b1}=6.539$

Durbin-Watson = 1.259

Level of significance = .000y

MODEL III

Ho There is no significant relationship between money supply and Gross Domestic Product [GDP]

Ha3: There is a significant relationship between money supply and Gross Domestic Product [GDP]

$R=.911=91.1\%$

$R^2=.830=83\%$

Adjusted $R^2=.824=82.4\%$

$t_{bo}=1.413$

$t_{b1}=11.896$

Durbin-Watson = 1.178

Level of Sig. = .000\

Interpretation of the Analysis

MODEL I

From this model $R = 31.5\%$ which shows that the model was negatively correlated. $R^2 = 10\%$ shows that the model fell on the regression line while the remaining 90% fell both below and above the regression line. Adjusted $R^2 = 6.8\%$ shows that only 6.8% change in inflation was

explained by the explanatory variable [money supply] while the remaining 93.2% was due to exogenous term. $t_{bo} = 6.642$ and $t_{b1} = -1.790$ showing a negative relationship between the dependent and independent variables. Durbin Watson = 0.903 shows the presence of positive autocorrelation because it is less than 2. Level of significance = 0.084 shows that the overall regression was statistically insignificant. We therefore accept H_0 and conclude that money supply has no significant impact or relationship on inflation in Nigeria for the period under review [1980-2010].

MODEL II

There is a positive relationship between Money Supply and Exchange Rate. $R = 77.2\%$ shows that the model was highly correlated and that indicates a strong relationship between Exchange Rate and Money Supply. $R = 59.6\%$ shows that the model was highly fitted because 59.6% of the model fell on the regression line while the remaining 40.4% fell on both above and below the regression line. Adjusted $R^2 = 58.2\%$ shows that 58.2% of the change in Exchange Rate was explained by the explanatory variable [Money Supply]. $t_{bo} = 1.956$ and $t_{b1} = 6.58.2\%$ shows a positive relationship between Money Supply and Exchange Rate. Durbin Watson = 1.259 shows the presence of a positive autocorrelation because it is less than 2. Level of significance = 0.000 shows that the overall regression was statistically significant. We therefore accept H_0 and conclude that money supply has a significant impact on Exchange Rate for the period under study.

MODEL III

$R = 91.1\%$ which shows that the model is highly correlated in that about 91.1% of the change in GDP was explained by the explanatory variable (MS) while the remaining 8.9% was a result of random term or exogenous variable (s). $R^2 = 83.0$ which shows that the model is highly fitted in that about 83% of the points fell on the line whereas the remaining 17% fell both under and above the regression equation with positive coefficient and this indicate a direct relationship between Money Supply and GDP. Durbin Watson = 1.178 which shows that the model is auto correlated because it is less than 2. We know that if Durbin Watson result was 2, it is said to be non – auto correlated, and if it is above 2, it is said to be negatively auto correlated. Therefore the reverse would be the case if it is less than 2.

From the model, F-statistics $F(1,29) = 0.000$ which shows that the overall regression is significant because 0.000 is less than 0.05, therefore, we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between Money Supply and GDP in Nigeria. From the analysis, it is observed and found out that there is no significant relationship between money supply and inflation which contradicts the apriori or economic expectation that states that there is a positive relationship between money supply and inflation. The following point below explains this kind of situation.

Money supply has impact on exchange rate in Nigeria and this is in consonance with the economic expectation that money supply and exchange rate are positively related in the sense that,

increase in money supply will lower the purchasing power of money and facilities foreign exchange, locally produced goods will be cheaper. Also, there is a significant relationship between money supply and GDP and this is in conformity with the apriori expectation that money supply can either be positively or negatively related to GDP. In a positive situation where money supply increases savings and output (level of production) will increase this will also lead to an increase in Gross Domestic Product (GDP).

CONCLUSION

Before the structural adjustment of 1986, direct control was an instrument of monetary policy, but before this period, indirect control through the use of open market operation, adjustment of legal reserve and rediscount rate was used, but all these were found to be ineffective in achieving the goals of monetary policy due to the underdeveloped nature of the money market, volatility in oil prices etc

Recommendations and Conclusion

Government deficit financing has a way of increasing money supply and inflationary pressure in the economy, therefore the researcher recommends zero government deficit at least for a good number of years so that demand for and supply of money will be in equilibrium.

Monetary policy instruments should be flexible enough to meet the risk preferences of the operators in the financial sector. Government should create an enabling environment that will encourage the effective implementation of monetary policy that will usher in the regimes of exchange rate and interest rate that will attract both domestic and foreign investment that will bring about an increase in output. This will in turn bring down prices naturally, demand for goods and services will increase this will also bring a positive impact on GDP.

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VALUE ADDED STATEMENT : A PART OF CORPORATE SOCIAL REPORTING

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ABSTRACT

Financial Analysts consider profit the most important measure of business performance. Profit may be expressed in terms of money value or it may be measured as sales margin percentage or it may be calculated as return of investment. These, in any form, are used as basis for measure of business performance. In recent years, considerable interest has been shown in the use of value added as an alternative or additional approach to measure the operational efficiency and profitability of a business. A lot of discussion has been going on about reporting the performance of an organization in terms of value added rather than conventional profit or loss. The information disclosed by the Statement of Value Added, based on Value Added Accounting and Reporting, is considered to be much more useful than that disclosed by the conventional profit and loss account in providing a realistic basis for measuring the economic performance of an organization. The concept has received great attention in accounting practices with the emergence of large corporations having significant bearing on the society and finally on the economy for multi-dimensional impact over and above the owners. Value added system is a very useful measure of judging the performance of an enterprise for managerial decision-making and for inter-firm comparison. But there are some controversial and problematic issues in preparing such statement. Moreover, value added was characterized by calculative diversity. The diversities in calculation of value added is compounded by varied style of formats used for the preparation of such statement, which in turn variety of captions, variations regarding the coverage of the period, mode of presentation of such statement. In the absence of uniform principles, policies and practices as regards to the preparation and presentation, such statements are subject to various anomalies and fallacies. The lack of uniformity in the preparation of such statement distorts the different information and ratios and also prevent proper inter-period as well as inter-firm comparison. Ultimately, the problematic effect of diversity in calculation call for standardization. But, there is no requirement for standardization and incorporation of such statement in the published accounts of the companies and format regarding such statement in India and other different countries excepting U.K. and some European countries. So an amendment should be made in the Companies Act of respective countries to make it obligatory to include this statement in the annual report and also a format should also be prescribed in this regard to ensure similarity in presentation.

Keyword : Value added, Net value Added, Gross Value Added, Value Added Accounting & Reporting, Value Added Statement

INTRODUCTION

The main thrust of financial accounting development in the recent decades has been in the area of 'how' we measure income rather than 'whose' income we measure. The common belief of the traditional accountants that net income or profit is the reward of the proprietors (shareholders in the case of a company) had been considered as a very narrow definition of income. In fact, proponents of the proprietary theory argued that the proprietor is the centre of interest. The assets were assumed to be owned by the proprietor and the liabilities were the proprietor's obligations. The notion of proprietorship was accepted and practiced so long as the nature of business did not experience revolutionary changes. The proprietary theory did hold good for a sole proprietorship or a partnership kind of business. But with the emergence of corporate entities and the legal recognition of the existence of business entity separate from the personal affairs and other interests of the owners led to the rejection of the proprietary theory and formulation of other theories like entity theory, enterprise theory and fund theory. The entity theory has its main application in the corporate form of business

enterprise. The entity theory is based on the basic accounting equation and it suggests that the net income of the reporting entity is generally expressed in terms of the net change in the stockholders' equity. It represents the residual change in equity position after deducting all outsiders' claims. The enterprise theory is a broader concept than the entity theory. For entity theory, the reporting entity is considered to be a separate economic unit operating primarily for the benefit of the equity shareholders, whereas in the enterprise theory, the reporting entity is a social institution, operating for the benefit of many interested groups. The most relevant concept of income in this broad social responsibility concept of the enterprise is the value added concept. Therefore, the origin of concept of value added lies in the enterprise theory. Thus, there was need to modify the accounting and reporting system. As a result, "Value Added Accounting and Reporting", based on Value Added concept and originated from enterprise theory, has been considered as very useful innovation in the field of Corporate Accounting and Reporting. This newly developed accounting and reporting method is aimed at adding a new dimension to the existing system of corporate financial accounting and reporting through the disclosure of additional information regarding the amount of wealth of an entity has created in the accounting period and the way the wealth has been distributed by the entity amongst those that have contributed to its creation. In fact, the value added approach as a measure of organization performance is broader, more universally applicable and closer to social reality in comparison with profit. Since the emergence of social responsibility of business, the concept of profit has started losing its importance. Ultimately, the objective of a business unit has changed from profit maximization to value added maximization. It has been considered as an appropriate tool for measuring the success of a business unit. Now-a-days, too much interest has been shown on this concept and it is being considered as another approach to measure operational efficiency and profitability of a business unit.

This approach of measuring business performance is basically a social approach which highlights the social benefits that a firm is going to provide to the different stakeholders. It has the property of revealing something about the social character of production which is excluded by traditional profit and loss account.

Value added concept appeared to offer a solution to the problem of how was efficiency to be brought into relation with democracy. It was repeatedly presented as a means of achieving a felicitous combination of participation if not democracy and efficiency. Value added functions as a strategic mode or point of interrelation within the network of statement generated by efficiency-democracy disclosure.

The objectives of this study is (i) to discuss the background of emergence of value added concept; (ii) to highlight the history of publication of Value added Statement; (iii) to review the literature and the institutional steps taken to popularize the concept; (iii) to highlight the controversial issues in preparing this statement and the lack of uniformity; and (v) to suggest in respect of need for standardization and statutory incorporation.

BACKGROUND OF VALUE ADDED

The concept of value historically can be traced back to the theoretical and technical attempts to measure national income ¹. Therefore, the origin of that measurement is in the context of national accounts emphasizing the production side of the whole economy: the sum of the value added in different sectors (agriculture, industry, and services) net of duplication ². If we accept the idea that one of the objectives of the economic system is to generate a high level of production of economic goods and services to satisfy human needs, then the value added is one of the tools available for measuring the accomplishment of that objective. In this sense, the value added can be considered a performance indicator of a country's economic success: the gross national product. The gross national product can be used as a surrogate appraisal of the level of satisfaction of human needs in a specific economic system, the level of well-being in a society, in connection with the concept of economic progress and growth.

The concept of value added was initially used in 1790 in the first North American Census of Production 3. Trenche Cox, a treasury official, whose techniques have since been adopted by most industrial nations in the calculation of Gross National Product (GNP) is regarded as the man responsible for realizing that value added avoid double counting.

Value added has also been defined in the economic literature by Ruggles and Ruggles:

The value added by a firm, i.e. the value created by the activities of the firm and its employees, can be measured by the difference between the market value of the goods that have been turned out by the firm and the cost of those goods and materials purchased from other producers. This measure will exclude the contribution made by other producers to the total value of the firm's production, so that it is essentially equal to the market value created by this firm 4. The VAS therefore, has a macroeconomic origin, in that the calculation of value added in the value added statement corresponds with the calculation of GNP, as well as economic significance.

If we shift our attention from the macroeconomic perspective to a single business unit, it appears reasonable that a firm's accounting language could use value added reporting in symmetry with national accounts. "if accounting is to measure the contribution of the enterprise to society, in addition to its profitability, many of the concepts developed in the national income analysis can be used to advantage in the preparation of value added statement. ... The statement is prepared by the enterprise to provide more information to the various participants than they obtain at the present time from either the income statement or the balance sheet, which would still be prepared as they are presently" 5. The underlying idea is that the enterprise is an institution aimed at satisfying human needs 6. "Every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. ... He intends only his own gain; and he is in this, as in many other cases, led by an invisible hand to promote an end which was not part of his intention." This classical quote, extracted from Adam Smith's *The Wealth of Nations* 7, suggests that the publication of a value added statement could be interpreted as a symptom of awareness in pursuing a public interest by the enterprise. The concept of value added would be adopted to the single business unit, which in this way could have an additional tool for the management control and financial reporting.

The major impetus for value added concept was the emergence and introduction of value added taxation in the European countries. The use of the concept as a focus of attention for external reporting is only recent one. Gradually, corporate industrial firms have shown the great potential inherent in the value added concept to measure the productivity and profitability. Thus, the concept has now been applied in corporate performance appraisal besides application of the management accounting tools and techniques.

THE HISTORY OF PUBLICATION OF VALUE ADDED STATEMENT

In the United Kingdom (U.K), early forms of the VAS functioned as part of a worker participation orientation towards the management of economic performance. It was important during the economic crisis of the immediate post-war era, but it disappeared during the prosperous years of the 1950s and the 1960s, only to return when similar strategic postures were adopted towards the management of the economy in the mid-1970s 8.

According to Gray and Maunders 9 (1980) the origins of the then interest in the United Kingdom in value added statements (VASs) can be found in *The Corporate Report* (ASSC 1975), which suggested the publication of a VAS among other reforms. From 1977 onwards an increasing number of UK companies published the VAS, as has been established by various surveys of published financial statements. (for examples Morely 1978; Rutherford 1978; and Gray and Maunders 1980).

In 1981 Burchell et al. 10 predicted that the value added statement could lose its significance again when the social-political landscape changes. The research of Burchell et al. 11 (1985) indicated that

the incidence of publication reached a climax in 1980, but started declining after that. In U.K., there were, therefore, definite trend towards and away from the publication of value added statement. A review of Gray and Maunders (1980) 12 of the publication of the statement around the world indicated that a significant number of companies in Netherlands, France and Germany provided value added data. They also noted growing instances of VASs being disclosed in countries such as Denmark, Switzerland and Italy. An additional supportive influence in the European context was the interest of analysis in to value added data, especially in France. No further reference to the publication of the statement in Europe could be traced in the literature. In the United States of America and Canada, companies have not published value added statement at all. Burritt and Clarke (1984) 13 reported that the Australian approach to value added had been very cautious, showing nothing like the initial zeal in Britain. A few companies published value added statements (eight companies of the largest 100 in 1982) as a regular supplement to the traditional accounts. Mathews and Perera (1996) 14 reported that in New Zealand very few companies published a value added statement as part of their financial statement. In South Africa the interest in value added statements started with the publication of The Corporate Report in 1975. Unlike the situation in the United Kingdom, when the incidence of publication has fallen since 1980, the incidence of South African companies publishing the value added statement has increased.

REVIEW OF LITERATURE AND INSTITUTIONAL STEPS

This value added approach of measuring business performance is basically a social approach which highlights the social benefits that a firm is going to provide to the different stakeholders. It has the property of revealing something about the social character of production which is excluded by traditional profit and loss account. Riahi-Belkaoui and R.D. Picur 15 in their study in 1994 concluded that value added information can supply important explanatory power of security valuation beyond that provided by earnings.

Similarly Pavlik and Riahi-Belkaoui (1994) 16 in their study examined the effect of ownership structure on a value added measure of performance. They concluded that when the concentration of ownership is low, total return maximization as measured by value added is also low and vice-versa. Riahi-Belkaoui, in 1996, 17 found that value added information published concurrently with earnings does have additive information content. In the same year he also found that value added-returns relationships offered better explanatory power than the earnings-return relationships, when the relationships were expressed by a non-linear convex-concave function. Bao and Bao, in 1996, 18 examined the time series properties of value added as well as prediction accuracy of the value added series. In India, very few research studies have been undertaken on the value added concept.

Shakuntalamoni (1978) 19 made a study which was undertaken with the objective of analyzing trends in value and distribution of value added in selected textiles mills, 4 composite mills and 11 spinning mills was selected for the study. The study has concluded that all the 15 textile mills, under this study, have improved their net value added. However, the factors influencing the level of net value added have not been covered in this study.

Sharma and Agarwal 20 in their study made an attempt to evaluate the performance of nine State Road Transport Corporations of India in the perspective of value added concept. This study has concluded that the State Road Transport Corporation is contributing much to the society through the generation of employment and taxes. The justification for the existence of State Road Transport Corporations was found on its capacity to generate surplus along with the value added. The study has established that the value added concept is a highly useful method to evaluate the operational efficiency of these transport corporations.

Negeswara Rao (1989) 21 in his study made an attempt to evaluate the performance of public enterprises by applying the value added approach. His study has covered all the production enterprises in the public sector in India. The main finding of the study is that the contribution in terms of value

added by public enterprises is massive and social surplus generated is more in the case of petroleum industries.

In a study Subhash Chander (1989) 22 made an attempt to know the practices adopted by the public and private sector enterprises in India regarding the disclosure of value added statement in their annual reports. This study covered 100 companies (50 from public sector and 50 from private sector for the year 1985 – 1986 and 1986 – 1987). It has revealed that only 17 companies, nine from public sector and eight from private sector, disclosed this statement in their annual reports. This study has established that value added concept is definitely an improvement over the traditional profit and loss concept in the sense that it puts the efforts of different interested groups in an organization into a proper perspective.

Bhattacharyya (1991) 23 in his study made an attempt to evaluate the leading issues and controversies in respect of value added concept. This study has concluded that the contributors of capital have released a part of retained earnings one of value for developing industrial estates and for extending real benefits to their labour forces as it confirms Karl Marx's contention Surplus Value.

Sharma (1991) 24 in a study made an attempt to evaluate the performance of Tata Tea Limited by applying the value added concept. The value added statements of Tata Tea Limited has shown an increase in value added from Rupees 5391.82 lakhs during 1983 – 84 to Rs. 7562.49 lakhs during 1987– 88. This study has pointed out that enterprise, not making profit shall become sick but not generating value added may die over a period of time. Further, this study has concluded that the value added is a basic and broad standard of judging the performance of an enterprise. This study has also established that the value added concept is an important dimension in the field of financial analysis to highlight the profitability and social responsibility of the concern.

Shankaraiah (1991) 25 in his study established the significance of value added concept as a tool for corporate performance appraisal since it helps the management to assess the performance of the company, to compare and analyze the growth of the company and enable them to identify the factors that are to be controlled to improve the performance.

Moni (1991) 26 in his study made an attempt to popularize the four ways i.e., price increase, product development and diversification, increasing sales and cost reduction, by which manufacturing companies can increase added value. The study has revealed that added value is a better indicator of the performance of a company than the sales turnover. This study has concluded that the creation of added value (i.e. wealth creation) should be the fundamental objective of any company because added is the key to the success.

Karpik and Belkaoui 27 in their study in 1990 established that value added accounting information could supply considerable explanatory power of market risk beyond that provided by earnings or cash flow measures, especially at the individual firm level.

Ganesan (1994) 28 made an attempt to measure value by 11 spinning mills in Tamil Nadu in order to assess their performance. This study has revealed that added value is a better indicator of the performance of mill than the net profit. This study has concluded that it has laid foundation for full-fledged development of concept of value added and for effective corporate reporting.

In the words of Burritt & Clarke (1984) 29 a firm not making any profits is only considered 'sick' but firm not making any contribution, by creating wealth or value, to the society may be termed as a 'social parasite'. The inclusion of value added statement in the corporate annual report is must in accounting.

Badani and Sharma (1989) 30 in their study concluded that since the corporate sector occupies an important place in the national economy, there is an imperative need to disclose the value added statement. Value added reporting is popular in most European countries and in New Zealand, South Africa, and Australia. Most emerging countries are using it too, or considering it. A review of Gray and Maunders (1980) 50 of the publication of the Statement around the world indicated that a significant number of companies in Netherlands, France and Germany provided value added data.

They also noted growing instances of value added statements being disclosed in countries such as Denmark, Switzerland and Italy. An additional supportive influence in the European context was the interest of analysis in to value added data, especially in France. No further reference to the publication of the Statement in Europe could be traced in the literature. In the United States of America and Canada, companies have not published value added statement at all.

The research of Burchell et.al (1985) 31 indicated that the incidence of publication reached a climax in 1980, but started declining after that. In U.K., there were, therefore, definite trend towards and away from the publication of value added statement.

Burritt and Clarke (1984) 32 reported that the Australian approach to value added had been very cautious, showing nothing like the initial zeal in Britain. A few companies published value added statement as a regular supplement to the traditional accounts.

Mathews and Perera (1996) 33 reported that in New Zealand very few companies published a VAS as part of their financial statement. In South Africa the interest in value added statements started with the publication of the Corporate Report in 1975. Unlike the situation in the United Kingdom, when the incidence of publication has fallen since 1980, the incidence of South Africa companies publishing the value added statement has increased.

Van Staden 34 is of the opinion that South Africa is at present experiencing the highest incidence of publication of the value added statement reported anywhere in the world to date. In addition research investigating the predictive ability of value added information has been conducted in the USA since 1990, even though the value added statement has not been published there. The research reported in his paper sets out to establish whether the value added statement is a disclosure worth considering by companies around the world, by investigating the South African experience with the value added statement. The American Accounting Association (AAA) Committee on Accounting and Auditing Measurement (1991) had recommended that value added be considered for mandatory disclosure in the US in addition to the income and cash flow statements. Institutional StepsThe following professional institute and associations have also produced some research reports on the value added concept to popularize the same.Added Value in External Financial Reporting – Penshall M., Allan. R., & Nicholson. K. : London, Institute of Chartered Accountants in England & Wales, 1979 ;The Value Added Statement : A British Innovation – Morley, Michael F., : The Chartered Accountant Magazine, May, 1978, The Institute of Chartered Accountants of Scotland ;Value Added: An Appreciation for the Accountant Concerned with Industry – Cox, Bernard – London , Heinemann, 1978 : The Institute of Cost and Management Accountants, London ;Value Added Reporting : Uses and Measurement – Gray, Sidney : London , The Association of Certified Accountants.The only pronouncement of Value Added Reporting in the United States came from a recommendation by the 1989 - 90 ‘American Accounting Association (AAA) Committee on “Accounting and Audit Measurement” to include a Statement of Value Added in financial reports, as well as amplified disclosure regarding labour (AAA,1991). The use of value added in the Asian countries , such as Japan and Singapore, is more prevalent in managerial accounting. 35

CONTROVERSIAL AND PROBLEMATIC ISSUES IN VALUE ADDED STATEMENT

The Value Added Statement is a product of “The Corporate Report” (U.K)”. It is now observed that there are various forms of presentation of this statement. To maintain comparability between financial statements, some standardization of preparation is required.

The problem of the presentation and preparation apply to all ingredients of the value added statement, but particularly in the area of depreciation, employee’s remuneration and taxation. As regards the treatment of depreciation in the preparation of Value Added Statement for calculating the value added income, there are three opinions, which are:

- to show the depreciation as an application of value added;
- to include the depreciation in “Bought-in Materials and Services”; and
- to eliminate entirely at the time of calculating value added income.

When the depreciation is being provided for maintenance and expansion of the firm, and shown with the retained profit, the resultant Gross Value Added (GVA) is not reduced by the depreciation charge. The approach of treating the depreciation as an item of application of value added is recommended in “The Corporate Report (U.K.)” of the Accounting Standards Steering Committee, London. And the most of U.K. Companies are adopting this approach. According to the Survey in U.K. in 1983-84, it was seen that 80% of the companies disclosed the Value Added Statement, calculated the “value added gross of depreciation”.

The arguments in favour of this approach are:

the bought-in materials and services figure is factual, and to include depreciation (which is decided by subjective judgments on assets lives) would increase the possibility of manipulating the value added figure. Although this method is analogous to the economic concept to GNP, it is most commonly followed, possible because it provided a higher figure of value added. The followers of this view argue that since depreciation being an accounting charge based on subjective assessment about the life of the asset, is not an actual expenditure, it should not reduce the value added by the firm. Besides, it will widen the scope for accounting maneuver of the amount of value added;

it maintains the link between depreciation and retained profit;

the concept of GVA accords with economists’ preference for gross, rather than net measurement of national income.

One more convincing argument why depreciation is shown as “application” is that it gives the Value Added Statement some sort of Cash Flow orientation. It may also be mentioned that if depreciation is joined with retained profit, the resultant figure can readily give an indication of the funds of the business firm.

The approach as regards the inclusion of depreciation in Bought-in materials and services, which shown the “Net Value Added”, is substantiated as follows:

One of the cost of producing net wealth is the ‘diminution’ in the value of fixed assets used, in arriving at a measure of wealth created, we must recognize that cost;

Gross Value Added is not wholly available for distribution – funds must be set aside for depreciation. Net value added recognize this fact. Similarly, if the value added statement is drawn up on Current Cost Basis, Net Value Added can be distributed (liquidity permitting) in wages, taxation and dividend without eroding the Company’s capital base; and Consistency demands that capital goods should be charged to revenue as they are used up just like any other material or service consumed.

Also, in the opinion of some experts, the depreciation is treated as a cost C.S.O also accepted the same as an item of deduction from output for the purpose of calculating the ‘value added income’.

J. Batty recognized depreciation as ‘cost’ and he argued that it should be charged even there is a loss. Adam Smith also suggested for embodying the depreciated value of an asset in the cost of production of any output. According to theory, depreciation is a cost like other which is consumed in production, that is to say, the asset used in the process of production, lose a part of its value due to its operation. This loss of value cannot be realized in any way other than by incorporating the same into cost of production to realize through the sale of output. The another argument is that the depreciation is almost similar to other expenses and it is to be considered as a component of ‘input costs’ or ‘produce cost’ instead of factor income.

According to accounting theory, depreciation is generally debited to Profit and Loss Accounting or Manufacturing Account. The expenses are payments for services, so received out of capital invested for the purpose. Similarly, assets are purchased, first out of invested capital for future services. Through the operation, the asset will lose a part of its future serviceable capacity in producing the output. The only difference between actual expense and depreciation is that all expense is a cash consuming one and depreciation is non-cash consuming expense. But, both are charged against revenue. So the depreciation of an asset for the year should be considered as the part of production. The incorporation of such depreciation is the distribution part of value added income, not charging the same against value of output, will be a misleading affair regarding whether the same is an expense (or cost) or not.

The Institute of Chartered Accountants of England hold the similar idea as regards the treatment of depreciation. The Institute states that depreciation is independent of the surplus earned, since it is an integral cost of conducting the business during the effective commercial life of the asset.

In India, the Companies Act, 1956 also specified that dividend cannot be paid unless the depreciation is provided for (Section 205 of the Companies Act, 1956). Thus, it is evident that depreciation has been recognized as cost by the professional bodies and also by the legal authorities of different nations. So, the depreciation is to be included in the value of 'input' for the purpose of calculating the value added income, i.e., it must be recognized in arriving at a measure of the wealth (i.e., value added).

The supporters of this view feel that computation of value added without deducting depreciation would mean that the use of bought-in asset is 'cost-free' which is incorrect. Moreover, it is inconsistent with the 'accrual principle'. Lewis and Pendril have pointed out in this connection that 'the purchase of fixed asset from another firm, a non-team member, is a bought-in item and it only the fact that the asset has a long life which necessitates the changing of depreciation

It is examined from the conceptual stand point, the inclusion of depreciation in bought-in materials should be much more rational than treating it as an allocation of value added.

Brooman 36 states , "..... Plant and Machinery though not wholly used up, will be partly worth out in production, and its wear-and-tear should, therefore, be treated as an input on exactly the same footing as the input of materials are deducted".

The treatment of depreciation as an allocation of value added, grouped with other amounts retained in the business to provide for maintenance and expansion of assets has been attacked as unsatisfactory, since, any erosion in the opening stock of wealth must be made good from value generated within the period before the balance of value add can be struck.

The another approach is advocated by Jack Roullier. This approach is that the depreciation charge is to be eliminated at the time of calculating the value added income. It can be done by showing the cost of fixed asset acquired in a year as a part of the "bought-in materials and services". According to him, " the net cost of any piece of equipment would be charged completely to the trading account if it were consumed fully within one accounting period; and depreciation is only a method of spreading the cost over the various accounting periods during its life. For the reason, it is considered that capital equipment should be regarded as a bought-in materials, depreciation excluded from the value added statement. This approach lacks theoretical justification and inconsistent with the accrual concept. It would result in meaningless value added figure where the company's level of capital is fluctuating. On this account, it is advisable not to adopt this approach. This approach may, also, however be justified from the Cash Flow Approach, but, unless this approach is uniformly adopted by all the companies, the problem of comparability will arise.

The Government is identified as another team member having some reasonable claims in the value added by the organization. Services received by the organization from the Government are remunerated by the payment of various types of taxes. But, there is considerable diversity of opinion in respect of the treatment of such taxes at the time of calculating value added income. Taxes are generally shown as the application of value added payable to the Government on the premises that these are paid on the value of output. But, to bring the uniformity, it is suggested that items i.e., custom and excise duties, sales taxes paid on the purchase of inputs etc., which are levied before the goods are ready for sale should be included in bought-in inputs. And only taxes on the value added or profit should be shown as an application of value added.

A great deal of diversity is found as regards the inclusion of employees' remuneration also. While one set of opinion is that this item should include only the actual payments made to the employees, the other holds the opinion that total remuneration payable to the employees (including indirect expenditure) should be shown as distribution of value added to employees. This difference of opinion seems to be meaningless in the light of the disclosure practices of value added statement. Since the

objective of preparing value added statements is to show the distribution of value added by the firm among its different stakeholders, the total expenditure relating to the employees should be treated as employees' remuneration including the indirect expenditures on employees as the application of value added.

LACK OF UNIFORMITY AND NEED FOR STANDARDIZATION

As already observed, value added was characterized by considerable calculative diversity. In a survey of published value added statements produced in 1980s, it was concluded by Rutherford that, "it is difficult to capture systematically the degree of diversity present in the construction of Statement of Value Added." 37 Moreover, such heterogeneity of practice was seen problematic for the roles, rationales and purposes that value added was seen and mobilized to serve. The diversities in calculation of value added is compounded by varied style of "formats" used for the preparation of such statement, which in turn variety of captions, variations regarding the coverage of the period, mode of presentation of such statement. In the absence of uniform principles, policies and practices as regards to the preparation and presentation of VAS, such statements are subject to various anomalies and fallacies. The lack of uniformity in the preparation of such statement distorts the different information and ratios * and also prevent proper inter-period as well as inter-firm comparison. Ultimately, the problematic effect of diversity in calculation call for standardization. 38

As a result of these and other pressures, the accountancy bodies represented on the Accounting Standards Committee commissioned research studies on value added. The report issued by both the Institute of Chartered Accountants in England & Wales and the Institute of Chartered Accountants of Scotland concluded in favour of value added reporting but added the caveat that "Standardization of practice is a necessary precondition to any formal requirement", 39 so as to bring comparability to value added statements and so safeguard the confidence of readers in the statement.

The study prepared by the Institute of Cost and Management Accountants was notably less enthusiastic and presented value added as just one more addition to the kitbag of management tools which may be usefully employed in connection with employee payment systems and public relations. 40 The issue of standardization was not raised in the report.

The Association of Certified Accountants' Study investigated the needs of potential users of value-added statements and reviewed existing corporate practice in the area before discussing measurement and disclosure policy. 41 Two approaches to the measurement of value were identified and although it was stated that "conceptually it would seem desirable that a consistent approach be adopted one way or the other. 42 It was also argued that value added reporting should be 'placed outside the restrictions established by convention', in order to facilitate its 'imaginative development' according to the decision requirements of its potential users. 43 Paul Simdy 44 concluded that VAS has reached the stage where some standardization is necessary. He also argued that the VAS has proved its usefulness and so an attempt should therefore be made to minimize variations in its compilation to give users maximum benefit.

STATUTORY INCORPORATION :

In U.K. and also in many European Countries "Value Added Statement" has become a "statutory requirement". But, there is no statutory requirement for incorporation of such statement in the published accounts of the companies and format regarding such in India and other different countries. The American Accounting Association Committee on Accounting and Auditing Measurement (1991) has recommended that value added be considered for mandatory disclosure. So an amendment should be made in the respective Companies Act of those countries to make it obligatory to include this statement in the annual report and a "format" should also be prescribed in this regard to ensure similarity in presentation.

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Prior to the World War II, economic statisticians in the major industrial countries developed three different but related methods for methods for measuring national income. There were termed the (1) net product, (2) net income, and (3) final sales methods. ... The net product approach depended for the most part on data relating to production by industrial activity. Thus, data on agricultural output, prices, and costs were used to generate the net output produced by agriculture. Similarly, censuses of manufacturing were used to determine the value added in manufacturing industries.

Standardized national accounts provide a coherent macroeconomic framework covering the whole economy, which can be crosschecked in three ways. From the income side, they are the total of wages, rents and profits. On the demand side, they are the sum of final expenditures by consumers, investors and government. From the production side, the sum of value added in different sectors (agriculture, industry and services) net of duplication (Madison A. (2005): Measuring and interpreting world economic performance 1500-2001. Review of Income and Wealth, 51:1-35.

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