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The Rise of Fraud Examination and Forensic Accounting in Africa: The Nigerian Experience

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ABSTRACT

This paper documents the rise of fraud examination and forensic accounting education and research in Africa, using Nigeria to mirror the development. With attendant fraud and corrupt practices in Nigeria there are muted discussions on strategic ways to build capacity in the drive to curtail these unwholesome practices. The paper concludes, *inter alia*, that: (i) fraud examination and forensic accounting (FEFA) education has become an indispensable subject area in the light of the challenge of fraud and corruption in Nigeria's (and Africa's) economy; (ii) there is currently no formal structure for FEFA education in Nigerian tertiary education system even though there is some evidence of integration of forensic accounting education at the undergraduate and postgraduate levels; and (iii) due to the skill set required, FEFA education cannot be conveniently subsumed under traditional accounting programmes. The study recommends the articulation of a clear framework for FEFA education, coordinated by tertiary education regulators and inclusion of routine forensic audits as part of the corporate governance architecture of public and private sector organizations in Nigeria.

Keywords: Forensic accounting, fraud examination, corruption, financial crimes, National Universities Commission, Benchmark Minimum Academic Standards, Nigeria.

INTRODUCTION

Any attempt to develop conceptual foundations about the definition and identification of governance costs (transaction costs) in all organizational settings must first identify the drivers of governance costs and distinguish between the variations of strategic behaviour and incentives across different actors and governance costs within a geographic operational milieu (rules and actors). It is an accepted axiom that resources are finite in all governance or organizational settings. To be efficacious therefore, such resources must be allocated in a discriminating way. This implies that for the benefits to be realised, the opportunities of resources must be consciously tapped. In so doing, however, the costs of corruption, fraud and abuse, financial crimes and other associated egregious distortions are not conventionally factored into the configuration of scarce resources. Put differently, costs of governance – administrative, production, cost of sales, marketing, finance, taxes, etc., – do not accept or incorporate corruption and associated vices as norms of transaction costs or hazards. Even in developing, especially Sub-Saharan African (SSA), countries where systemic corruption is endemic and concomitant with almost every government contract, official budgets do not inherently reflect the corruptly-inflated cost components. In fact, the more one hears of legislative budget scanning, the more the invention of new vocabularies, such as 'budget padding'. Yet, corruption, fraud and abuse – as the world was awoken by the scandalous fall of Enron, WorldCom, etc., and Bernard Madoff (through his pyramid scheme), Halliburton (through bribery, bid rigging, defrauding the military, and various other fraud schemes), Arthur Andersen (through opportunistic accounting practices), and several Nigerian banks – constitute an egregious cost of doing business whose true nature is hidden, if reflected at all, in financial statements. As if that is all, most government appointments and privatizations of state-owned enterprises (SOEs) are mired and marred by corruption of the adverse selection genre.

The growing spate of corruption, fraud and financial crimes with devastating consequences on companies and national economies has compelled regulatory changes across national and regional boundaries. Hitherto, the general perception was that such vices were largely an internal event, primarily impacting the organization's net earnings or earnings per share (EPS). They were not conceived to have a major impact in the way businesses were conducted. However, that perception has considerably changed in recent times. Nowadays, the world understands better: organizations now know that the egregious effect of these offences goes beyond the bottom line. Basically, these vices serve to attenuate optimum pursuit of organizational goals; they limit organizational ability to economize on scarce resources, including information processing and decision-making capability, in transaction cost terms; they promote information hoarding, opportunism, bounded rationality and distortions. The associated negative publicity of corporate fraud breeds high reputational risks, stifles business prospects, and threatens business survival. These are the core transactional issues on which a comparative assessment of the rise of fraud examination and forensic accounting in Africa turns.

While fraud and financial crimes are perpetrated in every country, their density has been highest in SSA countries, with Nigeria as the most talked about for obvious reasons. First, apart from being the most populous nation in Africa, the impunity with which corruption is perpetrated in Nigeria has stood the country out as one of the most corrupt in the world. The nefarious activities of some Nigerians (notoriously known as 419 and highly placed public servants) have brought the country into international opprobrium. The situation is not helped by the almost daily reportage of one suspected fraudulent activity by one top government official or another, whether it is in contract award or arms procurement for the fight against the militant group Boko Haram. The fact is that in Nigeria, and in most SSA countries, fraud is being committed daily with brazen impudence, impunity and reckless abandon. Corruption which is a vicious and perverse form of fraud, has somehow eclipsed fraud due to its prevalence and the attendant effects on the populace and national development. Corruption is rife in state-owned enterprises (SOEs) and government agencies which have become a conduit by Government officials, legislators and politicians to divert funds through inflated contracts, bloated staff strength, and overpriced procurement of goods and services. The fraudulent monies would then be laundered into the financial system through concealed deposits in private pseudonym accounts, 'non-existent corporate' accounts, purchase of real estate, or donations to political parties, religious bodies and charities involved in the scheme.

Those entrusted with public funds for the provision of citizen welfare, security and public services and those assigned with the responsibility of ensuring public oversight, transparency and accountability in governance, have all allegedly been implicated in state-wide corruption, fraud and economic crimes. The pervasive corruption and money laundering inculpating most State governors, serving legislators and judges, top public servants, government contractors, and bank chief executives – currently being prosecuted by the Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC) – combine to provide anecdotal evidence of the spate of malfeasance in Nigeria. No arm of government – the executive, legislature or judiciary – is exculpated from corruption. This reinforces the characterization of 'palace fraud' where fraud perpetrators are either top government functionaries or corporate chief executives. Whereas technology is facilitating the evolution of 'new forms of fraud' in advanced economies, the trend in Nigeria and SSA is, however, being expedited by holding public office.

It is elementary that impunity influences the way Africa's corruption is both perpetrated and perceived, including the power to delude and misguide. Equally, it is generally conceded that it is not corruption per se that is dangerous or antithetical to development, rather the impunity with which it is perpetrated that makes it egregious. Impunity is the critical dimension for characterizing Africa's corruption, and indicates how and why it is a malediction to Africa's developmental strides. To be sure, impunity is commonplace in SSA countries that have weak institutions, especially weak legal systems. The ground that fosters corruption is equally one that promotes the phenomenon of strong individuals and weak institutions; it is also one that suffers from entrenched systems of political and economic patronage and prebendalism. Implicit in corrupt susceptibilities with impunity is the prevalent atmosphere of opportunism, or lack of candour or honesty in transactions. But for such general impunity and weak legal structures, corruption would attenuate in the presence of strict application of penalties for errant deviance. This organizational or structural failure to bring brazen perpetrators of corrupt deeds or public service violations to justice and redress adumbrates the 'economic development attention deficit disorder' or 'economic development inattentiveness' of most African governments.

Edward Coke's [1] presumption of *actus non facit reum nisi mens sit rea* (that is, "an act does not make a person guilty unless their mind is also guilty") is immediately invoked and resonates deeply in Nigeria's impunity towards fraud and corruption and their associated transactional frictions. In law, the general test of guilt is one that requires proof of fault, culpability or blameworthiness both in thought and action. Unfortunately, these do not yield easily to formal analysis, and have been relatively neglected or artificially discussed in formal economic settings. Both in theory and practice, the act of fraud, corruption and financial crime in general cannot be separated from the mind. The modern interpretation of the term, '*mens rea*', describes the state of mind or inattention that, together with its accompanying conduct, constitutes an offence in criminal law. Prima facie, these activities, like murder, carry some element of premeditation. This distinction between the concept of culpability as a general requirement of guilt (the classic *mens rea*) and the impunity with which fraud, corruption and financial crimes are perpetrated underlies the foundations of their prosecution and potential deterrence in Nigeria and Africa at large.

The audacity of corruption in Nigeria, unlike advanced economies, is not just an act of the mind but a deliberate one perpetrated with total disregard for the law and its consequences. In fact, it is said that fraud and financial crimes agencies frown at those caught for 'small fraud', a euphemism for fraud offences considered inconsequential though running into tens of millions of naira. To drive the point home, the EFCC and ICPC do not entertain fraud complaints of N5 million or less. Going to the Nigerian Police with such complaints is a voyage into the abyss: a fruitless endeavour. The complainant may end up incurring huge personal costs for endless wasted effort. In addition, s/he may turn to be an accused and spend a lot of money to extricate from the clutches of corrupt enforcement agents. To be sure, the audacity and impunity of corruption in Nigeria not only challenges the orthodoxy of jurisprudence but also strikes at the root of its practice by disenabling the capacity of the law to facilitate voluntary exchanges to maximize the aggregate wealth of society, especially in weak legal systems. Thus, the mind absorbed in opportunistic proclivities is already trapped in self-interest seeking with guile by reason of lack of candour or honesty in transactions. As Williamson [2] and Herbert [3] observe, opportunistic inclinations pose both a threat and risk in the economy, especially in the absence of competitive (large numbers) exchange relations. Much of the fraud, abuse and impunity that militate against efficient economic management in the private and public sectors of SSA's economies cannot be (i) costlessly detected, or (ii) regarded or expressed as Alchian and Demsetz's [4] turpitudinal peccadilloes. In Nigeria, for example, practically every economic transaction is inflated by fraud aggregates, bounded rationality, uncertainty, and idiosyncratic behaviours which cumulatively (a) defy or compound efficiency analysis, and (b) impose market or organizational failure.

The challenges of weak economic growth, poor infrastructural syndrome and perennial poverty in Africa have their roots in weak leadership and corruption. There is overwhelming conclusion that the widespread corruption in Africa is the major impediment to both national and continental growth and development. Interestingly too, it is widely acknowledged that corruption in Africa is endogenous and affected by economic policies [5]. Thus, if the tree stump of unbridled systemic corruption is not removed, Africa cannot overcome its numerous socio-economic and political challenges.

Apart from the opportunistic proclivity of privileged top government officials, several factors conspire to both trigger fraudulent predisposition and militate against its fight in SSA. The growing army of unemployed youth, especially of the graduate genre, corrupt and inept governments and leadership at all levels, and infrastructure deficit in electricity, transportation and healthcare, are the perennial social incendiary devices that detonate insecurity, armed militia, disease, deprivation and destitution. The absence of social safety nets, such as unemployment benefits as obtained in advanced economies, exacerbates the state of depravity. Combating the sources as well as collateral implications of corruption, fraud and financial crimes in Nigeria and SSA is a daunting task. Combating corruption requires more sophisticated skills as fraudsters have advanced their cause through use of technology and multiple stratagems. To be sure, the trajectories of FEFA have changed abruptly not just in Africa but across the globe, cutting through time with a lot of momentum, in response to the changing landscape of national and global trends in corruption, fraud, and financial crimes.

Landscape of FEFA in Nigeria

As fraudsters have become more dangerously creative with devastating consequences, so has the configuration of fraud investigation become increasingly sophisticated with encouraging results. Forensic accounting, which has evolved to combat the growing rate and economic consequences of fraud and abuse, financial crimes and corruption, encapsulates specialized knowledge and specific skills to stumble up on the evidence of economic transactions [6]. Traditional accountants, however effective they may be, are not necessarily forensic accountants. The global economic consequences of recent accounting scandals juxtaposing the increasing spate of fraud and corruption have occasioned new national and international antifraud and anti-money laundering legislations. These have created a huge demand for fraud investigation and forensic accounting work. Increasingly, many professional accountancy firms are establishing specialized fraud examination and forensic accounting units to keep up with the workload. At the same time, organizations and government agencies are finding it difficult to recruit experienced and highly skilled forensic accountants and fraud examiners.

Being a forensic accountant or fraud examiner requires professional possession of multidisciplinary backgrounds and skills and knowledge to comprehend the trajectories of international crimes and fraud. In this respect, traditional accountants are both conceptually and professionally ill-equipped to deal with complex fraud, financial crimes, occupational abuse and corruption. This has induced the growing need for specialized skills in forensic accounting and fraud investigation in this 21st century of globalization, electronic commerce and the internet. In fact, the evolution of Certified Financial Forensics (CFF) certification program by the American Institute of Certified Public Accountants (AICPA) in June 2008 was a recognition of (a) the special skills and knowledge required of a forensic accountant, and (b) the high demand for forensic accountants which has propelled a large number of accountants to get involved without proper training in the ins and outs of the niche [7]. Many countries' professional accounting bodies have also joined the AICPA in establishing FEFA certification programmes. For example, in Nigeria, the Association of National Accountants of Nigeria (ANAN) and the Institute of Chartered Accountants of Nigeria (ICAN) – Nigeria's two statutory professional accountancy bodies – have recently established forensic accounting certification programmes for their members. In addition, ANAN established a special arm, known as the Society for Forensic Accounting & Fraud Prevention (SFAFP), to power the specialized training and certification requirements of accountants, lawyers, and enforcement agents involved in fighting corruption and financial crimes. The SFAFP is equally available for those contemplating a career in fraud examination and forensic accounting (FEFA).

What these developments portray is that the landscape of FEFA has not only expanded in response to the bloom in accounting fraud and financial crimes, but also that the subject area is a rapidly growing discipline in at least three domains: (1) professional practice, (2) education and certification, and (3) research and publication [8]. The growing importance of FEFA practice motivates exploring their practical and scholarly nature. These domains both encapsulate and anchor the epistemological, methodological and ontological dimensions of FEFA. Like traditional accounting research, the purpose of FEFA education and certification, and research and publication is to encourage and facilitate the continuing debate on FEFA knowledge development. The academic conversation should be designed to explore the philosophy and complexity of investigating social phenomena, the shortcomings of extant research processes, and the importance of evaluating issues of practical relevance. Thus, as academic institutions contemplate the addition of FEFA into their curricula, it calls for an in-depth examination of the way in which this process can be effectively conjugated. This is to ensure that the pedagogic content and delivery encompass idiosyncratic knowledge, skills and abilities necessary for individuals to function in the field as professionals.

In general, the power of FEFA, in relation to the other social sciences, is to be traced in no small part to the unremitting emphasis on net benefit analysis. The net benefit argument cannot be construed too narrowly in economic terms, as will be the case if the net benefits are calculated in or viewed from transaction-specific terms, without factoring the interaction effects. While a handful of African universities have added or are considering adding FEFA into their curriculum, the preceding situation has revealed a void in the significant skill set outcome that should be developed. But, this void needs theoretical validation, which is this study's raison d'être. As a country case in point, presently, there is no university or polytechnic in Nigeria offering forensic accounting either as an undergraduate or postgraduate programme. At best, what is obtainable is that a handful of Nigerian universities offer FEFA as a two or three credit unit taught course. This lacuna is traceable to the fact that the regulatory agencies – the National Universities Commission (NUC) for Universities, the National Board for Technical

Education (NBTE) for Polytechnics and Colleges of Technology, and National Council for Colleges of Education (NCCE) for Colleges of Education – have not established Benchmark Minimum Academic Standards (BMAS) for the programme. The absence of BMAS for the programme is not the reason per se because it is not difficult to develop one, rather, there is a palpable regulatory reluctance towards the development of an undergraduate taught B.Sc. Forensic Accounting/B.Sc. Fraud Examination programme. The reason for this failure or negligence is also traceable to Nigeria's, and Africa's, bounded rationality in wide developmental, socio-economic and political respects.

Furthermore, it should be noted that the enabling law of the NUC, as with their counterparts in other African countries, empowers it to lay down minimum academic standards for all programmes taught in the Nigerian University System[1]. The BMAS is an amalgam of the Benchmark Style Statements and the revised Minimum Academic Standards. This merger, known as BMAS, "crisply enunciates the learning outcomes and competences expected of graduates of each academic programme without being overly prescriptive while at the same time, providing the requisite flexibility and innovativeness consistent with a milieu of increased institutional autonomy" [9]. The intervening implication of this is that no degree programme in any discipline can be undertaken by any Nigerian university without the BMAS. Unlike what obtains in advanced economies, the path to establishing a degree programme in a Nigerian university, regardless of its high demand, is difficult, tortuous and tedious, even with the BMAS. Sadly, Nigerian universities do not have the autonomous capacity to mount programmes of their choice or programmes that are not in the NUC's stable of approved programmes.

While many universities in different parts of the world have recognised the importance of systematic education and training of forensic accountants and fraud examiners, there is a noticeable lacuna in forensic accounting education and practice in Nigeria and other African countries. The leading reason for this void is that there are very few, just a handful of, Nigerian universities and polytechnics offering fraud examination and forensic accounting (FEFA) as a course unit in the accounting programme. Equally, the practice of FEFA is limited in every material respect in Nigeria, despite the plethora of fraud and abuse encompassing large-scale corruption, financial crimes and banks' financial scandals.

The case for a systematic education and training of forensic accountants and fraud examiners is firmly anchored in the changing nature and sophistication of financial transactions, the dynamics of Information and Communication Technology (ICT), and the imperatives of globalization. The joint effect of these is the rising incidence of financial statement fraud and other forms of occupational fraud and abuse as well as financial crimes across countries and economic sectors. First, since the early 1990s, several national and global surveys have shown the growing prevalence of fraud and abuse, bribery and corruption risks as a global phenomenon [10-17]. Second, because of the widely publicized fraudulent financial reporting scandals such as Enron, WorldCom, and others, there have been clarion calls by opinion leaders in the accounting profession for the provision of systematic education and training in fraud examination and forensic accounting [18]. Third, as the number of frauds and the amount of fraud losses increase both in human and financial terms, so have the opportunities for careers in forensic accounting and fraud management, as shown in Table 1. Fourth, as more accounting firms are opening forensic accounting departments vis-à-vis limited availability of

[1]Correspondingly, the enabling laws of NBTE and NCCE respectively empower them to lay down minimum academic standards for all programmes taught in polytechnics/colleges of technology and colleges of education.

skilled recruits in this area, there is equally an increased pressure on organizations to strengthen their internal control systems as an integral part of their corporate governance framework. Building business confidence requires a strong corporate governance system to (a) reinforce the organization's control systems, (b) provide an early mechanism for conflict resolution, and (c) engender a renewed awareness of reputational risk.

Table 1: Fraud Examination/Forensic Accounting - Career Opportunities

Type of Employer	Type of Career
Government & Law Enforcement Agencies	EFCC, ICPC, Police & Military Intelligence Units, Inland Revenue Service, Offices of Accountants-General and Auditors-General of Federal and State Governments, Federal and State Ministries of Finance, Other Governmental Agencies.
Public Accounting Firms	Forensic Accounting Units (FAU) of Public Accounting Firms. The FAU: Conducts forensic investigations; Provides litigation support services; performs financial statement fraud for clients; serve as expert witnesses in fraud cases they investigated; provides the following fraud-related services used to either perpetrate or conceal fraud: bankruptcy, divorce, tax fraud, and money laundering; provides internal audit and internal control consulting services.
Corporations	To institutionalize good corporate governance, modern organizations establish FAUs to strengthen their internal control/audit mechanisms, especially in large organizations. The goal of FAU is to prevent, detect, and investigate fraud within the organization. The staff/activity component includes internal auditors, corporate security officers, and in-house legal counsels.
Consulting	In addition to public accounting services, consulting firms with FAUs provide independent consultancy services in litigation fraud; Serve as expert witnesses in fraud cases under their investigation; Consult in fraud prevention and detection, and Provide other fee-based work for their clients.
Law firms	Lawyers are active agents in fraud cases. They provide litigation and defence services for their clients (government agencies, companies and individuals) who are facing fraud charges; big law firms also provide special investigation services in fraud-suspected cases.

Source: Adapted with modifications from Zimbelman [19].

These are new frontiers in the skills kit of the fraud examiner and forensic accountant. Because the FEFA discipline is a relatively new one, it requires several years to build up the necessary skills and experience. The foregoing explains why forensic accounting is reportedly one of the hottest and most profitable career tracks for accounting majors and practicing accountants [20-23]. All of the foregoing points to one thing, which is: as the demand for skilled forensic accountants and fraud examiners (that is, forensic accounting education) is increasing, so is the supply (universities, polytechnics and professional accounting bodies) being strongly inspired to upgrade the curriculum of accounting education. In most developing countries, the mismatch between the supply and development of, and demand for, forensic accountants resonates with Carnes & Gierlasinski's [24] concern: "Forensic Accounting Skills: Will Supply Finally Catch Up to Demand?".

This perceptible gap between the demand for and supply of skilled fraud examiners and forensic accountants underscores the need for this study. Precisely, Africa needs intense FEFA education. How does the supply side achieve this? There are two trajectories. The first and easier route is to integrate FEFA into extant undergraduate and postgraduate accounting programmes. The second approach which is more enduring in the supply of requisite FEFA skills is to mount the undergraduate programme (B.Sc.). The absence of NUC BMAS makes the first option more viable in the short run. On both counts, however, the views and insights from academics and practitioners are useful in integrating forensic accounting into accounting curriculum or redesigning forensic accounting courses in the Nigerian university system.

Modern practice in curriculum development tends to build synergy with the labour market who is the primary user of university products. The interaction effects of the synergy identify strengths and deficiencies of graduates and proffer remedial measures to improve their competencies. Therefore, incorporating the views of practitioners in curriculum development is a useful corrective in revising the undergraduate benchmark minimum academic standards.

The broad objectives of this study are threefold: first, to establish the relevance (extent of needs and benefits) of forensic accounting education and practice in Nigeria; second, to ascertain the depth of FEFA through a webometric analysis of extant literature on fraud examination and forensic accounting in Nigeria; and third, to establish the required skills set for FEFA educators and practitioners in Nigeria, and by extension in Africa.

Extant FEFA Research in Africa

The interest here is to provide a synopsis of FEFA empirical research in Africa. Although the historicity of FEFA is not new, however, its popularity and growth is a recent trend. As noted above, the context of FEFA is founded on understanding the mind of the fraudster to identify why frauds and other related crimes are committed. As an emerging field of learning in Africa, the literature is just burgeoning. Table 2 is a webometric index of extant FEFA studies across Africa. The focus of most of the studies is on how forensic accounting can be used to mitigate fraud. With a few exceptions, notably Efiong [25] and Zango [26], most of the studies are on the use of forensic accounting for fraud-prevention and control. There has been little emphasis on how systematic FEFA education could be a useful tool in engendering accountability, transparency, and good governance in Nigeria and other African countries.

Table 2: Webometric Indices of Fraud Examination & Forensic Accounting Research in Nigeria & Africa

Author & Year of Publication	Title of Article	Journal
Adefila, J. J., Kasum, A.S. & Olaniyi, T.A. (2005).	The global endemic nature of financial malpractices: An analytical appraisal	African Journal of Management, 1(1): 11-20
Ajisebutu, A. (2006).	Financial statement fraud: What auditors should know	The Nigerian Accountant, 39(2): 17
Appah, E. & Appiah, K.Z. (2010).	Fraud and development of sound financial institutions in Nigeria	Nigerian Journal for Development Research; 1(1):49-56
Dada, S. O., Owolabi, S. A., & Okwu, A. T. (2013).	Forensic accounting: A panacea to alleviation of fraudulent practices in Nigeria	International Journal of Business Management Economic Research, 4(5); 787-792
Dandago K. I. (1997).	Fraud detection and control at local government level	The Certified National Accountant, 7(4)
Degboro, D., & Olofinsola, J. (2007).	Forensic accountants and the litigation support engagement.	Nigerian Accountant, 40(2): 49-52
Efiong, E. J. (2012).	Forensic accounting education: An exploration of level of awareness in developing economies – Nigeria as a case study.	International Journal of Business & Management, 7(4): 26-34
Ehioghiren, E.E and Atu, O.O.K. (2016).	Forensic accounting and fraud management: Evidence from Nigeria	Igbinedion University Journal of Accounting, 2: 245-308
Enofe, A. O., Okpako, P. O. & Atube, E. N. (2013).	The impact of forensic accounting on fraud detection	European Journal of Business & Management, 5(26): 61-72
Izedomin, F.I & Mgbame, C.O. (2011).	Curbing financial frauds in Nigeria: A case for forensic accounting	African Journal of Humanities and Society, 12(1): 52-56
Jenfa, B. I. (2002).	Internal control and fraud prevention: Accountant perspective	The Certified National Accountant, 10(4)
Khan, S. A. (2005).	Corruption and professional practice: Issues and challenges	The Nigerian Accountant, 38(4): 60
McIntyre J.L., van Graan, C., van Romburgh, J. & van Zyl, A. (2014).	Contextualizing the South African forensic accountant	Journal of Forensic & Investigative Accounting, 6(3): 98-153
Modugu, K.P., & Anyaduba J.O. (2013).	Forensic Accounting and financial fraud in Nigeria: An empirical approach	International Journal of Business and Social Science, 4(7): 281-289
Mutua, C. (2014).	The effect of fraudulent practices on the growth of Insurance Companies in Kenya	Journal of Management, 2(16): 301-317
Njanike, K., Dube, T. & Mashanye, E. (2009).	The effectiveness of forensic auditing in detecting, investigating and preventing bank frauds	Journal of Sustainable Development in Africa, 10(4): 405-425
Nurudeen, A. A. (2006).	Role of the accountancy profession in tackling fraud	The Certified National Accountant, 10(4)
Ogoun S. & Obara L.C. (2013).	Curbing occupational and financial reporting fraud: An alternative paradigm	International Journal of Business and Social Science, 4(9): 123-132
Okafor, B. (2004).	Strategic approach to reduction of employee, theft fraud and embezzlement.	Nigerian Accountant, 37(4): 3-5
Okoye, E. I., & Gbegi, D.O. (2013).	An evaluation of forensic accountants to planning management fraud risk detection procedures	Global Journal of Management and Business Research, 13(1): 1-17
Okoye, E.I & Gbegi, D.O., (2013).	An evaluation of forensic accountants to planning management fraud risk detection procedures	Global Journal of Management and Business Research, 13(1): 74-90
Okunbor, J. A., & Obaretin, O. (2010).	Effectiveness of the application of forensic accounting services in Nigerian organisations	Journal of Management Sciences, 1(1): 171-184

Owojori, A.A. & Asaolu, T. O. (2009).	The role of forensic accounting in solving the vexed problem of corporate world	Journal of Scientific Research, 29(2): 183-187
Oyejide, A. (2008).	Corruption and development: A Nigerian perspective	Nigerian Accountant, 41(4): 28-42
Ribadu, N, (2005).	Obstacle to effective prosecution of corrupt practice and financial crimes in Nigeria	A Paper presented at a 4-day Stakeholders Summit on Corrupt Practices Organized by House of Representatives Committee, Nigeria
Sabo, B. (2001).	Fraud prevention and control in Nigerian public service: The need for a dimensional approach	Journal of Business Administration, 1(2):118-133
Williams, I. (2005).	Corrupt practices: Implications for economic growth and development of Nigeria	The Nigerian Accountant, 38(4): 44-50
Zango, A.G. (2012).	The relevance of forensic accounting education in financial reporting	Working Paper Series, Faculty of Management and Social Sciences, Umaru Musa Yar'adu University. https://ssrn.com/abstract=2193962

THEORETICAL AND CONCEPTUAL FRAMEWORKS OF FEFA

Nature of FEFA Theory

The important developments in the field of FEFA have not crystallized to a point where they can be condensed as coherent theoretical frameworks. However, two competing theoretical frameworks have dominated discussion in extant FEFA literature. These are the Fraud Triangle[2] and the Fraud Diamond[3]. To assess the efficacy of FEFA theories, it is apropos to examine the purpose of a theory. In other words, what is a theory supposed to accomplish? A theory has a trichotomy of purposes. First, a theory provides a coherent explanation or rationale for observed practice in the phenomenon or phenomena of interest, in this case, FEFA. Thus, the theory of FEFA should explain why fraud, corruption, financial crimes, and related vices occur, or why organizations use different ways to fight them.

The second objective of a theory is to predict and understand unobserved phenomena. Unobserved phenomena, according to Watts and Zimmerman [27] "are not necessarily future phenomena: they include phenomena that have occurred but on which systematic evidence has not been collected". The third objective of a theory is to challenge and extend existing knowledge of the phenomena. For the time being, the two FEFA theoretical frameworks – fraud triangle and fraud diamond - explicitly or implicitly underlie extant studies in fraud examination and forensic accounting within bounded rationality assumptions. They are the structures that hold or support our understanding of fraud and existing research studies. The foregoing encapsulates Hopwood, et al.'s [28] postulation that a fraud theory is "an organized set of suppositions related to the classic sleuth's questions of who, what, when, where, how, and why" of fraud. We contend that in all cases, these same classic detective's questions apply to forensic accounting theory. Thus, fraud and forensic accounting theory is coextensive. Accordingly, wherever and whenever fraud theory is used, it coextends to forensic accounting.

[2]The Fraud Triangle is a model developed by Dr. Donald Cressey, a criminologist whose research, in the 1940s, focused on the circumstances that led ordinary people to violate ethical standards and commit fraudulent acts.
[3]Wolfe & Hermanson [32] propose the Fraud Diamond theory as an enhancement of the fraud triangle by introducing a fourth element, capability (to depict personal traits and abilities). Together with incentive, opportunity, and rationalization, capability plays a major role in whether fraud can actually occur. The complementarity of the four elements will help to improve both fraud prevention and detection.

Conceptual Framework

Fraud examination and forensic accounting are evolving concepts and have become a fast developing specialist field of accounting in contemporary business. The first conceptual task is to understand why some people commit fraud. What drives or pushes them to commit fraud? For example, knowing that all mammals cannot survive without oxygen (breathing) easily explains why asphyxiation leads to death. Fraud theories provide some understanding of the trajectory of FEFA – who, what, when, where, how, and why fraud is committed. As a new field of learning, research is not only at its embryonic stage, especially in Africa, but also there is as yet no consensus on their dimensions. However, the diverse concepts can compactly be summarized as: (1) application of specialized knowledge and specific skills to stumble on the evidence of economic transactions [6] [28]; (2) the practice of rigorous data collection and analysis in the areas of litigation support consulting, expert witnessing, and fraud examination [29]; (3) the integration of accounting, auditing and investigative skills [30]; and (4) the action of identifying, recording, settling, extracting, sorting, reporting, and verifying past financial data or other accounting activities for settling current or prospective legal disputes or using such past financial data for projecting future financial data to settle legal disputes [31].

Fraud examination and forensic accounting are different but related. Fraud is a derivative of the conventional assumption that economic agents are guided by considerations of self-interest to make allowance for strategic behaviour. The strategic behaviour is the self-interest seeking with intentional deception made for personal benefit or to harm another party. It has profound implications for formulating contractual relationships. Fraud examiners are anti-fraud professionals who are primarily concerned with resolving fraud allegations and assisting in fraud detection and prevention. Fraud examiners can be either accountants or non-accountants and the examinations refer only to anti-fraud matters. The involvement relations encompass a variety of tasks that connect actual or potential civil or criminal litigation. On the other hand, forensic accountants are specifically trained accountants to investigate fraud, valuation, bankruptcy, and a range of other professional services in anticipation of litigation. Both forensic accounting and fraud examination are inter-disciplinary in nature: they embrace several other disciplines and professions than accounting. As shown in Figure 1, these include law, psychology, sociology, criminology, intelligence, information systems, computer forensics, and the greater part of forensic science fields [33]. One of the involvement challenges for non-accountants is that most fraud and forensic engagements require at least some knowledge of accounting, finance, and economics because of the nature of the work (ibid.). Contextually therefore, forensic accounting or financial forensics is the nexus and application of the principles, skills and knowledge of the aforementioned disciplines in the analysis and investigation of financial data in a manner that is usable in a court of law in resolving cases of financial irregularities and various forms of occupational fraud. Put differently, it is the specialty practice field of accounting that investigates financial data and related engagements in matters involving actual or potential civil or criminal litigation. It is used in the detection and prevention of a broad range of occupational fraud and in any dispute that may be used as evidence in a law court.

Developing the Frontiers of Knowledge and Skills in FEFA

What is the idiosyncratic knowledge base that putatively distinguishes FEFA from their traditional accounting counterparts? There is little doubt that corporate organizations and the society at large have much faith in the ability of FEFA to checkmate the increasing incidence of fraud, corruption and financial crimes. There is equally no doubt that corporate organizations and regulatory agencies expect FEFA to be more proactive in preventing the growing rate of corruption, fraud, and financial crimes. Increasingly, society expects forensic accountants and fraud examiners to use their idiosyncratic skills and knowledge to repress these criminal activities, and therefore meet public opinion or expectation. This expectation is an implicit concession to bounded rationality which can be mitigated by dovetailed education and training. The education and training requires, in turn, a pedagogic process that is totally different from orthodox teaching and learning methods. An appropriate starting point is to identify the ontological and epistemological dimensions of FEFA. What are those critical skills and how can they be faithfully imparted?

Characteristics and Skills of a Forensic Accountant

Researchers, such as Cohen, Crain, & Sanders [34], Harris and Brown [35], Mesmer [36] and Ramaswamy [37], have questioned what the idiosyncratic skills and technical abilities of forensic accountants are, and/or their experience levels [38]. Being an effective accountant does not necessarily make an effective forensic accountant [39]. With the rising rate of occupational fraud and financial crimes, particularly in developing countries with weak institutions and judiciary, the involvement relations of untrained and uncertificated forensic accountants and lawyers in FEFA are bound to suffocate, and could be detrimental to, the intricate task of investigation and prevention. Anecdotal evidence - through media hype, with no concrete evidence of prosecutorial success, of Nigeria's EFCC and ICPC, - is a pointer to the organizational implications of failure in task-specific education and training. The primary mandates of the two law enforcement agencies are interrelated but are respectively, fraud and financial crimes investigation and prevention, and corruption. Also, they are largely staffed by police officers from the Nigeria Police Force, the principal law enforcement agency in Nigeria.

Wells, Kranacher & Riley [33] identify at least seven (7) knowledge and skills which the study of FEFA should encompass, namely: (i) Basic Accounting Concepts, (ii) Basic Auditing Concepts, (iii) Transaction Processing Cycles and Control Environment, (iv) Basic Finance and Economics, (v) Business Law Concepts, (vi) General Business Communications Skills and Business Ethics, and (vii) Basic Computer Skills. There is little, if any, to disagree with these knowledge frontiers. It is widely felt that education and training have an important, if not fully determinative, influence on the development of FEFA. The leading reason for this lies in the peculiar nature of FEFA education. Precisely, the education and training of forensic accountants is affected by an understanding of the elemental traits, characteristics and core skills appropriate to or necessary for the practice [39]. Davis, et al. [39], encapsulate the dynamics of these features in their sixteen (16) idiosyncratic propositions, in sequence: analytical, detail-oriented, ethical, responsive, insightful, inquisitive, intuitive, persistent, sceptical, evaluative, confident, and adaptive. In addition, s/he must have the drive to function under pressure, capacity to generate new ideas and scenarios, make people feel at ease and, above all, a team player.

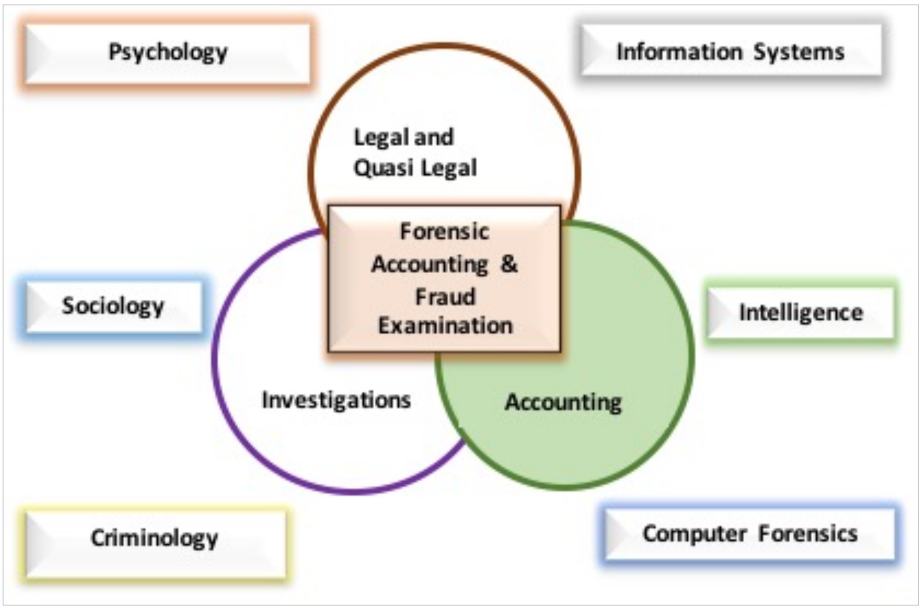

Figure 1: Requisite Skills of the African Forensic Accountant
Source: Adapted with modifications from McIntyre, et al [40].

In addition to the foregoing, other functional indivisibilities that enhance forensic accounting skills include: effective oral and written communication skills; ability to simplify information or data; critical and strategic thinking, both like the fraudster and as the solution-provider; capacity to identify key issues; auditing and investigative skills, including investigative intuitiveness; ability to synthesize results of discovery and analysis; research skills with ability to comprehend the goals of a case, tell the story, see the big picture, organize an unstructured situation; and ability to solve both structured and unstructured problems. These skills constitute the pedagogic non-separabilities that define the professional competences and integrity of the forensic accountant. These are embedded in the education and training of forensic accountants and fraud examiners to equip them with the functional competences to (i) analyse and interpret financial statements; (ii) testify in law courts in accordance with general knowledge of rules of evidence in civil and criminal procedures; (iii) adapt to relevant professional standards; (iv) provide audit evidence and internal controls; (v) engage in interviews and investigations; (vi) undertake fraud detection and prevention, asset tracking, electronic trails and content, and text analyses; and (vii) provide mechanisms for conflict negotiation and dispute resolution. These enhanced core skills both determine the effectiveness of forensic accountants and fraud examiners and distinguish their education and training from traditional accounting disciplines.

The atmosphere of fraud examination and forensic accounting is summarized by the schematics in Figures 1 and 2. The main issues are the inter-disciplinary nature of education and practice of FEFA. In Figure 1, FEFA lies at the heart or intersection of professional practice that is embedded or anchored in accounting, legal, and investigation skills. In practice, certified forensic accountants and fraud examiners are trained to possess a triad of skills - technical competency, investigative proficiency, and critical thinking – to meet labour market expectations in employment respects and justify the perceived relevance and benefits of their specialized education. The cognitive domain of the forensic accountant and fraud examiner is distinctive and draws from a dichotomy of behavioural sciences (psychology, sociology, criminology) and digital forensics (information systems, intelligence, and computer forensics) (Figure 2).

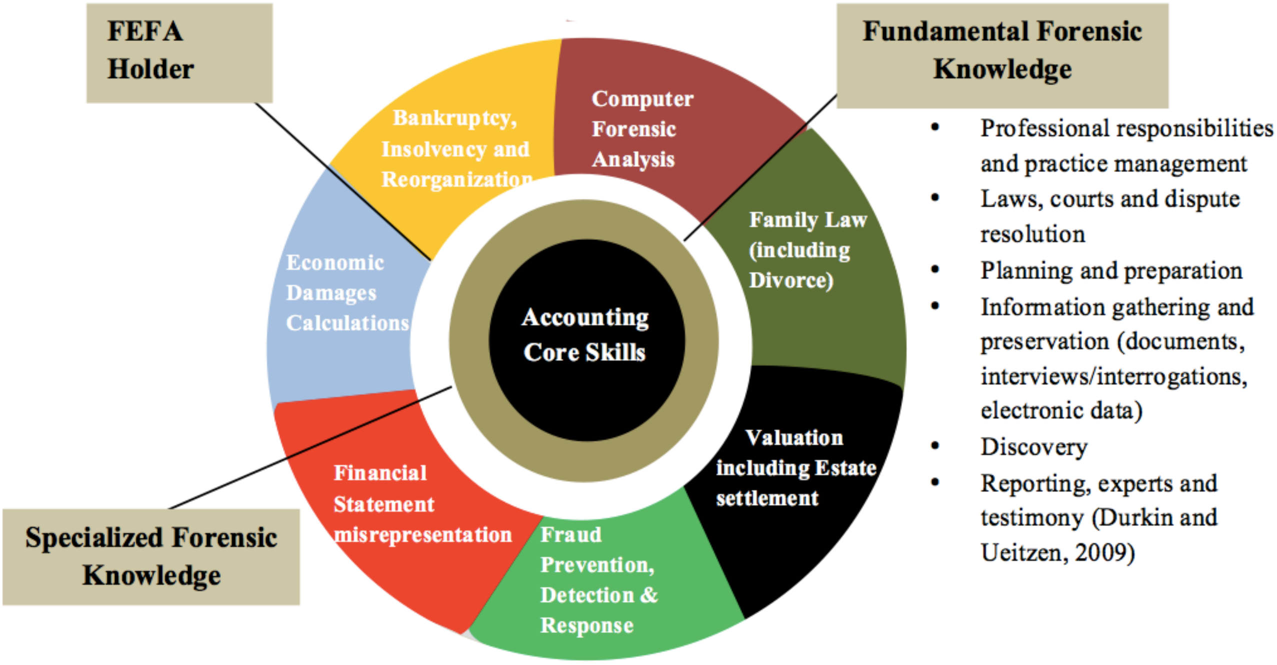

Figure 2: Focus of Fraud Examination and Forensic Accounting (FEFA)

Source: Adapted from Davies, et al [39].

The above skills-content guidance is expected to expand the choices of instructional tools and modes of delivery for the development of a successful career in forensic accounting and fraud examination. Furthermore, proper understanding of the ideal DNA of a well-trained and effective forensic accountant and fraud examiner is to provide a specialized landscape to professional associations and academic institutions to dovetail their training programmes or instructional modes to encompass all aspects of FEFA.

Relevance and Benefits of FEFA Education

Given the increased demand for FEFA education and practice, Crumbley, Rezaee and Elmore [29] present the perceived relevance and benefits of forensic accounting education and practice as follows: (1) Strengthening the credibility of financial reporting; (2) Promoting responsible corporate governance; (3) Increasing the demand for individuals possessing forensic accounting education and skills; (4) Preparing students to engage in fraud examination; (5) Making students more desirable in the marketplace; (6) Prepare students to engage in litigation support consulting; (7) Prepare students to engage in expert witnessing; and (8) Reduce the level of corporate fraud in an economy.

CONCLUDING REMARKS AND RECOMMENDATION

The argument of the preceding sections can be summarized as follows. First, a country's developmental trajectory is contoured by its political and economic leadership. Herbert [41] espouses that "if the roots of Africa's stunted development were series of poor policy decisions at both national and regional levels, the soil in which those roots were planted was an earth rotavated by corrupt leadership and bad governance". The economic consequences of corrupt leadership and bad governance are manifestly present in unbridled corruption, fraud, financial crimes and related vices. Relatedly, that corruption, fraud and financial crimes undermine democratic institutions, impede economic exchanges and development and destabilize governments and institutions, is scarcely novel. These vices weaken "the foundation of democratic institutions by distorting electoral processes, perverting the rule of law, and creating bureaucratic quagmires" [42]. These, in turn, create uncertainty which when joined with bounded rationality and opportunism give rise to exchange difficulties and socioeconomic and political backwardness.

Second, sequel to the foregoing, FEFA research matters because of its special relevance in exploring and documenting the bounded rationality dimensions (theoretical and empirical dynamics) of corruption, fraud, and financial crimes. Advantages of increasing knowledge base aside, by providing a distinct inventory of education and research, a better understanding of the idiosyncratic phenomenon of corruption in Nigeria and Africa can be synergized. The growing interest in the professional development of FEFA is evidentiary of the global concern of the prevalence of corruption and financial malpractices, especially in Sub-Saharan Africa (SSA). Third, studies looking at the features of corruption, fraud and financial crimes in developing countries are markedly different from the developed countries and from each other. This is precisely because the contexts in which organizational policies and strategies are formulated in both the public and private sectors in developing countries are fundamentally flawed by reason of bounded rationality (personal capabilities), fraud, corruption and associated vices and weak leadership and institutional structures. These endogenous factors combine with external influences to determine the limits of what the public and private sector organizations can successfully accomplish. Also, they compel a new research agenda to gravitate around (i) identifying and clarifying key characteristics of developing countries, especially those of SSA, that foster obscene corruption and abuse of office with impunity, gross indiscipline by the citizens, and obtrusive distortions of even well-crafted development agenda. In short, why do things (policies and programmes) that advance the course of humanity in developed countries not work in Africa?

Fourth, there is a muted agreement that FEFA education is relevant in Nigeria and, indeed in Africa. Efiong [25] and Zango [26] have made calls for the establishment of some form of forensic accounting education at tertiary level. Since this call was made, aside the affirmative response from the professional accounting associations, there is no other discernible evidence of positive supply response by purveyors of tertiary education in Nigeria. This further makes the case for more research attention in the subject area. Fifth, the regulatory apathy of tertiary education agencies with responsibility for programme accreditation points to the absence of a formal structure for FEFA education in Nigeria. For example, as earlier pointed out the NUC has no benchmark minimum academic standards (BMAS) for FEFA curriculum. Without the BMAS no university in Nigeria can mount an undergraduate programme in any discipline. This lacuna has gravely limited the growth of FEFA education in Nigeria. The professional bodies have not helped matters either, because of their limited knowledge and perfunctory approach to education and training.

Consequently, the study makes the following recommendations for a new development agenda. First, FEFA education cannot be conveniently subsumed under traditional accounting programmes. The leading difficulty where FEFA skills are idiosyncratic is that the education and training strategically require the incorporation of principles from a broad range of disciplines, as outlined above. The skill set and training is nearly impossible to capture under an accounting programme, thus making the current status of FEFA in Nigeria and Africa in general ineffectual. Second, the design and implementation of the development agenda can be facilitated by the joint involvement of tertiary education regulatory agencies and FEFA professionals. *Arguendo*, the introduction of degree programmes in FEFA will be a useful corrective to the current lacuna in the provision of systematic education in the discipline. It will also enhance the supply of urgently needed skilled manpower in the fight against corruption and economic and financial crimes. Third, although Nigerian affiliates of foreign professional bodies, such as the Association of Certified Fraud Examiners (ACFE) and the Institute of Certified Forensic Accountants (ICFA) have sprung up, the extent to which they are meaningfully engaged in anti-fraud investigations and litigation support cases is minimal. Studies have shown that education has a positive, albeit moderate, direct effects on corruption [43]. Above all, the tolerance of African culture to corruption can be ebbed and the beneficial effects of education on corruption enhanced with increased FDI flows and their interaction effects (ibid.).

That also explains in part the perennial lack of diligent prosecution of fraud and corruption cases by the EFCC and ICPC. There are corruption and financial crimes cases that have been unresolved, with no resolution in sight, for many years. It is instructive that some notable corruption cases whose prosecution started and stalled in the Nigerian courts have since been disposed of in the UK and the culprits have completed or are still serving their jail sentences. A major reason often cited by the Nigerian Judges for throwing out such cases is inchoate, hasty or want of diligent prosecution by law enforcement agents. Nigeria's anti-corruption agencies are quick to publicize corruption allegations in the media even before commencing diligent investigations.

Leading reasons for want of diligent investigation and prosecution are rooted in corruption and opportunistic proclivities of government officials, judges and lawyers, on the one hand and the deliberate exclusion of experts, like fraud examiners and forensic accountants on the other, in investigations and prosecutions. Furthermore, bypassing the fraud theory approach, especially in the case of complex fraud, not only makes the investigations infeasible, nebulous and uncoordinated, but also creates incomplete evidence for successful litigation. Besides, nonconformity to orthodox fraud-investigation process (that is, the fraud theory approach) is fraught with bounded rationality challenges which explain in part why many EFCC and ICPC cases are not painstakingly concluded.

In general, the above claims speak to the fundamental questions about the interaction effects of education and related research on Nigeria's (and Africa's) environment of corruption, culture and the development. The following are suggested actions: (i) measurable competence in FEFA should be made a criterion for practice in fraud and financial crimes prevention; (ii) prosecution and litigation support by FEFA experts to assist law enforcement agents with their work similar to the coroner or medical examiner; and (iii) institution of routine forensic audits and certification of organizations (both public and private) analogous to periodic financial audits of firms. Currently, forensic audit is undertaken only when there are suspicions of wrongdoing, that is, ex post. An ex ante approach should be adopted both to provide confidence in systems and to entrench a culture of transparency and accountability.

Since fraud has a unique imprint in Africa, a transactional interpretation of corrupt leadership and bad governance, in which the limitations of governments and markets in control respects are emphasized, reveals that the intolerable effects of antisocial consequences of corruption, fraud, occupational abuse and financial crimes are far greater in detail and ramifications than clearly understood and incorporated in mainstream financial and economic decisions. In this paper, we maintain that one can understand the powers and limits of fraud examination and forensic accounting only by examining each in relation to the other. Rather than focusing on corruption, fraud, financial crimes and related hazards, attention is on the implicit efficacy of forensic accounting and fraud examination. The policy ramifications mainly affect the bounded rationality properties of education, training and reorientation of societal values as a veritable tool in curbing the syndrome of corruption, fraud, and financial crimes in Nigeria and Africa in general.

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Influence Of Policy Framework On Budgeting For Science Instructional Resources In Kenyan Secondary Schools

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ABSTRACT

Instructional resources are educational inputs that aid teaching and learning process. Planning for instructional resources demands that money be set aside and budgeted for to assure their availability and adequacy. Schools financial management policy framework guides budgeting process in instructional management and the extent of involvement of science teachers.. This was a descriptive survey which targeted science teachers and principals in 6 national secondary schools, 60 county secondary schools and 66 private secondary schools in Nairobi County. Information was obtained through questionnaires and interview from a sample of 108 selected using mixture of stratified and simple random sampling techniques. Findings indicated that secondary schools in Nairobi County have a financial management policy (mean of 3.82) and that this has objectives that inform budgetary allocation for instructional resources for sciences (mean of 3.47), guide sources of funds for budgetary allocations for instructional management (Mean of 3.35), provide for standardized procedures in sourcing for science instructional resources (mean of 3.41) and has accountability provisions (Mean of 3.57). Recommendations from the study aimed at the need to institute appropriate regulatory mechanisms to enhance instructional management in terms of budgetary allocation and utilization and further research on the role science teachers in financial decision making as far as instructional management is concerned.

Key words: Budgeting Process, Policy Framework, Science Subjects, Instructional Resources, , budgeting guidelines, budgetary priorities, sources of funds and financial accountability

INTRODUCTION

Quality instruction can only be achieved when instructional resources are planned for and made available. Instructional resources are educational inputs that are of vital importance in ensuring quality of education. Hammond (2007) asserted that in order to raise the quality of education, its efficiency and productivity, proper planning for learning materials is essential. In support of this argument, Jebet and Naserian (2003) noted that effective teaching of science subjects requires adequate and appropriate instructional resources. Planning for instructional resources demands that money be set aside and budgeted for to assure their availability and adequacy. Agreeing with this Uya (2004), noted that budgeting for instructional resources is no doubt an essential part of instructional planning without which effective learning cannot take place,. An interaction between policy and practice in budgeting process assures provision and availability of science instructional resources in schools. Policy framework guides budgeting process in instructional management and the extent of involvement of stakeholders including science teachers. This interaction between policy and practice determines quality instruction in teaching and learning science subject in secondary schools. Further, Etindi (2001) noted that quality instruction in schools depends on leadership and governance of the institution, which in turn influence budgeting process. An effective budgeting process would go a long way in overseeing, directing, conducting, regulating and controlling instructional management in schools. In support of the influence of budgeting process as a factor in quality instruction, Okumbe (2007) argues that for effective teaching and learning of science to take place adequate instructional resources must be available.

Budgeting and Education as a Human Right.

Budgeting for instructional resources is an aspect of financial management. Secondary schools budgeting process is linked to effective and efficient use of resources towards realization educational goals through quality instructions. In Kenya, national educational policy framework guides provision instructional management through a number of legislations and policy paper (Chaudhury et al, 2006). Provisions of national education policy are derived from international legal instruments. At secondary school level, these provisions should act as a link to demands of education as human rights with instructional management. Nolan (2011) in an article on Economic and Social Rights, Budgets and the Convention on the Rights of the Child stressed that schools when developing financial management policy should consider national aspirations on education. One way through which national educational aspiration can be realized is through adequate budgetary allocation for science instructional resources. School financial management policy provides guideline in budgeting for instructional resources through influence on budgeting guidelines, budgetary priorities, sources of resources and financial accountability. Du Preez, Grobler, Lock and Shaba (2003) in module on Managing School Finances which is part of Effective Education Management Series asserted that secondary schools need financial policy to enable them organize and manage available funds for quality instructions.

Budgeting for Instructional Recourses and School Financial Management Policy

Bisschoff and Mestry (2003) in a publication from South Africa on school financial management suggested that for schools to fairly allocate limited resources to several and demanding need, budgeting process should be guided by a financial management policy. However, despite existence of rich literature suggesting the need to arrive at a balance budget to address competing demands, studies have not been done to ascertain if secondary schools have financial management policies. Such a policy should first take into considerations population of students, infrastructure and staffing to enable the institution to achieve its instructional goals. Secondly, it should consider quality science instruction is a pre-requisite towards realization of educational goals in all nations worldwide. Locally, Kenya government recognizes the key role played by science in building innovative human capital required for the transition to much desired knowledge driven economy (Onsomu, 2014). It is expected that financial policy framework from national level would bring uniformity in instructional management in schools in any country and specifically in Kenya if they do exist. However, caution was taken because different leadership styles. Supporting this position, Asiabaka (2008) from Nigeria confirmed that management disparities exist in provision of instructional resources and their utilization in schools across Sub-Saharan Africa, Therefore it was necessary to establish if secondary schools have financial management policies to influence budgetary allocation for science instructional resources in Nairobi County in Kenya.

Budgeting for Instructional Management and Secondary Schools Leadership Styles

Secondary schools leadership styles would resulted in disparities in instructional management, despite fact that education philosophy emphasizes the inculcations of a high quality science instructions. For this reason Asiabaka (2008) in a study on effective management of schools Nigerian government's failure to put in place a policy framework on minimum standards in budgetary allocations for science instructional resources. Studies have linked secondary schools principals' leadership styles to performance in general, but this study took a different directions by looking at its influence on science instruction through financial management policy. It was necessary to build on work done by others scholars on leadership of secondary schools and narrow down to its influence on institutional financial management. Leadership influence on school financial management will have a direct influence on budgetary allocations for science instructional resources and indirectly learning outcomes. Robinson, Lloyd and Rowe (2008) in a study on the impact of leadership on school outcomes in New Zealand through meta-analysis indicated that the average effect of instructional leadership on learning outcomes was three to four times that of transformational leadership. Learning outcomes are dependent on availability and utilization instructional resources, which in turn are influence by school budgeting process. Supporting this position Okumbe (2007) asserted that quality instructions can only be achieved when adequate instructional resources can only be availed through budgetary allocation. The influence of leadership on learning outcomes can only be traced through school financial policy which guides budgetary allocations for instructional resources. In their findings Robinson, Lloyd and Rowe (2008) didn't take consideration specific effect of budgetary allocations on learning outcomes through utilization of instructional resources.

Ideally, financial management policy framework is intended to provide school leadership with a basis for ensuring adequate instructional resources for learning science subjects. Supporting this position, Du Preez et al (2003) asserted that school financial policy is important for instructional management through determination of budgetary allocations. In several countries including those in Sub-Saharan Africa Ministries of Education provides policy guidelines on financial management for secondary schools. These are expected to streamline instructional management towards realization of national education goals. According to Motsamai, Jacobs and Corene (2011), despite the efforts of the Lesotho Ministry of Education to enhance principals' performance and the existence of guidelines financial management capacity is a concern in secondary schools. This is an indication of capacity gap in regard to implementation of the policy which can be attributed to leadership style. This study focused on financial leadership by considering existence of a policy framework and its influence on budgeting guidelines, budgetary priorities, sources of resources and accountability in secondary schools in Nairobi County, Kenya.

School Financial Management Policy and Budgeting Guidelines

Financial management policy provides for economic planning and utilization of school funds for realization of educational goals. In Nigeria, Asiabaka (2008) noted the government's failure to put in place a policy framework on minimum standards in relation to schools facilities which resulted in disparities in their acquisition. Likewise in Lesotho, Motsamai et al (2011) noted a discrepancy between the policy and school financial theory in secondary schools. In South Africa Joubert and Bray (2007) in an article on public schools governance suggested that institutional financial policy should ensures accountable and prudence in instructional management. In Kenya, Wagithunu et al (2014) acknowledged existence of guidelines on the vote heads and allocation of funds in secondary schools. Ideally, secondary schools financial management policy links transformational and instructional leadership. This linkage would be through guiding budgeting as a framework for overseeing, directing, conducting, regulating and controlling in instructional management in schools. Budgeting guidelines as noted by Ankomah (2005) are intended to provide school leadership with a basis for ensuring availability of adequate instructional resources. Therefore it was necessary to establish existence of school financial management policy in secondary school as a factor influencing budgetary allocation for instructional resources. Further, it was necessary to establish if Nairobi County secondary schools' financial policies have set objectives that inform budgetary allocations for the instructional resources for science subjects.

School Financial Management Policy and Resourcing Instructional Resources

Kenya's education is financed from various sources, depending on the types of the educational Institutions. According to Otieno and Colclough (2009), public secondary schools are mainly financed by the government out of funds voted by parliament each year and fees parents pay. Apart from paying teachers in public schools the government through FSE policy meets fees of Kshs. 10,265 per student in secondary school (Obunya, 2008). Out of Kshs. 10,265 paid by government per student Kshs: 3600 is for tuition and should cater for science instructional resources. Schools can also finance budgetary allocations for instructional resources from fees paid by parents, funds from income generating projects, contributions or donations by private sources and special grants from government (KIPPRA, 2007). The fact that secondary schools rely on different fund sources leads to variation on adequacy and availability of instructional resources. Lawrence and Orodho (2014) established that there was skewed distribution of teaching and learning resources among secondary schools in Nakuru District, Kenya. This is an indication that some schools are well equipped as far as adequacy of instructional resources and this would influence learning outcomes in sciences. It also suggest that some schools mobilize resources to supplement government funding and fees to boost instructional resources demands. In supporting this position Obunya (2008) asserted that increased enrollment in secondary schools requires more resources mobilization to supplement government funding and fees paid by parents. This study sought from science teachers if all expected resources including fees, grants and subsidies are considered in budgetary allocation for science instructional resources in Nairobi county secondary schools.

School Financial Management Policy and Standardized Budgeting Procedures

The mandate of the education sub sector in national development is derived from the Constitution of Kenya, Chapter Four Articles 43, 53, 54, 55, 56, 57, and 59 to facilitate provisions on quality education to the extent compatible with the demands of the Kenya Vision 2030. The Constitution (Republic of Kenya, 2010) sets out the overall guidelines on the management of public resources as provided by various legislations and policy documents. These constitutional provisions are translated into financial management policies to enable institutions and their staff to concentrate their scarce time on instructional priorities. School financial management policy should therefore provide standardized procedures in managing institutional resources. Standardized procedures schools are essential making informed use of most of their resources, demonstrating value for money; exercise proper controls over the significant amounts of public money delegated to them; and allocate resources effectively to meet priorities for realization of educational goals. Among educational goals are effective science instructions for good learning outcomes. However according to Oplatka (2004) principals in developing countries have unique challenges and singles out autocratic leadership style, less open, low degree of change initiation, and lack of instructional leadership functions. There was need to establish existence of standardized procedure s in secondary schools in Nairobi County, Kenya. Therefore this study sought from science teachers if management procedures for sourcing science instructional resources are standardized according to laid down practices.

School Financial Management Policy and Financial Accountability

Accountability has various activities which includes financial accounting and reporting, accounting controls, procurement controls, physical controls, performance measurement and internal audit. School financial management policy should provide a control system to guide the use of available resources optimally for effective instructional management to produce quality learning outcomes. According to Chetambve and Sakwa (2013) schools' financial management policies should not only ensure that resources adds value towards achieving learning outcomes, but also reinforce transparency from budgetary allocation to auditing. However, having accountability provisions in schools is vital a step towards achieving instructional goals and specifically quality learning outcomes in secondary schools. In South Africa, Mestry (2006) reported that teachers have differing perceptions as far as accountability measures in managing funds for the purposes of making instructional resources adequate. Locally, this positions was also held in Transparency International (2010) in an educational sector integrity report and in which it noted that teachers are rarely in the picture as far as financial accountability for effective instructional management was concerned. This is despite provisions of Public Finance Management Act 2012 (Republic of Kenya, 2012) and related legislations enacted pursuant to the provisions of Chapter 12 of the Constitution of Kenya (2010). This study sought from science teachers and secondary principals if institutional financial management policy had provisions for accountability in sourcing of instructional resources in secondary schools in Nairobi county Kenya.

STATEMENT OF THE PROBLEM

Effective teaching requires adequate and appropriate instructional resources, which can only be availed through planning (Jebet & Naserian, 2003). An essential part of instructional planning is budgeting which according to Uya (2004) has an influence on effective teaching-learning process. For secondary schools to adequate instructional resources, money need be set aside and budgeted for their acquisition. What guides setting aside funds is a school financial management policy which defines budgetary priorities, sources of resources and accountability in allocation and management of funds as far as science instruction is concerned. Much work has been done on availability, adequacy and utilization of instructional resources and their influence on learning outcome. The gap of knowledge that needs filling is on link between school financial management policy and budgetary allocations for instructional resources. There was a need to examine influence of school financial management policy as guideline for budgeting by providing a basis for availability of instructional resources; a framework for standardized procedures in sourcing and managing instructional resources; its role in outlining possible school funding sources for resourcing instructional management; and its role in providing accountability system that determines how available resources can be used for optimal learning achievements in sciences.

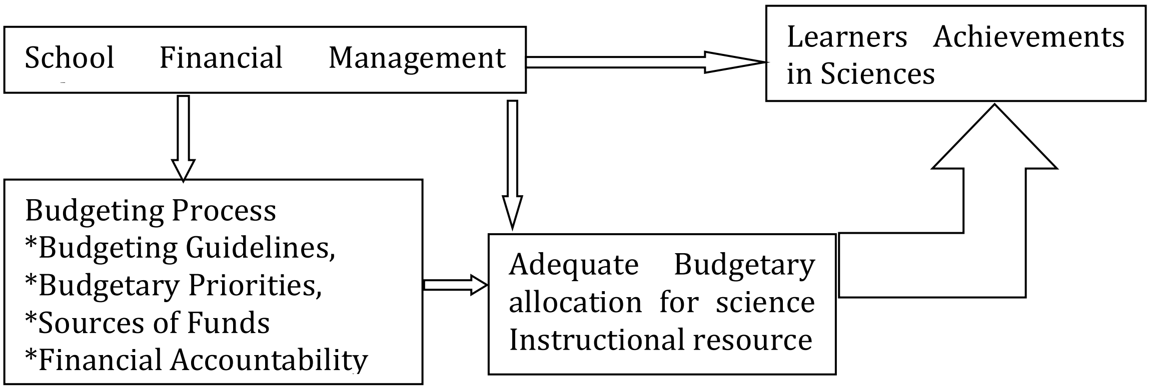
PURPOSE OF THE STUDY

The purpose of this study was to examine influence of school financial management policy on secondary schools budgeting process and its role in providing accountability system that determines how available resources can be used for optimal learning achievements in sciences.

THEORETICAL FRAMEWORK

This study employed *Education Production Function Theory* which considers schools business enterprises. In particular science instructions was considered a production line in which learners are raw materials and instructional resources as some of the inputs among others like teachers and physical facilities are needed to produce learning achievements in science subjects as outputs. As an output learning achievements in sciences according to Walter (2009) is perceived as legitimate to individual and collective good, resulting into growth at national and global arena. Learning achievement in sciences is a pillar national development. Considering instructional resources as input in science instruction Odhong' (2014) asserted that budgetary allocation should be as considered a cornerstone in economic and social development in any nation.

CONCEPTUAL FRAMEWORK



METHODOLOGY

This research was a descriptive survey which looked into the relationship between policy framework in budgeting process in respect to budgeting guidelines, budgetary priorities, sources of resources and financial accountability in planning for instructional resources for science subjects. The data thus obtained was analyzed using established descriptive statistical procedures. The study targeted science teachers and principals in 6 national secondary schools, 60 county secondary schools and 66 private secondary schools in Nairobi County that have been in existence more than 10 years offering the national 8-4-4 curriculum. Using questionnaires and interview scheduled information was obtained from a sample of 108 selected using stratified random, simple random and purposive sampling technique.

FINDINGS AND DISCUSSION

There are two categories of secondary schools in Kenya namely public and private. The public secondary schools are funded by the Government or communities and are managed by BOM and Parents Teachers Associations (PTA). The private schools, on the other hand, are established and managed by individuals, private profit making enterprises, foundations and trusts, religious bodies, non-governmental organizations, communities and cooperative societies (Republic of Kenya 2013). In this study the sample was made up of 2 national, 15 county and 16 private schools. Out of 33 sampled secondary schools data was collected from 29 and results presented in Table 1

Table 1 Schools Background Information

Variable		Frequency	Percentage
Number of Teachers	11-20	5	17.20%
	21-30	14	48.30%
	31-40	7	24.105
	More than 40	3	10.30%
Number of Streams	1-2	3	10.30%
	3-4	17	58.60%
	5-6	6	20.70%
	7-8	2	6.90%
	More than 8	1	3.40%
Type	Boys Boarding	3	10.30%
	Girls Boarding	8	27.60%
	Boys Day	3	10.30%
	Girls Day	1	3.40%
	Mixed Day	11	37.90%
	Mixed Boarding	3	10.30%
Category	National	2	6.90%
	County	15	51.72%
	Private	12	41.38%

Category

From Table 1, 2(6.70%) of the sampled secondary schools were national secondary schools, 15(51.72%) were county secondary schools and 12(41.38%) were private secondary schools. In terms of both financial leadership and instructional management the expectation as far as learning outcomes in science subject is the same in both private and public secondary schools. Secondly, as much as private secondary schools are run as profit making enterprises, section 52 of Basic Education Act No 14, 2013 demands that they establish necessary educational and governance structures including maintaining necessary instructional resources. This provision that requires the private secondary school should to budget for instructional resources and ensure they are utilized to achieve learning outcomes.

Number of Streams in Secondary Schools

According Oyier, Odundo, Ganira and Wangui (2015) number of streams per class determine complexity of financial and instructional tasks in terms of coordination. Ideally, the number of streams per class in secondary schools determine the level of challenges in financial and instructional management. In this study and as indicated in Table 4.2 secondary schools with 3 or 4 streams were 17(58.60%), those with 5 or 6 streams were 6(20.70%), those with 1 or 2 were 3(10.30%), those with 7 or 8 were 2(6.90%) while those with more than 8 streams were 1(3.40%). The fact that majority of secondary schools in Nairobi County have between 3 to 6 streams indicated that they require appropriate approach to budgeting propose to ensure adequate utilization of instructional resources.

Number of Teachers in Secondary Schools

The number of teachers in a schools plays a pivotal role in instructional management from selection of subjects, decision on necessary instructional resources to evaluation of learning outcomes. Findings in Table 4.2 indicates that secondary schools with 21-30 teachers were 14(48.30%), those with 31-40 teachers were 7(24.10%), those with 11-20 teachers were 5(17.20%) while those with more than 40 teachers were 3(10.30%). From these findings it is clear that only 17.20% (5) secondary schools in Nairobi County have less than 20 teachers. The number of teachers in secondary schools in Nairobi County necessitates decentralize management through empowering departments to enable effective participation of science teacher budgeting process. This is in line with Wadesago (2012) who recommended that participatory decision making process should involve all and that this would lead to improved learning outcomes.

Staffing in Different Categories of Schools

Effective science instructions requires adequate number of teachers in secondary schools (Student-teacher ratio). According to EFA Global Monitoring Report, due to financial constraints, it has not been possible for Kenya to meet international standard as far as student-teacher ratio is concerned (UNESCO, 2015). Analysis of data obtained on the distribution of teachers in this study was presented in Table 4.3.

Table 2: Teachers in Different School Category

Number of Teachers	11-20	21-30	31-40	More than 40	Total
National	0	0	1	1	2
County	2	9	2	2	15
Private	5	5	2	0	12
Total	**7**	**14**	**5**	**3**	**29**

From Table 2, one of the two national secondary schools had more than 40 teachers. Another 2 of the 15 county ones also had more than 40 teachers. Among county secondary schools, 2 schools had more than 31-40 teachers. Two private secondary schools had 31-40 teachers. Nine county secondary schools as well as 5 private secondary schools had 21-30 teachers. Finally in 5 private and 2 county secondary schools in Nairobi County there were 11-20 teachers. These findings are an indication that national secondary schools are better staffed while privates once are not adequately staffed. However, the number of teachers could also depend on student enrollment. Otherwise, as already mentioned the larger the staff the more advisable is it for secondary schools to have decentralized management that would encourage participation of science teachers in budgetary allocation decisions for instructional resources.

School Financial Policy Framework

In this study, science teachers were asked to indicate on a five point scale the extent to which a number of issues correctly describe budgeting process in their school on a five-likert scale, (1= strongly disagree, 2= Disagree, 3= Uncertain, 4= Agree and 5= Strongly Disagree).The descriptive statistic presented in tables in this section was interpreted using means to indicate score for budgeting process practices. A mean score of 1 or less implies total disagreement that budgeting process aspects to which it applies is not practiced at all in budgeting for instructional resources by secondary schools in Nairobi County studied. A mean score above 1 but less than 2 indicates disagreement, mean score less than 3 but more than 2 suggests uncertainty, and mean score of above 3 but less than 4 implies secondary schools studied practice the budgeting process aspect and embraces it. Finally a mean score ranging from 4 to 5 indicates that the budgeting process aspect is very prevalent among the respondent secondary schools. In this study policy framework was looked at by considering its existence and influence on budgeting guidelines, budgetary priorities, sources of resources and financial accountability. The results obtained from the responses of science teachers are presented in Table 3

Table 3: Results on School Financial Management Policy

Descriptive Statistics	N	Mean	Std. Dev
School has a financial policy informing budgeting process.	83	3.82	.466
School financial policy have set objectives that inform budgetary allocations for the instructional resources for science subjects.	83	3.47	.554
All expected resources including fees, grants and subsidies are considered in budgetary allocation for science instructional resources.	83	3.35	.502
Management procedures for sourcing science instructional resources are standardized according to laid down practices.	83	3.41	.612
Policy provided guidelines for accountability in sourcing of instructional resources exists in the school.	83	3.57	.502

Existence of Financial Management Policy in Secondary Schools

A secondary school financial management policy aims at facilitating learning outcomes in sciences by providing a framework to guide budgetary allocations for instructional resources. According to Kahavizakiriza et al (2015), financial management policy provides secondary schools leadership with a basis that guides instructional management through adequate budgetary allocations. This supportds continuous improvements in science learning through appropriate utilization instructional resources at all level in secondary schools. In this study, science teachers were asked about existence of a financial management policy informing budgeting process in their respective secondary schools. Analysis of science teachers responses according to Table 3, gave a mean of 3.82 and standard deviation is 0.466. The mean of 3.82 was an indication that according science teachers' secondary schools in Nairobi County have a financial management policy. Generally, on formulation or review of school financial management policy, science teacher noted that it is the work of the principal and the BOM. During interviews most principals indicated that their schools have financial management policy. As much as it could be true that most schools had financial management policy. This finding could be explained by a possibility of error of social desirability. This echoes Wagithunu et al (2015) assertion that there is lack of professionalism in the management of school finances and principals' attitude towards managing schools resources. Secondly. The responses from science teachers and from principals could be attributed to the fact that Kenyan schools are served with ministerial guidelines on funds management, but individual schools are at liberty to organize and manage their funds depending on the nature of their leadership. However, standard deviation of 0.466 put some doubts to the fact that secondary schools in Nairobi have financial management policy documents. A clear picture came from further analysis as presented in Table 4

Table 4. Science Teachers and Existence of FMP

	Uncertain	Agree	Strongly Agree	Total
National	0	5	1	6
County	12	25	4	41
Private	10	24	2	36
Total	22 (26.50%)	54 (65.10%)	7(8.40%)	83

Findings in Table 4 indicated that 65.10% (54) of science teachers in secondary schools in Nairobi County agreed and 8.40% (7) strongly agreed and 26.50% (22) were uncertain of their schools having a financial management policy. Uncertainty by 26.50% (22) of science teachers could be attributed to secondary schools leadership style. This confirmed assertions of

Motsamai et al (2011) and Robinson et al (2008) that variation in financial leadership approaches exists in secondary schools. This would have a significant influence on science instruction. Further these findings agreed with Lawrence and Orodho (2014) that variation in instructional management is uniquely a factor on school specific financial leadership approach. Table 4, further showed an indication of more likelihood for national schools to have financial management policy because out of 6 science teachers 5 agreed and 1 strongly agreed of its existence in their institutions. For county schools, out of 41 science teachers 12 were uncertain, 25 agreed and 4 strongly agreed that their schools had financial management policy. The trend in county secondary schools was also true in private secondary schools where 10 science teachers were uncertain, 24 agreed and 2 strongly agreed. These variations would influence utilization of instructional resources through budgeting process in secondary schools

Budgeting Guidelines

Financial management policy provides for economic planning and utilization of school funds for realization of instructional goals. Specifically, school financial management policy guides budgeting process and is a framework for overseeing, directing, conducting, regulating and controlling science instructions. The findings in Table 3 indicates that responses from 83 science teachers gave a mean of 3.47 and a standard deviation of 0.554. The mean of 3.47 was an indication that respondents agreed that secondary schools in Nairobi County had financial management policy with objectives that inform budgetary allocation for instructional resources for sciences. However, standard deviation of 0.554 was an indication that in as much as financial policy in the sampled secondary schools have objectives that inform budgetary allocation for instructional resources for science subjects, there was a reasonable deviation from the group mean score. Though the study findings indicated general agreement that schools' financial management policies provided budgeting guidelines in allocation for instructional resources, further analysis gave a different picture as presented in Table 5

Table 5: Science Teachers and Budgeting Guidelines

School category	Disagree	Uncertain	Agree	Strongly Agree	Total
National	0	1	4	1	6
County	4	19	14	4	41
Private	2	19	13	2	36
Total	6(7.20%)	39(47.00%)	31(37.30%)	7(8.40%)	83

Findings in Table 5 showed that 47% (39) of science teachers were uncertain and 7.20% (6) disagreed, slightly more than half of those who responded. This was an indication that in about a half of secondary schools in Nairobi County, financial management policy did not have objectives guiding budgetary allocation for science instructional resources. The results also showed an indication that many science teachers could not have been aware of existence of a financial management policy in their institutions. This therefore implies that science teachers in a number of secondary schools in Nairobi were not involved in financial issues in their respective institutions. These findings are in tandem with assertion by Motsamai et al (2011) that many secondary schools leadership do not involve science teachers in decisions leading to budgetary allocation decisions for instructional resources. It can therefore be argued from these findings that as much financial management policies could be influencing budgetary allocation for science instructional resources, leadership approaches in differences secondary schools is another factor. However, as suggested by Asiabaka (2008) governments need to put in place a policy framework on minimum standards for budgetary allocation to improve utilization of instructional resources. This will ensure quality science instruction, vital for national development which according to Okumbe (2007) can only be achieved when instructional resources are made available through a policy guided budgetary allocation.

Resourcing Instructional Resources

Secondary education in Kenya is financed from various sources, depending on categories of schools. According to Otieno and Colclough (2009), public secondary schools are mainly financed by the government out of funds voted by parliament each year and levies paid by parents. Alternatively there are other sources of financing secondary education include income generating projects, contributions or donations by private sources and special grants by government for specific activities. (KIPPRA, 2007). However, increased enrollment in secondary schools requires increased mobilization of resources to supplement government funding and fees paid by parents in budgeting for science instructional resources. Response of science teachers regarding expected financial resources considered in budgetary allocation for science instructional resources according to Table 3 gave a mean of 3.35 and a standard deviation of 0.502. Mean of 3.35 was an indication that all available resources are considered in budgetary allocations for instructional management in secondary schools in Nairobi County. Standard deviation of 0.502 was an indication that in a number of schools science teachers are not aware of different resources considered in budgetary allocation in instructional management. This needed further analysis of the results as presented in Table 6

Table 6: Science Teachers and Financial Resources

School category	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Total
National	0	1	3	2	0	6
County	0	2	17	19	3	41
Private	1	6	16	13	0	36
Total	1(1.20%)	9(10.80%)	36(43.40%)	34(41.00%)	3(3.60%)	83

Findings in Table 6 indicated that majority of science teacher were uncertain whether other sources of funds were considered when budgetary allocation are done for instructional resources. Specifically 43.4 % (36) of science teachers were uncertain, 41% (34) agreed, 3.60% (3) strongly agreed, 10.80% (9) disagreed and 1.20% (1) strongly disagreed. The fact that more than half of science teachers were either uncertain or disagreed was an indication of limited involvement of science teachers in financial management issues. Secondly, results in Table 4.12 showed that acknowledging the use of alternative funding sources in budgetary allocation decision for instructional resources vary among science teachers in different categories of secondary schools in Nairobi County. Results in Table 6, further indicated that science teachers in public secondary schools were more certain of alternative funding sources for instructional resources. Specifically 41 science teachers from county schools, 3 strongly agreed, 19 agreed, 17 were uncertain and 2 disagreed. Among 6 science teachers from national schools, 2 agreed, 3 were uncertain and 1 disagreed. From private secondary schools, out of 36 science teachers 13 agreed, 16 were uncertain, 6 disagreed and 1 strongly disagrees. These results suggested that in private secondary schools leadership could be less open with limited involvement of science teachers in financial issues. However, a study conducted by Obunya (2008) indicated that some schools mobilize resources to supplement government funding and fees to boost instructional resources demands than others.

Standardized Budgeting Procedures

The mandate of the education sector in national development is derived from the Constitution of Kenya (2010). Constitutional provisions are translated into financial management policies to enable institutions and their staff to concentrate their scarce time on instructional priorities. School financial management policy should therefore provide standardized procedures in managing institutional resources. According to the analysis of findings tabulated in Table. 4.9, a mean of 3.41 and a standard deviation of 0.512 was obtained. A mean of 3.41 was an indication of availability of standardized procedures in sourcing for science instructional resources though with a great deviation from the mean score. Standard deviation of 0.512 was an indications that as much as science teachers acknowledged existence of management procedures for sourcing science instructional resources are standardized according to laid down practices, there is a considerable variation in their responses. It meant that several secondary schools could not essentially demonstrate value for money and exercising proper controls in managing allocated resources towards realization of instructional goals. To interrogate this deviation further analysis was done and results presented in Table 7

Table 7: Science Teachers and Standardized Budgeting Procedures

School category	Disagree	Uncertain	Agree	Strongly Agree	Total
National	1	1	3	1	6
County	2	17	18	4	41
Private	8	15	12	1	36
Total	11(13.20%)	33 (39.80%)	33(39.80%)	6(7.20 %)	83

Findings in Table 7 indicated that out of 83 science teachers, 39.80% (33) agreed that standardized procedures existed, 7.20 % (6) strongly agreed, 39.80% (33) and 13.20% (11) disagreed. The fact that 39.80% (33) agreed and 7.20 % (6) strongly agreed was an indication that in slightly less than half of secondary schools in Nairobi County had financial management policies providing standardized procedures were available. Having standardized procedures according to Oplatka (2004) was an indication that secondary schools had rules, regulation and guidelines for planning and utilization of instructional management. Further Table 7 provided an analysis of science teachers' responses according to secondary schools categories. These findings revealed existence of standardized procedure in most public institutions as compared to their private counterparts. Specifically, 26 science teachers from public secondary schools out of 47 who responded to the questionnaires agreed compared with the 12 out 36 from private category. This variation could be explained by the findings of Okoth (2003) who asserted that some private secondary school are better managed and are comparable to public secondary schools in terms of linking financial leadership and instructional management.

Financial Accountability

Accountability activities includes financial accounting and reporting taking into consideration accounting controls, procurement controls, physical controls, performance measurement and internal audit. To enhance accountability, school financial management policy should provide a control mechanisms that would ensure optimal use of available resources for quality instructional results. Science teachers' responses on schools financial management policies provisions on guidelines for accountability in sourcing of instructional resources according to Table 3 gave a mean of 3.57 and standard deviation of 0.502. Mean of 3.57 was an indication that secondary school financial management policies in Nairobi County had accountability provisions. Meanwhile a standard deviation of 0.502 indicated a considerable variation in their responses. Further analysis through cross-tabulation was used to asses this deviation and results presented in Table 8

Table 8: Science Teachers and Financial Accountability

School category	Disagree	Uncertain	Agree	Strongly Agree	Total
National	1	2	2	1	6
County	3	17	16	5	41
Private	0	15	21	0	36
Total	4(4.80%)	34(41.00%)	39 (47.00%)	6(7.20%)	83

Findings Table 8 showed that 47.00% (39) of science teachers agreed, 7.20% (6) strongly agreed, 41.00% (34) were uncertain and 4.80% (4) disagreed on existence of accountability provisions in secondary schools in Nairobi County. These results were an indication that slightly more than half of secondary schools in Nairobi County had accountability provision in their financial management policies. However, high number of uncertainty or disagreement suggested that secondary schools could run into the possibility of misappropriation of funds in in some secondary schools in Nairobi County. Lack of accountability measure could lead to misappropriation, fraud, pilfering of cash, theft and improper control of financial records in some secondary schools (Mestry, 2006). It is essential that such secondary schools set up systems of control and accountability to effectively manage instructional process. Further, Table 8 showed that out of 36 science teachers from private secondary schools 21 agreed and 15 were uncertain on the existence of accountability provisions. From county secondary schools, 6 science teachers agreed, 5 strongly agreed, 17 were uncertain and 3 disagreed on existence of accountability provisions. From national secondary schools, 1 science teacher strongly agreed, 2 agreed, 2 were uncertain and 1 disagreed on existence of accountability provisions. This was an indication that private secondary schools were more accountable and this could significantly influence utilization of instructional resources.

CONCLUSION

Financial leadership and instructional management expectations as far as learning outcomes in science subject is the same in both private and public secondary schools. Section 52, 55 and 61 of Basic Education Act No 14 2013 demands that secondary schools establish necessary educational and governance structures including maintaining necessary instructional resources. Therefore, whichever the type of school, the need for adequate budgetary allocation have a significance on appropriate utilization of science instructional resources for better learning outcomes. The basis of quality instruction is domesticated within Constitution of Kenya (2010) articles 43.1f, 53.1b and 55a which make education a right and Vision 2030 which underscores the importance of education in ensuring relevant human and social capital for sustainable development. School financial management policy should take care of provisions of these instruments in guiding budgeting process as way toward quality science instructions. This is the first step in ensuring adequate budgetary allocation for instructional resources to be utilized in learning biology, chemistry and physics.

Financial management policy provides secondary schools leadership with a basis that guides instructional management through adequate budgetary allocations to supports continuous improvements in science learning. Findings of this study indicated secondary schools in Nairobi County have a financial management policy. However, formulation and review of the school financial management policy varies in secondary schools irrespective of their category. This is attributed to the fact that Kenyan schools are served with ministerial guidelines on funds management, but individual schools are at liberty to organize and manage their funds according to leadership. This variation in financial leadership styles not only influence certainty of secondary schools having a management policy for managing finances, but would further affect science instructions. Further it automatically influence utilization of instructional resources through budgeting process in secondary schools in Nairobi County.

Secondary school financial management policy guides budgeting process and is a framework for overseeing, directing, conducting, regulating and controlling in science instructions. Findings of this study indicated that secondary schools in Nairobi County have a financial management policy with objectives that inform budgetary allocation for instructional resources for sciences. However, there was high uncertainty among the science teachers which was attributed to extent of their involvement in budgetary allocation decisions for instructional resources. This is dependent on secondary schools financial leadership approach through it was difficult to pin-point which secondary schools category science teachers were aware of existence of budgetary objectives guiding allocations of instruction resources.

Secondary education in Kenya' is financed from various sources, which include government grants, fees paid by parents, income generating projects, contributions or donations by private sources. However, high requires increased mobilization of resources to supplement government funding and fees paid by parents in budgeting for science instructional resources. Form this study it was established that funds from all sources are considered for budgetary allocations for instructional resources. Adequate funding in secondary schools will positively influence budgetary allocation for science instructional resources and appropriately improve utilization for better learning outcomes. It was also established that use of alternative funding sources in budgetary allocation decision for instructional resources would vary among secondary schools in Nairobi County. Further there was an indication that some schools are well equipped as far as adequacy of instructional resources and this would influence learning outcomes in sciences. Study findings also revealed that science teachers in public secondary schools were more certain of alternative funding sources for instructional resources. This suggested that in private secondary schools leadership could be less open with limited involvement of science teachers in financial issues. Secondary schools principals confirmed that need for school managements to explore other alternative sources of financing budgetary allocations for science instructional resources in order to realize educational goals.

The Constitution of Kenya 2010 sets out the overall guidelines on the management of public resources as provided by various legislations and policy documents. These constitutional provisions are translated into financial management policies to enable institutions and their staff to concentrate their scarce time on instructional priorities. School financial management policy should therefore provide standardized procedures in managing institutional resources. Findings of this study was an indication that there were standardized procedures in sourcing of science instructional resources though with a great deviation from the mean score. However, analysis of results according to secondary schools categories as indicated that more science teachers in public secondary schools acknowledged existence of existence of standardized procedure in financial management than those from private ones..

Secondary school financial management policy should provide a control mechanisms that determines how to use the available resources optimally to produce quality results. These control mechanisms are tenets of Public Finance Management Act 2012 (Republic of Kenya, 2012), other Public Finance legislation enacted pursuant to the provisions of Chapter 12 of the Constitution of Kenya (2010) and the Strategy for Public Finance Management Reforms in Kenya 2013 – 2018. Findings of this study confirmed that Nairobi County secondary school financial management policies had accountability provisions. Having accountability provisions in schools is vital a step towards achieving instructional goals. However, high number of uncertainty or disagreement suggested mismanagement of funds through misappropriation, fraud, pilfering of cash, theft and improper control of financial records in some secondary schools. Further there was an indication that private secondary schools were more accountable.

RECOMMENDATIONS

The recommendations are made both in managerial and policy perspectives plus areas for further research. At managerial level, the recommendations provide guidelines to principals as both financial and instructional managers. At policy level, the recommendations are aimed at bringing to light the need to institute appropriate regulatory mechanisms meant to enhance instructional management in terms of budgetary allocation and utilization. There is need for the government through both the TSC and country directors to ensure that all secondary schools have a financial management policy which conforms to provisions of Constitution of Kenya (2010), Public Procurement and Disposal Act 2005, Basic Education Act 2012, Public Finance Management Act 2012 and other related legal instruments to guide budgetary allocation for instructional resources. Finally, this study recommended that further research should be done on the role science teachers in financial decision making as far as instructional management is concerned. .

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Economic Aspects of Diversification of Farm Sector: A study of India

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ABSTRACT
The primary objective of this paper is to analyze the economic aspects of the landless, marginal and small farmers to surmise solutions on how they can able to supplement their income. To investigate this topic we refer to the world's population and how it was doubled during the beginning of the twentieth century. For instant, in 1950 the population was 2.5 billion and now, in the year of 2016, it stands at 7.4 billion. By 2050 world population is projected to grow up to, approximately, 9 or 10 billion. Most of the growth is expected to occur in rural areas in developing countries, where the income elasticity demand for food remains high (Agricultural statics at a glance, Govt. of India, 2003). One of the top most populated and developing country is India where over two third of the population consist of farmers and their families. The food insecurity and malnutrition among children, women and men are due to the lack of purchasing power.
"

Key Words: Diversification, Economic aspects, Marginal size, Elasticity, Purchasing power

OBJECTIVE

Farmers' families in India constitute over two third of the population. The rural population in India, itself, is a class quite different from the urban population. The challenges in the case of small land holding or landless agricultural labor are enhancing the economic value of their time and labor bringing about a paradigm shift from unskilled to skilled workers. Nearly a third of the rural population and a large proportion of women earn their livelihood through wage employment. A massive effort in the area of knowledge and skill empowerment of the women and men constituting the landless labor work force is essential if economic value is to be added to the time and labor. After the mid 1990's Indian agriculture has moved fast towards a diversified high value crops such as fruits and vegetables, livestock and fisheries etc. The increased production of high value crops also resulted in increased agricultural exports, thereby increasing revenue and employment opportunities (The Hindustan Survey of Indian Agriculture, pp-17, 2005). Their skills will have mobilized to enhance the competitiveness of agriculture value-addition to primary products and diversification of livelihood-opportunities. In Uttarakhand and Uttar Pradesh states about 70% of land holdings are less than 100 acres in size and cover about 27% of the total cultivated area of 51%. Also, just over 3% of land holding are above 4 hectares in size and marginal holdings (Table-1), scale of economics cannot be availed of and so the input cost per unit of output is higher. Therefore, it becomes all the more difficult task to make agriculture a profitable occupation.

Table 1: Size of land holding

S.N.	Size in sq-hectare (1 hectare=100 acre, Sq. feet) 43560	Total land hold in agriculture	Percentage	Total area	Percentage
1	1.0 and less	672723	71.7	233767	26.6
2	1.0-2.0	152701	16.3	213899	24.3
3	2.0-4.0	81402	8.7	229992	26.1
4	4.0-10.0	28813	3.1	158624	18.0
5	10.0 Above	1840	0.2	158624	5.0
6	Total	937479	100.0	880132	100.0

Sources- Government of Uttar-Pradesh

Since the beginning of our research activities we have put maximum stress on the research, extension and production of major food grains like wheat and rice. However, it was the necessity of those days because India was short of food grains to feed its people. The extensive research work produced high yield varieties thereby increasing the total production. To encourage farmers the government introduced Minimum Support Price (MSP) on major food grains. However, this has resulted in a huge buffer stock. The storage, requiring huge manpower and space, has made our food grains costlier than those in the international market. To make Indian economy to shine, and to increase the farmers' income it is necessary to divert the farming from wheat and rice to the products like vegetables, flowers, dairy farming, fishery, poultry farming, Seri culturing and apiculturing.

International Scenario

The world scenario in recent times has been changing to liberalization through economic reforms and also due to globalization on account of the creation of WTO. Market economy is now going to play a large role in various economic activities including agriculture. WTO has come up with a number of agreements envisaging commitment on the part of the government to limit access for foreign agriculture products. In this scenario the evergreen or sustainable advanced job opportunities, can be attained only by a quantum jump in productivity per unit of land, water, energy and even per capita income. Reorientation of cropping system mode of farming system to multi-enterprise agriculture (crops, trees, and livestock including fisheries) focused on international synergies by multiple uses of inputs and recycling is expected to expand the livelihood and year round employment.

A Profile of the Study Area

A survey of the existing literature on economic aspects of diversification of farm sector in some part of Uttaranchal (India) like Haridwar, Dehradun and Udham Singh Nagar have been studied. The districts of Uttar Pradesh (India) like Ghazipur and Varanasi have also been taken in to account. Studies indicate that very little information is currently available on this important issue. The scope for studies in different sub zones within the region with a view to understand the economic aspects of diversification of farm sector has been considered.

Diversification of agricultural crops into high-value of horticulture crops hold considerable promise for the hill region. The impact of such diversification on natural resources is equally important because this region is ecologically fragile. It is recognized that the hill areas have a comparative advantage in horticulture and agro-processing which is favorable in increasing income levels besides being environment friendly. The establishment of small industries based on horticultural crops, forest wealth, tea gardening, herbal and medicinal plants, dairy, fishery in this region will open opportunities of employment for people and increase the income levels.

METHODS

This paper is based on true empirical work and the methodology used in this research is primary data. Data has been collected through pre-tested questionnaires from Uttrakhand, Uttar Pradesh, India. These questionnaires have been given in Appendix A. On the basis of data collected in above areas, data analyses including descriptive statistics were performed.

The Role of Integrated Farming

Dairy Industries

India with 87 million breedable bovine population has now reached the top position, whereas U.S.A. with a meager 10.2 million breedable bovine population is second in the world milk production (Indian Journal of Extension Education Vol. 39 No. 1&2, 2003). Animal husbandry and dairying is estimated to account for 26% of the total value of agricultural output. About 70,000 dairy cooperative societies involving about nine million farmers have been organized (The Hindustan Survey of Indian Agricultural, pp.39, 1996). Dairy industry of India has witnessed considerable transformation since the inception of Operation Flood programed launched in 1970 by National Dairy Development Board. It is important to note that as a result of concerted efforts towards total dairy development, India today ranks as the largest milk producer and the value of output through dairying in India is the largest as compared to any other agricultural commodity (Pranob Mukherjee, 1995). Over the last two decades, our milk production has nearly tripled and it has now become our largest single agricultural commodity with dairy industry's turnover estimated at more than Rs. 52,000 crores (Banerjee, 1995). India owns one of the largest livestock population in the world. Animal science through various programs of livestock production dairy, wool, hide and others has the potential to grow at a growth rate of 7 to 8%. A very significant aspect of dairy is its potential to provide rural employment (Evenson, et al 1999). Animal husbandry and dairying is estimated to account for 26% of the total value of Agricultural output. Compared to crop, animal husbandry registered a higher average long term growth of employment as per the estimates of "The National Sample Survey Organization". Landless, marginal and small farmers were able to supplement their income in the sector. In integrated sustainable agriculture, it is necessary to generate income through dairy, fishery, poultry and sericulture etc.

Table 2: Agriculture Economic Value

Name	Area in acre (reduced to 1 acre, 1 acre=43545.72 Sq feet)	Economic Values in Rs. of one crop (after cost deduction)
Satish Kumar Sharma	1 acre	35400.00
Gajendra Singh	1 acre	34150.00
Jugapal Singh	1 acre	35400.00
Rajbahadur Saini	1 acre	27700.00
Arvind Kumar	1 acre	35150.00
Rajnish Chauhan	1 acre	35400.00
Average	1 acre	33866.67

Based on table 2 a farmer annually average income is Rs. 33866.67 with standard deviation of Rs. 3059.68 per year if farmer is not using good technology, growing high value vegetation, integrated faming etc.

Milk Procurement and Sales:

The milk procurement in Uttaranchal stood at 96,930 liters/day (25,606.197 gallons/day) during May 2004. Maximum procurement was registered in Udham Singh Nagar at 45,139 liters/day (11,924.46 gallons/day), (monthly review of Uttarakhand Economy, June 2004, pp 28). For the purpose of the study of economic aspects of dairying the data has been collected from some part of eastern U.P. and Uttarakhand. Data has been collected from six (6) subjects from Uttar Pradesh and Uttarakhand states.

Data Analysis

Table 3: Revenue Computation

Area under consideration	1 acre (43545.72 sq. feet)
Space required for one cattle	120 sq. feet
Number of cattle per acre	362
Expenditure per cattle per day	Rs. 100.00
Total expenditure for 362 cattle per day	Rs. 36,200.00
Average milk production per cattle	6 litres
Cost of one liter of milk	Rs. 20.00
Cost of one liter of milk per cattle	Rs. 120.00
Cost of one litter of milk of 362 cattle per acre	Rs. 43,440.00
Net profit per cattle per day	Rs. 20.00
Total profit for 362 cattle per day	Rs. 7,240.00
Total profit for 362 cattle per month	Rs. 217,200.00

Table 3 shows the revenue generated from 362 cattle per acre of land. Miscellaneous expenditure includes the loan taken on the cattle. On average a farmer has to pay Rs. 500.00 per month as instalment towards the loan he has taken on the cattle. The total average loan he has taken for buying 362 cattle is Rs. 181000.00. Average cost per cattle is Rs. 20,000, so loan will take about three years' time to recover so after the payment of loan the savings will remain Rs. 36200.00/month. After the loan has been re-paid the profit will become Rs. 217200.

Cattle gives calf which will be matured in three years. The dung can be used in the place of in-organic fertilizer. Currently 10000 MT of bio-fertilizers are being used in the country. Above 1000 million tons of animal dung is produced in. India annually yields about 500 million tons farm manure which is excellent resources of plant nutrient. An application of 10 tons well rotten FYM/ha can add 50-60 kg K_2O, 300 million tons crop residues, 285 million tons rural compost, 14 million tons city refuse, 28 million tons Biogas slurry available in the country may be utilized widely as plant nutrient. All these sources contain, on average, 0.5-2.0% Nitrogen (N), 0.2%-1.0% P_2O_5,---0.5-1.5% K_2O (Yojana November, pp 29, 2003)

CONCLUSION

Dairying is an economic activity with cash flows to the households, in contrast to the income due to crops, which comes only at the end of season. Income from dairying contributes nearly a third of the rural household gross income from (The Hindu Survey of India Agriculture, 2004). Animal husbandry and dairying is estimated to account for 26% of the total value of agricultural output. As compared to crop, husbandry registered a higher average long term growth of employment as per the estimates of the National Sample Survey Organization. Landless, marginal and small farmers were able to supplement their income in this sector.

Fisheries

Fisheries sector play a significant role in the food and nutritional security, employment generation and export trade and thus contributes remarkably to the Gross Domestic Product (GDP). The average productivity of tanks and ponds has been estimated at 400-700 tons/acre/year. Fisheries sector play a significant role in the food and nutritional security, employment generation and export trade and thus contributes 1.5 % of total GDP "between" 2004-07. India is the fourth largest producer of the fish globally in the total fish production and stands in inland fish production after China. The share of inland fisheries sector is at 50.8% of the total fish production in 2002-03. Fresh water aquaculture technology provides for a wide array of culture systems with production levels of 300-400 tons/acre/year in integrated farming systems to 1000-1500 tons/acre/year in pond culture to 10000-13000 tons/acre/year flow through and cage culture systems (The Hindu Survey of Indian Agriculture, 1997). A fish productivity level of 155 kg per fishing day valued at Rs. 1,794 per day. Data has been collected from six (6) subjects from Uttar Pradesh and Uttarakhand states.

Table 4: Data on fish farming

Subject	Area in acre (reduced to 1 acre)	Productivity in Kg/day (acre)	Economic Values in Rs/day
1	1 acre	160 Kg	3200.00
2	1 acre	130 Kg	2600.00
3	1 acre	120 Kg	2400.00
4	1 acre	155 Kg	3100.00
5	1 acre	140 Kg	2800.00
6	1 acre	155 Kg	3100.00
Average		143.33	2866.67
Standard deviation		6.54	130.81

CONCLUSION

Farm fish production of 400-700 tons/acre/year can be obtained without the use of any supplementary feed and fertilizer. Table 4 shows that the average fish productivity is 143.33 kg/day with standard deviation of 6.54 kg/day from 1 acre land. The average cost of 1 acre fish productivity is Rs. =2866.67 and the standard deviation is 130.81. Total harvesting time is approximately 10 months. Therefore, total harvesting period will become 300 days. One day harvesting value is equal to Rs. 860001.00. Total Expenditure is equal to Rs 80000.00 for 10 months which included weed control, Eradication of unwanted fish, Lime application, fertilization application, stocking. Therefore the net profit from fishery is Rs. 780000.00 per year

Mushroom

Mushroom have always attracted man's attention mainly due to their varied color, shape and appearance. In India the white button mushroom (Agaricus biisporus) is the main commercial mushroom followed by dhingri (Pleuroutus Sajor Caju) and paddy straw mushroom (Volvariella volvacca) cultivated in selected pockets. Mushroom contains 23-30% proteins. Mushrooms have been identified as efficient means for conversion of worthless agro wastes into valuable protein. Common substrates used for mushroom production are wheat straw, paddy straw, sugarcane bags and chicken manure but other wastes such as cotton stalks and waste, cordust, stalks and leaves of pulses and oil seeds can also be used. Abundance of a variety of agro-wastes at low prices in various parts of the country is another big strength. Mushrooms are cultivated indoors and do not require arable land. Small farmers and less workers constitute a major fraction of the population and mushroom cultivation suit their economic and social security. Mushrooms grow in a controlled environment through the year. It will be interesting to know that six developed countries alone consume more than 85% of the global production and represent the most important mushroom markets (The Hindu Survey of India Agriculture-1996).

Poultry

India's share in the world egg trade is estimated at 1500 tons (I ton=907.185Kg=1360777.5 Kg) worth Rs. 81.74 millions. Contribution of Animal husbandry to national GDP is 9% (The Hindu Survey of Indian Agriculture pp.6-7, 2004). Export projection for poultry and its products in year 1999-2000 was 4682 million rupees in which poultry egg of poultry was 425 million Rs. poultry meat was 1991 million Rs. and live poultry was Rs. 16 million. Data has been collected from six (6) subjects from Uttar Pradesh and Uttarakhand states

DATA ANALYSIS

Data has been collected through pre-tested questionnaires. It has been collected from some part of Uttaranchal and from Eastern U.P (Varanasi and Gajipur). Average profit from poultry farming is Rs. 870880.00. One Broyler seeds cost is Rs. 11.00 and apace for one chick is 2 square feet and one acre land is equally 43545.72 sq. feet. So total hen in one acre is 21772. Feed for one hen in 28 days 2.50 kg, 1 kg feed cost is Rs. 11.00 so total cost of 2.1/2 kg feed is 27.50, vaccine cost is Rs. 2.00 and other expenditure is Rs. 10.00. Total expenditure on 1 hen is Rs. 60.00. Cost of 1 kg chicken is Rs. 90.00 and net profit from one chick is Rs. 30.00 within one month. In 21772 hens have 10000 she hens which lays eggs in which approximately 500 die from some time environment, eases etc. 11272 hen used for meat which cost is Rs. 338160.00.

Fish-Poultry Farming

Poultry wastes in aquaculture are normally used as a supplement to conventional feed. 25-30% of poultry by product can be used in the supplementary feed for fish. It is observed that for an integrated system of fish-poultry farming, about 500-600 birds are required to fertilize 1 ha. Pond to produce 4-5 tons fish/ha/yr. It is estimated that 17.20 kg of manure are produced daily per 1000 kg broiler live weight. Composting of chicken manure showed 3% N, 2% P and 2% K in the composition and one adult chicken produces 25 kg of compost manure in one year (Yojana November 2001).

Apiculture

In integrated sustainable agriculture, it is necessary in generate income through various activities of which beekeeping is one. Apiculture is actually a low investment activity and does not compete for inputs with other segments. It increases productivity by aiding in the process of pollination. Table 5 shows the production of honey is increasing continuously in year 1953-54, 1200.00 kg, in 63-64 it is 712705.01 kg, in 73-74 it is 30620.1, in 84-85 it is 54394440, in 90-91 it was 9283750.00 and in 93-94 was 5525700. Average production of one beekeeper is 3 kg honey. 1 kg honey costs Rs. 120.00. Therefore, the market cost of 37 kg honey is Rs. 4528.65 per month. In this way land less people can earn respectable income.

Table 5: The Hindu Survey of Indian Agricultural

Year	No. of beekeepers	No. of colonies	Honey total (tons)	Production average (Kg/colony)
1953-54	234	800	1.28	1.50
1963-64	57198	164597	7.13	4.33
1973-74	150421	522714	2435	4.65
1984-85	200000	868000	5500	6.33
1990-91	246000	1061000	9288	8.75
1993-94	236000	678000	5529	8.15
2005-06	250,000	17503820	11425.47	15.32

Sources: The Hindu Survey of Indian Agricultural 2006, KVIC-2005-06

EXPECTED RESULTS/ CONCLUSION/ CONTRIBUTION

Environmental and financial motives were found to be the primary motives behind the farmers' diversification of farm sector; dairying, fisheries, silk industries, mushroom culturing, poultry, fish-poultry farming, and apiculture. Diversification of agricultural crops into high-value of horticulture crops, secondary and tertiary sectors of the economy. Animal husbandry and dairying is estimated to account for 26% of the total value of Agricultural output. Compared to crop, animal husbandry registered a higher average long term growth of employment as per the estimates of "The National Sample Survey Organization". Landless, marginal and small farmers were able to supplement their income in this sector. In integrated sustainable agriculture it is necessary to generate income through dairy, fishery, poultry and sericulture etc.

Table 6: Summary of annual economic value by integrated farming

S.N.	Size of Land	Integrating Farming	Annually Economic Value in Rs.
1.	1 acre	Agriculture	71066.00 (35533.00 per crop x2)
2.	1 acre	Dairy	217200.00
3.	1 acre	Poultry	338160.00
4.	1 acre	Fishery	780000.00
5.	1 acre	Apiculture	30000.00

India's food management system has undergone tremendous changes since the green revolution during late 1960s. On the other hand about 26% population is reported to be below poverty line and is undernourished. The rising domestic price of rice and wheat has made these commodities costlier at international level. On the other hand the production of all seeds, pluses, meet items etc. is for less than over demand. Therefore, farmers need to divert their attention to the production of non-cereal crops as cash ready commodity.

Education has been found to be the strongest contributing factor for a farmer to adopt integrating farming. Therefore, more number of educated conventional farmers may be made aware of the benefits of diversification. The integrated farming systems where milk, fish, poultry, silk, honey and mushrooms are produced in combination so that the byproduct of one is used as feed are fertilizer for the other. This kind of farming will help the farmers to increase their income. Further, environmental and financial motives were found to be the primary motives behind the farmers' conversion to integrated farming. In addition to the net profit advantage of integrated, other hidden environmental benefits of it should also be brought to the notice of conventional farmers. Fish production can be obtained 4-7 tons/ha/yr without the use of any supplementary feed and fertilizer. The average fish productivity is 143.33 kg/day from 1 acre. The average cost of 1 acre fish productivity is Rs. 2866. Total harvesting time is approx. 10 months. Therefore total harvesting period will become 300 days in year. One day harvesting value is equal to Rs. 2866.67 so 10 month 780000.00.Dairying is an economic activity, in which cash flows to the households, in contrast to the income due to crops, which comes only at the end of season. Income from dairying contributes nearly a third of the rural household gross income (The Hindu Survey of Indian Agriculture, 2004). Compared to crop husbandry, animal husbandry registered a higher long term growth of employment as per the estimates of the National Sample Survey Organization.

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GENERAL QUESTIONNAIRES

1. Name:
2. Father' Name:
3. Address:
4. Age:
5. Sex: Male- Female-
6. Main Occupation:
7. Supplementary Occupation:
8. Land size: Small Marginal Big
9. Use of land:

Agriculture
Poultry
Fishery
Dairy
Others

10. Occupation wise:
    1. Agriculture:
    a. Crops Types:
    b. Farming Methods: Organic Inorganic
11. If organic:
    a. Total input b. Total output c. Profit
12. If Inorganic methods:
    a. Total input b. Total output c. Profit
13. Others:
    a. Total input b. Total output c. Profit

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Does Green Marketing Will Be Impact to The Purchase Decision? A Theoretical Perspective

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ABSTRACT

At present, the green marketing concept has been developed. Some perspectives from this concept has been studied and used by researchers to do that work. The results of the study causes various approaches can be used of this concept. Some previous study resulted that green marketing will encourage someone to take purchasing decisions. This article aims to exploration the green marketing concept through behavioral approach, particularly in the process of purchase decision-making. The development of the green marketing concept and some of the purchase decision has been made also be discussed.

Keyword; Green Marketing, behavioral approach, Purchase decision

INTRODUCTION

Since the last few years, the issue of the environment has been widely adopted by the society, either from a practitioners as well as academics. Some societies consider that the environment will affect their activity (Polonsky, 1994) and they believe that a healthy environment will affect the next generation (Saxena and Khandelwal, 2008; Yazdanifard and Mercy, 2011). Studies conducted by the Yakup and Sevil (2011) explore that while the environment is not well managed, it will affect the ecosystem and, thus it will have an impact on the level of human growth, global warming and will ultimately affect to the life quality of human beings.

Based on that thought, public awareness about importance of environment has increased. The effect is behavior patterns and public perspective shift on company in running business activities occurs, particularly in creating demand (Kinoti, 2011; Arslan and Gögce, 2013). The behavior pattern and public perspective shift that demand company to pay more attention on environmental factor in running its business will have consequence in gaining profit (Boztepe, 2012). In his study (Boztepe, 2012) stated that social problem occurred will create customer new perspective, hence potentially to erode the received income and profit. In addressing this phenomenon shift, company need to pay more attention on business practices with more concern on environment preservation without expense of eroding customer demand.

However, construct stating that behavior pattern change and public perspective about importance of environment for living sustainability doesn't mean that company will experience decreased demand hence affecting income and profit. Some researchers even considered that these changes will provide benefit on demand creating. For Example, Kalafatis, *et al* (1999) stated that marketers view phenomenon in marketing environment as business opportunity in company effort to develop and implement it long term plan proactively on company environmental strategy. In line with the notion, Preston (2001); Kotler. *et al* (2005) revealed that in facing environment phenomenon, company has to develop a business activity system that put an emphasis on how to maintain environmental sustainability. In simpler way, it can be stated that public behavior pattern change in addressing environment issue is relied on the extent of company ability to synergize the change into a policy strategy. Facing the issue, some researchers recommend to include environment factor as main focus in running business activity. Concept to be offered in order to make the business activity can be side by side with environmental sustainability is by implementing Green Marketing.

Green Marketing is a concept that has been developed by practitioners and academics, particularly in marketing field. Actually this concept has been developed in 1990s where practitioners and academics had desire to work a revolution in marketing Field (Peattie and Crane, 2005). Green Marketing is a concept that put more emphasis on environment aspect in business activity implementation. In line with Peattie and crane (2005) suggestion, implementation technique of Green Marketing concept is more directed toward marketing communication activity (Oyewole, 2001; pp. 239). However, other researchers related Green Marketing to product (Johri da and Sahasakmontri, 1998; Mourad and Ahmed, 2012) and company strategy (Bansal and Roth 2000; Camino, 2007; MOini *et al* 2014). Regardless perspectives used by these researchers in exploring Green Marketing concept, final result to be obtained is company ability in creating corporate sustainability.

Corporate sustainability concept could be attained when company was able to create some business development form and the creation is determined by observation result and would be more powerful if performed through business media (Caroll and Shabana, 2010; Eweje, 2011; Haywood; *et al* 2013). Company inability [in maintaining sustainability will have implication on lowering profit level (Santiago, 2013). Therefore, in order to attain corporate sustainability, company should be able to create an important market role in long term and successful research, understand and teach consumer to develop a product brand, and service that support environmentally friendly concept that is accepted by public (Peattie and Crane, 2005, p.36).

This article tries to explain role of Green Marketing in encouraging purchase decision by buyer. Purchase decision is one of customer behavior and we argue that the behavior is not static. Kirkpatrick (1982, p 2) states that all human actions will be driven by internal factors of which they will determine goal to be attained independently. When there is customer mindset that environment is very important factor in influencing human life, they will change their behavior pattern. Therefore, goal to be attained from this mindset is to explain purchase decision from Green Marketing concept implemented by company.

Marketing and Environment

Marketing is a dynamic concept. Since being introduced some decade ago, marketing concept has experienced fast development. Early study on marketing concept has been expressed by Lyon (1927); Griffin *et al* (1928) by stressing on production concept. He notion explains that economy increase can be done by two approaches, production and consumption. In addition to economy approach, marketing concept can be viewed from sociology or psychology approach (Bogard 1957). Regardless the approach to be used whether economy, sociology, or psychology, we conclude that marketing concept development is always directed toward behavior change shown by public (Jeuck, 1953; Sheth, 1967; Calantone, *et al*., 1996; Wilson, *et al*., 2001).

In behavioral theory, Kitson (in Bogart 1957, p 134) stated that individual cognitive system plays important role in creating an idea. Furthermore, the idea will push someone to show a specific behavior, the stronger ide resulted by individual the stronger drive for individual to show a behavior. Study conducted by Demirdjian, 1983 strengthened the argumentation. In his study he explained that human cognitive system will help in exploring stimulus he/she received both in form of comparative and non-comparative response. For example in purchase decision making context, idea owned by an individual to own a good will drive an increase of behavior to own that good. They will try to seek information until purchase decision taken only to realize that idea. The explanation depict that behavior will justify value contained in a good and aimed to redefine resulted idea, whereas the idea will become guarantee of the behavior individual shows (Kirkpatrick, 1982).

Some researchers argue that individual behavior change is caused by environment dynamic (Alderson 1952; Biggadike, 1981; Straughan and Roberts, 1999). Psychologically, dynamic environment will cause individual to seek information about environment by using his cognitive skill (Anderson, *et al* 1966, pp. 62). In other words, individual rationality will open chance for those to provide opportunity to solve problem raised by environmental change (Alderson 1952). The explanation indicates that there are interrelated conditions between marketing concept implementation and environment in changing individual behavior. From Alderson (1952); Biggadike (1981); Kotler (2002) suggestions, it is argued that marketing concept implementation involve environment factor and it plays important role in determining strategy choice for customer.

However, company awareness in running marketing activity simultaneously with keeping environment preservation is not fully done. Some empirical studies found factors that underlie some company marketing activities tend to less preserve environmental sustainability are due to less public awareness about environmental preservation and companies assumption that to solve environmental problem other parties must be involved such as the public, private sector and government agencies, (Johri and Sahasakmontri, 1998; Mourad and Ahmed, 2012) and too high social cost (Oyewole, 2001). The study support Boulding and Staelin (1990) argument stating that firms with high market shares derive no extra market power benefits except if they operate in environments with little buyer power (pp. 1160). Furthermore it is explained that environmental factors and changes in market share most strongly influence price and cost. In overall, responsibility fulfillment on environments is considered as very difficult step to take by company (Beard and Hartmann, 1997). However, we agree that company awareness in preserving environmental sustainability will affect individual behavior change and in long term it will be able to improve profitability. What should company do to make balance between marketing activity and preserving environmental sustainability?

Study conducted by Shrivastava (1995) revealed that global economy increase is more directed toward ecology sustainability hence company needs to manage business based on ecological principles. In this condition, they need to provide information access about product manufactured, the production system, and how they are able to run their management practice. Furthermore it is explained that when company run business activity based on ecology principles then it will affect competition position change in form of consumer preference, government regulation and business opportunity. Other study result found that ecology management will affect decision making process improvement (Boztepe, 2012) and has effect on marketing performance (Camino, 2007; Akehurst, *et al*., 2012). As previous explanation, decision making is very influenced by cognitive ability and furthermore will form specific behavior pattern. The implication, as part of marketing concept implementation, is that improving cognitive skill and forming public behavior pattern has to be done through preserving environment.

Green Marketing Concept

As explained before, Green Marketing is further development of marketing concept. Philosophically, there is fundamental difference between Green Marketing concept and Marketing. When marketing is regarded as a process that will be used to respond need and desire of customer, then green marketing is not only focusing on effort to meet customer need (Kinoti, 2011; Arseculeratne and Yazdanifard, 2014; pp. 131), but also has to develop or preserve environmental sustainability Choudhary and Gokarn, 2013). In simple way, implementation of green marketing concept has two main purposes: reaching high profitability and always preserving and maintaining environmental sustainability. It can have implication that preservation and environment maintenance can be base for company in setting a strategy. As part of strategy, green marketing should aim to reach competitive advantage. The competitive advantage is translated into company ability in providing add value compared with competitor and the important thing is performing activity that is difficult to imitate by competitor (Chen and Lin 2011; Arseculeratne and Yazdanifard, 2014). It indicates that company must be able to make difference when setting marketing activity. By providing difference about greener product, greener price, greener promotion and greener location, they had practiced green marketing concept. In other words, implementations of green product, green price, green promotion and green place must be formulated if company wants to implement green marketing concept.

The term of green marketing has been described in different ways. For this long, some author put emphasis on marketing environment and ecology concerning with green marketing. For example, Herbig, *et al* (1993) explains green marketing concept as to products and packages that have one or more of the following characteristics; they are less toxic; are more durable; contain reusable materials and/or are made of recyclable materials. Beard and Hartmann (1997) when speaking about green marketing emphasize on company ability to produce friendly environment product, a product with recycling, repair, reusability and reduction characteristic. Some arguments above showed that green marketing is a process from marketing activity based on social environment factor. Meaning of process in green marketing is company ability in bridging customer need and desire and the goal to be attained. Also the process should be done in holistic ways in order to reach profitability and sustainability (Peatie, 1995) and should integrate change in creating value for costumer, social and nature (Polonsky, 2011).

In its development, green marketing concept has experienced an evolution. This evolution occurs due to organization failure in showing social responsibility, particularly from business activity already done. In general, evolution from green marketing concept has been explained by (Peattie, 2001), where there are three phase in its development process including: (1) Ecological, green marketing and during this period all marketing activities were concerned to address environment problems and provide remedies for environmental problems. (2) Environmental, green marketing and the focus shifted on clean technology that involved designing of innovative new products, which take care of pollution and waste issues. (3) Sustainable.

Table 1
Thought History of Green Marketing Concept

Authors	Focus	Variable
Shrivastava (1995)	Technology, business sustainability	
Pride and Ferrell (1993)	Environment marketing, Sustainable marketing	Green design, green pricing, green promotion, green distribution
Polonsky (1994)	Environment marketing, ecological marketing, Sustainable marketing	green marketing, Environmental marketing and ecological marketing
Beard and Hartmann (1997)	environmentally friendly products.	Green product, green design, green consumer
Ottman and Miller (1999)	Strategic Options	Green products, Green packaging, Green prices and Green communication
Mathur and Mathur (2000)	Green marketing strategies	Green products, Recycling; Green promotions, The appointment of environmental policy managers.
Oyewole, P. (2001).	environmental justice in the practice for green marketing	green marketing, environmental justice, and industrial ecology.
Peattie and Crane (2005)	Sales orientation, Compartmentalism, Finance orientation, Conservatism	Green spinning Green selling Green harvesting Entrepreneur marketing Compliance marketing
Moisander and Pesonen (2002); Wei Mai (2014)	Green consumerism; focus on ethical and morals	

Table above shows that there is development pattern of green marketing concept, both from study focus and construct to be used. For example, Shrivastava (1995) used technology approach in describing green marketing construct. In his description, Shrivastava (1995) stated that green marketing concept implementation can be done by optimizing technology factor in designing and manufacturing products that are environmentally friendly. Argumentation to be stated is problem related with ecology, natural resource, pollution and others will give opportunity for company to improve it competitiveness. Technology is used as one important solution for company to manage environment.

Focus of the study is slightly different with studies by other researchers such as Pride and Ferrell (1993); Polonsky (1994); Beard and Hartmann (1997), that focused on marketing field. Therefore, construct used is related with company ability in producing more environmentally friendly product. Furthermore, study conducted by Ottman and Miller (1999); Mathur and Mathur (2000) put more emphasis on company ability in setting strategic policy and some other workable strategic choice. However, we note that similarity exist among constructs used on these studies. It is due to argumentation for reviewing green marketing concept both from marketing perspective and strategic approach, based on fact that the implementation of concept will involve organization external environment factor. In strategic management theory, external environment factor will involve roles of buyers, suppliers and government and overall will influence business opportunity.

Technically, Peattie and Crane (2005) explain five basic concepts from green marketing that include:

(1) Green spinning. Taking a reactive approach by using public relations to deny or discredit the public's criticisms against the company's practices.
(2) Green selling. Taking an opportunistic approach by adding some green claims to existing products with the intention to boost sales.
(3) Green harvesting. Becoming enthusiastic about the environment only when greening could result in cost savings.
(4) Entrepreneur marketing. Developing innovative green products to market without really understanding what the consumers actually want.
(5) Compliance marketing. Using simple compliance with implemented or expected environmental legislation as an opportunity to promote the company's green credentials without taking initiatives to go beyond responding to regulations.

Ontologically, green marketing basic concept as stated above by Peattie and Crane (2005) stresses more on company ability in identifying ecology environment and furthermore used as base to determine strategy. In one of his statements, Peattie and Crane (2005) revealed that "it start with the customer, have a long-run perspective, involve the full use of all the company's resources, and be innovative". The statement shows that there is requirement to be fulfilled before determining success of green marketing concept. First, customer is considered as main component in process of identifying need, attitude, behavior, belief and knowledge and is used as base to determine marketing policy. Furthermore, green marketing should have long run perspectives, hence direction and goal to be reached in implementing the concept would be directed. Business is not created in short term hence it sustainability should become main consideration. In practice, green marketing concept implementation that aims to aware all components about importance of preserving environmental sustainability need a long time. In addition, cost needed will probably be higher than when company takes more conventional method. However, green marketing implementation can be used as differing factor with other companies hence will encourage a strengthening on resulted product.

PURCHASE DECISION

Purchase decision is final goal of company marketing activity. When customer will take purchase decision they will be posed to some problems. In determining factors that influence purchase decision, some authors used different perspective. For example, Mercer (1969) stated that price and advertising are factors that will influence consumer purchase decision. They argue that advertising used by company will create customer perception change hence they will seek or select some alternatives. In this stage, unexpected buying would occur. In other perspective, Clee and Wiclkund (1980); Hamond, *et al* (1999) stated that one factor that drives customer to take purchase decision was based on product brand. A brand that is able to give more value is considered to satisfy their need. In this context, customers don't feel threatened by new product presence, other than product produced by specific brand, hence it will create loyality condition.

Study by Wilson *et al* (2001) found slightly different result form previous studies. In his study, Wilson *et al* (2001) found that complexity in taking purchase decision was more caused by situational factors. Included in these situational factors are purchase importance, task uncertainty, etc. In addition, existing information, ability to perform purchasing and experience in consuming a product will be a base for customer to take purchase decision. Arguments developed in this research is that customer would probably use purchase importance approach when they had have experience related with the product. However, in taking purchase decision, customers will pay attention on information availability about the product. Furthermore, task uncertainty will be used when customer uses some stages or procedures in taking purchase decision. Finally, all these factors will be limited by customer ability in buying a product.

By wider scope, Albaum and Peterson (1984) performed study on marketing activity conducted by several multinational companies. Hence, purchase decision taken is B to B in nature. In this activity, purchase decision taken by companies is very complex where it is not enough for company to rely on marketing activity, but also other components will influence the taken decision. For example, financial condition of a country, cost incurred, culture, language and so on. Based on these conditions, purchase decision is not only involving effort to take a specific behavior but also to perception.

Some approaches on purchase decision have been described. To complement review about purchase decision taken by customer, we will justify approaches used in this article. In overall, decision approach described by previous research had referred to two things: attitude (Mercerm 1969) and behavior (Clee and Wicklund,1980; Hammond, *et al.* 1996; Wilson, *et al*. 2001). However, some customers use other approach to determine their purchase decision shape, and it depends on the complexity (Albaum and Peterson, 1984). The higher complexity faced by customers will make the buying decision involve customers behavior and perception. In this article we are more interested to use combination of behavior and perception in purchase decision making. The assumption is perception will encourage specific behavior to happen. Furthermore, we consider that every behavior will have potential to create effect or risk. When we have anticipated effect or risk that is probably to occur due to shown behavior, then perception will perform an analysis or understanding aimed to minimize the risk to be received.

In literature study, concept about risk is always related to cost. However, cost is not always related to material element such as money. In marketing concept, cost can be translated into a sacrifice form incurred by individual to reach specific goal. Some researchers call it as social cost. Social cost will rise as consequence of existence of condition or situation (Oyewole, 2001). This explanation can be comprehended that the higher complexity level of a condition will create higher social cost that should be incurred by customer. In purchase decision concept, social cost will influence attitude and behavior hence it will affect the decision to be taken (Clee and Wicklund 1980; Oyewole, 2001). Hence to increase purchase decision customer should minimize social cost.

Green Marketing and Purchase decision

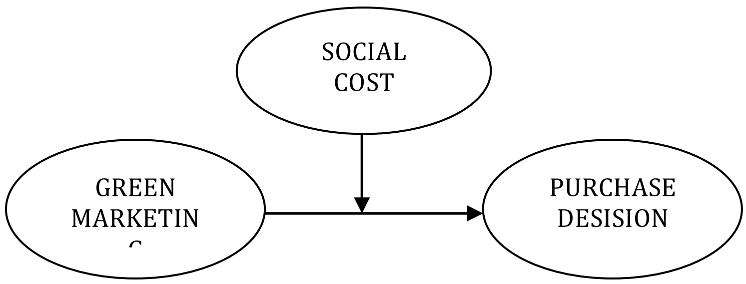
Previous explanation discusses about basic concept of Green Marketing and purchase decision. Theoretically concept about purchase decision has close relationship with consumer behavior. Furthermore, it has been described before that implementation of Green Marketing concept will encourage customer purchase decision (Polonsky, 1994; Schlegelmilch, *et al*, 1996; Camino, 2007; Peattie and Crane, 2005; Boztepe, 2012; Akehurst, *et al*., 2012). However, we consider that development of Green Marketing Concept in encouraging purchase decision still can be performed.

From study by Peattie and Crane (2005), it is shown that several companies that have been implementing Green Marketing concept will take reactive behavior. They will show to public through brochures and other persuasive action to improve their reputation. In other words, they take marketing communication approach. In addition, they will perform promotion activity on products that are considered as environmentally friendly. Product development will be performed but by giving more consideration on environment. All communication activities and promotions of company are performed based on fact. They will try to hide all information they have. When company reputation has been recovered public will take purchase decision on product they offer.

Other study performed by Akehurst, *et al*. (2012) describes that purchase decision is based on psychographic approach by stressing on customer perception. Psychographic has close relationship with customer knowledge. Knowledge will bring individual to be more conscious about importance of preserving environmental sustainability, hnce they will only consume product that is environmentally friendly. In fact, the mindset is not in line with study result performed by FInistrerra do Paco and Reis (2013), where customer might not believe that green marketing activity performed by company has goal to preserve environmental sustainability. Therefore stronger effort from company need to be taken to ensure customer that they have been implementing green marketing activity. Definitely, to perform these activities they need to incur more sacrifice.

When customers make purchase decision, risk (Peter and Tarpey, 1975), ethic (Akehurst, *et al*., 2012) and responsibility elements will attach. In psychology perspective, the three elements indicate that study result performed by Alderson (1952) that purchase decision making is effort to solve problem faced where customer will perform serial of rational procedures. Through this process, they will use their best in solving problem. Some of them use trial and error approach in solving the problem. The implication is green marketing implemented by company must refer to customer psychological aspect. Company must use risk, ethic and responsibility approach in order purchase decision to occur. In other words, implementation of green marketing concept must also be performed in rational way. However, as result of study performed by Oyewole (2001), company rationality in implementing green marketing concept must also consider social cost.

Figure. 1 Relationship between green marketing and purchase decision with social cost as driving factor.



Based on the explanation, relationship between green marketing, social cost and purchase decision following proposition can be made:

P1: green marketing will create purchase decision behavior

P2: in creating purchase decision, green marketing implementation will be driven by social cost

Based on perspective stated by Peattie and Crane (2005), green marketing can be explained as follow:

P3: Green spinning will generate purchase decision driven by social cost

P4: Green selling will generate purchase decision driven by social cost

P5: Green harvesting will generate purchase decision driven by social cost

P6: Green product will generate purchase decision driven by social cost

CONCLUSION

From previous study, Oyewole (2001) states that green marketing implementation requires high social cost. In one hand, some previous researches have not found yet that Green Marketing implementation will affect purchase decision. Based on some notions above, we conclude that regardless green marketing subject to be used to measure it relationship with purchase decision, social cost becomes factor that probably need to be considered by company. This article tries to identify effect of green marketing implementation on purchase decision. We use theory approach to explain relationship of the construct. Therefore, construct that relates between green marketing and purchase decision can be developed further. In arranging construct from green marketing concept, we use theory approach as stated by Peattie and Crane (2005) and Oyewole (2001). Furthermore, we recommend to perform empirical test from the construct by taking some relevant subjects and objects hence the construct relationship can be more explained. To perform testing on the construct, parameters that can improve analysis result accuracy need to be determined. Based on the notion further studies are required both in theoretical and empirical perspectives.

This article is subjective in nature hence some developments from relevant variables are possible. Green marketing concept is multi perspective and has consequence in dimension or indicator use. One of searches that can be done from green marketing implementation is the extent of the concept will add more value compared with competitor and to perform activities that are hard for competitors to imitate (Chen, and lin, 2011; Arseculeratne and Yazdanifard, 2014). Hence, green marketing concept search can be done by strategic approach since it aims to create competitive advantage for company.

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Effect of Brand Communication and Experience on Loyalty: Mediating Effect of Brand Satisfaction and Trust. (Case Study of Customers of Inul Vista Karaoke, Semarang, Central Java, Indonesia)

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ABSTRACT
This study examined the influence of brand communication and experience on brand satisfaction, trust and loyalty. The sample of this study was customer of "Inul Vista Karaoke" in Semarang, Central Java, Indonesia. 220 questionnaires were distributed with 95,91% response rate. The data were analyzed using Partial Least Square (PLS). The results reveal that: a) brand communication and experience have a positive effect on brand satisfaction and trust. b) Brand communication is not direct effect on brand loyalty but brand experience is. c). Brand satisfaction and trust shows partially mediates beetwen brand experience and loyalty, and fully mediates beetwen brand communication and loyalty. The findings offer insight for Inul Vista Karaoke to increase loyalty must to be more increase brand experience than brand communication.

Keyword: brand communication, brand experience, brand satisfaction, brand trust, brand loyalty

INTRODUCTION

Currently in Indonesia many emerging karaoke entertainment service businesses. Many stand karaoke places that do not provide services in accordance with the expectations of consumers. On the other hand the number of karaoke entertainment venues that arise can be able to contribute revenue to the local government. Therefore this karaoke entertainment business as one of the creative industries need to be developed. For that to know the level of customer satisfaction and loyalty as the basis for coaching and development. This business is one of the services business, where management should be based on experiential marketing. The increase of offerings to customers and the rise of competition have made it harder for organisations to differentiate themselves solely by providing services that satisfy customer needs. The companies, in order to have a competitive advantage, are pressured by both the market and their customers, to come up with experiences that stimulate their target's emotions and sensations.

Experiential marketing is an important trend in marketing thinking. Through several books and articles, Schmitt (1999, 2003) has developed the concept of *Customer Experience Management (CEM)*, which he defines as the process of strategically managing a customer's entire experience with a product or company. Recently, brands have become more important for creating the value for their customers. Building consumer-brand relationship is very important for building a strong brand. In the hypercompetitive markets, building consumer-brand relationships is one of the most important critical successful factors to differentiate brands and to develop life time customer value. Marketing academics and practitioners have recognized that consumers looking for entertainment with a particular brand name or which are able to provide them with an experience that is unique and memorable. As a result, the concept of the brand experience has become attractive to marketers. Before consumers remember and experienced the brand, companies must communicate the brand to prospective customers.

STATEMENT OF THE PROBLEM

The development of consumer-brand relationship has been the focus of the theory of the brand in recent years. A brand acts as a mechanism that involves the buyer and seller in the consumer-brand relationship (Keller, 1987; Davis, Buchanan-Oliver, & Brodie, 2000). The main input of this relationship is brand experience and communication, while the main output of this relationship is brand loyalty. The final stage consumer-brand relationship is a response to the brand in the form of brand loyalty. The consumer-brand relationship is formed by the consumer's experience and knowledge of the brand. The consumer-brand relationship depends on the successful establishment of brand satisfaction and trust. Therefore, satisfaction and trust the brand becomes an important mediator between communication and brand experience with the brand loyalty.

Previously, the subject of brand personality, trust, satisfaction and loyalty has been attracted marketing scholars. However, recently researchers and practitioners place more emphasis on brand experience (Brakus, Schmitt, & Zarantonello, 2009). Research on consumer-brand relationships have been carried out both in the manufacturing industry and the service industry. But there are still very scarce research done on the object of karaoke entertainment industry in Indonesia. Therefore, this study is an empirical study focuses on how to build the consumer-brand relationship of the experience factor and brand communications from the customer perspective Inul Vista karaoke in Semarang, Central Java, Indonesia. The aim of this research is to investigate the concept of brand experience in Indonesia context. In this research, the author will test the impact of brand experience towards loyalty directly or indirectly via brand satisfaction and trust.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Brand satisfaction and brand trust is a construction which is very important in the relationship between brand communication, experience and loyalty in a relational context. Brand experience is the stimulation result of brand communication. With the brand experience this causes consumers want to repeat this experience. Brand communication and experience influence not only trust and satisfaction but also at future consumer loyalty. Consumers should be more likely to be directed to buy the brand again and recommend it to others and tend to not buy other brands (Oliver, 1980; Mittal & Kamakura, 2001).

Brand communication.

Brands are important in the consumer markets. A brand is a combination of corporate behavior and values, the technical functionality and quality of products and the intangible promise the company instills in their products for customers. It is a combination of tangible and intangible attributes and seeks to create a positive connection with the customer in order to create incentive for customers to use the products of the company in the now and in the future. Brand is the very key to integrated marketing (Schultz, 1998). Brands communicate with stakeholders and the target audience on many different levels. The communication may sometimes be intrinsic and non-verbal, which means that it may be formed by e.g. the imagery and visual elements associated with the brand. At this point it is important to note that brands communicate all the time at every point of contact with the target market, whether the company realizes this or not. Because of the communicative nature of brands, it is highly

important to realize this in order to provide an accurate communication of the brand promise and experience. Brand communication is the primary integrative element in managing brand relationships with customers and creates positive brand attitudes. The objective of brand communication has been to expose the audience to a brand, whereby the effect can be maximized in terms of increased awareness and higher recall, so that the customer will buy the brand which has the highest recall; and to satisfy the customer to the optimum level (Panda, 2004; Zehir, Şahin, Kitapçi, & Özçahin, 2011). Before consumers remember and experienced the brand, companies must communicate the brand to prospective customers. Any exposure of communication for the brand will affect consumer responses, which can be measured by analyzing variable brand awareness in terms of recall and recognition, favorability, strength and uniqueness of brand associations in consumer memory. The ability of brand names to evoke feelings such as trust, confidence and the like. Brand names should not be overlooked as a valid and useful avenue of communication in the creation of brand attitudes (Grace & O'Cass, 2005). Several previous studies have shown that direct brand communication can influence consumers' satisfaction for a brand (Crosby & Stephens, 2013; Zehir et al., 2011) and brand trust (Şahin, Kitapçi, & Zehir, 2013). To summarize above mention, the research hypothesis is proposed as below:
Hypothesis 1: Brand communication has a positive effect on : (a) brand satisfaction, (b) brand trust, and (c) brand loyalty.

Brand Experience.

Consumer and marketing research has shown that experiences occur when consumers search for products, when they shop for them and receive service, and when they consume them (Brakus, et al.,2009). Consumers seeking not only functional benefits of a brand but also emotional experiences. Because the experience of using the product can provide value to consumers, it will affect consumer behavior to keep using it or not. Therefore, if consumers have a positive experience on a brand product then they will continue to use and if the consumer has a negative experience it will move to other brands. Brand experience is conceptualized as sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments. Brand experience can be defined as the perception of the consumers, at every moment of contact they have with the brand, whether it is in the brand images projected in advertising, during the first personal contact, or the level of quality concerning the personal treatment they receive (Alloza, 2008). Brand experience is conceptualized as subjective, internal consumer responses (sensations feelings, and cognitions) and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications and environments. Brand experience conceptualization and scale development are very important for understanding and managing brand trust and loyalty concepts (Brakus et al., 2009; Walter, Cleff, & Chu, 2013; Rehman, Ahmed, Mahmood, Shahid, & Sciences, 2014). Brand experience can be positive or negative, short-lived, or long-lasting. Brand experience affects consumer satisfaction and loyalty directly and indirectly through brand personality associations. Morever, brand experience can positively affect consumer satisfaction and brand loyalty, as well as brand trust (Zarantonello & Schmitt, 2010; Rehman et al., 2014). To summarize above mention, the hypotheses for this research are proposed as below:
Hypothesis 2: Brand experience has a positive effect on: (a) brand satisfaction, (b) brand trust, and (c) brand loyalty.

Brand satisfaction.

Satisfaction is defined as an affective response to purchase situation (Babin, B. J., & Griffin, 1998; Bagozzi, Gopinath, & Nyer, 1999; Bennett, Härtel, & McColl-Kennedy, 2005; Anderson & Narus, 1990). Satisfaction is a positive affective reaction to an outcome of a prior experience.

The satisfaction derived and attitude formed as part of a prior experience (Ganesan, 1994). Satisfaction impacts on subsequent purchases (Oliver, 1980b), completing cyclical pattern (Rebekah Bennett et al., 2005). In addition it also has been found to lead to the long-term combination of relationships (DL Gladstein, 1984; Anderson & Narus, 1990). Brand relationship quality can be defined as the degree to which the consumer views the brand as satisfactory partner in an ongoing relationship; it is the consumer's overall assessment of the strength of his or her relationship with the brand (Algesheimer, Dholakia, & Herrmann, 2005). Satisfaction is necessary but not sufficient component of loyalty (Agustin & Singh, 2005). However, satisfaction is an antecedent of brand loyalty, with increases in satisfaction leading to increases in brand loyalty (R. Bennett, Mccoll-kennedy, & Coote, 2000; Rebekah Bennett et al., 2005; Bolton, 1998; Jones & Suh, 2000). Although, the marketing literature admits the assumption that satisfaction is linked to loyalty, the earlier concept seems to explain consumers' buying habits including all of their consistent purchasing behaviors (Rebekah Bennett et al., 2005). Satisfaction with the preferred brand is one of the determinants of brand loyalty. Beside that, (Geyskens, Steenkamp, & Kumar, 1999) found satisfaction to be an antecedent to trust. According to the research, trust as a effect of satisfaction. Therefore, the following hypotheses are proposed:
Hypothesis 3: Brand satisfaction has a positive effect on (a) brand trust and (b)brand loyalty.

Brand trust.
A brand is a sign of confidence for all activities of intangibles (intangible) that generates trust, and the human touch is not there, it can become a symbol of quality and assurance in building trust (Lane, 1993; Bart, Shankar, Sultan, & Urban, 2005). The importance of building trust has been shown in maintaining links buyers with sellers (Amine, 1998; Morgan Robert, 1994; Bart et al., 2005; Agustin & Singh, 2005). Trust can be defined as the consumer confidence that he could rely on the seller to provide the services promised, while the value of relational can be defined as the perception of consumers about the benefits versus the costs incurred in the maintenance of exchange relationships progress (Agustin & Singh, 2005). Brand trust is defined as the willingness of the average consumer to rely on the ability of the brand to perform its stated function (Moorman, Deshpande, & Zaltman, 1993). This definition spans the two general approaches. First, trust has been viewed as a belief, sentiment, or expectation about an exchange partner's trustworthiness that results from the partner's expertise, reliability, or expectation about an exchange partner's trustworthiness that results from the partner's expertise, reliability, or intentionality. Second, trust has been viewed as a behavioral intention or behavior that reflects a reliance on a partner and involves vulnerability and uncertainty on the part of trustee (Moorman et al., 1993). Trust is built up by believing in the reliability and honesty of one side to the other. Since trust establishes an important bond between brand and customers, it is one of the determinants of brand loyalty. Without the trust on brand customer can’t enter in loyalty set. To build a trust it’s important for the Consumer to take and asses the information from the product. The brand trust of a product bought can be seen as the influence of credibility that can strengthen the purchasing behavior of consumers (Amine, 1998). Brand trust leads to brand loyalty or commitment because trust creates exchange relationships that are highly valued (Morgan Robert, 1994; Chaudhuri & Hoibrook, 2001). While, commitment has been defined as "an enduring desire to maintain a valued relationship" (Moorman et al., 1993). Therefore, loyalty or commitment underlies the ongoing process of continuing and maintaining a valued and important relationship that has been created by trust. In other words, trust and commitment should be associated, because trust is important in relational exchanges and commitment is also reserved for such valued relationships. In this connection, explained that trust leads to commitment (Moorman et al., 1993; and Morgan Robert, 1994). Thus, we suggest that brand trust will contribute to brand

loyalty. According to the research, trust and satisfaction show a significant positive correlation. Therefore, the following hypotheses are proposed:
Hypothesis 4: Brand trust has a positive effect on brand loyalty.

Brand loyalty.
Loyalty, as defined by Oliver (1997), is "a deeply held commitment to rebut or repatronize a preferred product/service consistently in the future, theory causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (Chaudhuri & Hoibrook, 2001). In marketing literature the term loyalty has often been used interchangeably with its operational (measurement) definition to refer to; repeat purchase, preference, commitment and allegiance. In addition, loyalty has been referred to in a variety of market-specific contexts, for example, service, store and vendor loyalty, an contexts that reflect the unit of measurement; customer and brand loyalty (Algesheimer, et al., 2005). One of the first definitions of brand loyalty was given by Jacoby & Kyner, 1973: "the biased (i.e., non random) behavioural response (i.e., purchase) expressed over time by some decision making unit with respect with one or more alternative brands out of a set of such brands, and is a function of psychological (decision-making, evaluative) process". In research and literature, it would seem that two major approaches predominate. Attitudinal loyalty is often understood as a systematically favorable expression of preference for the brand (Dick, A.S. and Basu, 1994) and behavioral loyalty typically infers the loyalty status of a given consumer from an observation of repeated purchasing behavior (Kahn, B.E., Kalwani, M.U., & Morrison, 1986). Brand loyalty may be indicated by brand attitudes and habit (Jacoby & Kyner, 1973), it is also conceptually distinct from either attitudes or habits. It is widely considered that loyalty is one of the ways with which the consumer express his/her satisfaction with the performance of the product or service received (Bloemer, and Kasper, 1995; Delgado-Ballester & Munuera-Alemán, 2001).

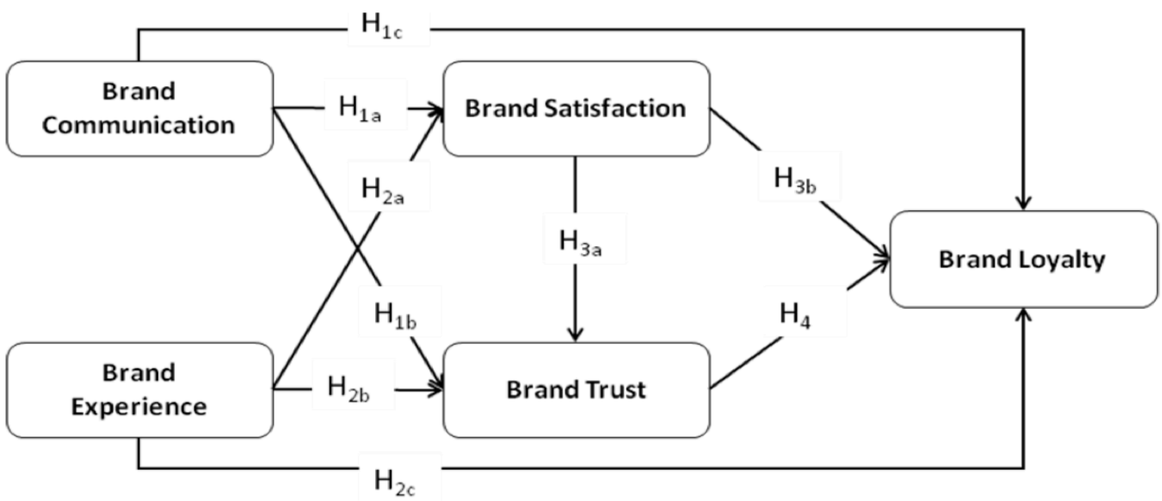

Figure 1: Conceptual Framwork

Brand loyalty is a prerequisite for a firm's competitiveness and profitability (Reichheld, F. F., Markey, R. G., and Hopton, 2000). Every firm desires to have its brands with high customer loyalty. Unfortunately, all brands cannot attract high loyalty. The development and maintenance of consumer brand loyalty is placed at the heart of companies' marketing plans, especially in the face of highly competitive markets with increasing unpredictability and reducing product differentiation (Fournier & Yao, 1997; Fournier, 1998). The research model in Figure 1 posits the brand communication and experience build brand loyalty through brand trust and satisfaction.

METHODE

Measures.

The constructs in our study were developed by using measurement scales adopted from prior studies. Modifications were made to the scale to fit the purpose of the study. All constructs were measured using five-point likert scales with anchors strongly disagree (= 1) and strongly agree (= 5). The brand communication measures were adopted from previous studies (Grace & O'Cass, 2005; Yi & La, 2004). The brand experience measures were adapted from previous studies (Brakus et al., 2009; Şahin, Zehir, & Kitapçi, 2011). The brand satisfaction measures were adapted from a variety of sources (Grace & O'Cass, 2005; Garbarino & Johnson, 1999; Heitmann, Lehmann, & Herrmann, 2007; McAlexander, Kim, & Roberts, 2003). The brand trust measures were adapted from a variety of sources (Chumpitaz Caceres & Paparoidamis, 2007; Delgado-Ballester & Munuera-Alemán, 2001; Chaudhuri & Hoibrook, 2001). The brand loyalty measures were adapted from previous studies (Grace & O'Cass, 2005; Algesheimer et al., 2005; Hess & Story, 2005; ValarieA. ZeithamI, Leonard L Berry, 1996).

Sample and data collection

120 questionnaires were distributed to customers of Inul Vista Karaoke in Semarang, Indonesia. The participants were asked to complete the questionnaire with respect to their brand "Inul Vista". Finally, 211 respondents returned the questionnaire, of which 9 forms were so incomplete that they had to be deleted. The final number of usable cases was 211.

RESULT AND DISCUSSION

Description of the Respondents

Table 1 presents the description of respondents. The respondents were asked to report their demographic information, including gender, age, marital status and education. Most respondents aged between 10 years to 20 years, married, and high school educated.

Table 1: Description of the Respondents

Variables	Classes	Frequency	Frequency Percentage
Age	<15	0	0.00
	15-25	136	64.45
	26-35	52	24.64
	36-45	15	7.11
	46-55	7	3.32
	>55	1	0.47
	Total	211	100.00
Gender	Women	108	48.82
	Man	103	51.18
	Total	211	100.00
Marital Status	Maried	70	33,18
	Single	141	66,82
	Total	211	100.00
Educational level	Primary school	4	1,90
	High school	122	57,82
	University	33	15,64
	Graduate	41	19,43
	Total	211	100.00

Measurement Model.

To concentrate the effect of variables in research dimensions, every research variables are operated with factor analysis. There are; five items for brand experience, five items for brand communication, six items for brand satisfaction, seven items for brand trust, and seven items for brand loyalty. The factor loadings of brand experience, communication, satisfaction, trust, and loyalty are seen in Table 2. The first one to check is “Indicator Reliability”. It can be seen that all of the indicators have factor loading values that are much larger than the minimum acceptable level of 0.4 and close to the preferred level of 0.7. Traditionally, “Cronbach’s alpha” is used to measure internal consistency reliability in social science research but it tends to provide a conservative measurement in PLS-SEM. Given that the appropriate value for Cronbach's alpha is 0.7 (Cronbach, 1951), for the composite reliability is 0.7 (Nunnally, 1978) and for AVE is 0.5 (Fornel & Larker, 1981).

Table 2: Results Summary for Reflective Outer Models

Latent Variable		Items	Factor loadings (FL>0.4)	Cronbach's Alpha (Alpha>0.7)	Composite Reliability (CR>0.7)	AVE (AVE>0.5)
Brand Experience	exper-1	This brand makes a strong impression on my visual sense or other senses.	0,812	0,839	0,886	0,611
	exper-2	This brand induces feelings and sentiments.	0,625			
	exper-3	I do have strong emotions for this brand.	0,824			
	exper-4	This brand is an emotional brand.	0,802			
	exper-5	This brand results in bodily experiences.	0,828			
Brand Communication	com-1:	I react favorably to the advertising and promotions of this brand.	0,802	0,850	0,893	0,626
	com-2:	I feel positive toward the advertising and promotions of this brand.	0,807			
	com-3	The advertising and promotions of this brand are good.	0,815			
	com-4	The advertising and promotions of this brand do good job.	0,774			
	com-5	I like the advertising and promotions of this brand.	0,757			
Brand Satisfaction	satisf-1	I am very satisfied with the service provided by this brand	0,707	0,840	0,883	0,557
	satisf-2	I am very happy with this brand.	0,732			
	satisf-3	I am very satisfied with the service provided by this brand.	0,731			
	satisf-4	This brand does a good job of satisfying my needs.	0,797			
	satisf-5	I believe that using this brand is usually a very satisfying experience	0,775			
	satisf-6	I am addicted to this brand in some way	0,731			
Brand Trust	trust-1	This brand takes a good care of me	0,732	0,873	0,902	0,568
	trust-2	This brand meets my expectations.	0,748			
	trust-3	I feel confident in This brand	0,726			
	trust-4	This brand never disappoints me	0,722			
	trust-5	This brand guarantees satisfaction	0,748			
	trust-6	This brand would be honest and sincere in addressing my concerns	0,798			
	trust-7	This brand would make any effort to satisfy me	0,800			
Brand Loyalty	loyal-1	I intend to buy this brand in the near future	0,743	0,887	0,912	0,596
	loyal-2	I intend to buy other products of this brand	0,773			
	loyal-3	The next time I need that product, I will buy the same brand	0,779			
	loyal-4	I will continue to be loyal customer for this brand	0,829			
	loyal-5	I am willing to pay a price premium over competing products to be able to purchase this brand again.	0,766			
	loyal-6	I would only consider purchasing this brand again, if it would be substantially cheaper	0,764			
	loyal-7	I say positive things about this brand to other people	0,748			

Results of the discriminant validity are provided by Larker Fornel‟s method. Discriminant validity will compare the correlation of a component with its indices against its correlation with other components. Therefore, for reviewing this criterion, we use Larker Fornel‟s matrix. In accordance with the table 3, the square roots of AVE (on the main diagonal), all components except the brand experience and loyalty component, are greater than the correlation between them. Therefore, the discriminant validity of the model is confirmed. In addition, load factor coefficients of all indices, according to table 2. Since they are more than 0.40, will be approved, and no indices will be removed.

Table 3: Discrimiant validity evaluation with Fornel Larker's method.

Variables	Brand Communication	Brand Experience	Brand Loyalty	Brand Satisfaction	Brand Trust
Brand Communication	**0.782**				
Brand Experience	0.662	**0.791**			
Brand Loyalty	0.621	0.790	**0.746**		
Brand Satisfaction	0.683	0.806	0.751	**0.754**	
Brand Trust	0.644	0.725	0.746	0.754	**0.772**

Structural Model and hypothesis testing.

The results of hypothesis testing for this study are shown in Table 4. The first three research hypotheses deal with the direct impact of brand communication. Brand communication (β = 0.265, p = 0.000) is found to exert positive effect on brand satisfaction. Therefore, H_{1a} is supported. The result also showed that brand communication (β = 0.185, p = 0.006) is positively effect on brand trust. Therefore, H_{1b} is supported. Next, brand communication (β = 0.046, p = 0.431) is not significant effect on brand loyalty. Hence, H_{1c} is not supported. The second three research hypotheses deal with the direct effect of brand experience. Brand experience (β = 0.631, p = 0.000) is found to exert positive effect on brand satisfaction. Therefore, H_{2a} is supported. The result also showed that brand experience (β = 0.277, p = 0.000) is positively effect on brand trust. Therefore, H_{2b} is supported. Next, brand experience (β = 0.415, p = 0.000) is significant effect on brand loyalty. Hence, H_{2c} is supported. The third two research hypotheses deal with the direct effect of brand satisfaction. Brand satisfaction (β = 0.166, p = 0.032) is found to exert positive effect on brand loyalty. Therefore, H_{3a} is supported. The result also showed that brand experience (β = 0.405, p = 0.000) is positively effect on brand trust. Therefore, H_{3b} is supported. The last one research hypotheses deal with the direct effect of brand trust. Brand trust (β = 0.290, p = 0.000) is positively effect brand loyalty. Hence, H_4 is supported.

Table 4: Direct effect, indirect effect and total effect.

Path	*Direct effect*		*Indirect effect*		*Total effect*	
	Path Coefficient	*P Values*	*Path Coefficient*	*P Values*	*Path Coefficient*	*P Values*
Brand Communication -> Brand Loyalty	0.046	0.431	0.129	0.001	0.175	0.003
Brand Communication -> Brand Satisfaction	0.265	0.000	-	-	0.265	0.000
Brand Communication -> Brand Trust	0.185	0.006	0.107	0.000	0.292	0.000
Brand Experience -> Brand Loyalty	0.415	0.000	0.259	0.000	0.674	0.000
Brand Experience -> Brand Satisfaction	0.631	0.000	-	-	0.631	0.000
Brand Experience -> Brand Trust	0.277	0.000	0.255	0.000	0.532	0.000
Brand Satisfaction -> Brand Loyalty	0.166	0.032	0.117	0.001	0.283	0.000
Brand Satisfaction -> Brand Trust	0.405	0.000	-	-	0.405	0.000
Brand Trust -> Brand Loyalty	0.290	0.000	-	-	0.290	0.000

The next analysis address the indirect effect of brand communication and experience on brand loyalty, through brand satisfaction and trust (See Table 4). **Firstly**, the bootstrapping result for an indirect effect of brand communication on brand trust (β = 0.107) was significant (p = 0,000). Hence, we can conclude that brand satisfaction act as mediator between brand communication and trust. While the direct effect of brand communication on brand trust 0.185 to p = 0.006, therefore, brand satisfaction partially mediates the relationship between brand communication and brand trust. **Secondly**, the bootstrapping result for an indirect effect of brand communication on brand loyalty (β = 0.129) was significant (p = 0,001). Hence, we can conclude that brand satisfaction and brand trust act as mediator between brand communication and brand loyalty. While the direct effect of brand communication on brand loyalty (β = 0.046) was not significant (p = 0.431), therefore, brand trust and satisfaction fully mediates the relationship between brand communication and brand loyalty. **Thirdly**, the bootstrapping result for an indirect effect of brand experience on brand loyalty (β = 0.259) was significant (p = 0,000). Hence, we can conclude that brand satisfaction and brand trust act as mediator between brand experience and brand loyalty. While the direct effect of brand experience on brand loyalty (β = 0.415) was significant (p = 0.000), therefore, brand trust and brand satisfaction partially mediates the relationship between brand experience and brand loyalty. **Fourthly**, the bootstrapping result for an indirect effect of brand experience on brand trust (β = 0.255) was significant (p = 0,000). Hence, we can conclude that brand satisfaction act as mediator between brand experience and brand trust. While the direct effect of brand experience on brand trust (β = 0.277) was significant (p = 0.000), therefore, brand satisfaction partially mediates the relationship between brand experience and brand trust. **Lastly**, the bootstrapping result for an indirect effect of brand satisfaction on brand loyalty (β = 0.117) was significant (p = 0,001). Hence, we can conclude that brand trust act as mediator between brand satisfaction and brand loyalty. While the direct effect of satisfaction on brand loyalty (β = 0.166) was significant (p = 0.032), therefore, brand trust partially mediates the relationship between brand satisfaction and brand loyalty.

DISCUSSION.

The research was done using a theoretical framework developed based on previous studies. This paper has suggested what is possible, practical, and can be done by marketers in terms of brand communication, experience, satisfaction, trust and loyalty. Marketing managers can interpret these results as helping to justify expenditures on brand and customer related marketing activities that create such long-term effects on consumers as brand communication, experience, trust, satisfaction and loyalty. In this study, brand communication and experience is conceptualized as subjective consumer responses that are evoked by specific brand-related communicational and experiential attributes in such settings.

The study shows that brand communication has positive direct effects on brand satisfaction and trust. These findings are supported by some previous studies have shown that direct brand communication can influence consumers' satisfaction for a brand (Crosby & Stephens, 2013; Zehir et al., 2011) and brand trust (Şahin, Kitapçi, & Zehir, 2013). Brand communication creates and develops trust and satisfaction-based relationship platform between brand and customer. Instead of brand communication is no direct influence on brand loyalty, but brand communication can indirectly influence on brand loyalty through brand satisfaction and trust. While brand experience has positive direct effects on brand satisfaction, trust and loyalty. These findings are supported by (Brakus, et al.,2009), Zarantonello & Schmitt, (2010), Rehman et al., (2014). Besides, the brand experience can be indirect effect on brand loyalty through brand satisfaction and trust. Further, brand satisfaction, trust and loyalty were primarily generated through brand experience rather than brand communication. These findings suggest that brand experience primarily impacts on brand satisfaction, trust and loyalty. Brand communication effect on brand loyalty was primarily indirect through brand satisfaction and trust. Our findings indicate that the brand experience is more important than the brand communication and indicated that brand communication had no direct influence on brand loyalty. Instead, understanding that brand communication plays an important role in maintaining and expanding market (especially for new buyers) should lead management to highly concentrate on avoiding actions that reduce in any way the credibility of the brand. The findings provide further encouraging evidence of the need to consider the brand experience affect and cognition in the development of brand loyalty. Loyalty is the overall level of contentment and pleasure resulting from experience with the service or product (Hellier, P., Geursen, G., Carr, R., & and Rickard, J., 2003).

Limitations and future research.

This study has several limitations and also indicate directions for further research. The sample size itself is relatively small. By increasing the sample size and including participants in other geographical or subject areas, a more detailed empirical analysis among the independent variables and the variables that have multiple categories can be performed. The research indicates strong empirical support for the relationships among brand communication, experience, satisfaction, trust, and loyalty. In general, these findings should be replicated with different service categories and brands. Also, the present study did not examine personal factors, therefore we still need to develop a more detailed understanding of the relationship between brand loyalty and other related variables (especially antecedent variables: brand involvement, associations and personality). Overall, the more detailed understanding of the effects of brand communication, experiences, satisfaction, trust on building loyalty. Further research should focus on the antecedents and long-term consequences of brand experiences. Brand experience and communication dimensions evoked by brand related stimuli? In addition, direct and indirect brand experiences and communications should be explored, especially brand experiences affect customer lifetime value (Verena Vogel, Heiner Evanschitzky, & B. Ramaseshan, 2000). Thus, how should marketers manage brands to create experiences that build such equity? (Brakus, et al., 2009).

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The Public Stock Buyback Tender Offer in France

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ABSTRACT
This article focuses on the public stock buyback tender offers carried out in France between 1996 and 2005. First, we will study the impact of The Public Stock Buyback Tender Offers' announcements on stock prices. The results of the event studies show that these announcements are welcomed by a very favorable price reaction. Secondly, we try to explain the premium in the repurchase mode. The results of the linear regressions show that a low level of liquidity and the securities' performance, during the period preceding the public stock buyback tender offer, seems to push companies to pay large premiums. It also appears from these regressions that smaller companies, accepting the over demand and for a significant percentage from the capital; are also encouraged to offer high premiums.

Keywords: Public Stock, Buyback Tender Offer, the Dutch auction, Toehold purchase, Repurchase on the market, the Repurchase of own Shares Program, Premium, Signaling, Undervaluation.

INTRODUCTION

The repurchase of own shares is a technique that enables listed companies to redeem a part of their securities in the stock exchange. In France, two methods of redemption are possible: Toehold purchase (or repurchase on the market) and The Public Stock Buyback Tender Offer at a fixed price (hereinafter, The Public Stock Buyback Tender Offer).

Under the first method, the listed company is presenting itself on the market as an ordinary buyer in order to repurchase its own shares. This redemption is made at the market price and shall not exceed 10% of the company's capital. However, The Public Stock Buyback Tender Offer allows listed companies to buy back an unlimited part of their capital at a price fixed in advance, which is generally higher than the market price at the announcement date of the operation.

The Public Stock Buyback Tender Offer is a very little used practice compared to repurchases on the market. In the US market, Barclay and Smith (1988) show that in 1986, 12.4% of companies, listed on the NYSE, use repurchase on the market, and only 2.79% chose The Public Stock Buyback Tender Offer. Also, according Grullon and Michaely (2004), the repurchases on the market represent 90% of the repurchases made over the period 1984-2004.

In France, 47 Public Stock Buyback Tender Offers were made between 1996 and 2005. This number varies depending on the year. The maximum was only reached in 2003 with "10" Public Stock Buyback Tender Offers in the year, for an amount of 0.284 billion€. As for repurchase on the market, they have experienced unprecedented growth after the evolution of their legal status in July 1982. Thus, between July 1998 and December 2003, the average annual amount allocated to the implementation of buyback programs exceeds 13 billion € (see Figure 1 and 2)[1]. Thus, the latter mechanism is the most important one.

This is explained by the fact that the Public Stock Buyback Tender offers are much less flexible and more expensive than the repurchase on the market. Indeed, such decision via the latter method enables companies to withdraw and / or distribute repurchases over a longer period than as permitted by a repurchase by a Public Stock Buyback Tender offer. In addition, the offers are generally made at a price higher than the current market price, that is to say with a premium. But for the repurchase on the market, the premium is very low and even nonexistent.

Although the Public Stock Buyback Tender Offers have several limitations, they are sometimes beneficial for businesses. First, these operations can be essential when the company wants to buy a high percentage of its capital, exceeding the limit of10% allowed by the repurchases on the market.

Next, we note that companies are making repurchases primarily to indicate to the market the undervaluation of their securities. This objective can be achieved by tenders and by repurchases on the market. However, the premium of the first repurchase method makes the undervaluation signal more expensive and therefore more credible than the one conveyed by the repurchases on the market method. The informational power of offers is much more important; and their positive impact on the securities' prices will normally be more accentuated.

Besides these two main reasons, the Public Stock Buyback Tender Offer can provide a company the first step towards the delisting, an anti-takeover defense, or a way to reduce existing agency conflicts within the organization

This study has two aims. First, we will study the impact of the Public Stock Buyback Tender Offer on stock prices. The results of event studies highlight the positive response of the French market with these operations' announcements: + 14% over the period (0.1). This highly positive response demonstrates the credibility of the undervaluation signal sent from tenders, where the premium paid plays a vital role.

It seems interesting to consider, in a second time, the determinants of the premium. The empirical results show that the size of the company, its liquidity and the performance of securities during the period preceding the announcement, have a negative influence on the amount of the premium. However, the acceptance of the over demand by the companies and the importance of the size of the operation have positive effects.

In the first section, we will focus on the reasons why businesses carry out Public Stock Buyback Tender Offers. In the second section, we will present the study sample, the data sources and the methodology. The object of the third section will be the impact of the Public Stock Buyback Tender Offers' announcements on the stock prices. The fourth section will describe the determinants of the premium in an offer.

[1] Source: www.amf-france.org.

The Motivations of the Public Stock Buyback Tender Offers

In France, two repurchase methods are possible: The Repurchase on the Market in which the listed company presents itself on the market as an ordinary buyer in order to repurchase its own shares and the Public Stock Buyback Tender Offer.

In addition to these two methods of redemption, in the United States, companies have at their disposal two mechanisms: the Dutch auction (Dutch-auction self-tender offer) and the share repurchase coupons that the company delivers to shareholders to buy their shares at a certain price.

Given the existence of all these possibilities, the question arises: why does a company use more the method of share repurchase via a tender offer over another share repurchase method?

The companies use Public Stock Buyback Tender Offers, in particular to bypass one of the main obstacles for the repurchase on the market, namely the limits of the number of shares to be repurchased. The repurchase on the market is framed in most countries by strict rules, because of the risk of price manipulation it implies. In France, it cannot exceed 10% of the company's capital. That's why when a company wants to buy a large number of actions- over the authorized limit - it must use the Public Stock Buyback Tender Offer.

This section also will review other reasons justifying the use of a company of public offering to repurchase shares. First, we are interested in the standard explanations of the Public Stock Buyback Tender Offer as the delisting of the company's securities, the expropriation of creditors, the anti-takeover defense and the reduction of agency conflicts. Then we will focus on the signaling of the undervaluation of the company, which seems to dominate the literature

The Delisting of the Company's Securities

Companies that engage in a Public Stock Buyback Tender Offer often announce the desire to withdraw their shares of the market. The presence of abundant liquidity and the absence of growth opportunities encourage managers to fund insufficiently profitable projects; causing conflicts between managers and shareholders (Jensen, 1986).

In this case, the best solution for the company is to repurchase its own shares to remunerate its shareholders and thus reduce agency conflicts. The repurchase on the market allows to buy only a limited number of shares. The company that wishes to see its security delisted and get back to being a private company, must necessarily resort to the Public Stock Buyback Tender Offer.

The company may also propose to repurchase a number of shares corresponding to the required proportion that allows it to be delisted from the stock exchange. Once these shares repurchased, it may then proceed with a public repurchase offer with, for example, a squeeze-out, which will result in the delisting of the company's securities

Expropriation of the Creditors

The repurchase of shares by cash or by debt reduces the asset value of the company and therefore the collateral value of the creditors. Assuming that this was not anticipated when the company's notes were issued, there is then a transfer of wealth from creditors to shareholders. It should be noted that this transfer of wealth can be generated by the two methods of repurchase. However, it is more pronounced in the case of a Public Stock Buyback Tender Offer. Thus, due to its unlimited scope, the latter repurchase method can significantly amputate the equity value of the company. For cons, the repurchase on the market does not allow companies to redeem more than 10% of their capital and cannot therefore lead to a major readjustment of the financial structure of the company.

Empirically, the impact of the Public Stock Buyback Tender Offers on the wealth of creditors was initially studied by Dann (1981). This study shows conflicting results of the expropriation hypothesis of creditors by highlighting the positive impact of 143 Public Stock Buyback Tender Offers on convertible bonds. More recently, the study of Maxwell and Stephens (2003) confirms this hypothesis, not with a Public Stock Buyback Tender Offer sample, but with 945 repurchase programs on the market.

The Anti- Public Tender Defense

The Public Stock Buyback Tender Offer can be used as an anti-public tender weapon. Thus, paying an acquisition premium higher than to the one it is originally planned to offer, the company has the opportunity to acquire the securities of shareholders who have not responded to the Public Stock Buyback Tender Offer. The acquisition cost of the company to the potential buyer becomes necessarily higher; which makes the company less attractive and therefore less likely to be the subject of a public tender (Comment and Jarrell, 1991 and Fried, 2005). In other words, a Public Stock Buyback Tender Offer with high premium increases the cost of a public tender and therefore weaken its probability of occurrence.

A second explanation attempting to highlight the public tender defense character is based on the agency theory. If the managing shareholders and the majority shareholders do not offer their shares in the context of a Public Stock Buyback Tender Offer or on the market, this necessarily leads to an increase of their participation in the company's capital. Insofar as the acquisition premium of a takeover is even higher than the proportion of the managing shareholders is important, the Public Stock Buyback Tender Offer reduces the probability of acquisition (Bagwell, 1988 and Stulz, 1988). This mechanism then benefits the shareholders, forcing the potential buyer of the company to pay a higher premium for each target shares.

It should be noted that as part of an anti- public tender strategy, the Public Stock Buyback Tender Offer generates a concentration of the voting rights in the hands of the managers and can therefore lead to the deep-rootedness of these mangers. However, in some cases, the deep-rootedness of managers can hamper the value of the company and thus causes agency conflicts within the organization. The Public Stock Buyback Tender Offer can also help to resolve these conflicts by clearing the excess cash of the company.

Agency Conflicts Reduction

The desire to reduce agency conflicts between shareholders and managers can justify the use of the Public Stock Buyback Tender Offer by the companies. The presence of an excess cash and the lack of growth opportunities increase the mangers' tendency to fund insufficiently profitable projects or to use available funds for personal purposes. This can result in the destruction of the company value, which causes conflicts of agency between shareholders and managers (Jensen, 1986). In order to alleviate these conflicts, managers should provide the shareholders with the funds available.

In this case, managers have an alternative to meet the demands of their shareholders in terms of remuneration; they can use the repurchase of shares - Public Stock Buyback Tender Offer or repurchase on the market- or the dividend. However, the first mode of payment is generally preferred over the second. Unlike the regular dividend[2], repurchases have the advantage of being one-off operations that do not commit the company to maintain the payment for the years to come.

The Public Stock Buyback Tender Offer may also help the company resolve the agency conflicts resulting in an increase in leverage. The Public Stock Buyback Tender Offer through debt financing may result in discipline managers. Indeed, the financial pressure caused by the increase in leverage encourages managers to maximize the company's value to cope with debt maturities. The rapprochement of the shareholders' interests with those of the managers, reduces agency conflicts.

The reduction of agency conflicts following the Public Stock Buyback Tender Offer can be one of the explanations for the positive price reaction to the announcement of such an operation (Howe et *al.*, 1992; Perfect and al., 1995; Nohel and Tarhan, 1998).

According to these authors, investors give a favorable welcome to Public Stock Buyback Tender Offers' announcements, because they allow companies to efficiently use their available cash and by the way reduce conflicts between managers and shareholders.

It is important to note that the reduction of conflicts between shareholders and managers can also be obtained through other mechanisms which are less expensive, such as the repurchase on the market. Thus, this reason represents a no satisfactory explanation on the use of the Public Stock Buyback Tender Offers by companies.

Public Stock Buyback Tender Offers and the signal theory

The Public Stock Buyback Tender Offers' announcement usually brings good news for investors, because it reports a potential undervaluation of the company's shares. In the presence of asymmetric information, managers have generally a better understanding of the prospects of the company; announce a Public Stock Buyback Tender Offer when they feel their company is undervalued. This operation in which managers decide to distribute cash instead of investing in unprofitable projects and pay a premium according to the current share price, reports the good management of these latter. It also reflects a favorable anticipation of future profits. In this case, considering the semi-strong form of efficiency markets[3], the Public Stock Buyback Tender Offer's announcement must be immediately accompanied by a positive market reaction.

Empirically, to our knowledge, all the studies on this subject confirm this hypothesis and show significantly positive abnormal returns associated with thePublic Stock Buyback Tender Offer's announcement (Vermaelen, 1984; Masulis, 1980; Lakonishok and Vermaelen, 1990; Comment and Jarrell 1991 Howe et *al.* 1992 D'Mello and Shroff, 2000, and Anderson and Edward, 2004).

[2] According to DeAngelo, DeAngelo and Skinner (2000), one-off dividend payments are still possible, but they became in the 1990s increasingly rare.

[3] The efficient financial market hypothesis in its semi-strong form implies that the market incorporates every information when the hypothesis is released. Transaction costs related to the issuance

Table 1: Reaction of the stock market prices to the Public Stock Buyback Tender Offer (PSBTO) in France

The study	Market	PSBTO number	Period	AAR or ACAR
Vermaelen (1984)	USA	131	1962-1977	+15%
Masulis (1980)	USA	199	1963-1978	+17%
Lakonishok et Vermaelen (1990)	USA	258	1962-1986	14,29 % on [-5, +10]
Comment et Jarrell (1991)	USA	68	1984-1989	11 % on [-1, +1]
Dann, Masulis and Mayers (1991)	USA	122	1969-1978	17,68 % on [-1, 0]
Hertzel (1991)	USA	134	1970-1984	11,87 % on [-1, 0]
Hertzel and Jain (1991)	USA	127	1970-1984	10,1 % on [-1, 1]
Howe, He et Kao (1992)	USA	55	1979-1989	7,47 % on [-1, 0]
Barnes, Burnie et Gunay (1997)	Canada (Toronto	275 (firms)	1987-1995	31,34 % on [-1, +1]
Choi and Chen (1997)	USA	53	1968-1984	13,07 % on [-1, 0]
Lie and McConnell (1998)	USA	130	1981-1994	7,9 % on [-1, +1]
Nohel and Tarhan* (1998)	USA	242	1978-1991	7,60 % on [-1, +1]
D'Mello and Shroff (2000)	USA	166	1970-1989	14,10 % on [-1, +1]
Lie (2002)	USA	286	1980-1987	9,4 % on [-1, +1]
Anderson et Edward (2004)	USA	399	1970-1999	13,31% on [-1, +1]

In the US market, the abnormal returns were about 16 to 17% in 1970 and increased in 1980 to around 8%. Recently, on a sample of 399 Public Stock Buyback Tender Offers between 1970 and 1990, Edward and Anderson (2004) show a positive price reaction to announcements of offers: + 13.31% over the period (-1.1). Although less pronounced, this positive response is also confirmed in the Canadian market by Barnes, Burnie and Gunay (1997): + 1.34% over the period (-1.1). The direct test of undervaluation of companies conducting Public Stock Buyback Tender Offers further strengthens the signaling hypothesis. By comparing the economic value of the companies with their market value, D'Mello and Shroff (2000) found that 74% of companies that carry out Public Stock Buyback Tender Offers in their sample are undervalued.

The studies also agree on the long-term nature of the price increase following the Public Stock Buyback Tender Offer. Thus, Vermaelen (1984) find that the offers are followed by a permanent rise in the price of the security. Lakonishok and Vermaelen (1990) add that the companies conductingPublic Stock Buyback Tender Offers have significantly positive abnormal returns during the two years following the offer.

It should be noted that the announcement of the repurchase methods also cause a rise in prices. However, the authors still show that the announcement of aPublic Stock Buyback Tender Offerhas the strongest favorable impact. Indeed, in the framework of a Public Stock Buyback Tender Offer, the company pays a higher premium than in other repurchase methods. The Public Stock Buyback Tender Offers are then the more expensive repurchase operation. To

this end, the undervaluation signal of the securities sent by the offers' announcements is more credible than that one conveyed by the Dutch auction or the repurchase on the market.
Regarding the two methods of public offering, Comment and Jarrell (1991) found that in the case of Public Stock Buyback Tender Offers, the abnormal returns are of the order of 8.3%, while in the case of Dutch auctions, they are of the order of 7.5%. According to them, the premium in the case of the first method is set by the managers themselves; it is higher than the one generally provided in the case of the second method. This implies a much more credible and therefore stronger signal for the Public Stock Buyback Tender Offers. Similarly, the fact that the repurchases on the market are made according to the prevailing prices in the market at the time of the repurchase (that is to say without premium) makes their impact on stock prices much lower than that one generated by the Public Stock Buyback Tender Offers' announcements. Empirically, the difference in price reaction between these two methods of repurchase is clearly remarkable. Thus, in the US market, the reaction of shares following the Public Stock Buyback Tender Offers' announcements vary, depending on the studies, between 17% and 7.9% (see Table 1). However, on the same market, this reaction is around 3% for the announcements of the repurchase on the market programs (Comment and Jarrell, 1991; Ikenberry and al., 1995; Stephens and Weisbach, 1998; Guay and Harford , 2000 and Grullon and Michaely, 2000).

The market reaction associated with the repurchase announcements depends not only on the repurchase mechanism used. It is also affected by several factors related to the issuer, to the security and to the operation characteristics. In fact, in most studies, the company size, liquidity, the performance of the securities before the announcement and the participation of managers in the operation, negatively influence the price reaction to the Public Stock Buyback Tender Offers' announcements. By cons, the size of the operation records a positive effect[7].

In summary, the various studies converge on the favorable market reaction following the announcement of a Public Stock Buyback Tender Offer. They add that this reaction is stronger than that seen following the announcements of other repurchase methods.

The reaction of the French market to the Public Stock Buyback Tender Offers' announcements

In this section, we, first, present the study sample. Then, before presenting our results, we will explain the methodology used.

Sample Presentation

In this study, the sample includes the Public Stock Buyback Tender Offers carried out in France between 1996 and 2005. Initially, it is based on 47 operations from 41 companies, which presents all the offers made on the French market during this period. The number of the Public Stock Buyback Tender Offers varies by year. The maximum is reached in 2003 with "10" Public Stock Buyback Tender Offers a year.

We have removed 3 Public Stock Buyback Tender Offers, conducted in 1996, for which the market data are not available in the database "DataStream". We also removed two operations that we were unable to determine their announcement dates. Thus, the final sample includes 42 Public Stock Buyback Tender Offers between 1996 and 2005.

Table 2.1 : PSBTO annual distribution

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
Initial sample	5	4	6	2	3	5	2	10	5	5	47
Final sample	2	4	6	1	3	5	1	10	5	4	42

By distinguishing 3 groups based on their listing market, we note that in most cases the Public Stock Buyback Tender Offers of the companies listed on the "Second Marché" is (45.2%). The offers made by the leading market companies come second with 40.5%. However, the Public Stock Buyback Tender Offers of the companies listed on the "Nouveau Marché" represent only 14.3% of the entire sample.

Table 2.2 : PSBTO distribution according to the firm's listing market

% of PSBTO concerning firms listed on the First Market	40,5%
% of PSBTO concerning firms listed on the Second Market	45,2%
% of PSBTO concerning firms listed on the New Market	14,3%

Any company wishing to perform a Public Stock Buyback Tender Offer must provide an information note to the Financial Markets Authority (AMF). This note will present the offer and detail the reasons for the operation, the company's intentions, the terms (number of shares repurchased, at what price), the intentions of the company's major Shareholders, the timing of operation (start and end of the Public Stock Buyback Tender Offer, the results publication dates) and the financing of the operation[8].

In the notes, companies generally mention several objectives (the priority order is not specified). We kept the five essential motivations. The main reason given by companies is the one that consists in enabling shareholders to realize their investment by presenting their securities with the offer. Often this reason is related to the insignificant liquidity conditions of the action: the company hopes to improve this liquidity and the monitoring of the security by analysts and through the Public Stock Buyback Tender Offer. This motivation is stated 24 times by companies. The next reason is the existence of significant cash. In total 18 Public Stock Buyback Tender Offers announce it. The third reason is the optimization of the financial structure and return on equity (stated 9 times by companies). Stock prices regularization can also justify the companies' use of Public Stock Buyback Tender Offers (stated 8 times by companies). Finally, 7 Public Stock Buyback Tender Offers that have the lack of profitable projects as a motive.

Table 2.3 : PSBTO motivations

PSBTO Motivations	Frequency
Allow shareholders who wish to sell their shares	24 times
Existence of a large cash	18 times
Lack of profitable projects	7 times
Prices regularization	8 times
Optimizing the financial structure and equity profitability	9 times

Regarding financing methods, we find that in most cases the Public Stock Buyback Tender Offer is funded exclusively by cash available in the company (71.4%). For cons, the exclusive debt financing is mentioned in less than 3% (one Public Stock Buyback Tender Offer) of the offers. For other Public Stock Buyback Tender Offers, 21.4% announce funding by cash and debt, and 4.7% did not specify the financing method adopted.

Table 2.4 : Financing methods

Financing Methods	% of PSBTO
Fully financed by cash	71,4%
Exclusive debt financing	2,4%
Financed by cash and debt	21,4%

The information note also clarifies the company's decision regarding the acceptance or not of the repurchase of the over demand. Thus, when the number of shares that the shareholders propose to repurchase exceeds the number that the company originally intended to repurchase, two cases are possible: either a pro rata reduction of the demand where all the offers are reduced to the same number of the securities repurchased as the securities offered; or repurchase of all or part of the over demand.

Companies that take that decision are fewer in number than the others; they represent about 36% of the sample.

In addition, the major shareholder can reveal, in the note, if he wishes or not to put his shares under a Public Stock Buyback Tender Offer. In our sample, we found that in almost 43% of cases, the shareholder declares to participate in a Public Stock Buyback Tender Offer.

Finally, once its shares repurchased, the company may make a public delisting offer, with for example, a mandatory delisting, which will result in the delisting of the company's securities. In our case, only 26% of the Public Stock Buyback Tender Offers made this decision.

Table 2.5 : PSBTO other characteristics

Decision	Favorable decision
Participation of the majority shareholder in PSBTO	42,8%
The company's acceptance of the repurchase request	35,71%
withdrawal of offers following the PSBTO	26,1%

The information about the characteristics of the offer comes from the Public Stock Buyback Tender Offer’s information notes issued by the AMF. Daily market data were collected from the database "DataStream". Finally, the announcement dates, often corresponding to the filing date of the offer document with the AMF, dates of suspension and restarting of the listing during the offer period are from the base« FinInfo».

METHODOLOGY

To measure the price reaction to Public Stock Buyback Tender Offers’ announcements, the event study’s methodology is used. This method measures the impact of a particular signal on the stock prices reaction. It is based on the hypothesis of the semi-strong efficiency of the capital markets. In other words, it assumes that all published information is immediately incorporated into the market securities price.

The impact of an event on the stock prices during the period (named event period) is measured by an abnormal profitability. This latter is the difference between the observed actual profitability during a period (called estimation period) and a standard. The standard corresponds to the expected profitability of the security in the absence of the estimated event, and it is called normal profitability. Generally, the standard is estimated by one of the three following forecasts models:

-The Model of returns adjusted by the average
-The Model of returns adjusted by the market index
-The Models of returns adjusted by the market movements and the risk: the market model.

This model is the most common and the one applied in our study.

Before explaining the calculation of abnormal returns, we define the time scale of the event study, such as the announcement date, the period of the event and the estimation period.

The study of the impact of an information announcement on the stock prices normally mean centration of the event study on the announcement date of the operation. However, in the case of a Public Stock Buyback Tender Offer, the listing is usually suspended at the time of announcement (usually the day before or the same day) and resume again a few days later. Due to the suspension of the rating, the event window is centered around the resumption date of the listing (which is the date 0) and not the date of the Public Stock Buyback Tender Offer's announcement.

The length of the estimation period and that of the event window are left to the researcher appreciation. In our study, the estimation period is 90 days before the event period. The event window has a duration of 21 days spread over a time interval [-10, +10] specific to each security. We note that outside this range, the flow of information about the security is supposed to be normal.

By applying the Market Model, we first determine the abnormal returns of the security i at time t as follows:

$$\mathbf{RA_{it}=R_{it}-(\alpha_t+\beta_t R_{mt}) \quad \forall t\in[-T,T]}$$

With: R_{it} is the observed return of the security i at time t.

$(\alpha_t+\beta_t R_{mt})$ is the normal return of the security i at time t

α_t etβ_t are the parameters of the market model estimated during the chosen estimation period. This period, in our study, is from -90 to -10 days from the date of "0".

[-T, T] is the event period, in the course of our study, a period of 21 days spread over a time interval [-10, +10] specific to each security.

Then, to measure the average impact of the event on the stock market prices of the securities of the sample at time t, we calculate the average abnormal return as follows:

$$\mathbf{AAR_t = 1/n \sum AR_{it} \forall t\in[-T,T]}$$

With:

n is the number of security of the total sample. In our case, n is the 42 Public Stock Buyback Tender Offers studied.

In addition, the average cumulative abnormal return is calculated to test the influence of the event between two different times. Its definition is as follows:

$$\mathbf{ACAR_{(t1;t2)}=\sum_{t1}^{t2} AAR_t}$$

Finally, the Student test is used to test the statistical significance of the AAR and ACAR.

RESULTS OF THE EVENT STUDY

The results of the study event show in the first place that the market reaction following the Public Stock Buyback Tender Offer's announcements varies between -0.46% and + 0.86% during the 10 days preceding the announcement. This reaction does not record any clear trend.

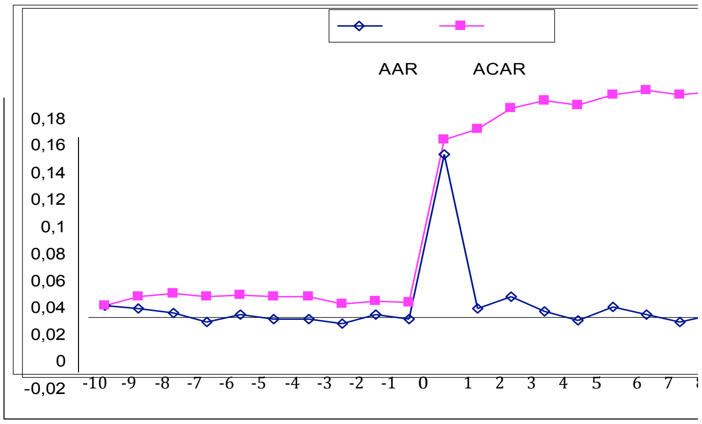
This suggests that the operation of the offer was not anticipated by the market. At the Public Stock Buyback Tender Offer announcement date, the price reaction shows a statistically significant increase (at 1% level) of 13.38%. Positive feedback also persists after the announcement: + 13.55% during the period (0, 60).

Tableau 3: Average and cumulative abnormal returns (AAR and ACAR) associated to announcement of PSBTO

day	AAR (%)	Student T	window	ACAR(%)	Student T
J-10	0,861	1,950*	[0, 1]	14,049	5,796***
J-9	0,500	0,513	[0, 10]	16,094	5,680***
J-8	0,304	1,342	[0, 20]	15,765	4,618***
J-7	-0,464	-1,117	[0, 30]	12,364	3,216***
J-6	0,084	0,237	[0, 40]	12,495	2,772***
J-5	-0,043	-0,124	[0, 50]	11,622	2,107**
J-4	-0,111	-0,273	[0, 60]	13,552	1,957*
J-3	-0,463	-0,681			
J-2	0,178	0,539			
J-1	-0,207	-0,631			
J=0	13,383	5,352***			
J+1	0,666	1,175			
J+2	1,404	0,787			
J+3	0,444	1,018			
J+4	-0,303	-1,240			
J+5	0,655	0,669			
J+6	0,162	0,415			
J+7	-0,366	-1,177			
J+8	0,304	1,335			
J+9	0,168	1,089			
J+10	-0,425	-1,187			

*** significance at 1% threshold
** significance at 5% threshold
* significance at 10% threshold

Figure 1 : AAR and ACAR [-10, 10] associated to PSBTO announcement



Thus, the results show the favorable French market reaction to the Public Stock Buyback Tender Offers' announcements. They are comparable to those found in the US market (see Table1). For example, the recent increase of prices after the Public Stock Buyback Tender Offers announcements, that was recorded by Anderson and Edward (2004) of 13,31% over the period (-1, +1).

The results highlight the importance of the favorable market reaction to the Public Stock Buyback Tender Offers' announcements compared to the one observed following the announcements of the repurchase programs. In the period (0.1), we find a positive price response in the order of+ 14%. In contrast, during the same period, with the announcement of a share repurchase program on the French market, is received by a less favorable reaction: + 0.57% (Ginglinger and L'Her 2006).

The importance of the Public Stock Buyback Tender Offer's informational role demonstrates the credibility of the signal sent by these operations, where the premium paid plays a crucial role.

Determinants of the Public Stock Buyback Tender Offer's premium

The second section of this study examines the determinants of the premium offered in a Public Stock Buyback Tender Offer. For this, we use linear regression, traditionally used to measure the influence of a group of explanatory variables on a dependent variable. Before presenting the results, we explain these two types of variables.

The Dependent Variable

In the framework of a Public Stock Buyback Tender Offer, the premium is the surcharge paid by the company in relation to the share price on the market. It is a key way for investors as it allows them to learn about the extent of the undervaluation of the companies' securities before the offer. This can be explained by two reasons. First, a significant premium makes the Public Stock Buyback Tender Offer more expensive. To this end, the motivation of the companies carrying out Public Stock Buyback Tender Offers, and which the signaling of the securities' undervaluation, is usually the main one, seem more credible. In addition, the premium allows investors to estimate the "true" value of the security, which is usually close to the offer price.

In this context, Comment and Jarrell (1991) empirically show that the credibility of the undervaluation signal requires the non-participation of the managers in the offer and also a premium higher by at least 2% to the prevailing market price four days before the announcement of the offer. Thus, by not offering their securities despite a significant premium, the managers report, in a credible manner, that the action is worth more than the repurchase price.

Also, At an empirical level, Lakonishok and Vermaelen (1990) and D'Mello and Shroff (2000) show a strong positive correlation between the premium of the offer and the undervaluation of the companies carrying out the Public Stock Buyback Tender Offer.(de aumoins2%)

Moreover, the premium provides the Public Stock Buyback Tender Offer with an advantage over other methods of repurchase. The premium in the case of a Public Stock Buyback Tender Offer is often greater than the one offered by the Dutch auctions. The announcements in latter repurchase method carry out a less credible undervaluation signal and therefore generate abnormal returns less favorable than the announcements of the Public Stock Buyback Tender Offer. This difference in response is more noticeable between the OPRA and the repurchase on the market that are made without premium. Comment and Jarrell (1991) validate the latter two findings. Following the results of their study, the market reaction is 11% favorable for the Public Stock Buyback Tender Offers, against 7.9% for the announcements of Dutch auctions, which is still above the reaction associated with the announcements of the repurchases on the market (3 %).

In the briefing notes published by French companies with the AMF, premiums may be presented in several ways. In most cases, the premium is calculated as compared to the last quoted price before the Public Stock Buyback Tender Offer's announcement. It can also be calculated as compared to the average price during the month preceding the announcement or from the average price over the last three months prior to the offer.

In this study, the dependent variable chosen is the premium as compared to the last quoted price before the announcement. In our sample, which covers 42 French Public Stock Buyback Tender Offers, this premium varies between 4% and 265%. The final premium is paid by the company "ICBT Group " that completed the Public Stock Buyback Tender Offer following a capital restructuration. That is why the premium paid by the company is excessively high. However, according to Planchon (2005), the presence of extreme values can lead to biased estimates of parameters and, following the completion of statistical tests, interpretation of results that can be very corrupt. This phenomenon may be accentuated in our case, given the small sample size (42 Public Stock Buyback Tender Offers). To this end, in order to avoid undue influence of extreme observations, we eliminated two Public Stock Buyback Tender Offers that offered particularly surprising premiums for and statistically discordant values compared to the values of other premiums paid. Empirical tests explain the determinants of the premium carried out on a sample of 40 Public Stock Buyback Tender Offers between 1996 and 2005.

Hypothesis and Explanatory variables

Two categories of explanatory variables are used. The first brings together those related to the issuing company, such as its size, the liquidity and the performance of its securities before the offer and its decision concerning the acceptance of the over demand. The second includes variables that are related to the offer, such as the fraction of the target capital and the participation of the majority shareholder in the operation.

The Size of the Company

The favorable price reaction to the Public Stock Buyback Tender Offer‘s announcements is usually accentuated for smaller companies. The different market reaction according to the size of the company, correspond to the motivations of the offer. Large companies use Public Stock Buyback Tender Offers to restructure their capital, while small companies use itto report the signal of undervaluation to the market. The smaller companies are less followed by financial analysts and mis-evaluated by the market, increasing the level of information asymmetry (see Merton, 1987). These companies are frequently required to reveal their undervaluation through Public Stock Buyback Tender Offers than other companies. Thus, they have an interest in paying high premiums to increase the credibility of this signal and further increase the value of their securities following the announcement of the offer. The first hypothesis can be stated as follows:

H_1: The Public Stock Buyback Tender Offer’s premium is even more important when the company is small

This hypothesis was confirmed by most studies (Lakonishok and Vermaelen, 1990 Comment and Jarrell, 1991 and Anderson and Edward, 2004).

The size of the company (SIZE F) will be measured by the logarithm of the market capitalization of the company at the date of the last closing price prior to the announcement of the Public Stock Buyback Tender Offer. The expected relationship between the logarithm of the company and the premium is negative.

The performance of the companies’ securities before the offer

As we have already stated, the premium of the offer is the most important signalization variable. It allows investors to learn about the credibility of the undervaluation signal sent by the Public Stock Buyback Tender Offers’ announcements. To this end, the more undervalued the securities are before the offer, and therefore less efficient, the more the companies are encouraged to pay a significant premium to report to investors the extent of this undervaluation.

Thus, we formulate the following hypothesis:

H$_2$: The Public Stock Buyback Tender Offer's premium is even more important than the performance of the companies' securities when the offer is low.

Dann et *al.* (1991) confirm this hypothesis by showing that the share price increases significantly after a Public Stock Buyback Tender Offer's announcement, when the "net" performances of the share were negative before the announcement. Comment and Jarrell (1991) and Anderson and Edward (2004) further strengthen this hypothesis by finding a negative and significant relationship between the premium paid and the undervaluation of the securities before the offer.

To calculate the performance of securities prior to the announcement, these two studies use two different measures. Anderson and Edward (2004) calculate the ratio between the price of the securities on day - 30 with respect to the offer's announcement date and the price observed on day -500 at the same date. However, Comment and Jarrell (1991) calculate the ACAR over a period preceding the announcement of the Public Stock Buyback Tender Offer. In this study, we adopt the latter measure[13]. Specifically, we calculate the ACAR about two months before the announcement that is to say during the period (-60, -1). This variable denoted PERF is supposed to be negatively related to the premium.

The Liquidity of the Company's Securities before the Offer

The liquidity of securities may increase the information content of their value. Thus, the importance of the transaction volume decreases the information asymmetry level insofar as the more the security is traded the more the market value gets close to the real value of the company. Companies' securities with a low level of liquidity are thus characterized by a high level of information asymmetry and so they are mis-evaluated by the market. They proceed to the Public Stock Buyback Tender Offers primarily to signal the undervaluation of their securities and to increase their market value. To achieve this goal, these companies are encouraged to offer large premiums. Thus, we can formulate the following hypothesis:

H$_3$: The premium of the Public Stock Buyback Tender Offer is even more important than the liquidity of the company's securities when the offer is low.

Empirically, Edward and Anderson (2004) do not find a significant negative relationship between the liquidity of shares prior to the offer and the premium. They use the average daily volume of shares traded by the company during a period preceding the announcement of the offer as a liquidity measure.

In the present study, we retained a different measure of the securities' liquidity. which is the average effective spread during the two months preceding the offer (variable: LIQUID). This spread is equal to twice the absolute value of the difference between the share price and the average price between the seller and the buyer price, divided by the average between the buying price and the selling price. A significant spread indicates that the liquidity of securities is low.

For information, the link between repurchases on the market and the liquidity of the company's securities was recently the subject of several studies (Brockman and Chung, 2001; Cook and al, 2004 and Ginglinger and Hamon., 2006) . The latest study was carried out on the French market. It highlights the negative impact of the repurchases on the liquidity of securities.

The size of the Public Stock Buyback Tender Offer

According to Anderson and Edward (2004), when the operation involves a high fraction of share capital, a high premium encourages shareholders to accept the offer of the company and then increases the chances of the latter to reach its objectives and to succeed in its Public Stock Buyback Tender Offer. Hence, the following hypothesis:

H_4: The premium of the Public Stock Buyback Tender Offer is even more important than the fraction of capital referred to when the operation is high.

However, empirically, Edward and Anderson (2004) do not find a statistically significant relationship between the premium offered and the size of the Public Stock Buyback Tender Offer.

In this study, the size of the operation SIZE O will be measured by the fraction of capital subject to the offer; it is supposed to be positively related to the premium of the offer.

The satisfaction of the oversubscription

The oversubscription is observed when the number of securities offered is greater than the number of securities that the company is planned to buy as part of a public offering. In this case, two solutions are possible for the company: it may decide to repurchase the over demand (in part or in whole) or it just buy the number of securities originally planned by reducing the demands of the shareholders on a pro rata basis of their detention.

According to Anderson and Edward (2004), overdemand suggests that the company proposed a high premium, which encouraged a significant number of shareholders to sell their securities. D'Mello and Shroff (2000) have studied the conditions of satisfaction of the oversubscription to the Public Stock Buyback Tender Offers. The authors found that the decision to satisfy the oversubscription to the Public Stock Buyback Tender Offers is positively and significantly influenced by the extent of the undervaluation. Companies which accept the repurchase the over demand are those most undervalued. They are therefore encouraged to offer large premiums. Thus, we can formulate the following hypothesis:

H_5: The premium of the Public Stock Buyback Tender Offer is more important for the companies that accept the oversubscription

To empirically test this hypothesis, we retain the variable SUR-SOUS that takes the value "1" if the company decides to repurchase the overdemand is "0" otherwise. This variable is expected to be positively related to the premium of the Public Stock Buyback Tender Offer.

The participation of the majority shareholder in a Public Stock Buyback Tender Offer

The decision to carry out a Public Stock Buyback Tender Offer is taken by a few "insiders" who control the company, namely the controlling shareholders or the top-level leaders. The participation of these latters in the offer encourages them to set a higher premium in order to profit from this operation. Indeed, this maneuver allows the "insiders" to sell their shares at higher prices than their actual values. This therefore results in a transfer of wealth from shareholders who hold their securities towards those who sell (Fried, 2005). The last hypothesis can be stated as follows:

H6: The premium of the Public Stock Buyback Tender Offers is more important when the majority shareholder participate in the operation

The variable MAJOR that takes the value "1" if the majority shareholder participates in the Public Stock Buyback Tender Offer is "0", is otherwise retained to test this hypothesis. The expected relationship between this variable and the premium is positive.

Presentation of explanatory variables and descriptive statistics

The definitions of the dependent variable and the explanatory variables mentioned above are presented in Table 4.

Table 4: Definitions and variables measurements

Variables	Definitions	Variables Measurements
PREMIUM	The public stock buyback tender offer's Premium compared to the last closing price,prior to the announcement of the tender offer	= (tender price – the last closing price prior to the announcement of the offer the last closing price)/ the last closing price prior to the announcement of the offer.
PREMIUM 1 MONTH	The public stock buyback tender offer's Premium compared to the average price for the month preceding the announcement of the tender offer (volume weighted average)	= (tender price – to the average price for the month preceding the announcement of the offer)/ to the average price for the month preceding the announcement of the offer.
PREMIUM 3 MONTHS	The public stock buyback tender offer's Premium compared to the average price for the last three months preceding the announcement of the tender offer (volume weighted average)	= (tender price – the average price for the last three months preceding the announcement of the offer)/ the average price for the last three months preceding the announcement of the offer.
AAR-ACAR	The average abnormal return	The average abnormal return after the offer announcement
SIZE_F	The average cumulative abnormal return	The average cumulative abnormal return to the offer announcement over the period (0,1).
SIZE_O	Size of the company	Log market capitalization.
ON-UNDER	Size The public stock buyback tender offer	Fraction of the capital subject of the offer.
MAJOR		Dummy variable taking the value "1" if the company decides to repurchase it upon request (in part or in whole) and "0" otherwise.

$$\text{* The effective spread} = \frac{2^* \left| \text{Price of the Security} - (\text{Bid Price} + \text{Ask Price})/2 \right|}{(\text{Bid Price} + \text{Ask Price})/2}$$

Descriptive statistics are presented in Table 5. For each variable, we calculated the minimum, maximum, average, median and standard deviation.

Table 5: descriptive Statistic

Variables	Minimum	Maximum	Mean	Median	Standard
PRIMIUM (%)	1,1000	72,400	23,433	20,550	16,945
PRIMIUM 1 MONTH (%)	4,2000	49,700	22,566	21,150	12,609
PRIME 3 MONTHS (%)	4,300	54,200	24,622	22,250	12,110
Amount PSBTO (in thousand euros)	2460	848378	75624	26262	141616
NBR PSBTO (in thousand)	37,600	17116	2205	892	3377
SIZE_F	3,473	6,493	4,977	4,975	0,671
SIZE_O (%)	5,000	76,700	28,623	26,040	16,911
ACAR%)	-2,168	59,591	12,856	6,751	15,112
AAR (%)	-7,646	58,540	12,137	5,455	15,568
PERF (%)	-23,643	15,852	0,295	0,901	9,329
LIQUID (%)	0,103	18,600	3,578	2,160	3,928

In the Table 5, the premium compared to the last market price, has an average (median) of 23.4% (20.5%). The average (median) is around 22.5% (21.15%) and 24.6% (22.2%) respectively for the premium during the average price of the month before the offer and the one calculated during the last 3 months preceding the offer.

Given these statistics, we notice that the premiums paid by French companies are comparable to those offered by US companies. In the US market, Dann (1981), Vermaelen (1981) and Masulis (1980) show that the premiums offered during the Public Stock Buyback Tender Offers averaged 22% to 23% compared to the last security price before the announcement of the operation. In addition, Anderson and Edward (2004) have recently reported an average premium of 20.55% compared to the average market price 10 days before the announcement.

Regarding the size of the offer, the amount of the securities repurchased varies between 2.460 billion and 848.378 billion and its average is 75.624 billion. Furthermore, the average (median) of the fraction of the capital referred to, is around 28% (26%). These statistics clearly show the importance of the size of the Public Stock Buyback Tender Offer compared to the repurchases on the market that do not allow companies to repurchase more than 10% of their capital.

As for the variables related to the stock market, the average (median) of the ACAR recorded over the two months preceding the announcement and that of the ACAR calculated one day after the announcement are respectively equal to 0.2% (0.9 %) and 12.8% (6.7%). Thus, it appears that the performance of securities increases after the announcement of a Public Stock Buyback Tender Offer.

Descriptive statistics also show that companies' securities that carried out Public Stock Buyback Tender Offers, are, on average, very low liquid. Thus, the average (median) of the effective spread, two months before the announcement of the Public Stock Buyback Tender Offer, is equal to 3.578% (2.160%).

Finally, the variable SIZE F, which measures the size of the sample companies with an average of 4,977, a median of 4.975, a standard deviation of 0.671, a minimum value of 3,473 and a maximum value of 6.493

The correlation matrix of the variables of the study is presented in the table 6

Table 6 : Variables correlation Matrix

	PRIMIUM	ACAR	SIZE_F	SIZE_O	PERF	LIQUID	ON - UNDER	MAJOR
PRIMIUM	1							
ACAR	0,653*** (0,000)	1						
SIZE_F	-0,364** (0,021)	-0,262 (0,102)	1					
SIZE_O	0,386** (0,014)	0,232 (0,149)	-0,333** (0,036)	1				
PERF	-0,418*** (0,007)	-0,316**	0,152 (0,348)	-0,339** (0,033)	1			
LIQUID	0,457*** (0,004)	0,041 (0,806)	-0,381** (0,018)	0,252 (0,126)	-0,244 (0,141)	1		
ON-UNDER	0,468*** (0,003)	0,502***	-0,245 (0,133)	0,562*** (0,000)	-0,294* (0,070)	0,230 (0,170)	1	
MAJOR	-0,081 (0,629)	-0,327**	0,137 (0,413)	0,041 (0,809)	0,003 (0,985)	0,049 (0,778)	-0,384* (0,019)	1

The correlation table shows a significant and positive link at a threshold of 1% between the variable PRIME and the variable ACAR. Market reaction to the Public Stock Buyback Tender Offers' announcements depends heavily on the premium offered. This confirms the idea that the premium allows investors to learn about the extent of the undervaluation of the company's securities.

The explained variable PRIME appears, in addition, significantly correlated with all the variables except with the variable MAJOR. Correlation signs are those set out: a negative sign for the size of the company and the performance of its securities before the offer; and a positive sign for the size of the operation, the average effective spread calculated before the offer and the satisfaction of oversubscription.

THE RESULTS OF THE LINEAR REGRESSIONS

To test the influence of the explanatory variables defined previously on the premium of the offer, we used the method of linear regression.

To avoid multicollinearity problems, we took the precaution of not putting variables correlated to over 20% (significantly at a threshold of 5%) in the same regressions. So we were obliged to test 4 "reduced" models to check the links between the premium and our explanatory variables

Table 7 : Linear Regression results – Explained Variable is the prime offered during the PSBTO

	Expected sign	Model 1	Model 2	Model 3	Model 4
CONSTANT		62,353 (3,410)***	10,729 (2,047)*	14,431 (4,304)***	17,692 (5,506)***
SIZE_F	(-)	-7,648 (-2,082)**			
SIZE_O PERF	(+)		0,294 (2,030)**		
LIQUID ON-	(-)	-0,675 (-2,575)**		-0,452 (-1,807)*	-0,599 (-2,338)**
UNDER	(+)		1,695 (2,644)**	1,431 (2,391)**	1,654 (2,650)**
MAJOR	(+)			11,186 (2,307)**	
Adjusted R^2	(+)	-1,373 (-0,278)	-3,768 (-0,782)		
F-statistic					
		0,208	0,236	0,345	0,269
		(4,407)***	(5,013)***	(7,851)***	(8,162)***

The results of these 4 models give an adjusted R^2 which varies between 20% and 34% and significant values of F of Fisher at a threshold of 1% showing that our models are globally important.

In the first equation, the size of the company SIZE F explains negatively and significantly the premium of the offer. In the second equation, the SIZE O variable that measures the size of the operation is positively and significantly related to the PRIME variable. According to these results, the premium offered seems to be more important when the company is small and the fraction of capital referred to during the operation is high.

In the US market, Edward and Anderson (2004) and Comment and Jarrell (1991) show that the premium of the offer is also affected by the size of the company; by cons, it does not depend on the size of the operation.

Regarding the performance of the securities before the offer, the results found in our study confirms those found by Anderson and Edward (2004) and Comment and Jarrell (1991). In the equations 1, 3 and 4, the PERF variable has a negative and significant coefficient. The performance of the securities before the offer, which is measured by the ACAR over the period (-60, -1), negatively influences the premium. When its securities are highly undervalued, the company appears to pay a significant premium in order to reflect the extent of this under-valuation to the investors. This result confirms the hypothesis H2, which stipulates that the premium of the Public Stock Buyback Tender Offer is more important than the performance of the securities when the offer is low.

We also assumed that a low level of liquidity of the security before the tender offer is pushing companies to offer higher premiums. The LIQUID variable defined by the average effective spread during the period (-60, -1) is, in this study, an indicator of the liquidity of the securities. The coefficient of this variable in the equations 2, 3 and 4 is positive and significant. Thus, the liquidity of the security, before the tender offer, has an inverse effect on the premium of the offer, which corroborates the 3rd hypothesis of this study. It should be noted that this impact is not confirmed by Anderson and Edward (2004) who used the average transaction volume calculated over 40 days prior to the tender offer as a measure of liquidity of the company's securities.

Table 7 also shows that the dummy variable ON UNDER, which takes the value "1" if the company decides to repurchase the over demand is "0" otherwise it is significantly and positively related to the variable PRIME. It appears that the companies that accept it on demand, offer significant premiums, which confirms the hypothesis 5

Finally, unlike the explanatory variables evoked, the variable MAJOR does not explain significantly the premium of the tender offer. The link between the premium of the offer and the participation of the majority shareholder in the operation cannot therefore be confirmed.

In other words, smaller companies with less liquid and less efficient securities, accepting the over demand and for a high fraction of capital appear to offer significant premiums.

CONCLUSION

This article intends to cover The Public Stock Buyback Tender Offers. The motivations of these operations are first of all analyzed. The companies use The Public Stock Buyback Tender Offers in order to report to the market the under-valuation of their securities. They also carry out these operations for some secondary purposes, such as: reducing agency conflicts within the organization, the anti-takeover defense, the expropriation of the creditors and the delisting of their securities

The impact of The Public Stock Buyback Tender Offers conducted in France between 1996 and 2005 on stock prices is then studied. The results of the event studies show that these announcements are welcomed by a very favorable price reaction. This confirms the results found in the US market.

The explanation of the premium determinants of the tender is the subject of the last section. The results of the linear regressions show that the weak liquidity and the performance of securities during the period preceding the Public Stock Buyback Tender Offer appears to encourage companies to pay large premiums.

It also appears from these regressions that smaller companies, which accept the oversubscription and aim for a significant fraction of capital in the tender, are also encouraged to offer high premiums.

As an extension of this work, our future research is concerned, in addition to the features mentioned in this study, with the corporate governance aspects in order to study the reasons for the Public Stock Buyback Tender Offers in a more general context.

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An Emerging Awareness of Generation Z Students for Higher Education Professors ©

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ABSTRACT

Generation Z, sometimes referred to as the iGeneration by demographers, marketers, and psychologists are a point of research by business professionals. However, little work has been done by academicians to research these students' perceptions on various issues in a college setting. This study investigated Generation Z college students' views regarding trust, use of social media, and related issues. The variables studied relate to current literature and key indicators representative of this generation. College students were the targeted participants. Students were surveyed in business courses after permission of the instructor was obtained. Subsequent interviews of faculty have begun. Quantitative surveying of faculty has been initiated. The findings indicate a group with high expectations for trust in others and with dependency on social media. The ramifications for professors will be discussed.

INTRODUCTION

Generation Z, sometimes referred to as the iGeneration by demographers, marketers, and psychologists are a point of research by business professionals. However, little work has been done by academicians to research these students' perceptions on various issues in a college setting.

This multi-phase study investigated Generation Z college students' views regarding trust, use of social media, and related issues. The variables studied relate to current literature and key indicators representative of this generation. College students were the targeted participants. Students were surveyed in business courses after permission of the instructor was obtained. Phase 2 includes subsequent interviews of faculty and staff that interact with this age group; this phase has begun.

This research studied if this sample of Generation Z expects trust and truthfulness from those with whom they interact. How much they connect via social media was an area of questioning. Furthermore, if they perceive themselves as dependent upon this technology was determined.

CHARACTERISTICS OF GENERATION Z

While research is limited on this generation, many consider the Gen Z birth period between 1994 and 2004 [ending 2010, Renfro, 2012] (Mueller, 2011). It is estimated that Gen Z are 23 million individuals. Interestingly, given their birth years, many of the members of this generation also overlap the latter Millennial years. This observation is useful, yet somewhat deceiving as you will read, when studying Generation Z. Note: in recent years (2013 on) marketers focused and wrote about Gen Zers who, in particular, were 14-19; therefore they're young and their views may change as they age.

Gen Z is also called Generation I, Generation Next, New Silent Generation, Homelander Generation, Vista Generation, Internet Generation, iGeneration, Generation Now, Computer

Generation, Generation M (Millennium or Multi Task), Millennials, Google Generation, Generation Q (Quiet), Net Gen or Net Natives (Generation Z-The iGeneration). They are so comfortable -- perhaps dependent on technology -- that they are often termed Digital Natives. Slavin (2014) describes the characteristics of Gen Z: Born in the digital world and use technology to connect with—not escape from—each other and the world; Holistic Connections: they want to be engaged in experiences that take them out of their comfort zone; they build a community by wanting to be heard, actively participating in what is around them and leading. They share stories and may not listen to those older because members of that age groups are perceived as those who have made mistakes. Members of Generation Z create movements and trends in marketing (Slavin, 2014), and may carry the realization of that impact into the classroom.

Thomas (2000) describes this group as somewhat outspoken, idealistic and action-oriented. Like the Millennials (Generation Y), they are optimistic. They display introspective intellectualism. Furthermore, being tech-savvy, and having no memory of pre-Internet history, they believe computer technology is commonplace. They see social networking as the norm and are facile with various social media sites and networking platforms. Therefore, they are members of various 'Net communities. As new technologies emerge, they may be among the first to use them and to become immersed in them. Since they were so active in electronic communities as they grew up, Mueller (2011) notes that they have little concern for privacy and no problem sharing even the most intimate details of their lives with virtual strangers. They have short attention spans (Micoleta, 2012). They are frequent bloggers, or "Vloggers" (video bloggers) (Benhamou, 2015) and enjoy digital publishing (Lyon, 2010). Correspondingly, similar to Generation Y, Generation Z are very collaborative and creative. They prefer a flat organization to a hierarchy at work (Benhamou, 2015). They are comfortable, and they believe capable at multi-tasking. There is concern that they may not perform well in areas such as public speaking, which is an essential business skill set.

Gen Z is, though, in many ways, different from their older counterparts in the Millennial Generation. For example,
"Generation Z is growing up in a time of complexity… Generation Z doesn't want to be tracked, preferring Snapchat, Secret, or Whisper to communicate…Generation Z wants to co-create, live stream and help to make up the activity as they participate…Generation Z has an attention span of 8 seconds. ..Generation Z prefers communicating through images, icons and symbols rather than texts…They multitask on five screens [a smartphone, TV, laptop, desktop, iPod (Glum, 2015)], not one or two. They experience FOMO: the "Fear Of Missing Out." … They plan to get educated and start working earlier, but will be 'school hackers' " (Elmore, 2014). One report noted that 40% of them expect to work for themselves at some point (compared with 10% of the older Millennials). Comparable to their older counterparts, they prefer integration of practical experiences within their majors (StatsWatch, 2015).

It's essential to remember that the individual members of Gen Z have unique personalities and backgrounds. They are inundated with homework, extracurricular activities, and other social and family commitments (Crappell, 2013). This is similar to their older Millennial counterparts.

INFLUENCERS OF GENERATION Z

Generation Z is the first generation in the United States to be born with complete electronic technology. Their formative years have been spent using Internet platforms. They were born with PCs, mobile phones, gaming devices, MP3 players and the Internet. Social media, such as Facebook, is commonplace to them (Lyon, 2010). Generation Z grew up with touch-screens.

Their phones have always been "smart" (Elmore, 2014). This social networking has provided many virtual friends who they may have never met face-to-face. Their paradigm of who constitutes colleagues is vastly different from that of Generation X and those older. Video sharing platforms, including YouTube are frequently accessed by this group. They have seen the emergence of high-tech cell phones, which are termed “smart phones” for their relatively extensive capabilities. Interestingly, though, they prefer anonymous, fast-erasing social media platforms (Glum, 2015). They believe they email, text and use computers without any problems, although Medina (2008) has found that the multi-tasking is inefficient.

Despite the fact that this generation is technologically sophisticated for their age, they are also members of the age groups that have seen less outdoor activity, more sedentary life styles, and corresponding health issues. Furthermore, due to the rapid movement of technologic communication, they expect instant-gratification (Crappell, 2013; Banhamou, 2015). Familiar with anonymous criticism, they have and expect to continue to speak with “an audience” (Generation Z, 2008) in the public sphere. Additionally, they are capable of finding information from multiple sources, including YouTube when writing research papers (Glum, 2015). Furthermore, this generation is the most diverse and multicultural of any in the United States with 55% Caucasian, 24% Hispanic, 14% African-American, and 4% Asian. They have been described as responding to innovative thinking and self-direction. They are very transparent online, and they prefer a 2-way conversation when online. They are open-minded and adaptable (Bernstein, 2015).

Additionally relevant to educators, they have been described as “independent, stubborn, pragmatic, and always in a rush”. They speak using many acronyms unique to their generation. They are “self-educators”, in that they learn new things through self-help videos on YouTube. According to a study by Sparks and Honey, the average Gen Z-er spends more than three (3) hours per days in front of a screen. They skim-read rather than reading thoroughly. When asked for a reaction to the word “business” responses include “complicated”, “brutal”, and “ a jungle” (Benhamou, 2015). This latter point may be particularly disconcerting to those who teach business. According to Williams (2015), their pragmatism leads them to want to see themselves as in control and are very focused on “sensible” careers.

METHOD

This study investigated Generations Z college students’ views regarding trust, use of social media, and related issues. The variables studied relate to current literature and key indicators representative of this generation. Students were surveyed in business courses after permission of the instructor was attained. The student survey questions were the basis for the subsequent face-to-face interviews with faculty, and for faculty surveys. Those interviewed face-to-face are in the very early stage.

The study employed a web based questionnaire for quantitative methods. The questionnaire included multiple choice and fill-in-the blank question types. The survey was pre-tested by a small group of faculty. The instrument was then administered to undergraduate students in the targeted courses. During Stage 1, which is reported in this paper, a sample of 81 students was the student participants group. The university in which the research was conducted is a small private institution. In Stage 2, the research was expanded to include faculty from business and other disciplines that were interviewed and surveyed. This stage will also include administrative staff interviews in the future. The web-based faculty interview questions are based upon the student survey questions and ask professors their perceptions of Generation Z. A group of 20 professors were surveyed online. Faculty are surveyed to determine if their views of students' responses are accurate compared to actual student research's findings. Stage three may then be conducted in other academic higher education colleges and universities.

FINDINGS

Many members of Gen Z are familiar with just the "tip" of the Internet iceberg and are unfamiliar with electronic resources, such as commercial subscription databases. They demonstrate an overreliance on Google as the first and best choice to find answers. They do not have the meta-cognitive skills to know when to stop using Google and other search tools and to try a different information search strategy. Further, these young searchers often use Google carelessly to determine or measure the significance of a topic or individual, thereby leading to faulty conclusions (Geck, 2006, Are these teenagers Internet experts or novices?, para. 6).They are not information literate (Geek, 2006). This is a major concern because college students need to be information literate in the library with academic sources.

As mentioned previously, literature suggests that Generation Z members are typically connected with others. This manuscripts' research of college Gen Zers supports that earlier research, as shown below in Figures 1 and 2. As Renfro (2012) noted, "Gen Zs are always connected in a near seamless cloud-based world of friends, data, and entertainment."

Figure 1: I feel connected to many people.

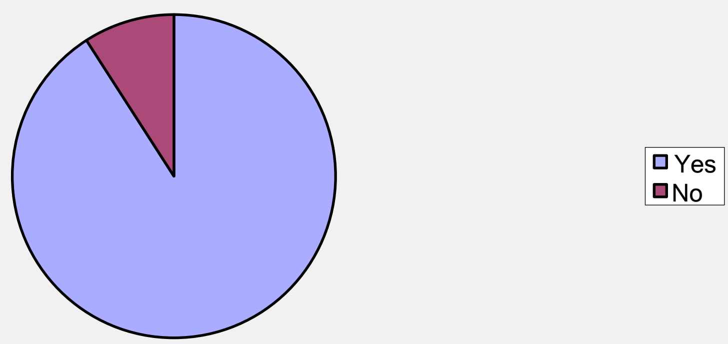
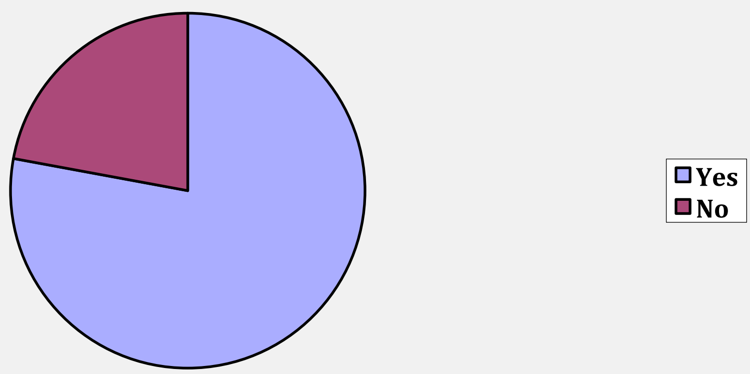


Figure 2: I am connected to many people through social media.



Furthermore, general interest literature about this generation suggests that they value trusting other people. This study supports that premise for college freshmen (See below.) Furthermore, the researcher all respondents noted that trust in someone else is important to them. The vast majority noted that this aspect was very important to them.

Figure 3: Trust in another is important to me.

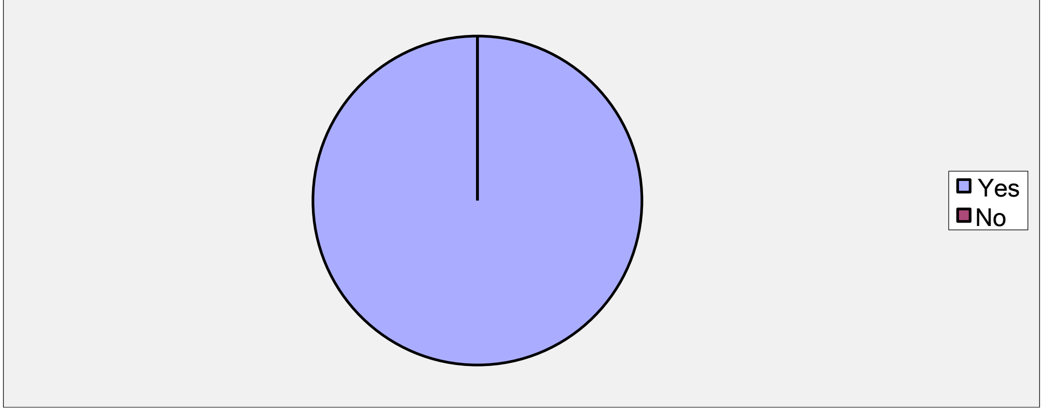


Figure 4: How important is it that you trust someone you interact with?

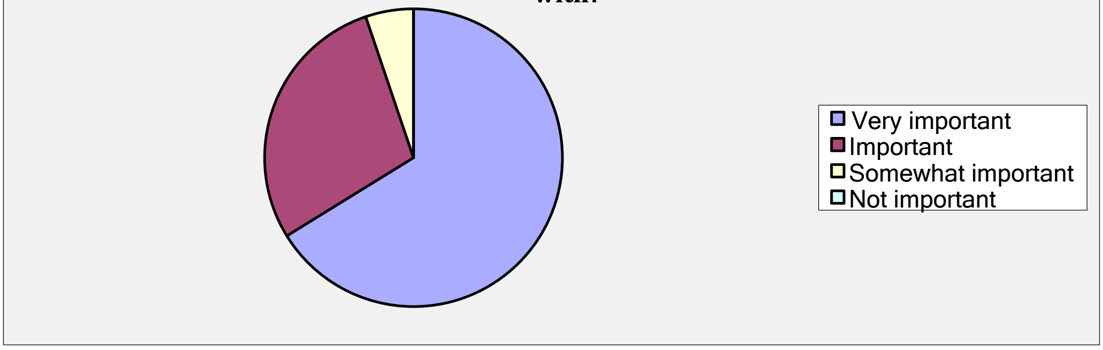
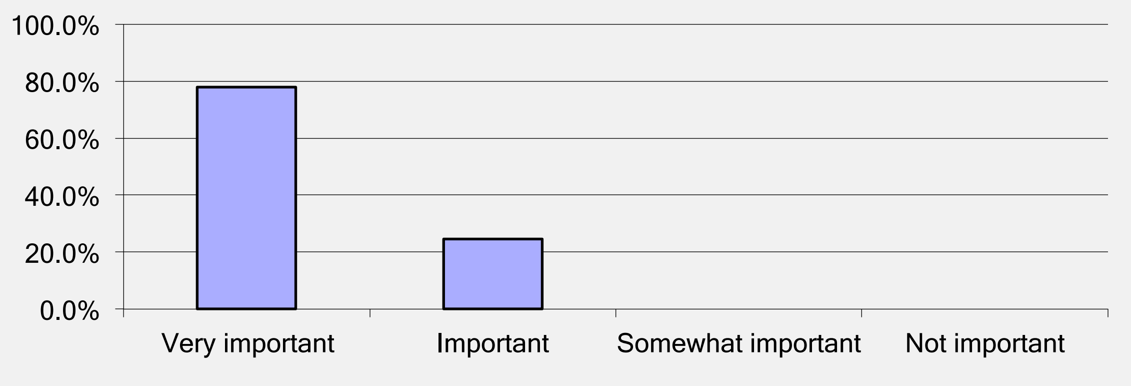


Figure 5: How important is truthfulness in someone you interact with



It has been questioned that since this generation relies so much upon others, that they may lack the adaptability and flexibility needed in the 21st century business world. This research does not support this concern. This group of Generation Z believes they are very adaptable and flexible to new ideas. (Please see Figures 6 and 7 below for their perception of their adaptability.) These skills will be essential in business careers, especially in the fast- changing business discipline. This researcher's findings support Renfro's (2012,a) view that, " They are flexible in nature and expect flexibility from institutions".

Figure 6: How adaptable to new ideas or ways of doing things are you?

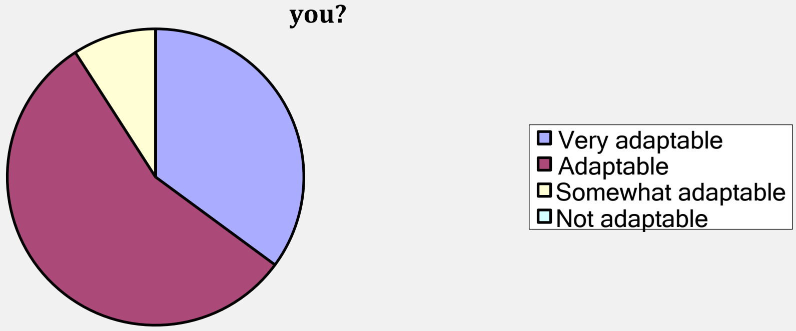
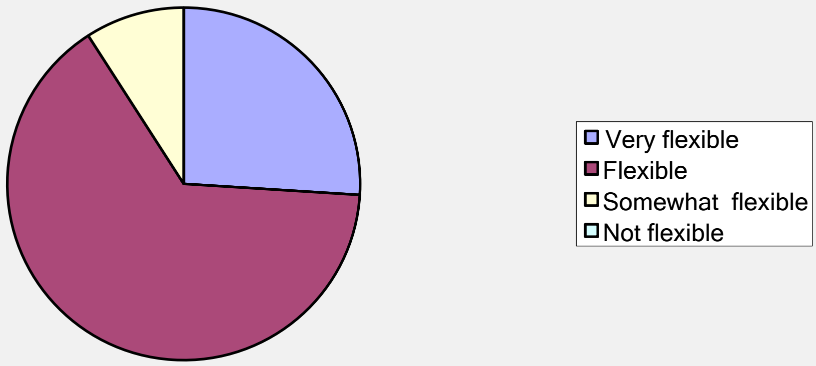
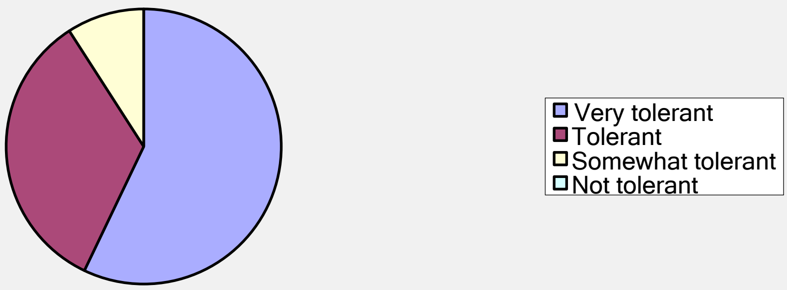


Figure 7: How flexible to new ideas or ways of doing things are you?



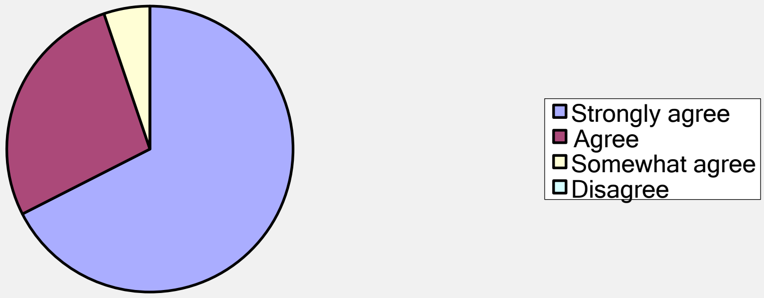
Since GenZ is the most diverse generation in the United States to date, it is expected that they are accepting of diverse populations. Williams (2015) states that between 2000 and 2010, the United States' Hispanic population grew four times faster than the rate of the total population; that Americans self-identifying as biracial of black and white grew 134 percent; those biracial of Asian descent and white grew 87 percent (para. 20). This research supports that view, as seen in Figure 8. Higginbottom (2013) found that Gen Z expects that diversity and equality will be the norm in the workplace.

Figure 8: How tolerant are you of diverse cultures?

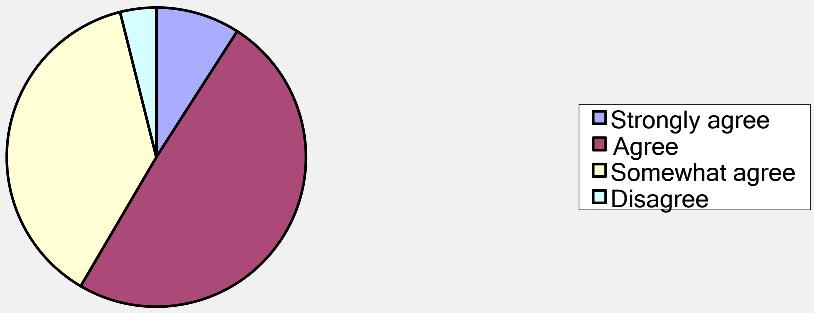


One characteristic of Generation Z is their active use of technology. The researcher asked the students to rank how comfortable they are with technology. In the study, the vast majority "strongly agreed" with the statement "I am comfortable with technology". Additionally, many of the respondents "agreed" with the statement. Only a small percentage slightly disagreed with the statement. None of the students disagreed. Furthermore, the vast majority of students said they are dependent upon technology. (Please see below.)

Figure 9: I am comfortable with technology.



Fugure 10: I am dependent on technology.



The researcher next investigated the students' use of technology. Abramovich (2015) cites Ad Week information that "thirty-three percent of Gen Zers watch lessons online, 20% read textbooks on tablets, and 32% work with classmates online" (para. 6). (Fudin (2012) states, "They have a positive attitude towards technology and are not afraid to try new things. Because they're comfortable exploring the Internet, they're more connected to the world than previous generations. When they're curious about a subject, they'll often research it online." The findings detailed here may help to explain why this attitude may exist.

The majority of surveyed students spend 2-7 hours per day online. The university in which the research was conducted has been recognized as a technology-advanced 4-year institution, and that may explain why these results are more hours than Banhamou (2015) found. For example, this researcher's university was the first to provide faculty and every full-time student an iPad in 2010. New full-time students (most are Generation Z) received an iPad with retina display in 2012 (in addition to the MacBook Pro for all of incoming freshmen.) The university is an Apple Distinguished Program, which is a designation reserved for programs that are recognized centers of educational excellence and leadership (Seton Hill University main website page). That academic environment may have influenced the students' responses. As shown below, the students typically reported spending at least 2-3 hours/week online as part of class work (34% of respondents). Furthermore, this steady use of technology continues on class-related assignments outside of the class sessions, with 50.7% stating 2-5 hours outside of class (Please see charts below.)

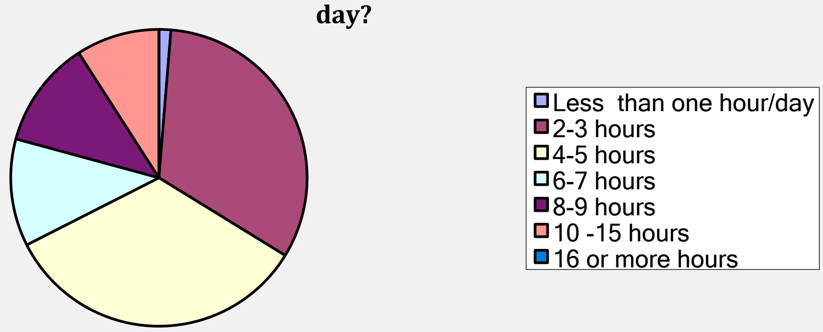


Figure 11: How much time do you spend online during a typical day?

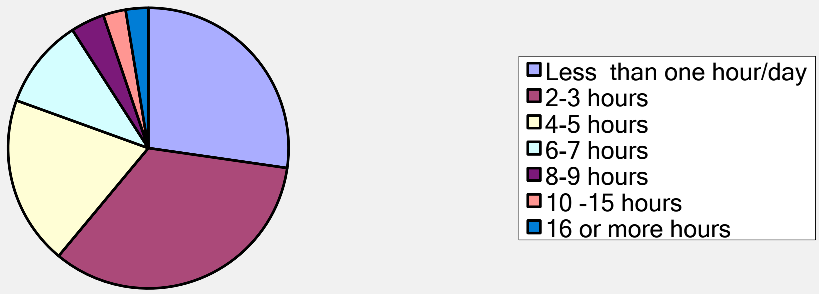


Figure 12: How much time do you spend online during class time in a typical week?

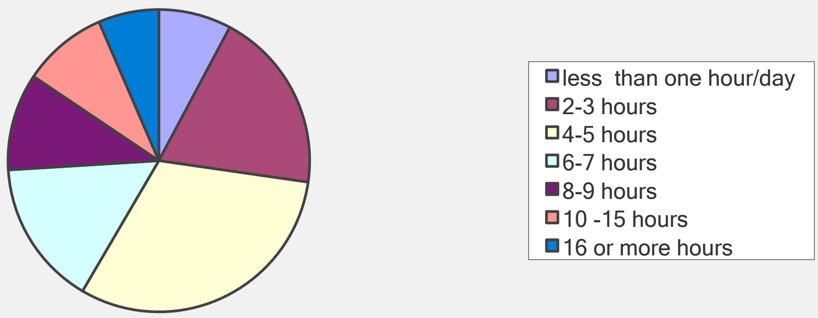
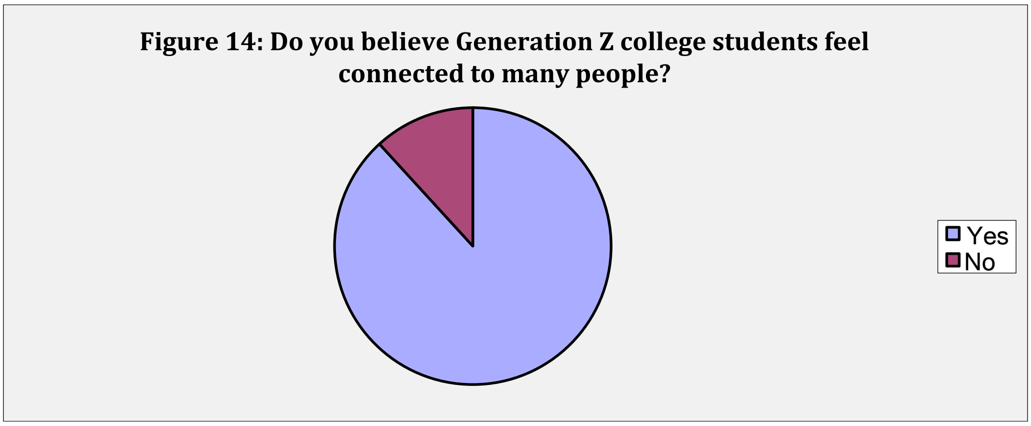
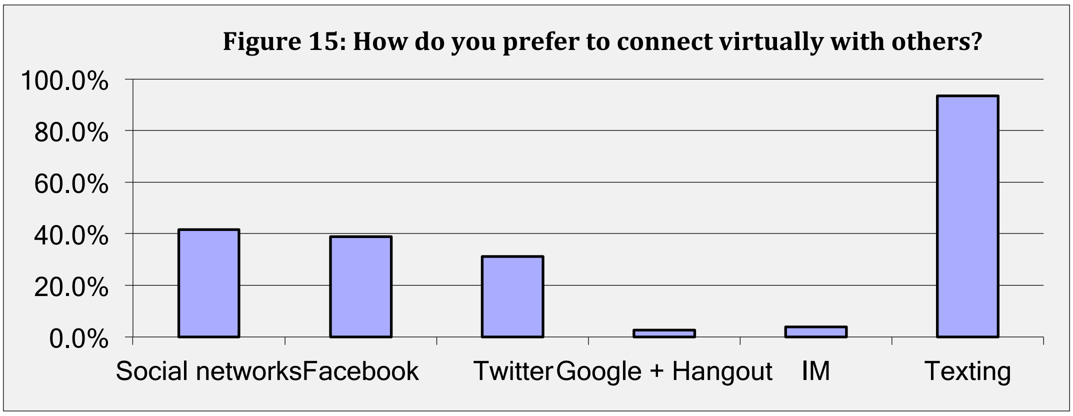


Figure 13: How much time do you spend online outside of classes during a typical week?

Generation Z is very close to their parents. However, it has been stated that parents tend to build too much "easy-to-get self-esteem" in their Gen Z children. This high self-esteem along with easy-to-use digital tools leads the Gen Zs to think they can do anything (Renfro, 2012, a). Correspondingly, Slavin (2014) noted that Gen Zers want to be heard and want to actively participate in what's happening in the world. They want to make changes for what they perceive as mistakes made by the older generations. As part of their mindset, this research has found that most of the students feel connected to many people.



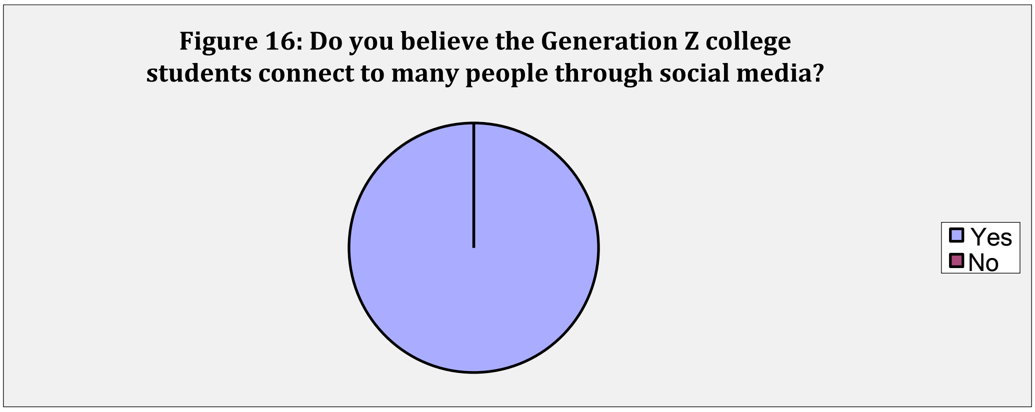
The researcher investigated what tools students use to virtually connect with others. As shown by the chart below, texting was the most preferred method of connecting with others, followed by social networks, and then, Facebook. An open-ended question on the survey asked students to note other ways they prefer to connect virtually with others. If the reader doesn't recognize all of the social media platforms stated, one needs to realize that this generation is currently using some social networking sites that are not known to older generations. This fact may become a class management issue if professors do not know what platforms to monitor.



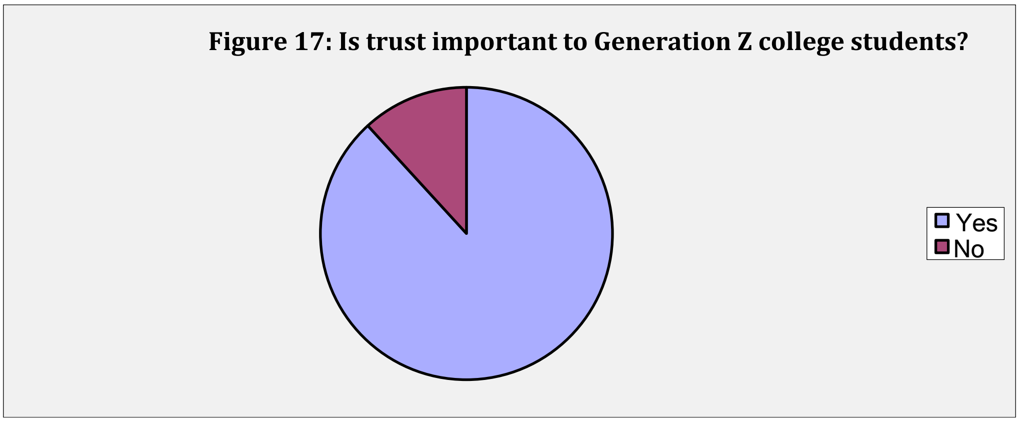
FACULTY PERCEPTIONS

In Phase 2 of this study, 20 faculty were surveyed online (17 completed the entire survey. Some faculty didn't believe they were knowledgeable enough of this group of students to complete all questions.) and seven different faculty were interviewed face-to-face. More faculty from the online group will be interviewed face-to-face. Their responses correspond to the students' responses, indicating a generally accurate understanding of this group of students.

When asked if Gen Z students connect to many people through social media, all online surveys stated yes. (See chart below.) Stone (2010) reported that a survey in 2009 by Pew showed that teenagers are more likely to send instant messages than slightly older 20-somethings (68 percent versus 59 percent) and to play online games (78 percent versus 50 percent). Larry Rosen, cited in Stone, has said that younger Gen Zers may spend considerably more time texting than talking on the phone, paying less attention to television than the older group, and tending to communicate more over instant-messenger networks. Higginbottom (2013) has stated that "They are complete digital natives and cannot function without communicating through social media".

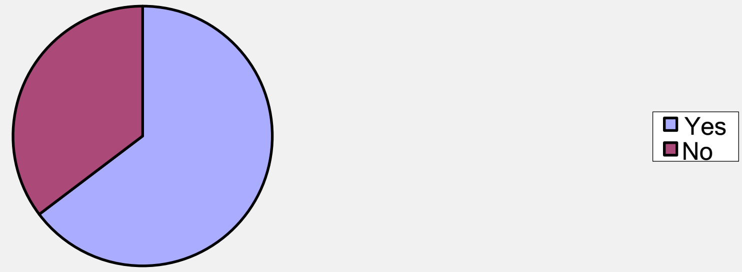


As evidenced by this research about college Generation Z members, they bring a high expectation for trust in others to their college experience. Professors surveyed agree with this attitude. (See below.) Although professors are accustomed to establishing some level of camaraderie with students, the "trust factor" may not have been deemed a high-priority consideration. Most students in the survey noted that they have good-to-very good teacher-to-student relationships. Realizing how important this factor is to this group of students, faculty may need to ensure the relationship is not only professional, but also "trustworthy". Consistency of grading, equitable treatment of students, and predictable reactions by the professor will be key. How this generation defines "trust" and how they expect trust to be established in their professor-student interactions will become more evident as their numbers grow in universities. Correspondingly, professors will also want to prepare students to display the trust they expect of others.



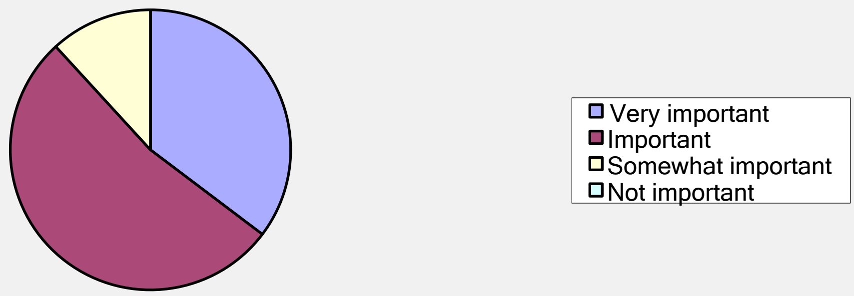
Renfro (2012,a) warns that other generations must deal with Gen Z's' changing (or lack of) interpersonal skills that are driven by advancing technologies. Generation Z prefers a flat organization to a hierarchy at work (Benhamou, 2015). How this will translate into the class is still evolving. Most surveyed faculty in this study believe it's important for these students to have an older academic associate whom they can trust. (See Figure 18.) Although an academic associate may not be a friend, 92% of the students responded that they have an older friend whom they can trust.

Figure 18: Do you believe that Generation Z college students have an older academic associate that he/she can trust.



Contrasting the fact that 88% of the online surveyed faculty believe that Generation Z college students think truthfulness in someone with whom they interact is very important-to-important (See Figure 19.), attention has been paid to the concerns about Generation Y's possible tendencies for classroom cheating. If Generation Z members are more transparent than older Millennials, will this influence their perception of "sharing" work with others and lead to more cheating ? Renfro (2012, b) discusses the impact of gaming on this generation, including on their possible views towards what constitutes "cheating". His discussion includes that, "Gamers are rewarded along the way. They get instant feedback….They work in a collaborative environment. The gaming environment is immersive and visual….Cheats allow gamers to advance when they are stuck or need help". This gaming mindset may blur the perception of the possible severity of "cheating" consequences. Will Gen Z's extensive use of technology impact their transparency and therefore their view of what does, and what does not constitute cheating, per se?

Figure 19: How important do you think Generation Z college students think truthfulness in someone with whom they interact is?



Generation Z, like Generation Y, uses social media extensively. Since Generation Z started using this technology earlier than Generation Y, have their socialization processes been impacted to the point that their self-reported "dependency" on technology will become a significant classroom management issues? Since their sense of "privacy" is viewed quite differently from that of their professors from Generation X and older, will Generation Z students respect other students' privacy regarding remarks shared in the classroom and on electronic course sites? If they are working on an assignment, including primary research, that involves confidentiality, will Generation Z students appreciate the need to follow Institutional Review Board and the course assignment's privacy requirements? If this is a concern for a professor, what steps can be taken to develop this competency in the students? For example, students need to sign confidentiality agreements for some assignments, and the professor has to define confidentiality, and to stress the importance of that action.

IMPLICATIONS FOR BUSINESS PROFESSORS

As many professors may attest, the attention span of Gen Z is short. Furthermore, for Gen Zers to focus on a single task for any length of time can seem arduous. Setting goals at several levels can prepare students for more difficult tasks. Rather than assigning work in time slots, assign specific tasks and/or weekly goals. Success can motivate; therefore professors want to consider projects that allow for students to experience regular success (Crappell, 2013). Simulations can be very effective for this generation. More than half of these students want experiential learning, and 89 percent of these students, in a recent study, rated higher education's value as "'very high'" and as a means to secure a good job. This love of learning may facilitate them adapting to the new challenges and expectations that they'll find in higher education classrooms (para. 2,and 5). Educators will need to teach students how to analyze, interpret, and utilize ever-changing content and information, rather than educating students on how to collect information (Dillon, 2007). Simulations can facilitate the development of these cognitive skills.

Garff (2011) noted that virtual teaming at the workplace will increase. A recent survey of America's largest companies found that executives are concerned about a "lack of trust-building opportunities" in those virtual settings (p. 22). The growth of this workplace practice creates a potentially paradoxical situation for Generation Z future business managers. They will very likely be comfortable in the virtual setting because of their acculturation, yet they will also be responsible for building and fostering the trusting relationships they value. This challenge creates an opportunity for higher education educators to utilize social media as part of team-based assignment criteria.

Generation Z also brings their technological savvy to campus. The tech-savvy generation expects use of this technology in the classroom. Professors may need to design course work that infuses more virtual connectivity.

It's crucial that Gen Z educators are current with up-to-date online and technology resources. Additionally, they need to "create connections" for the students (O'Connell, 2013). Medina (2008) has found that individuals who have used high speed technology during their formative years have shorter attention spans. He recommends that the teacher should respond to this Generation Z trait and divide class time into shorter, 10-minute segments. Each of these segments should be followed by a short "connector" such as a practical example of the materials' application, a short small-group exercise, or a "technology break" in which the students are encouraged to use their technology to research data, so on. It has also been noted that, "a short attention span, perhaps brought on by the tendency to multitask, also requires information to be delivered in rapid, short bursts if it is to be understood. Generation Z thrives on instant gratification" (quoted in Mueller, 2011). Furthermore, Abramovich (2015) cites a finding that the average Gen Zer's attention span is approximately eight seconds (para. 10). Therefore, perhaps the "chunks" of content will need to become shorter in the future. These neurological, psychological findings may lead to the need for faculty professional development endeavors. The campus where this manuscript's research occurred has instituted that type of training to facilitate faculty's comfort with effectively educating Generation Z. Vander Ark(2011) encourages a blend of online and onsite learning.

As stated previously, Phase 2 of this research involves face-to-face interviews within faculty and staff who interact with Generation Z college students. This phase is in its early stage of development. One interviewee thought that Generation Z students trust others too much and depend on social media to learn opinions rather than forming, and then trusting, their own ideas. This is supported by Renfro (2012,a) who noted that they love to "crowd source" for solutions on social media. If the interviewed professor is accurate, how can professors develop the students' idea generation abilities and their self-efficacy of this competency?

Since Generation Z uses social media so much, it may help them transition easily into business professionals who use social media as a business tool. Therefore, professors, who, over the last few years, have been implementing high-tech tools in the classroom, will very likely be expected to add more assignments using a variety of social media platforms. As Wellner (2000) notes, Gen Z may be computer literate before they even get to [elementary] school…Multimedia will be as prevalent in the classroom as the chalkboard, (para. 4). The faculty will institute these actions as pedagogical tools while maintaining academic integrity. For content–heavy courses, this infusion of technology may be a challenge because of the time taken in class for social media interaction.

LIMITATIONS AND AREAS FOR FUTURE DEVELOPMENT

As noted earlier, there is a dearth of academic literature on this subject for higher education. The first phase of the research gained significant data for this research. One limitation is that the information is self-reported data and is centered in the Unites States. Most of the surveys were administered during class time, but the completion of the questionnaire was optional. Since most students have iPads or Macs in the classes, a person's self-selection out of the survey would not be visible. (The student who might elect not to participate could continue to use the devise for non-research activities.) Furthermore, a limitation of this study is that it was performed in high-tech university.

The sample size is limited. This manuscript reports student results conducted this year. A previous, current sampling of student surveys will be fused with this 2015 data and analyzed in the future. That will enlarge the number of participants. Furthermore, considering the precaution of Singham (2009), "stereotypes are of little use in predicting the traits that any given person is likely to display" (para. 15), the information contained in this survey is reflecting normative data of this research, and not intended to generalize nor stereotype.

Since this is a longitudinal, multi-phase study, the results and analysis have been expanded beyond the current convenience sample group. Those most recent results are noted in this documents. Future research will compare earlier student findings with the most recent results. The second phase of the research, face-to-face interviews with faculty and university administrative staff that teach and/or interact with Generation Z has begun. As this phase evolves, there may be continued agreement with the students' perceptions of various aspects. Furthermore, since the faculty will be from business and liberal arts courses, the type of topics covered in classes may influence the professors' perceptions of students' trust of others. As individual professors use technology in the classroom to varying degrees, will their impressions of this generation's use of social media differ? The online surveying of faculty stage of Phase 2 has been conducted with interesting results. Faculty from this convenience sample will be interviewed face-to-face to uncover some of their experiences that may have influenced their perceptions.

As Generation Z progress into higher college years, the survey size will be larger and may lead to differing results. Furthermore, additional mechanisms to operationalize and monitor Generations Z's college usage of social media and the outcomes of that usage may emerge. As different social media platforms and networks develop, research of this generation's use of this type of technology will need to determine how the possible introduction and use of new social media platforms impacts the emerging data for an investigation.

Possible future research may lead to investigating how trust of others translates into an academic setting for these college students. How is trust established between professors and Generation Z?

SUMMARY AND CONCLUSIONS

Although demographers , marketers, and psychologists have discussed Generation Z in general interest publications and the popular press, very little scholarly research has been conducted about this group as 4-year, higher education students. This research found that Generation Z expect trust and truthfulness from those with whom they interact. They extensively connect with others through social media. They perceive themselves dependent upon this technology. They see themselves as flexible and adaptable.

The information offered in this research provides valuable information for an audience of higher education professors as well as professionals who investigate the pedagogical ramifications of teaching Generation Z. This study contributes to higher education pedagogy by providing a format for investigating students' perceptions of their use of social media, trust of others, and their adaptability.

The awareness of this student-centered information can enlighten a professor about the technology usage of students. As universities and colleges continue to realize the importance of students' perceptions towards trust and social media, these findings are relevant. The recent entrance of Generation Z into higher education leads to a need for more knowledge and understanding of student perceptions of various variables that may impact higher education. Therefore, the research findings delineated in this paper partially fill a gap in the academic literature.

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Capitalism and Democracy: A Critical & Investigative Analysis of the United States Government's Policy Making

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ABSTRACT

Policy making, put in place by the people for the purpose of serving the people, should be one of, if not the, most efficient institutions in the nation. In this research paper, the authors seek to critically evaluate U.S. policymaking and its efficiency. Currently, the policymaking process attempts to blend both democratic values and capitalistic traits. Disturbing habits, such as proposing omnibus, complicated bills proposed just before important deadlines, are being routinely practiced in congress. Negative externalities exist in the presence of extensive government regulation which ends up hurting the market it intended to help, and it is wasting taxpayers' money. This research also points out worrisome trends in the United States economy, such as the continued growth of the wealth gap and the lack of a fair minimum wage as well as any specific policy targeting an effective employability enhancement. Current legislatures have made no serious attempt to tackle either of these issues, and the authors explain why this is such a serious problem. The goal of the authors is to challenge the current policymaking process in hopes that recognition of its shortfalls may bring about changes in that process.

Key Words: Capitalism, democracy, policymaking, externalities, Employability

INTRODUCTION

Why does the American economy continue to struggle since the most recent financial crisis? Improvements have been made, but recovery has been rather slow. Of course, one must turn to the government, as well as the policies that our officials create, for answers. However, one must also look at the fundament ideologies of our country; capitalism and democracy. They seem to go hand in hand, they are championed by the strong Western nations of the world, they are predicated upon freedom and competition, and they seem to be a perfect pair. Yet, there are issues, especially in the United States. This is due to a fundamental change as countries begin to mature and age. They continue to focus on freedom, but equality becomes more important as standard of living increases. However, capitalism does not cater well to equality. In fact, it is predicated on competition, which means there are clear winners and losers; a trend that is now apparent in the US. Thomas Piketty has explained this as a scenario in which business owners overpower those in the labor force (Edsall, 2014). So, one must beg the question, are capitalism and democracy compatible, and what policies can be created to ensure that they are? If we are to gauge the effectiveness of America's policies, this question must be answered first. Lack of focus on policies that should be conducive to more employability of the educated and trained workers (De Vosa et al., October 2011) is another growing concern. It would be needed to implement appropriate policy focused on fostering competency development, employability and career success.

Regardless, many policies in America can already be deemed inefficient. In fact, legislators in America attempt to regulate the economy in various facets, such as subsidies for farmers, but these regulations are often ineffective. For example, subsidies cost taxpayers 20 billion dollars a year, and subsides are often paid to farmers who do not produce crops (Economist, Feb 14, 2015). From an economic and governmental perspective, this is an inefficient policy, yet there are countless policies such as this. Further, some current policies, like the Dodd-Frank legislation, are ineffective because they are too complex. The Dodd-Frank legislation, which was passed following the 2008 financial crisis, is 848 pages long, and it is 23 times the size of the legislative reform that followed the stock market crash of 1929 (Economist, Feb 16, 2012). This is not unique to Dodd-Frank either. The Affordable Care Act, or Obamacare, is also quite long, and it has been taken to the Supreme Court various times. Perry (2015) posits that there are complexities for businesses in Obamacare, which have made it difficult to comply with this policy, as well as raised the cost of providing healthcare. Clearly, policymaking in America has become extremely complex. Why is this so?

Even more problems with legislators have arisen as well. For example, legislators consistently create policies that benefit the rich, and, as such, they foster inequality. One such policy is that of trickledown economics. This was championed by President Reagan and more recently by Governor Brownback in Kansas. Duke (2015) argues that the trickle-down experiment has failed and that benefits have failed to materialize for the lower and middle class. Wealth simply does not trickle down. These policies have allowed the rich to get richer, and the poor have become even more marginalized. Why do our politicians create policies that foster inequality, which ultimately hinders the US economy? There are various reasons of course; a few being that legislators refuse to compromise when needed, politicians are being bought by lobbyists, and politicians themselves are often trying to better their own businesses or create a career path once they leave office. In regards to lobbying, Solomon (2014) explains that General Electric spent an outrageous amount of 134 million dollars from 2009 to 2014, and AT&T spent 91.2 million dollars in the same time frame. These two companies have spent the most on lobbying during this time period, and all of this money has been dedicated to buying officials and policies favorable for these companies. In the coming sections, these problems will be addressed through review of relevant literature, and our research findings will be displayed and analyzed as a follow up to an applicable theoretical framework. At best, this paper will seek to recommend more effective policies, which would help the American economy. However, before all of this can be discussed, relevant literature on this topic must be reviewed.

RELATED LITERATURE

A critical and analytical judgement regarding the effectiveness of current socioeconomic policies in America is hopefully presented here, adequately, through an initial review of some helpful published works followed by a more systemic and theoretical framework that will be analyzed through some available evidence and data. As stated above, the relationship between capitalism and democracy must be revisited and investigated.

Almond (1991) argues that capitalism and democracy can in fact complement one another, and he posits that many other authors have argued this as well, such as Joseph Schumpeter.

Almond explains that democracy can aid in the effectiveness of capitalism and that capitalism can aid democracy in many facets. Esposito (2014) also explains the connection between these two, stating that, together, they can help create a prosperous and peaceful future. Of course, all of this makes sense considering the basic premises of capitalism and democracy. They are both predicated upon freedom and competition, which makes them compatible. Coyne (2007) believes that capitalism can be beneficial to democracy, and he emphasizes thoughts from Milton Friedman, which state that political freedom is aided by economic freedom. Historically, the two have worked well together, and many of the industrialized Western nations have become prosperous due to these paradigms.

Yet, the related literature has demonstrated a detachment between capitalism and democracy. Many scholars are beginning to question the cohesiveness of the two ideological concepts. Despite the similar foundations of democracy and capitalism, they are also quite different. Some, like Blumen (1996), believe that democracy fosters equality and a sense of cooperation, while capitalism does the opposite and fosters competition. This is a stark difference, and is argued to have caused problems for the United States and other democracies. Democracy hopes to create equality for all, but capitalism usually creates winners and losers. Almond (1991) also explores the contradictions of democracy and capitalism by proposing that capitalism undermines democracy by fostering inequality, and that democracy undermines capitalism by regulating the economy. Esposito (2014) offers thoughts on this as well, and reaffirms that the two are growing apart due to their antithetical beliefs regarding "power, scale, and interaction." As stated above, democracy focuses on equality more and more as it matures, which is at odds with capitalism. Due to these differences, many scholars have come to believe that these ideologies are becoming incompatible.

In practical experience, the truth may be somewhere in between. Democracy and capitalism may not be a perfect pair, but they can work together in harmony. However, appropriate policies must be designed and formulated to assure this is possible. There are various aspects of capitalism that are inefficient, such as the creation of negative externalities, leading to the well known over-allocation of resources. Policies can address these issues in capitalism, but they cannot overstep as they have in the past. The American economy has become extremely regulated, and this has hindered competition. Coyne (2007) posits that rules are extremely important because they incentivize certain actions. This can allow control in an economy, which is needed to combat some weaknesses and issues of capitalism. In regards to equality, this is still achievable in a capitalistic system, even though perfect equality will never be attained. There will have to be some compromises to the ideal of capitalism in order to make up for a few shortcomings of the system, such as social welfare spending which can combat inequality and some regulation to address negative externalities. Government intervention can be beneficial for the economy in some instances. However, extensive government regulation is inefficient, and it has caused the American economy to suffer. These policies must be addressed and reformed in order for capitalism and democracy to work better with one another.

In regards to the effectiveness of current policies, there is an ongoing debate. Many believe that the U.S. Congress has grown into a rather ineffective institution, and that adopted policies are often inefficient. This was briefly touched on above, and there are multiple issues with Congress, such as lobbying and lack of compromise. However, some believe that Congress is not inefficient, and that it is functioning like the founders of our country intended. Patterson and Magleby (1992) explain that Congress was meant to act in a slow manner, and that the rules of this institution simply foster that result. To a certain extent this is accurate. When Congress was created, America's founding fathers designed the legislative branch elaborately and utilized a system of checks and balances. There are various safety nets between the branches of the government, but there are also some fail safes in Congress. The House is based on population, but the writers of the Constitution did not want large states to have too much power, so they created the Senate, which has equal representation from all states. Of course, this inherently slows down the process of creating policy because both houses in Congress must pass a bill in order for it to become law. As such, Congress simply cannot act as fast as citizens hope. However, the American people also elect a government which fosters inaction or, at least, sluggishness. Divided government has become the norm in America, which makes it even more difficult for Congress to function since parties have trouble compromising nowadays. Krutz (2015) explains that divided government means that the executive branch and legislative branch are not controlled by the same party, and this causes gridlock because parties use their advantage by attempting to enact policies they favor. This can be seen with today's government. The presidency is controlled by the Democrats and Congress is controlled by the Republicans. Furthermore, issues can arise when each Chamber of Congress is controlled by a different party. This has contributed to the lackluster performance of our current government. Ultimately, the presidency, House, and Senate are rarely controlled by one party, which has obstructed progress and the ability to create laws.

Consequently, Congress is unpopular in the eyes of the public. Patterson and Magleby (1992) explain that approval rates of Congress are traditionally between 27-35 percent, yet individual representatives often have a high approval rating and gain reelection. The public is often displeased with the House and the Senate because they believe the institution is ineffective and corrupt. In fact, the 113th Congress, which took place a couple of years ago, was the most inactive session in American history. This Legislature passed 234 bills, the lowest ever, the government shut down for over two weeks during the session, and Congress' average approval rating was 14.5 percent (Topaz, 2014). As of late, the House and Senate are still plagued with inaction. In terms of economics, there are various policies that are ineffective in the United States. There are many regulations on the economy which have hindered efficiency. Of course, the aims of these policies are often laudable. For example, farmer's subsidies, which were discussed earlier, were created with intentions of aiding farmers and ensuring that they have a stable income. However, these subsidies cost a large amount of money, and they create inefficiencies in the market. Another example is low income housing. These regulations are created to assure that low income individuals can afford housing, but these price ceilings have caused excess demand for some living establishments, as well as reduced their quality. Regulations are usually imposed to help individuals or attempt to keep the economy fair, but problems often arise. Hutchinson (2013) explains that there are many excess costs in the United States, which has caused some companies to outsource jobs. He also posits that the American economy has never been extremely competitive; it has benefited mainly from its size and a lack of international competition, yet this is now changing. Given this, policies must be adjusted elaborately, or the American economy will falter.

There are also many problems with law complexity, as touched on earlier. Some argue that laws are trying to become too specific and attempting to address all problems in a single piece of legislation, but it would be more beneficial to create broad guidelines and adjust as changes need to be made (The Economist, Feb 16, 2012). This would reduce the amount of red tape businesses have to work around, which would make it easier for them to operate, as well as incentivize staying in America. Finally, policies do not favor the average American, which has caused economic inequality and, thus, economic issues. Bondioli (2014) details a survey that was conducted by researchers at Princeton and Northwestern Universities, which found that policy rarely favors the average US citizen. The authors found that regular citizens have almost no influence on policy, but affluent citizens, as well as interest groups, have a strong impact on the laws that are created. This can also explain why economic policies in America tend to be ineffective. The middle class, comprised of average Americans, is extremely important to a strong economy. However, policy does not take this into account. Thus, the current inequality in the United States has been able to flourish. These are a few of the reasons why some of Congress' economic policies have been ineffective as of late, and some urgent, appropriate changes must be made in order to address these shortfalls.

Despite all of this, some argue that Congress is working as intended. Rozell (2000) believes that the public is too critical of Congress. He posits that Congress works how it is supposed to, and that the representatives in the Senate and the House are generally upstanding individuals. Rozell believes that the low approval ratings arise because Congressmen and Congresswomen are more focused on local media instead of the national scene, and these individuals often criticize the entire institution to show that they are not corrupt. In terms of economic policies, Congress has created effective law in some instances. For example, government intervention during the most recent financial crisis saved us from another depression. Weller (2012) explains that three policies issued during the Recession, the Troubled Asset Relief Program, the American Recovery and Reinvestment Act, and the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act were all critical in addressing the financial crisis. There are other examples of effective government regulation as well, such as the destruction of monopolies and the advent of workplace safety. Many believe that Congress functions as it was intended, such as Sinclair (2009), who argues that legislatures are doing an efficient job given the structure of the House and Senate. Further, many posit that some economic policies have been efficient. However, there are many who disagree with this premise.

The two views shown above, that Congress and economic policies are effective and that Congress and economic policies are ineffective, are both correct in their own sense. Congress has clearly bolstered the economy on certain occasions, and even saved the economy, but it has also hindered the economy. Given the possible relationship between capitalism and democracy, it is important that Congress considers both of these factors. Congress should be weary of intervening in the economy too much, but there are areas where intervention and policy are necessary, such as social welfare spending, breaking up monopolies, etc. One appropriate focus has always been on more widely assisted accessibility of educational opportunities. However, few policy efforts have ever been experienced in employability enhancement. Some findings on graduate employability were reported [Andrews and Higson, (December 2008), p. 420)], as experienced in four European countries, UK, Austria, Slovenia and Romania, which should be useful for the US policy consideration as well. They found that 'core components' of business graduate employability, as defined by "the value of hard business-related knowledge and skills; the importance of soft business-related skills and competencies; and the need for prior work-experience," were noticeably perceived to be similar by both groups of graduates and employers.

The problem of today's legislature is that it has become extremely intrusive in the economy. In the coming sections, an analysis of current policies, as well as suggestions to improve ineffective laws will be displayed.

Some economists and politicians, such as Reich (2014), Hamzaee (2016) and Sanders (2014), recommend better regulations followed by better implementation accordingly. Three other authors (Dyck et al., February 2013) estimated the percentage of firms engaged in fraud as well as the consequential cost of fraud. They reported that there was an estimated chance of 14.5% in any given year that a company would engage in a fraud. The loss as a result of fraud is not too small to ignore under the rosy promises of more extensive enterprise freedom that would necessitate no or minimum government regulations. They also estimated that corporate fraud resulted in investors losing 22 percent of the fraud-committing company's value and an average rate of 3 percent of enterprise value across all firms.

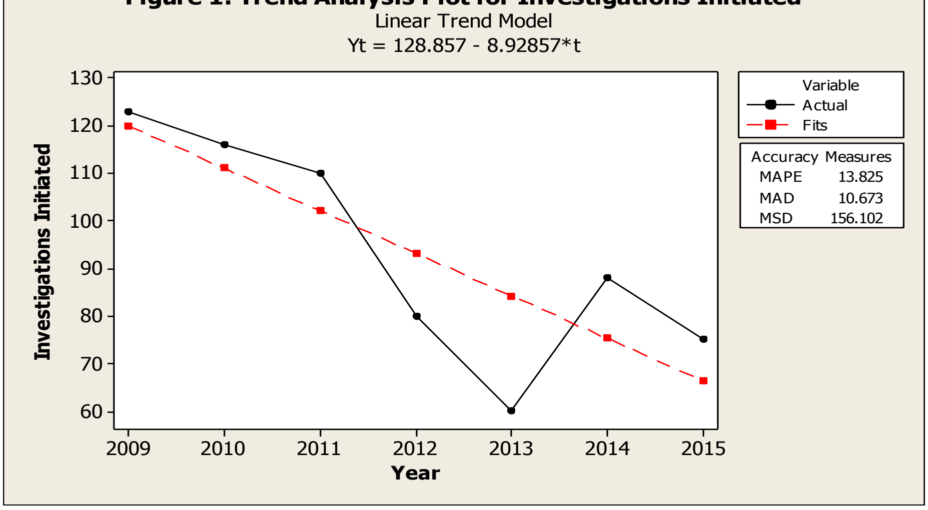
Table 1: Corporate Fraud and Weakening Trends of Legal Consequences

	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009
Investigations Initiated	75	88	60	80	110	116	123
Prosecution Recommendations	35	54	66	67	79	91	86
Indictments/Information	29	65	60	59	81	80	90
Sentenced	43	79	40	78	82	61	72
Incarceration Rate*	81.4%	72.2%	90.0%	83.3%	81.7%	77.0%	77.8%
Average Months to Serve	35	40	67	47	51	48	43

*Incarceration Rate includes confinement to federal prison, halfway house, home detention, or some combination thereof. Data Source: Criminal Investigation Management Information System. Organized and tabulated by Hamzaee (2016). Also:
https://www.irs.gov/uac/Corporate-Fraud-Criminal-Investigation-%28CI%29

The above tabulated information, followed by the following Figures, transpire the weakening trend of punitive consequences of various stages of fraud, which would be in line with serious concerns about a lack of effective government rules and regulations governing greed and corporate crime.

Figure 1. Trend Analysis Plot for Investigations Initiated



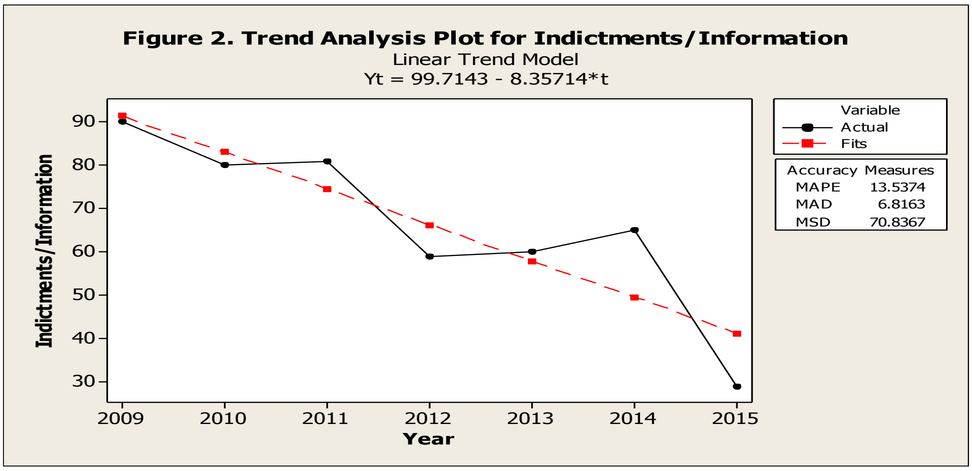


Figure 2. Trend Analysis Plot for Indictments/Information

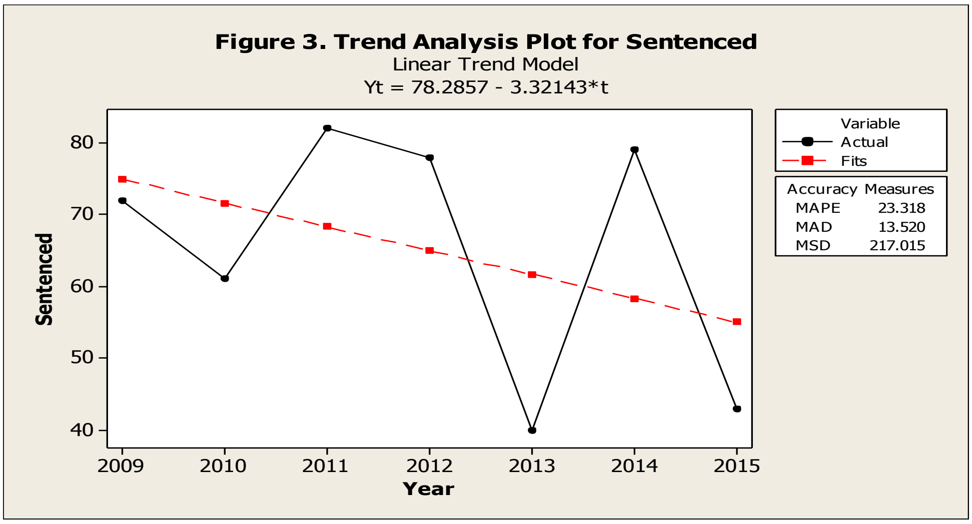


Figure 3. Trend Analysis Plot for Sentenced

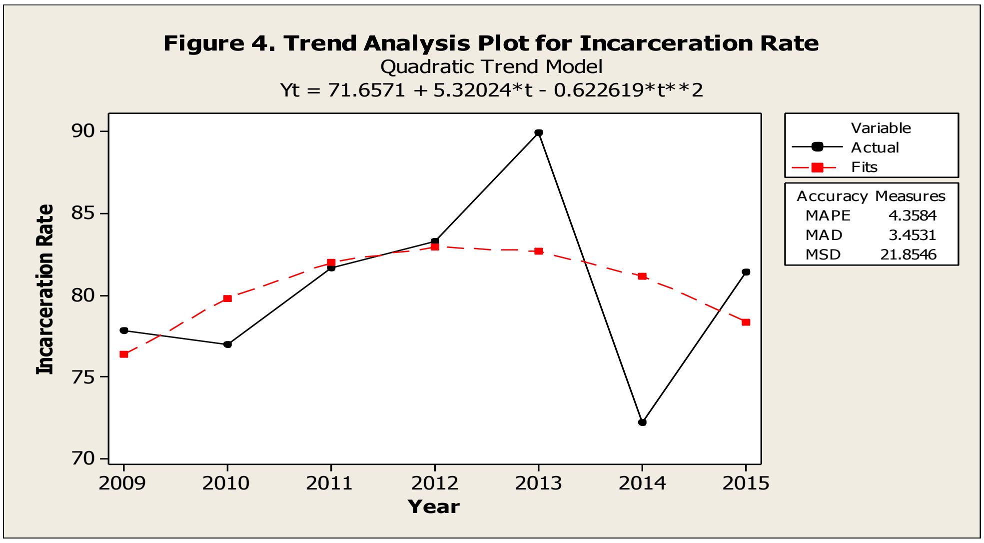
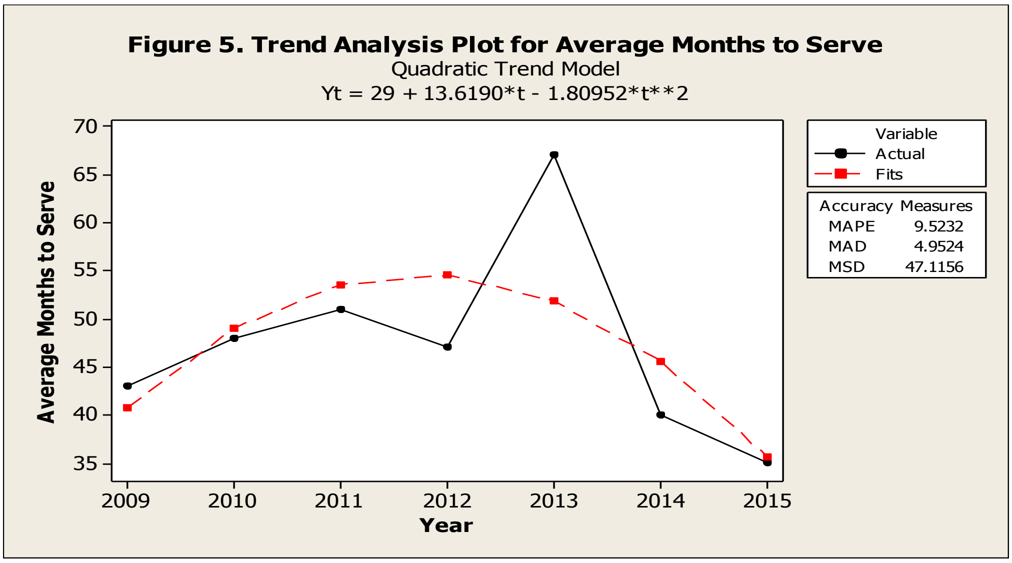


Figure 4. Trend Analysis Plot for Incarceration Rate

When a linear trend model was applied, among all the variables tested, the only upward trend experienced was about the incarceration rate, which was ruled out by a more valid quadratic trend model, through its lower estimated error measures.



In regards to the current standing of capitalism and democracy, the true problem seems to be that a balance has not been appropriately explored. These two can often be at odds, since democracy becomes dedicated to a form of relative equality of opportunities and voting power, irrespective of financial strength of individuals in well-established countries, but capitalism remains predicated upon competition. Thus, there are intrinsic issues, and a balance between the two has not yet been achieved and remains to be a policy challenge in America and many other countries.

Of course, there are benefits to both democracy and capitalism; economic freedom and political freedom are both important to citizens in their own right. However, sacrifices must be made in order for the two to coexist. For example, capitalism must be regulated in instances of negative externalities, even from the strongest market-oriented economists' perspectives. Also, the leaders of a democracy may have to accept that a complete equality will never be achieved. More of the efforts have been centered on enhancement of equality of opportunities than other non-productive forms of equality. Yet, policies can bolster both democracy and capitalism despite some sacrifices between the two.

In terms of policy efficiency, economists and politicians are divided on the aspect of capitalism and regulations and/or the extent and scope of regulations. More conservative economists and politicians argue that the U.S. government has become heavy-handed, in adopting too much regulation, through which it has put a strain on economic growth, economic efficiency, and the ability of businesses to prosper. As stated previously, the government has intervened in many areas, which has prevented the market from playing its automatically built-in stabilizing role and addressing the corresponding issues.

For example, farmer's subsidies cost taxpayers a large amount, and they are often paid to farmers who do not produce crops (Economist, Feb 14, 2015). The government has become involved in order to help citizens and foster a sense of equality, but there have been multiple unplanned negative effects. Those subsidies would ultimately cost the tax payers higher prices than market would necessitate. In absence of such intervention, more efficient farmers could stay and those who do not necessarily belong in farming would switch to other more productive activities, which are more beneficial to themselves and the public.

Another example is that of low-income housing. These establishments are often of poor quality in achieving any noticeable goals. There would appear, with no exception, a shortage of this resource, leading more often than otherwise to under-the-table payments. Affordable housing is important, but there is likely a better way to achieve this goal. A better alternative, which is also used currently, could involve addressing the vast income inequality in America, and promoting easier credit accessibility to make middle-income housing more affordable. This exemplifies that policies can impact the harmony of markets and that the government can become too involved in the economy, which has happened on various occasions and often produced few benefits.

Almost all regulations often impede competition, which is a serious problem since capitalism is predicated upon competition (Coyne 2007). Competition keeps prices low and allows markets to function in an efficient manner, in absence of any externalities and market failure. Yet, in the case of rent control, regulated prices would be below equilibrium levels, causing shortages, and in case of price floors in farming sector, there would appear surpluses and higher prices unnecessarily. Furthermore, government intervention often makes it more expensive for businesses to operate; especially with the length and complexity of current legislation. These extensive regulations make business operation more costly requiring extra work.

These regulations can be ineffective, but they are often still needed. For example, low-income housing is a good resource for many citizens, and farmers subsidies have allowed citizens to continue making a living when business is poor. This is important in the aims of equality. However, there might be better ways to approach this. Fostering a strong economy in general and raising the minimum wage could be effective. A strong economy would foster job creation, and a fair wage would allow citizens to provide for themselves. In this scenario, farmers would be able to make a living (by finding another means of employment) if they could not profit from agriculture, and low-income housing would have less demand since individuals were making more. It appears that some of our current policies address the effects of economic issues, not the direct causes. Some true problems in America are income inequality, lack of a fair wage, etc. Policy attempts to address these issues to a certain extent, but the government addresses specialized issues instead of broad-sweeping problems. As stated above, improving the economy and creating a fair wage could eliminate or drastically reduce the need for farmer's subsidies, low-income housing, and many more inefficient policies.

With that being said, one must explain these major problems, why policies have not addressed them, and what can be done to address these issues. A major issue discussed previously is that of an increasingly too disproportionate income inequality. Policies often foster income inequality, such as that of trickle-down economics. It appears that this policy has allowed the affluent to become better off, and it has made the poor become worse off. Further, there are various tax loopholes in the US, which have allowed the rich to make more of a profit. Lowe and Williams (2012) explain that out of the 280 largest corporations in the United States, 78 did not pay taxes, or even had a negative tax rate, for at least one year since 2008. They also detail a study conducted in 2010 by Global Financial Integrity, which found that a total sum of about $9.4 trillion dollars was hidden away in offshore accounts across all continents. These loopholes have allowed the rich to become even wealthier since the government cannot tax them effectively. Due to this, the income gap has increased, and the rich maintain control over more and more of money in circulation. These are pinnacle examples of how policies have allowed income inequality to grow and fester.

Now that some causes of income inequality have been reviewed, one must explain why this is truly an issue in America. First and foremost, one must turn to the importance of the middle class. Middle-income citizens are the spenders in an economy. They spend on a regular basis in buying durable goods, such as housing, refrigerators, and cars. In contrast, the rich, who - in addition to those regular spending patterns - often invest and/or save their surplus funds for prospective spending and future generations. Even worse, the poor do not even have enough to spend. The poor are proven to be more inactive in voting and they do not participate in advocating for needed changes of any socioeconomic policies. Thus, a strong middle class is crucial to a thriving economy. Yet, a widely disproportionate income inequality does not allow this to happen. In fact, some of the largest economic crises in America, and the world, have happened in times of large inequality. Lansley (2012) explains that income inequality in America has been a U-Curve; meaning that inequality was quite high in the 1930s during the time of the Great Depression. Then, it was greatly reduced afterwards, and it was low in the 1970s (the economy was fairly stable in this time period). Finally, inequality had almost reached the levels of before the Great Depression in 2007, before the Great Recession took place. This demonstrates that income inequality, if not a hindrance to the strength of an economy, has surely appeared with a weakening economy. In fact, the two largest economic downturns in the history of America have occurred in times of drastic inequality. The following charts demonstrate that income inequality is still an issue in America, and that it has actually been worsening as of late, which is quite possibly, due to policy failures and/or inefficacy, at a minimum.

Figure 6 demonstrates that wealthy citizens continue to prosper while poor citizens are actually doing worse. If capitalism should be saved from its possible collapse through an increasing growth of many nations' public dissatisfaction with their governments and establishments, appropriate policies should seek to address and alleviate this problem. If better policies are created, then other needs for regulation, such as those listed above, will probably decrease. This will address the cause of many economic problems, not merely the effects. In terms of how to fix income inequality, there are multiple options, one of which is reducing tax loopholes and raising taxes on the rich, which will allow more effective government spending towards social welfare.

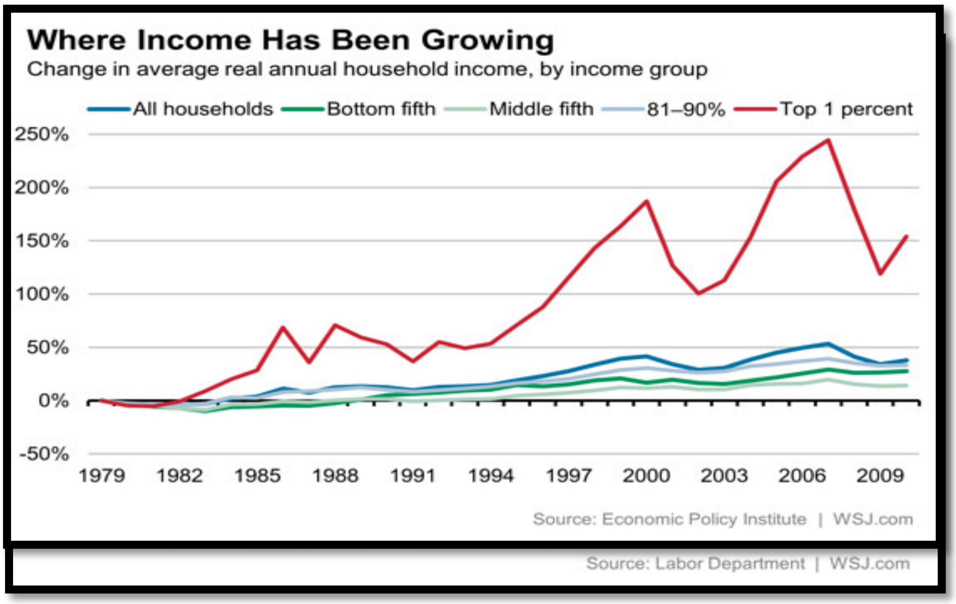


Figure 6: Income Growth & Widening Trend of Inequality

Another method to address the income gap is raising the minimum wage. Currently, this wage is not fair. Many can work full time while making $7.25, but they will still be below poverty lines. In fact, individuals can often make more on welfare than working at minimum wage.

Hamzaee (2006) argues that if minimum wage were just to keep on pace with inflation since 1976, when the Federal minimum wage level was $2.30 per hour, then it should have increased to $8.79 in 2006, given the average annual inflation rate of 4.42% and in that line of reasoning, it should have been close to $13.55 per hour in 2016. Yet, the current Federal minimum wage, as of 2016, is $7.25, which means that those who are making minimum wage actually have less purchasing power than those on minimum wage 40-41 years ago. Income inequality is a serious problem in America, and government must address and alleviate this problem through appropriate policy, or our economy could continue to struggle and further economic crises could ensue.

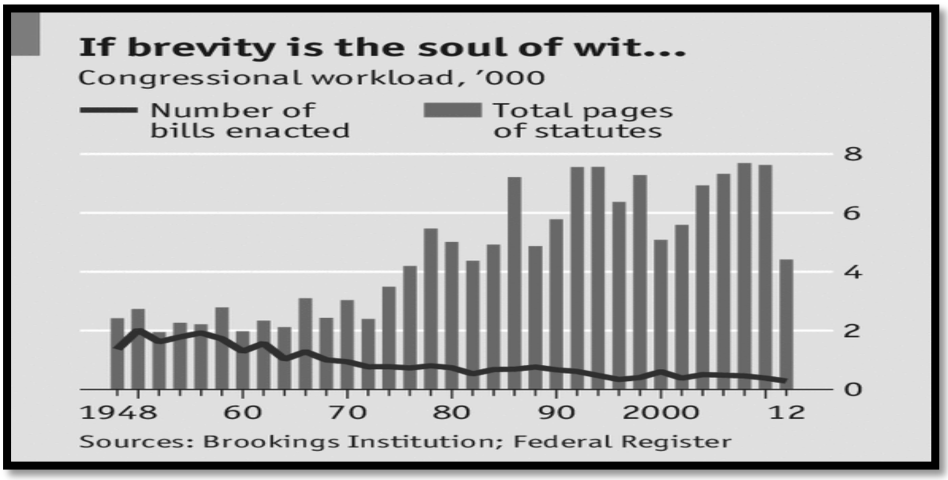


Figure 7: Growing Congressional Inefficiency

To make things even worse, U.S. Congressional inefficiency is on the rise, which has hindered policymaking in America. One simple way to measure this is by comparing the number of laws enacted by recent Congressional sessions. The 113th Congress, which was in session from 2013-2015, enacted 296 laws (Govtrack, December 2016). Compare that to the 106th Congress, which was in session from 1999-2001 and enacted 604 laws. The Congressional session in place from 1981-1989 enacted an average of 661. This can partially be explained because bills have become more complex, as shown below.

In 1948, the average bill was two and a half pages long. Today, bills are around 20 pages on average (The Economist, Nov 23, 2013). This arises because it is difficult to pass legislation with individual representatives under the influence and financial backing of lobbyists, who often add provisions and earmarks to a must-pass or a significant bill. This can explain why the No Child Left Behind Bill of 2001 was over 1,000 pages, and the Affordable Care Act passed in 2010 was over 2,400 pages. These large bills create an environment in Congress where representatives are not entirely sure what they are voting due to the sheer size of legislation. Further, these massive bills make it difficult for businesses to comply with them, which would naturally lead to further policy inefficiency.

Overall, current policy making has not demonstrated that capitalism and democracy fuse well together. Yet, this does not have to be the case. Further, a shrinking middle class and high income inequality have thrived under current policy, but this is unacceptable. Policymakers must address these issues, yet the current state of Congress, which embodies a lack of compromise and action, makes it difficult to create effective policy. As such, policies are not adapting as needed, and, thus, the economy, and America in general, are suffering. More efficient policies must be implemented in order to address the serious issues of the American economy, and this is of utmost importance if the American economy is to become and remain prosperous.

A THEORETICAL MODEL AND ANALYSIS OF OPTIMAL GOVERNMENT PRODUCTION POSSIBILITIES

The authors propose the following theoretical framework for an optimal governmental production possibilities function, in which all major public goods and services that are supposed to be produced and provided by government are included and represented by Q_1 and Q_2.

Let Q_1 measure the total indexed quantity of the first group (inclusive of, e.g., Social Security, Medicare-Medicaid, low-cost or free housing, education) and Q_2 measure the total indexed quantity of the second group, inclusive of, e.g., national defense, domestic security, law and order. Government's responsibility is supposed to be met in an optimal fashion to provide a collective prosperity and comparable costs to all groups of a nation. A prudent government, like any other financially responsible individuals or business organizations, must maintain a separate reserves account for all other projects and unforeseeable expenses above and beyond what its primary responsibilities, as listed above, would require. Various solutions for a national group optimization would be analyzed.

Beginning with the two general output groups of public goods to be produced, there are n different resources to be used in production of each good. Therefore, the n resource constraints are defined as:

$$\begin{aligned} a_{11}Q_{11} + a_{12}Q_{12} &\leq R_1 \\ a_{21}Q_{21} + a_{22}Q_{22} &\leq R_2 \\ \cdots\cdots&\cdots\cdots \\ a_{n1}Q_{n1} + a_{n2}Q_{n2} &\leq R_n \end{aligned} \tag{1}$$

Defining:

a_{ij} = the amount of the i-th resource necessary to produce one indexed unit of group j of public good output (as described above), for i = 1,2,…, n; j = 1, 2

Qij = the total indexed quantity of the j-th group of public good produced by the i-th resource

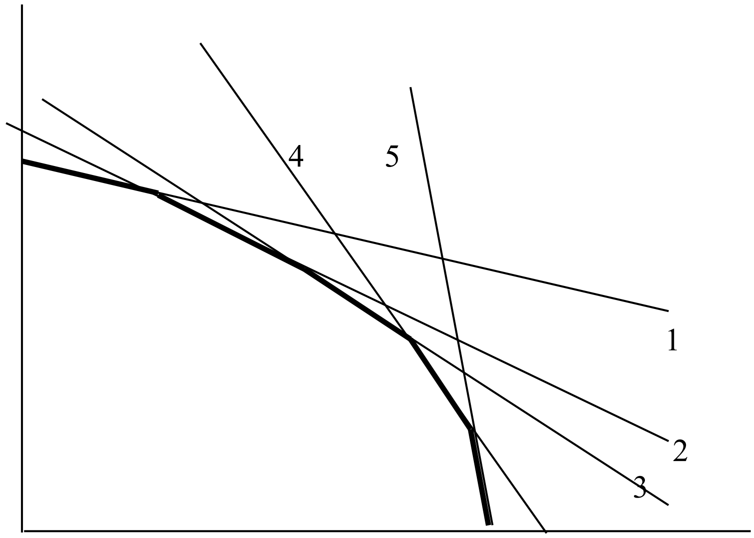
R_i = The total quantity of the i-th utilized resource

i = 1, 2, …, n resources and

j = 1, 2 output groups of public goods produced by government

In Figure 8, we are applying the linear programming technique, and as an illustrating example, assume that we have only five (n = 5) of the aforementioned hypothetical resources, and the 5 resource constraints are graphed accordingly to make up a production possibility frontier for government. Obviously, to arrive at a relevant production possibilities frontier (the darker portions of the five constraints), all of the nth resource constraints listed above in (1), must be simultaneously implemented. An integration of all the resource constraints for government would be summarized in constraint (2), as follows next.

(Q_1)
Indexed
quantity of
group-one public
goods output



(Q2) Indexed quantity of group-two public goods output
Figure 8: Government Production Possibilities Frontier for Production of Two Groups of Public Goods

Obviously, it is expected that more investment in employability of the labor force would lead to an outward shift in the production possibilities frontier which would result in expansion of productivity and economic growth.

$$\sum_{i=1}^{n}(a_{i1}Q_{i1} + a_{i2}Q_{i2}) \leq \sum_{i=1}^{n} R_i \qquad (2)$$

Such resources, as an example, could include - but not limited to - the following list:
R_1 = Labor
R_2 = Financial capital
R_3 = Number of security personnel
R_4 = Number of security facilities
R_5 = Physical capital
R_6 = Rental resources
R_7 = Healthcare resources, etc.

The Government Budget Line

Then through a recommended and ideally efficient operation, a hypothetical competitive model with the following condition should fit:

$$P_1 = ATC_1 \qquad (3)$$

Also, by definition:

$$ATC_1 = \frac{\sum_{i=1}^{k} r_i R_i}{Q_1} \qquad (4)$$

Definition (4) is the average resource cost, considering k different resources to be used for provision of output (Q_1).

P_1 = Indexed average price of a composite unit of output group 1
Q_1 = Quantity of a composite indexed output of group-1 public goods & services

ATC_1 =the average total cost of all resources needed for each composite unit of output group 1 to be produced in a certain period of time

r_i = the rental price (cost) of the ith resource in production of output for
i = 1,2, …, k

Comparing (3) and (4), the following definition, under competition, will result:

$$P_1 = \frac{\sum_{i=1}^{k} r_i R_i}{Q_1} \tag{5}$$

Also, P_2, the price of a composite indexed quantity of output group 2 (Q_2), can similarly be defined as:

$$P_2 = ATC_2 = \frac{\sum_{j=1}^{m} r_j R_j}{Q_2} \tag{6}$$

ATC_2 = average total cost of all composite indexed quantity of output group 2 supplied in a certain period of time

r_j =the rental price (cost) of the ith resource in production of output group 2 for
i = 1,2, …, m
n =k + m

Then the following relationship (7) will represent the budget constraint for government, through taxes, still within the assumption of government's efficiency in which case its incomes under competitive conditions would be the same as its total costs:

$$\begin{aligned} &P_1Q_1 + P_2Q_2 \le B \\ &B = B_1 + B_2 \end{aligned} \tag{7}$$

B_1 and B_2 represent government's designated budget for providing an optimal composite indexed quantity of output group 1 (Q_1), and output group 2 (Q_2) of the public goods and services, respectively. So, B is the totality of government's budget, excluding its extra reserve account for emergency purposes, as described before.

Now, plugging (5) and (6) in (7), the following budget constraint will be resulted:

$$\frac{\sum_{i=1}^{k} r_i R_i}{Q_1} \bullet Q_1 + \frac{\sum_{j=1}^{m} r_j R_j}{Q_2} \bullet Q_2 \le B$$

$$Q_1 = \left[\frac{B}{\frac{\sum_{i=1}^{k} r_i R_i}{Q_1}}\right] - \left[\frac{\frac{\sum_{j=1}^{m} r_j R_j}{Q_2}}{\frac{\sum_{i=1}^{k} r_i R_i}{Q_1}}\right] \bullet Q_2 \tag{8}$$

$(Q_1 - Intercept)$ $\quad$ *Slope of government's budget constraint*

$$Q_1 = \left(\frac{Total\ government\ budget}{government's\ average\ cost\ of\ operation}\right) - \left(\frac{ATC\ of\ group\ 2\ public\ goods}{ATC\ of\ group\ 1}\right) \cdot Q_2$$

(9)

The last relationship (9) could be interpreted as an easy-to-follow optimal rule of how the indexed quantities of the two public-good groups should be related.

Now all government and the public are put together into interaction, and we find various possible optimization solutions to the model. In Figure 9, the optimum solution for government's supply and the public's consumption of the two groups of the public goods is the same, Q^*_1 and Q^*_2 should be produced and consumed. The utility function for an individual consumer of the two groups of the public goods is represented by (10), as follows:

$$U = U(Q_1, Q_2) \qquad (10)$$

The collective utility (social welfare) function for all consumers, or the nation, would be defined accordingly as:

$$W = W(Q_1, Q_2) = U_1(Q_1, Q_2) + U_2(Q_1, Q_2) + \ldots + U_p(Q_1, Q_2) \qquad (11)$$

Which would include all 1, 2, 3, …,p individuals in the population.

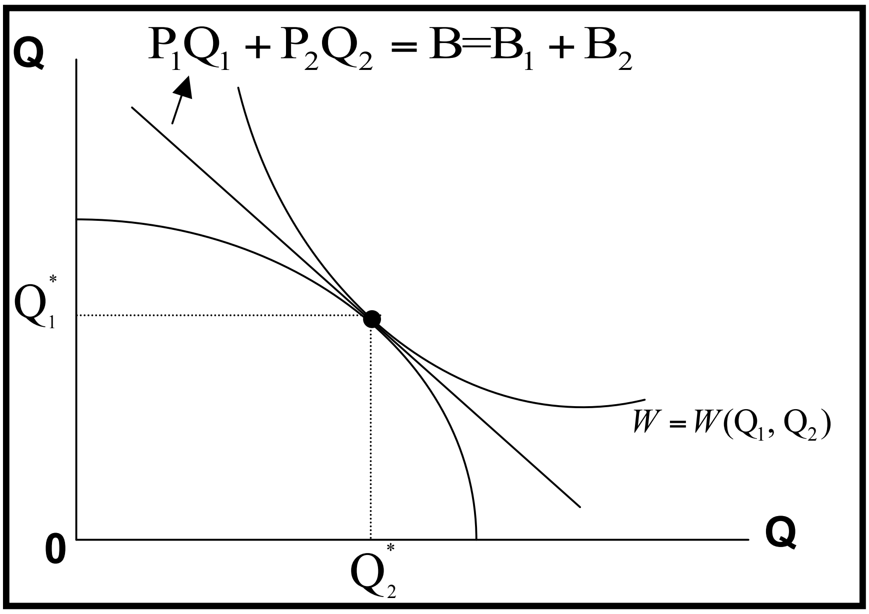


Figure 9: The Optimal Solution for Government and the Public

In Figure 10, consumers of both services would have a different optimal solution than would government. The consumers' preferences are more heavily towards the first groups of public goods and services ($Q_1^{cons} > Q_1^*$), and relatively less for the second group.

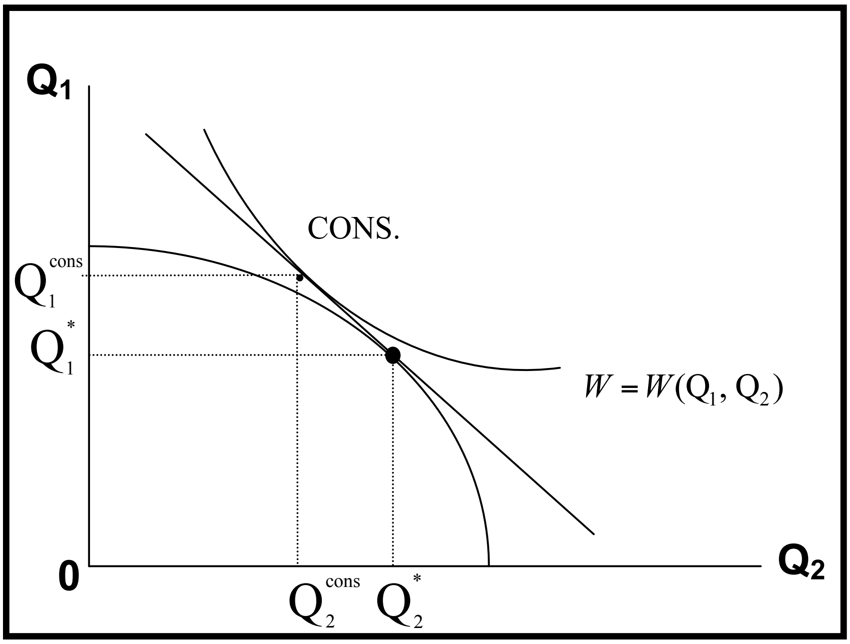


Figure 10: Different Preferences for Consumers and Government

In the following case (Figure 11), the providers will have again a different optimal solution than the consumers would. Consumers reveal more preference of group 2 than group 1 public goods and services.

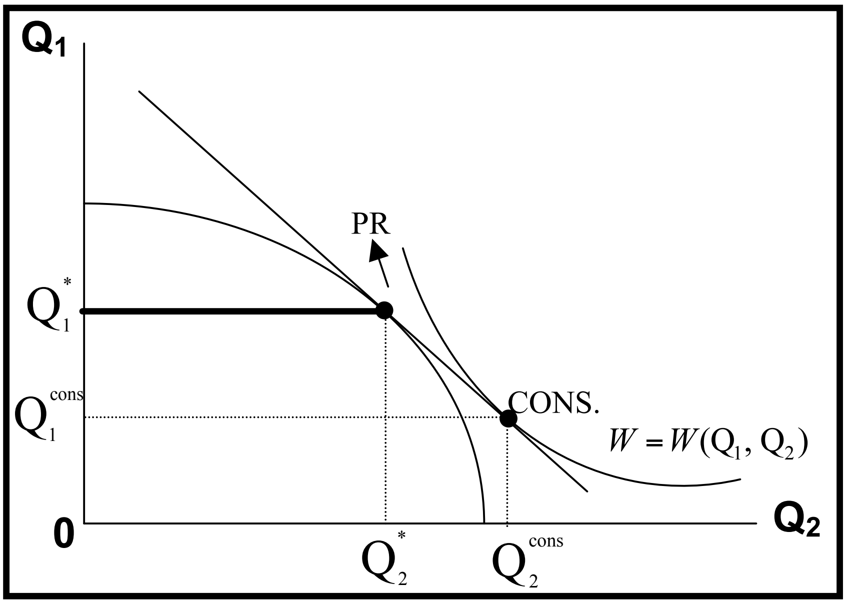


Figure 11: Consumers' Biases Are Towards Second Group

Hamzaee (2016) studied 57 countries with available comparable data to discover the main factors, alongside their corresponding weights of explaining "quality of life" in ranking the best countries for living, his statistically significant regression estimation results as summarized below:

QLI = - 211 + 1.32 SI + 1.56 HCI - 5.39 PPIRI - 1.17 TCTI + 0.995 GI + 291 HDI (12)

Table 2: Regression Variables Definition

QLI = Quality of Life Indicator
SI = Safety Index
HCI = Health Care Index
PPIR = Property-Price-to-Income Ratio
TCTI = Traffic-Commute-Time Index
GI = Gini Index
HDI = Human Development Index

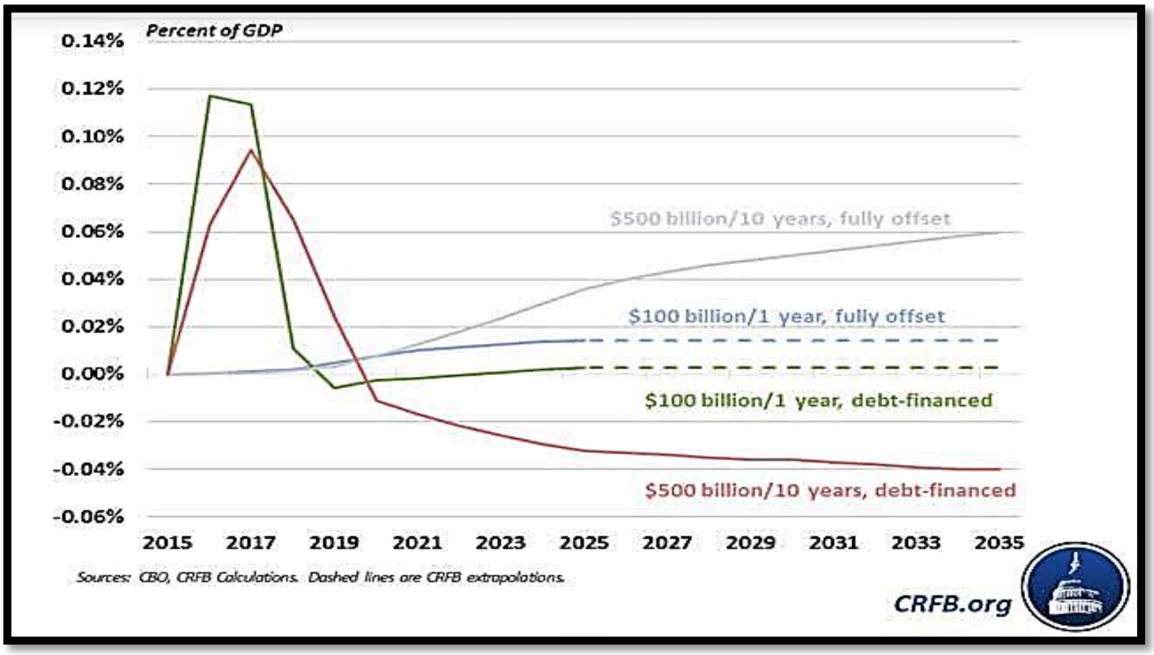


Figure 12: Change in GDP from Various Investment Options

CONCLUSION

It is urgent for all nations to review and explore most cautiously all the challenging options that are still open to them to reverse the ongoing socio-economic imbalances before the current devastating damages grow out of control. Societies need to be sustainable, and as such, it is urgent to create built-in public policy stabilizers. The growingly destructive roles of lobbyists, whose ultimate objective is to corrupt a healthy economic system, governed by the donors of mega bucks in exchange for distorted economic policy would eventually lead to a huge systemic eruption and devastating riots and revolutions. All public policy needs to be focused on and concerned about is how to enhance the collective prosperity of a nation through a dynamic employability planning and exploration of all the innovative as well as systemic methods of enhancing the size and legitimate influence of the middle class. The security and health of the working class is like an assured solidification of the foundation of a high rise, for which an ongoing appropriate legislation is mandatory.

The healthy growth and support of business are together another necessary piece of an advanced policy. In absence of friendly business policies within some ethically acceptable standards, societies cannot advance to their potential limits. Capitalism and democracy are still proven to be more conducive to mental and material prosperity than any other known systems. The best countries to live in are globally and practically assessed to be the ones that have provided more quality of life. Empirical studies confirm that quality of life, itself is explained and summarized by many nations in meaningful indices, such as safety, health care, affordable properties (housing), shorter commuting time to work, human development, and relatively more of income equality, which is defined as less excessive and unjustifiable income inequalities.

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International Portfolio of Real Estate Investment and Hedging: A Revisit

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ABSTRACT
We use office data from ten cities in the Asia-Pacific region from 4Q2001 to 2Q2012 to propose a forward-looking investment appraisal framework to compare the effectiveness of two currency risk hedging strategies for a portfolio of real estate investments in ten cities of seven Asia-Pacific countries. This is aimed at determining the optimal choice among "unhedged", "artificially" hedged and "natural" hedged options. Analyses based on NPV, IRR, Sharpe Ratio, Jensen's alpha and stochastic dominance were done for 3, 5 and 7-year holding periods. All the results show that the "natural" hedge strategy is the optimal choice as it provides superior returns.

Keywords: Currency risk, international real estate investment portfolio, artificial hedging instrument, natural hedge, mean-variance efficient portfolio, stochastic dominance, optimal hedging strategy.

INTRODUCTION

The integration and deregulation of global financial markets as well as changes in international politics and economic policies have resulted in increased global real estate investment opportunities. Thus international investment in property (both direct and indirect) has increasingly become an important component of the portfolios of institutional funds and high net-worth investors. Given that currency fluctuations can severely affect the risk-return characteristics of international investment, and huge sums of foreign capital being invested in South Eastern Asia in particular, it is important to consider the impact of exchange rate volatility on such investments in order to take appropriate measures to hedge against exchange rate risk where necessary. Although studies thus far have mostly concluded that currency risk does not have statistically significant impact on the performance of international real estate investments, these studies were done before the global financial crisis of 2008. It is therefore necessary to revisit the topic. The paper proposes a forward-looking investment appraisal framework to compare the effectiveness of two strategies in hedging against currency risk in a portfolio of real estate investments in ten cities of seven Asia-Pacific countries, and to determine the optimal choice among "unhedged", "artificially" hedged and "natural" hedged options.

The rest of the paper proceeds as follows. The next section is a review of selected relevant studies on the topic. This is followed by data sourcing and management and the empirical methodology adopted for the study in section three. The results of the data analyses are presented, interpreted and discussed in section four. The last section deals with concluding remarks.

LITERATURE REVIEW

The extant literature on the effect of currency risk on foreign investments provides us with two main conclusions: that exchange rate volatility has either no or benign, and negative, impact on foreign investments. Addae-Dapaah and Choo (1996), find no statistical significant difference between currency adjusted and unadjusted returns, and their related standard deviation and correlation coefficients at the 0.05 level of significance. These findings are replicated by Addae-Dapaah & Loh (2009). Moreover, Addae-Dapaah and Choo (1996) conclude that the exchange rate volatility had a positive impact on the performance of the portfolio during the period of investigations. It is therefore not surprising that these studies do not deal with hedging of the investment returns. Solnik & McLeavey (2003) state that currency risk decreases with the length of the investment horizon as exchange rates tend to revert to the mean.

However, Ziobrowski and Curcio (1991), show that extreme volatility in exchange rates is the major culprit in increasing foreign investment risk to make domestic investment appear less risky in comparison. Worzala (1995) discovers that accounting for currency fluctuations increases U.K real estate risk by about 145% and decreases the expected return. Chowdury and Sarno (2004) concur with the above findings which are controverted by Solnik (1996) who argues that currency fluctuation has never been the major component of total return on a diversified portfolio over a long period of time because the depreciation of one currency is often offset by the appreciation of another. In contrast, Jacque (1996) states that regardless of the diversification strategy, the return from an international portfolio is exposed to currency risk as a result of the investor owning a claim in s foreign currency-denominated, time-deferred cash flow. While the extant literature (e.g. Baum, 1995; Lizieri & Finlay, 1995; Sirmans & Worzala, 2003) discusses the impact of currency risk on risk-return characteristics of international real estate, several early empirical studies on international real estate tend to tersely deal with currency fluctuations by suggesting that currency risk can simply be hedged away without considering the impact of the cost of hedging on the returns (Sweeney, 1988; Giliberto, 1993). Other studies have documented that a hedge in effect implies annual repatriation of funds. In general, while rental income can be repatriated annually, the capital gain component can only be realized upon sale of the property and is thus affected by the aggregate currency movement over the expected holding period (Worzala et al. 2005).

Currency Hedging

The general concept of hedging is to reduce any substantial losses in an investment by using financial instruments to reduce the investment's exposure to risks. Thus, financial instruments have been developed in the money and capital markets to hedge against losses due to foreign exchange. Ziobrowski and Ziobrowski (1993 and 1995) explore the use of options and forward contracts, utilizing ex-post data, to conclude that no diversification benefits could significantly alter returns. However, no attempt was made to mitigate currency fluctuations. Worzala et al. (2005) use currency swaps to hedge currency risk inherent in international real estate investment to find that currency swaps suppressed most of the exchange rate volatility that beset a US international real estate investor. However, most of the investment strategies used in the above studies generally focus on short-term hedging instruments. Given that real estate is generally illiquid and held over relatively long investment horizon, the use of short term instruments to hedge real estate returns against exchange rate volatility might be inappropriate and thus, provide results that could be misleading. Ziobrowski *et.al* (1997), did attempt to address the inherent problems in modelling real estate, (i.e. illiquid investment and long term holding period) to suggest that a currency swap reduces the risk of currency fluctuations on the income return of foreign property. Madura and Rosenberg (1993) conclude that a currency swap may be an appropriate instrument for hedging overseas real estate investments since they are most effective at hedging currency risks for several years rather than months.

Worzala *et al.* (2005) and Lizieri *et al.* (1997) argue that results based on portfolio-based indices may be misleading as the ex-post data is historically contingent and hence ignores uncertainty. Thus, an appropriate test of the efficacy of hedging techniques for individual investors is to use a forward-looking simulation with realistic expectation and volatility inputs for key variables that impact the risk and return characteristics of the real estate investment. Another common criticism is that currency swap does not provide effective hedging for capital appreciation and depreciation in investments. Worzala et al. (2005) use two different swap contracts: one for the initial price of the property and the other for the expected terminal value of the property. The second scenario could potentially increase the volatility of the investment return if the actual sales price is different from the expected terminal value.

Campbell et al (2010) find that the Euro, Swiss Franc and US Dollar moved against world equity markets over the period of 1975-2005, making them attractive investments for risk averse equity investors. Stepien and Su (2012) studied the benefits of currency hedging for a Polish investor to conclude that a fully currency hedged strategy would have benefited a Polish investor who held an international portfolio between January 1999 and December 2008.

Studies have also been conducted on the effectiveness of hedging other asset classes. Schmittmann (2010) found that full currency hedging is the dominant strategy in bond investment, while the correlation between currencies and equity investment determines the level of currency exposure in equity investment. This may imply that the rental component from real estate investment may benefit from full currency hedging as rental and bond coupons are fixed over a given time. The capital gain from the sale of a property puts the capital return in the category of equity investment. Walker (2008), concludes that currency hedging increased the volatility of returns in a diversified portfolio for investors from Brazil, Chile, Peru, Colombia and Mexico between 1995 and 2005. Currency betas increased during the period due to the rise in international trade in these countries. Exhibit 1 provides a summary of the basic characteristics of commonly used foreign exchange hedging instruments.

Data

The ex-post quarterly office capital and rental values for the sample cities were extracted from three Jones Lang LaSalle sources, namely: Asia Pacific Property Digest, Real Estate Intelligence Service and the Office Rental Index. The quarterly market exchange rates were obtained from Bloomberg Database. The current market values used as inputs for the Monte Carlo Simulation, including capital values, rental values and vacancy rates, were collected from the 2Q 2012 edition of the Jones Lang LaSalle Asia Pacific Property Digest. The three-year, five-year and seven-year swap rates were obtained from Bloomberg Database.

The ten sampled cities from seven Asia-Pacific countries for the study are: Beijing, Hong Kong, Shanghai, Bangkok, Jakarta, Kuala Lumpur, Manila, Singapore, Seoul, Tokyo and Taipei. The study period, constrained by data availability, is from 4Q2001 to 2Q2012. Further analyses for out-of-sample period from 1Q2006 to 2Q2012 are done to see if the results for the in-sample and out-of-sample will be similar. The data are analyzed over 3, 5 and 7-year holding periods.

EMPIRICAL METHODOLOGY

In order to achieve the objective of ascertaining the optimal choice among "unhedged", "artificially" hedged (using currency swap) and "natural" hedge options, we first use the office property data to construct mean-variance efficient portfolios. The main focus will be on "natural" hedge and "artificial hedge – The unhedged portfolio is the "control" portfolio. The portfolios are based on the following assumptions:

- US dollar-denominated rational investor who wants to hold a portfolio of international prime office investments in the central business district of the sampled cities.
- Investor has enough funds for the investment. However, the analyses are based on an investment of US$100 million. This is purely hypothetical to facilitate the analyses. There will be no gearing.
- 3-yearly rent reviews for 5- & 7-year holding periods.
- Vacancy rates are assumed to remain constant at 2Q2012 levels. While this is not accurate, it is more realistic than assuming full occupancy for office space.
- Periodic income will be repatriated annually to US. This is more conservative than repatriating the accumulated periodic income at the end of the holding period together with the sales proceeds because by repatriating periodically, the investment is not unnecessarily exposed to uncertainty in potential currency fluctuations.
- Capital gains tax is assumed to be zero since it is common for the sampled countries to impose no capital gains tax for real estate when sales occur after a defined period. The "net rental" which is repatriated annually is net of all outgoings including property tax.

According to Blavatskyy (2010), the mean-variance approach does not have a natural preference foundation as it is not robust to outliers – extreme deviations are greatly overweighted while small deviations are often neglected. To overcome the limitations of the Mean-Variance criterion, Egozcue and Wong (2010) recommend the use of stochastic dominance (SD). Taylor and Yoder (1999) conclude that SD is a theoretically unimpeachable general model of portfolio choice that maximizes expected utility. Similarly, Kuosmanen (2001) recommend SD as an attractive method because it is effectively nonparametric as no explicit specification of a utility function or probability distribution functional form is required. SD will thus add robustness to the findings of this study.

Stochastic Dominance Criteria

Financial decision making under uncertainty boils down to the following two elements (Bawa, Jr, Rao, & Suri, 1985):

1. Characterization of the choice set of investments by a joint probability distribution of returns, and
2. A preference ordering that ranks the above alternatives by a utility function defined over the probability distribution characterizing the choice set

The Stochastic Dominance (SD) rules are normally stated as first, second, and third criteria denoted by FSD, SSD and TSD respectively [Barucci, 2003], [Levy,1992].

Let:
Fs : Represents the distribution of the currency swap, and
Fn : Represents the distribution of the natural hedge.
The three orders of SD can be explained in the following theorems

FSD theorem
For any two cumulative distributions of Fs andFn, Fs is preferred to Fn for all utility functions in U1 if and only if:

$$Fs(x) \leq Fn(x)\ \forall\ x \in \mathrm{R}\ (\text{and } < for\ some\ x \in \mathrm{R}) \qquad \text{(Eq.1)}$$

Every expected utility maximizer with an increasing utility function will prefer investment S over investment N if S first-order stochastically dominates N.

SSD theorem
For any two cumulative distributions of Fs andFn, Fs is preferred to Fn for all utility functions in U2 if and only if:

$$\int_a^x Fs(t)\,dt \ \leq \int_a^x Fn\,(t)\,dt\ \forall\ x \in \mathrm{R}\ (\text{and } < for\ some\ x \in \mathrm{R}) \qquad \text{(Eq.2)}$$

All risk-averse expected-utility maximizers prefer investment S over investment N if S second-order stochastically dominates N.

TSD theorem
For any two cumulative distributions of Fs andFn, Fs is preferred to Fn for all utility functions in U3 if and only if:

i) $\mu s \ \geq \ \mu n$ (Eq.3)
ii) $\int_a^x \int_a^y Fs\,(t)\ dtdy \ \leq \ \int_a^x \int_a^y Fn\,(t)\ dtdy\ \forall\ x \in \mathrm{R}\ (\text{and } < for\ some\ x \in \mathrm{R})$ (Eq.4)

All risk-averse investors looking for positive skewed investments prefer investment S over investment N if S third-order stochastically dominates N.

In addition, Sharp Ratio and Jensen's Alpha are employed in the analyses.

STRATEGY 1 – "HEDGING WITH A CURRENCY SWAP"

$$Rt = \frac{(\mathrm{P_t} - \mathrm{P_{t-1}}) + \mathrm{a_t}}{\mathrm{P_{t-1}}} \qquad \text{(Eq. 5)}$$

Where Rt = Currency-unadjusted rate of return for period t
$\mathrm{P_t}$ = Capital value of office investment in period t
$\mathrm{P_{t-1}}$ = Capital value of office investment in period *t-1*
$\mathrm{a_t}$ = Capital value of office investment in period *t-1*

The quarterly currency-unadjusted expected returns for each of the countries over each of the three holding periods are calculated as follows:

$$E(R_i) = \frac{\sum_{t=1}^{k} R_{it}}{k} \qquad \text{(Eq. 6)}$$

Where $E(R_i)$ = Expected quarterly rate of return on investment in country i
$\mathrm{R_{it}}$ = Currency-unadjusted investment return in city i in period t
k = Number of periods

Following these steps; MATLAB Optimisation Toolbox is used to construct a mean-variance efficient frontier for the returns of the different holding periods.

For the purpose of this study, the portfolio with the highest rate of return to risk ratio is chosen as the optimal portfolio for the artificial hedge and natural hedge strategies across the three holding periods. A "plain vanilla" currency swap is used to hedge the chosen investment. Hence a cash flow pro-forma is constructed for the analysis of the investment based on conditions as of 2Q of 2012 as stated in the assumptions. The inputs for this cash flow are the swap interest, swap fee, rental fees, rental growth, effective NOI in the local and US dollar currencies, exchange rate and capital value. A Monte Carlo simulation is used to generate different outcomes of future exchange rates. The outputs are the net present value (NPV) and internal rate of return (IRR).

STRATEGY 2 – "HEDGING WITH A NATURAL HEDGE"

In this strategy, the natural hedge comprises of a mean-variance efficient portfolio that incorporates a currency cocktail in its composition and is obtained by projecting currency-adjusted returns as in the following equation.

$$R_{adj} = R_t + X_t(1 + R_t) \qquad \text{(Eq. 7)}$$

Where R_{adj} = Currency-adjusted foreign investment returns
R_t = Currency unadjusted rate of return for period t
X_t = Percentage change in exchange rates

MATLAB Optimisation Toolbox is then used to construct a mean-variance efficient frontier for the currency-adjusted returns. As with the first strategy, the portfolio with the highest rate of return to risk ratio is selected as the optimal portfolio. A cash flow pro-forma is constructed for the analysis of the investment as in Strategy 1. However the inputs in this cash flow exclude the swap interest and swap fee. A Monte Carlo simulation is used to generate different outcomes of future exchange rates. The NPV and IRR of the investment are the outputs from the simulation exercise.

CONTROL STRATEGY – "NO HEDGE"

The procedure as in Strategy 2 is repeated but with currency-unadjusted returns. The chosen optimal portfolio will thus be on the same basis as the portfolio for strategy 1. This strategy will be the 'control', representing the "no hedge" strategy.

HYPOTHESIS TESTING

The hypothesis to be tested is:
'Currency swap as a hedging tool, on the basis of better unadjusted risk-return characteristics, is superior to the "natural hedge" of international real estate investments portfolios over any holding period.' To test the hypothesis, the following statistical procedure is performed.

Let μ_1 and μ_2 be the population means NPV of an investment with the swap and "natural" hedge strategies respectively.
$H_0 : \mu_1 - \mu_2 > 0$
$H_1 : \mu_1 - \mu_2 \leq 0$

Level of Significance: 5%
Test: One-tailed standard normal distribution Z-test (since sample size = 1000 is large)

Test statistic: $Z = \frac{(\overline{X_1} + \overline{X_2}) - (\mu_1 - u_2)}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$

Where Z = Test statistic N(0,1)
$\overline{X_1}$ = Mean NPV of investment with currency swap
$\overline{X_2}$ = Mean NPV of investment with natural hedge
S_1^2 = Variance of NPV with currency swap
S_2^2 = Variance of NPV with natural hedge
n_1 = Sample size of NPV with currency swap
n_2 = Sample size of NPV with natural hedge

Rejection region: z < 1.645
If the calculated z value is more than 1.645, then H_0 is accepted at the 5% level of significance. Otherwise, H_0 is rejected in favour of H_1 at the 5% level.

RESULTS

The composition of the unhedged portfolios with the highest return-risk ratios for the three holding periods is presented in Exhibit 2. Beijing, Bangkok, and Kuala Lumpur feature in the portfolios for all three holding periods although with different weightages.

Exhibit 2: Portfolio Composition for 3, 5 & 7-Year Holding Periods – Currency Unadjusted

3 year		**5 year**		**7 year**	
City	**Weightage**	**City**	**Weightage**	**City**	**Weightage**
Beijing	19.97%	**Beijing**	20.68%	**Beijing**	4.76%
Bangkok	17.45%	**Bangkok**	2.70%	**Bangkok**	20.83%
Kuala Lumpur	21.29%	**Kuala Lumpur**	62.82%	**Jakarta**	9.81%
Taipei	41.28%	**Seoul**	13.80%	**Kuala Lumpur**	6.96%
Total	100%	**Total**	100%	**Manila**	27.88%
				Taipei	29.76%
				Total	100%

Similarly, the relevant market information as of 2Q2012 is presented in Exhibit 3. The information relate to exchange rate per US dollar, capital value per m^2 in local currency, annual net rent per m^2 in local currency and vacancy rate.

Exhibit 3: Relevant Market Data as at 2Q2012

	Beijing	Bangkok	Jakarta	Kuala Lumpur	Manila	Taipei	Seoul
Exchange Rate (Local currency per USD)	6.3089	31.6068	9363.300	3.1923	42.239	29.91	1156.74
Capital Value (Local currency per m2)	RMB 93,354.14	Bht 73,330.64	IDR 24,992,761.92	MYR 7,190.74	PHP 84,960.95	NTD 344,252.24	KWR 5,340,427.05
Annual net rent (Local currency per m2)	RMB 6,129.88	Bht 5,519.84	IDR 2,009,001.67	MYR 550.65	PHP 9,328.42	NTD 12,249.39	KWR 581,543.98
Vacancy rate	6.80%	18.80%	2%	18%	3.60%	10.20%	8%

The 5 year and 7 year investments are subject to rental reviews every three years, in line with market practice. The increase in rental rates are based on the average change in rental values over three year rolling periods between Q4 2001 and Q2 2012. These are: Beijing (9.58%), Bangkok (21.89%), Jakarta (21.80%), Kualar Lumpur (2.21%), Manila (44.24%), Tapei (1.90%) and Seoul (3.16%).

Given the data in Exhibits 2 and 3, the allocation of funds to office investment in each relevant city for the three holding periods is presented in Exhibits 4a-4c.

Exhibit 4a: Allocation of Funds to Currency-Unadjusted Portfolio – 3-Year Holding Period

City		Capital Allocation (USD)	Exchange rate (local currency/USD)	Local currency required
Beijing		19.97M	6.3089	RMB 125.99M
Bangkok		17.45M	31.6068	Bht 551.54M
Kuala Lumpur		21.29M	3.1923	MYR 67.96M
Taipei		41.28M	29.91	NTD 1,234.68M
Total		100.00M		

Exhibit 4b: Allocation of Funds to Currency-Unadjusted Portfolio – 5-Year Holding Period

City	Capital Allocation (USD)	Exchange rate (local currency/USD)	Local currency required
Beijing	20.68M	6.3089	RMB 130.47M
Bangkok	2.7M	31.6068	Bht 85.34M
Kuala Lumpur	62.82M	3.1923	MYR 200.54M
Seoul	13.80M	1156.74	KWR 15,963.01M
Total	100.00M		

Exhibit 4c: Allocation of Funds to Currency-Unadjusted Portfolio – 7-Year Holding Period

City	Capital Allocation (USD)	Exchange rate (local currency/USD)	Local currency required
Beijing	4.76M	6.3089	RMB 30.03M
Bangkok	20.83M	31.6068	Bht 658.370M
Jakarta	9.81M	9363.300	IDR 91,853.97M
Kuala Lumpur	6.96M	3.1923	MYR 22.22M
Manila	27.88M	42.2390	PHP 1,177.62M
Taipei	29.76M	29.91	NTD 890.12M
Total	100.00M		

A "plain vanilla" currency swap has been chosen for the various portfolios. At the initiation of the hedge, the investor exchanges U.S dollars for the amount of the various currencies required in the 3 various portfolios. Taking the example of the three-year portfolio, the investor swaps a total of USD 19.97M for RMB 125.99M, USD 17.45M for Bht 551.54M, USD 21.29M for MYR 67.96M and USD 41.28M for NTD 1,234.68M for the 3 year portfolio according to the exchange rates as at the 2Q of 2012. This is also applied to the 5- and 7-year holding periods.

The cost of the swap is assumed to be 1% origination fee for the USD 100 million principal swapped for the 3 portfolios. This is considered acceptable and conservative by Worzala et al. (2005)

Thus, the total outlay for each of the three investments will be:
= USD 100M + 0.01(USD 100M)
= USD 101,000,000

Annual Income

The annual rental income from the investments is presented in Exhibit 5a-c. To peg the exchange rate for the annual repatriation of the rental income, the investor is required to pay an annual swap interest in the respective local currencies as shown in Exhibits 6a-c.

Exhibit 5a: Annual Rents – 3-Year Currency-Unadjusted Portfolio

		Beijing	**Bangkok**	**Kuala Lumpur**	**Taipei**
i)	**Area owned (m2)** $= \frac{\boldsymbol{Capital\ (local\ \$)}}{\boldsymbol{CV\ (local\$\ psm)}}$	1,349.58	7,521.26	9,451.61	3,586.57
ii)	**Annual net rental (Local $ per m2)**	RMB 6,129.88	Bht 5,519.84	MYR 550.65	NTD 12,249.39
iii)	**Occupancy rate = (1 – Vacancy rate)**	0.932	0.812	0.820	0.898
i*ii*iii	**Total annual rent**	RMB 7,710,206.52	Bht 33,711,106.13	MYR 4,267,713.62	NTD 39,452,100.03

Exhibit 5b: Annual Rents – 5-Year Currency-Unadjusted Portfolio

		Beijing	Bangkok	Kuala Lumpur	Seoul
i)	**Area owned (m2)** = $\frac{\text{Capital (local \$)}}{\text{CV (local\$ psm)}}$	1,397.56	1,163.75	27,888.69	2,989.09
ii)	**Annual net rental (Local $ per m2) Year (1 – 3)**	RMB 6,129.88	Bht 5,519.84	MYR 550.65	KWR 581,543.98
iii)	**Annual net rental (Local $ per m2) Year (4 – 5)**	RMB 6,717.12	Bht 6,728.13	MYR 562.82	KWR 599,920.77
iv)	**Occupancy rate = (1 – Vacancy rate)**	0.932	0.812	0.820	0.920
i*ii*iv	**Total annual rent Year (1 – 3)**	RMB 7,984,330.04	Bht 5,216,045.07	MYR 12,592,661.81	KWR 1,599,223,812
I*iii*iv	**Total annual rent Year (4 – 5)**	RMB 8,749,228.86	Bht 6,357,837.34	MYR 12,870,959.63	KWR 1,649,459,886

Exhibit 5c: Annual Rents – 7-Year Currency-Unadjusted Portfolio

		Beijing	Bangkok	Jakarta	Kuala Lumpur	Manila	Taipei
i)	**Area owned (m2)** = $\frac{Capital\ (local\ \$)}{CV\ (local\$\ psm)}$	**321.68**	**8,978.10**	**3,675.22**	**3,089.86**	**13,860.76**	**2,585.67**
ii)	**Annual net rental (Local $ per m2) Year (1-3)**	**RMB 6,129.88**	**Bht 5,519.84**	**IDR 2,009,001.67**	**MYR 550.65**	**PHP 9,328.42**	**NTD 12,249.39**
iii)	**Annual net rental (Local $ per m2) Year (4-6)**	**RMB 6,717.12**	**Bht 6,728.13**	**IDR 2,446,964.03**	**MYR 562.82**	**PHP 13,455.32**	**NTD 12,482.13**
iv)	**Annual net rental (Local $ per m2) Year (7)**	**RMB 7,360.62**	**Bht 8,200.92**	**IDR 2,980,402.19**	**MYR 575.26**	**PHP 19,407.95**	**NTD 12,719.29**
v))	**Occupancy rate = (1 – Vacancy rate)**	**0.932**	**0.812**	**0.980**	**0.820**	**0.964**	**0.898**
i*ii*iii	**Total annual rent (Year 1 - 3)**	**RMB 1,837,785.83**	**Bht 40,240,821.81**	**IDR 7,243,242,051**	**MYR 1,395,175.52**	**PHP 124,644,272**	**NTD 28,442,211.65**
I*ii*iv	**Total annual rent (Year 4 -6)**	**RMB 2,013,845.71**	**Bht 49,049,537.71**	**IDR 8,822,268,818**	**MYR 1,426,008.90**	**PHP 179,868,898**	**NTD 28,982,613.67**
I*ii*v	**Total annual rent (Year 7)**	**RMB 2,206,154.24**	**Bht 59,786,481.51**	**IDR 10,745,523,420**	**MYR 1,457,523.70**	**PHP 259,324,622**	**NTD 29.533,283.33**

Exhibit 6a: Annual Cost of 3-Year Swap

	Beijing	Bangkok	Kuala Lumpur	Taipei
Annual interest rate for a 3 year swap	2.6275%	2.3500%	2.4500%	0.8944%
Annual swap interest payment (Local currency)	RMB 202,585.68	Bht 792,210.99	MYR 104,558.98	NTD 352,859.58
Cost of swap = 1% of swap interest (Local currency)	RMB 2,025.86	Bht 7,922.11	MYR 1,045.59	NTD 3,528.60

Exhibit 6b: Annual Cost of 5-Year Swap

	Beijing	Bangkok	Kuala Lumpur	Seoul
Annual interest rate for a 5 year swap	2.8000%	2.6000%	2.6800%	1.8148%
Annual swap interest payment (Local currency) (Year 1 -3)	RMB 223,561.24	Bht 135,617.17	MYR 337,483.34	KWR 29,022,713.73
Annual swap interest payment (Local currency) (Year 4-5)	RMB 244,978.41	Bht 165,303.77	MYR 344,951.72	KWR 29,939,931.49
Cost of swap = 1% of swap interest (Local currency) (Year 1 -3)	RMB 2,235.61	Bht 1,356.17	MYR 3,374.83	KWR 290,227.14
Cost of swap = 1% of swap interest (Local currency) (Year 4-5)	RMB 2,449.78	Bht 1,653.04	MYR 3,449.42	KWR 299,398.31

Exhibit 6c: Annual Cost of 5-Year Swap

	Beijing	Bangkok	Jakarta	Kuala Lumpur	Manila	Taipei
Annual interest rate for a 7 year swap	2.9850%	2.8000%	6.2500%	3.0500%	4.1000%	1.0948%
Annual swap interest payment (Local currency) (Year 1 - 3)	RMB 51,458.00	Bht 2,515,051.36	IDR 220,918,882.50	MYR 57,702.20	PHP 5,110,415.16	NTD 311,385.33
Annual swap interest payment (Local currency) (Year 4-6)	RMB 56,387.68	Bht 3,065,596.11	IDR 269,079,198.90	MYR 58,466.36	PHP 7,371,262.83	NTD 317,301.65
Annual swap interest payment (Local currency) (Year 7)	RMB 61,789.62	Bht 3,736,655.095	IDR 327,738,464.30	MYR 59,758.47	PHP 10,632,309.50	NTD 323,330.39
Cost of swap = 1% of swap interest (Local currency) (Year 1-3)	RMB 514.58	Bht 25,150.51	IDR 2,209,188.83	MYR 572.02	PHP 51,104.15	NTD 3,113.85
Cost of swap = 1% of swap interest (Local currency) (Year 4-6)	RMB 563.88	Bht 30,655.96	IDR 2,690,791.99	MYR 584.66	PHP 73,712.63	NTD 3,173.02
Cost of swap = 1% of swap interest (Local currency) (Year 7)	RMB 617.90	Bht 37,366.55	IDR 3,277,384.64	MYR 597.58	PHP 106,323.10	NTD 3,233.30

The investor in turn receives swap interest payments in U.S. dollars at comparable rates, such that the swap interest payments and the receipts cancel out. The annual net cash flow for the 3 portfolios are tabulated in Exhibits 7a-c.

Exhibit 7a: Annual net cash flow for 3 year currency unadjusted portfolio

	Beijing	Bangkok	Kuala Lumpur	Taipei
Annual rent receivable (Local Currency)	RMB 7,710,206.52	Bht 33,711,106.13	MYR 4,267,713.62	NTD 39,452,100.03
Cost of Swap	RMB 2,025.86	Bht 7,922.11	MYR 1,045.59	NTD 3,528.60
Net cash inflow (Local Currency)	RMB 7,708,180.67	Bht 33,703,184.02	MYR 4,266,668.03	NTD 39,448,571.43
Exchange rate	6.3089	31.6068	3.1923	29.91
Net cash inflow (USD)	1,221,794.71	1,066,326.99	1,336,549.83	1,318,909.11

Exhibit 7b: Annual net cash flow for 5-year currency unadjusted portfolio

	Beijing	Bangkok	Kuala Lumpur	Seoul
Annual rent receivable (Local Currency) (Years 1-3)	RMB 7,984,330.04	Bht 5,216,045.07	MYR 12,592,661.81	KWR 1,599,223,812
Annual rent receivable (Local Currency) (Years 4-5)	RMB 8,749,228.86	Bht 6,357,837.34	MYR 12,870,959.63	KWR 1,649,459,886
Cost of Swap (Years 1 - 3)	RMB 2,235.61	Bht 1,356.17	MYR 3,374.83	KWR 290,227.14
Cost of Swap (Years 4 - 5)	RMB 2,449.78	Bht 1,653.04	MYR 3,449.42	KWR 299,398.31
Net cash inflow (Local Currency) (Years 1 - 3)	RMB 7,982,094.43	Bht 5,214,668.90	MYR 12,589,286.97	KWR 1,598,933,584
Net cash inflow (Local Currency) (Years 4 - 5)	RMB 8,746,779.07	Bht 6,356,184.30	MYR 12,867,510.22	KWR 1,649,459,886
Exchange rate	6.3089	31.6068	3.1923	1156.74
Net cash inflow (USD) (Year 1 – 3)	1,265,211.75	164,986.30	3,943,641.57	1,382,275.69
Net cash inflow (USD) (Year 4 – 5)	1,386,419.04	201,101.80	4,030,796.05	1,425,955.60

Exhibit 7c: Annual net cash flow for 5-year currency unadjusted portfolio

	Beijing	Bangkok	Jakarta	Kuala Lumpur	Manila	Taipei
Annual rent receivable (Local Currency) (Years 1 – 3)	RMB 1,837,785.83	Bht 40,240,821.81	IDR 7,243,242,051	MYR 1,395,175.52	PHP 124,644,272	NTD 28,442,211.65
Annual rent receivable (Local Currency) (Years 4 - 6)	RMB 2,013,845.71	Bht 49,049,537.71	IDR 8,822,268,818	MYR 1,426,008.90	PHP 179,868,898	NTD 28,982,613.67
Annual rent receivable (Local Currency) (Years 7)	RMB 2,206,154.24	Bht 59,786,481.51	IDR 10,745,523,420	MYR 1,457,523.70	PHP 259,324,622	NTD 29.533,283.33
Cost of Swap (Year 1 – 3)	RMB 514.58	Bht 25,150.51	IDR 2,209,188.83	MYR 572.02	PHP 51,104.15	NTD 3,113.85
Cost of Swap (Year 4 - 6)	RMB 563.88	Bht 30,655.96	IDR 2,690,791.99	MYR 584.66	PHP 73,712.63	NTD 3,173.02
Cost of Swap (Year 7)	RMB 617.90	Bht 37,366.55	IDR 3,277,384.64	MYR 597.58	PHP 106,323.10	NTD 3,233.30
Net cash inflow (Local Currency) (Years 1 – 3)	RMB 1,837,271.25	Bht 40,215,671.30	IDR 7,241,032,862	MYR 1,394,603.50	PHP 124,593,168	NTD 28,439,097.79
Net cash inflow (Local Currency) (Years 4 -6)	RMB 2,013,845.71	Bht 49,049,537.71	IDR 2,446,964.03	MYR 1,425,424.24	PHP 179,786,898	NTD 28,982,613.67
Net cash inflow (Local Currency) (Years 7)	RMB 2,206,772.13	Bht 59,786,481.51	IDR 2,980,402.19	MYR 1,457,523.70	PHP 259,324,622	NTD 29,533,283.33
Exchange rate	6.3089	31.6068	9363.300	3.1923	42.2390	29.9100
Net cash inflow (USD) (Years 1 -3)	291,218.95	1,272,374.02	773,341.97	436,864.80	2,949,718.70	950,822.39
Net cash inflow (USD) (Years 4 -6)	319,117.73	1,550,896.70	941,930.52	446,519.51	4,254,674.25	968,888.02
Net cash inflow (USD) (Years 7)	349,689.21	1,890,387.99	1,147,271.37	456,387.59	6,136,942.14	987,296.89

Capital Value upon Sale

The capital value at the end of the holding period is fixed on the basis of an assumed annual growth rates (Exhibit 8) over three year rolling periods between Q4 2001 and Q2 2012. The capital value at the end of the holding period will not be simulated as the study is aimed at comparing the two strategies of hedging exchange rate volatility, across different investment horizons. As long as the same growth rate for a particular city is applied for both hedging strategies across the different portfolios, a fair comparison can be made.

Exhibit 8: Annual Capital Value growth Rate

3 year		5 year		7 year	
City	**Annual Capital Value Growth Rate**	**City**	**Annual Capital Value Growth Rate**	**City**	**Annual Capital Value Growth Rate**
Beijing	7.93%	**Beijing**	7.27%	**Beijing**	7.43%
Bangkok	6.70%	**Bangkok**	6.02%	**Bangkok**	6.31%
Kuala Lumpur	0.46%	**Kuala Lumpur**	1.33%	**Jakarta**	8.13%
Taipei	4.56%	**Seoul**	4.65%	**Kuala Lumpur**	8.73%
				Manila	5.55%
				Taipei	5.55%

Assuming constant annual capital value growth, the capital value at the end of each of the 3 holding periods are given by:

$$CV_{ei} = CV_{bi} * (1 + g_i)^3 \qquad \text{(Eq. 8)}$$
$$CV_{ei} = CV_{bi} * (1 + g_i)^5 \qquad \text{(Eq. 9)}$$
$$CV_{ei} = CV_{bi} * (1 + g_i)^7 \qquad \text{(Eq. 10)}$$

where
CV_{ei} = Capital value of investment in country i at the end of the holding period
CV_{bi} = Initial capital value of investment in country i
g_i = Annual capital value growth rate of investment in country i

At the end of the holding periods and the maturity of the respective swaps, the parties re-exchange the initial amounts swapped. Thus taking the example of the 3 year unadjusted currency portfolio, the investor has to return RMB 125.99M, Bht 551.54M, MYR 67.96M and NTD 1,234.68M, which was received at the initiation of the hedge in exchange for the USD 100 million paid.

The currency swap stabilizes the U.S. dollar income every year and is supposed to reduce the uncertainty of the reversionary value at the end of the holding period. The swap however does not hedge against currency risk for any capital appreciation realized at the end of the holding period, i.e. the capital value is at the mercy of the volatility of the exchange rate, which is simulated using Monte Carlo Simulation.

The preceding analyses and computations (except relating to currency swap) are repeated for the currency-adjusted returns to facilitate the evaluation of the natural hedge strategy.

Simulated Results

The results for the 3 and 7-year holding periods for full sample are presented in Exhibits 9 and 10. The results for the 5-year holding period (not presented but available on request) are similar to those shown.

Exhibit 9: Simulation Results: 3-Year Holding Period

Ex Rate Volatility	Statistics	NPV			IRR		
		Swap	N Hedge	No Hedge	Swap	N Hedge	No Hedge
Low Variation	Mean	$2,884,214.35	$5,101,378.95	$3,815,184.48	9.149%	10.025%	9.530%
	Std Dev	$829,864.58	$755,408.14	$822,908.88	0.329%	0.294%	0.328%
	CV	0.288	0.148	0.216	0.0360	0.0293	0.0344
	Sharpe Ratio				5.56	6.14	5.87
	Jensen's Alpha				0.065	0.073	0.067
Medium Variation	Mean	$2,941,027.23	$5,216,835.73	$3,880,702.06	9.169%	10.066%	9.554%
	Std Dev	$1,344,361.46	$1,687,108.51	$1,361,087.03	0.531%	0.656%	0.540%
	CV	0.457	0.323	0.351	0.0579	0.0651	0.0565
	Sharpe Ratio				6.51	8.25	6.94
	Jensen's Alpha				0.064	0.072	0.064
High Variation	Mean	$3,129,520.24	$5,509,624.34	$4,095,199.95	9.237%	10.172%	9.632%
	Std Dev	$2,587,330.80	$2,974,721.04	$2,585,424.37	1.017%	1.152%	1.020%
	CV	0.827	0.540	0.631	0.1101	0.1133	0.1059
	Sharpe ratio				10.89	14.70	11.57
	Jensen's Alpha				0.062	0.071	0.058

Exhibit 10: Simulation Results: 7-Year Holding Perio

Ex Rate Volatility	Statistics	NPV			IRR		
		Swap	N Hedge	No Hedge	Swap	N Hedge	No Hedge
Low Variation	Mean	$30,192,878.90	$53,500,537.55	$31,184,228.76	13.140%	16.710%	13.341%
	Std Dev	$4,920,699.09	$10,382,261.02	$4,898,108.30	0.760%	1.445%	0.759%
	CV	0.163	0.194	0.157	0.0578	0.0865	0.0569
	Sharpe Ratio				25.63	38.08	26.26
	Jensen's Alpha				0.089	0.118	0.091
Medium Variation	Mean	$30,210,430.48	$53,633,609.23	$31,211,774.11	13.142%	16.727%	13.345%
	Std Dev	$4,965,742.87	$10,631,659.70	$5,014,747.18	0.765%	1.475%	0.776%
	CV	0.164	0.198	0.161	0.0582	0.0882	0.0581
	Sharpe Ratio				25.99	35.70	27.21
	Jensen's Alpha				0.089	0.117	0.091
High Variation	Mean	$30,464,814.68	$53,995,849.13	$31,590,249.76	13.176%	16.773%	13.400%
	Std Dev	$5,451,758.00	$11,208,969.59	$5,555,439.61	0.833%	1.545%	0.851%
	CV	0.179	0.208	0.176	0.0632	0.0921	0.0635
	Sharpe ratio				30.77	31.39	32.98
	Jensen's Alpha				0.089	0.118	0.091

All the metrics for comparison: NPV, IRR, Shape's Ratio and Jensen's alpha, clearly shows that the natural hedge strategy is far better than both the currency swap hedge and unhedged strategy over the 3-year holding periods regardless of the exchange rate volatility (Exhibit 9). For example, during high exchange rate volatility when hedging should be intuitively appealing, the natural hedge strategy provides NPV of US$5,509,624 compared to US$3,129,520 for hedged strategy.

Another startling result is that the swap hedge, instead of reducing risk, increased risk as measured by the coefficient of variation which is a better measure than the standard deviation given different expected returns. The result concurs with Walker (2008). The swap hedge, however, reduced risk over the 7-year holding periods. Notwithstanding, the NPV, IRR, Sharpe Ratio and Jensen's Alpha show that the natural hedge is superior to currency swap hedge (Exhibit 10). Furthermore, the out-of-sample results (Exhibit 11) confirm the superiority of the natural hedge to swap hedge. Moreover, the hypothesis test result in Exhibit 12 show that apart from low currency volatility for 3 and 5-year holding periods, the null hypothesis that currency swap as a hedging tool for international real estate investment is superior to natural hedge is rejected at the 0.05 level of significance in the remaining cases. In other words, natural hedge performs better than currency swap hedge. The superiority of the natural hedge is further confirmed by stochastic dominance results presented in Exhibits 13 and 14 – The natural hedge exhibits first degree dominance over currency swap hedge.

Exhibit 11: Risk-Return Ratios – GFC Period (Out-of-Sample)

3-Year	Intensity of Exchange Rate Volatility	Sharpe Ratio	Jensen's Alpha
Currency Unadjusted (Swap Hedge)	Low	6.98	0.085
	Medium	8.03	0.086
	High	13.77	0.092
Currency Adjusted (Natural Hedge)	Low	7.18	0.091
	Medium	8.16	0.092
	High	18.07	0.098
Control	Low	7.29	0.089
	Medium	8.40	0.090
	High	14.36	0.096

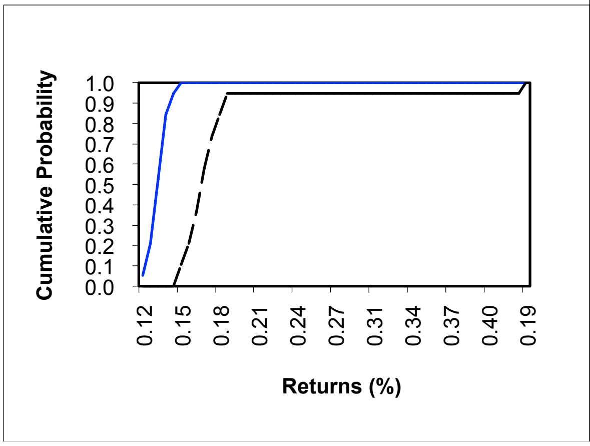
Exhibit 12: Hypothesis Test Results

	Z-Score		
	3 Years	5 Years	7 Years
Low Currency Variation	6.582	4.461	0.983
Medium Currency Variation	0.705	0.876	-0.022
High Currency Variation	-2.259	-2.789	-0.886

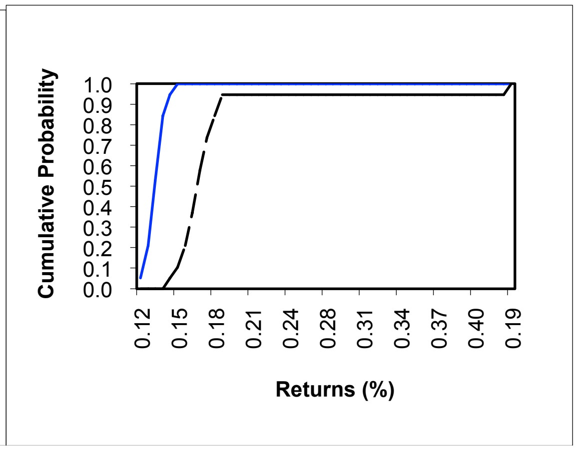
Exhibit 13: Stochastic Dominance Test Results

3-Year Swap vs. Natural Hedge

Low Currency Variation



Medium Currency Variation



High Currency Variation

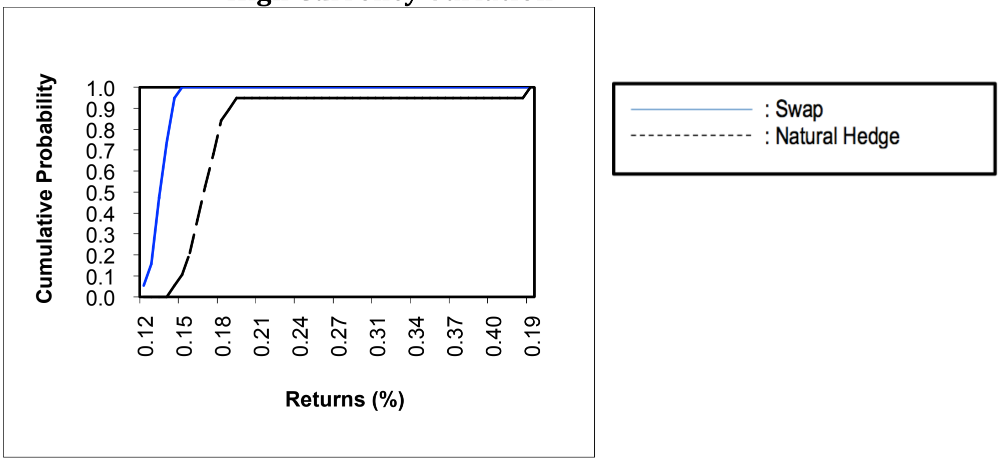
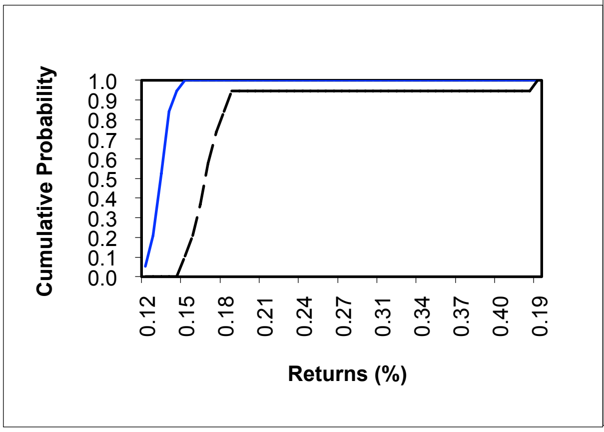
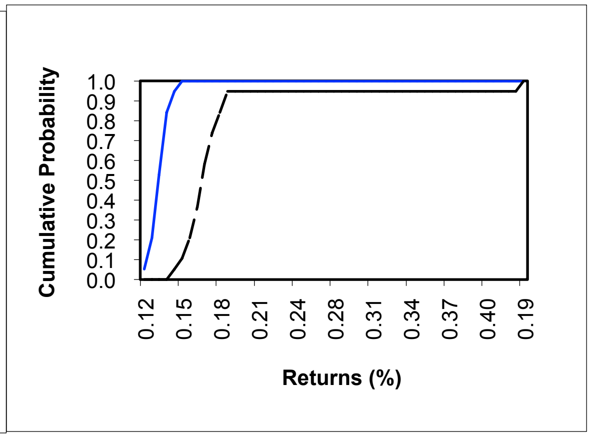


Exhibit 14: Stochastic Dominance Test Results
7 Year Swap vs. Natural Hedge

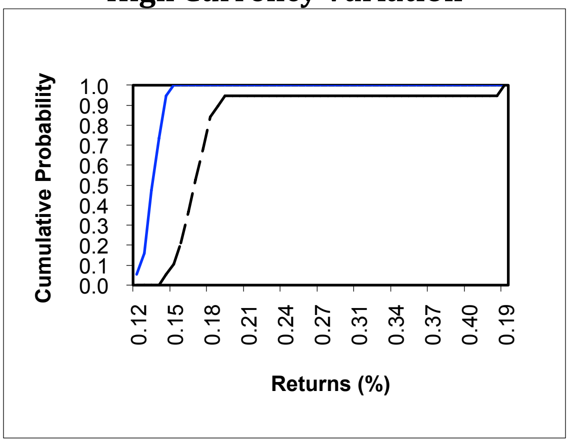
Low Currency Variation

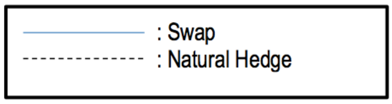


Medium Currency Variation



High Currency Variation





CONCLUSION

We set out to propose forward-looking investment appraisal framework to compare the effectiveness of two strategies in hedging against currency risk in a portfolio of real estate investments in ten cities of seven Asia-Pacific countries, and to determine the optimal choice among "unhedged", "artificially" hedged and "natural" hedged options. Analysis of the data for the in-sample and out-of-sample periods based NPV, IRR, Sharpe Ratio, Jensen's alpha and stochastic dominance reveal that the natural hedge strategy is the optimal choice. It provides superior returns to swap hedge and the control strategy over all the three holding periods. Furthermore, the superiority of the natural hedge is confirmed by hypothesis test results. Thus, investors who invest in real estate in the sample countries may seriously consider the natural hedge strategy to improve their investment returns.

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Promoting role of Electronic Commerce on Economic Growth[1]

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ABSTRACT
In recent years, China becomes an important force and focus in the international e-commerce market due to its strong development momentum in the field of electronic commerce. E-commerce has changed the development way of the national economy and people's life style. With this change, the social efficiency are improved greatly. With the expansion of information access, increase to information quantity and improvement of the information processing ability, e-commerce impacts heavily on macro and micro economic environment, reduces the uncertainty of economic activity, ensures the timely application of information, reduces the cost of access to information, improves the efficiency of economic activity, and finally makes higher efficiency of the allocation mechanism for the market resource.

Key words: e-commerce; social efficiency; economic growth; allocation mechanism

Through the internet open network environment and based on browser/server applications, both of buyers and sellers are able to conduct business activities without a face-to-face communication. Sellers' cash collection and consumers' payment are processed in a network. A various business activities by consumers (users) and sellers (merchants) through the network, such trading activities, financial activities and related comprehensive service activities ect., form a kind of new commercial operation mode. With broadband internet technology and the rapid popularization of mobile internet technology in recent years, e-commerce market of the developed countries and regions maintained a rapid growth trend. Such countries as the United States, China and the European Union are the main force of e-commerce growth. Very strong development momentum of China in the field of electronic commerce in recent years makes China an important force in the international e-commerce market and focus.

The prevalence rate of network technology and network application in our country is increasing day by day. Internet users in China in 2014 reached over 800 million people, and mobile internet users had more than 300 million people. China became the most active country in the field of global electronic commerce. Electronic commerce is characterized by the advantages of its low cost, high efficiency, high reliability and high integrity, and is favored by consumers, enterprises and businesses. Small and medium-sized enterprises not only take the electronic commerce as a way to find business opportunities, but also put it as a way to win the market. Therefore, China's e-commerce develops by leaps and bounds.

Since 2005, China's e-commerce industry has been developing by high-speed, and expanding rapidly. A varies of enterprises in the field of electronic business information, trade and technology service have gradually penetrated into all walks of life and various fields. In this process, the electronic commerce gradually becomes important force for the transformation of the mode of production development and optimization of industrial structure, in order to

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effectively improve the operation efficiency and operating performance from all walks of life. In 2016, China's e-commerce market turnover reached RMB 20.2 trillion yuan (about US$ 2.92 trillion) , up 23.6% from a year earlier[1] and online retail transactions reached RMB 5.16 trillion yuan (about US$ 0.75 trillion) , up 26.2% from a year earlier[2]. The growth of shopping market scale by mobile is as high as 200%. Only on November 11 in 2016 (a special shopping day called double eleventh, the eleventh day of the eleventh month in the year), Taobao's turnover is over RMB 120.7billion yuan (near US$ 20 billion). Taobao is the most famous e-commerce platfrom in China. The position and role of e-commerce in China market trading activities are more and more important. This fully shows that e-commerce has changed the development way of the national economy and people's way of life. With the change of the way, the rhythm of the life and production has been speeding up and as a result, the social efficiency are improved greatly.

The analysis of Adam Smith, a classical economist, on the market price mechanism (the invisible hand) and its role is based on the premise of the complete information market. Chun-liang Yang [3] is pointed out that in complete information market, each participant understands all the information he needs and is able to make optimal decisions to buying in or selling out. In real life, however, there is no such complete information market. In a market environment of incomplete information, the amount of information resource will directly affect the participants in the position in the market competition, and also directly affect the efficiency of business activities and the condition of economic resource configuration optimization. Information can be used to deal with the uncertainty in economic activity and can provide production enterprises with the added value. Grasping the information can save resources, improve efficiency, and make the information changed as a resource with social value. With the expansion of information access, increase to information quantity and improvement of the information processing ability, e-commerce impacts heavily on macro and micro economic environment and function, reduces the uncertainty of economic activity, ensures the timely application of information, reduces the cost of access to information, improves the efficiency of economic activity, and finally makes higher efficiency of the allocation mechanism for the market resource.

Song Ze [4] pointed out that the electronic commerce is in a new trend of the blowout development. E-commerce is producing subversive revolution to high labor-intensive traditional service industry thought to be a low technology content. So, the electronic commerce makes the contradiction between the virtual economy and real economy and between online shopping and logistics distribution rapidly intensifying. After the click of a mouse, information leakage, network fraud, lack of integrity and delivery delay are often encountered. On the one hand, the rapid development of information technology and e-commerce improves the transaction efficiency, and on the other hand, it also promotes the formation of perfect competition market.

Wang Yang [5] pointed out that in the past few years, China e-commerce has not only 10 % of the social retail penetration, higher than the developed countries such as America and Japan, but also greatly changed the consumption habits, and promoted the industry chain efficiency revolution. With the online shopping population increased with high speed, e-commerce economy also entered the new normal stage. The development of e-commerce in China is inevitable and results from the multiple factors of internet technology, logistics environment and consumption habits.

Xiao Hongjing etc. [6] noticed the penetration of e-commerce to the traditional industry and constructed a dynamic model of e-commerce promoting the industrial upgrading. The authors analyzed the intrinsic motivation factors of e-commerce promoting industrial upgrading, which are technological progress and innovation, and the change of social structure of supply and demand. The paper explained the principle of e-commerce promoting the upgrading of traditional industries.

Cheng Bing [7] in his paper summarized that in the economic globalization, the electronic commerce had become the focus of the society and brought a fundamental revolution to the traditional business activities. On the one hand, the electronic commerce reduces business costs and on the other hand, it improves the efficiency of enterprises, promoting the rapid development of economy. Through an evaluation system established in the paper, impact of e-commerce on economic development was analyzed.

Wang Zhenjiang [8] investigated the function of electronic commerce in resources allocation. As the most typical representative of the economic activity in the information age, electronic commerce is an important driving force of global economic integration. The electronic commerce promotes efficiency of national resources allocation, optimizes the economic structure, and improves national competitiveness. To accelerate the development of e-commerce can not only expand the size of the market but also can adjust the position of China in the global industry.

Pei Ziying [9] considered that as a new trade mode in the information globalization and in a tide of economic globalization, electronic commerce improved the social economic efficiency and increased social total demand with its strong competitive advantage and vitality. By using the theory of economics and a large amount of data, the paper shows the tremendous influence of the electronic commerce upon the macro economy. The paper concluded that the electronic commerce plays sustained and healthy role on China economic development.

Chen Xiaofei [10] analyzed the trend of electronic commerce in China from the perspective of long-term development. He pointed out that China's e-commerce infrastructure is continuously being strengthened and supporting environment is improved. Enterprises' application in e-commerce get further deepened, and so is individual participation in e-commerce. Because e-commerce consumer group in our country grows larger and larger, the electronic commerce in our country will definitely march toward the development path which is characterized by personality. The development of the internet itself complies with the mode of personalized development. Electronic commerce running in the platform will undoubtedly follow up such a mode. In order to meet the needs of each individual better, and with the rising of the people's standard of living, individual personal customized service will no doubt be a development trend of the future.

Zhang Hai-ou [11] and Yi Zhenhua [12] noticed the impact of electronic commerce on the tour industry, analyzed the operation mechanism of the tour e-commerce, and pointed out that visiting rates and click rates are very important for the tour website, and they affect the attention of travelers and the investment of advertisers. Tour online direct sales mode replaces the traditional marketing mode and agency mode. The development of the tour e-commerce will focus on direct communication with customers. Tour electronic commerce can not only guarantee the realization of the specific target, but also save the required resources, so as to promote the rationality of social resource allocation.

Xu Weitao [13] analyzed the basis of China's e-commerce popularization, and pointed out that with the rapid development of China's economy, e-commerce has become the shopping mode favored by people. It is due to convenient and quick shopping way and the low-price advantages that e-commerce rapidly develops in China. Ten years ago, portal era for China's e-commerce happened, and 10 years later, the marvelous change finally occurs.

On 2013 online carnival due to large online sells, e-commerce proved that it strongly boosted economic growth. Studying on the source of the e-commerce in China, it is helpful to understand that e-commerce will become a new engine to lead China's economy.

The e-commerce changes business mode

Under the traditional business mode, it is difficult to achieve efficient allocation of social resources, and its reason is shown in three aspects.

1. The traditional business transaction is controlled by the sellers. Under this mode, the customers have no choice on shopping time and deal way. The stores or the sellers rule the operating time, the trading way and trading site. For shopping, the customers have to obey these provisions. Beyond the rules, the customers' needs to shopping are not achieved. Deal between both sides of the merchants and customers cannot be reached. For example, if merchants rule that to sell clothing must not try it on, the customer, in order to get the clothing, will reluctantly accept the provisions. Furthermore, some merchants specify that a credit card is subject to charge fee for the trading, and the customers have made a special trip to find an ATM to withdraw cash in order to reduce the fee. And so is for operation hours. Restrictions on operation hours will inhibit the customers in shopping desire, the sellers also missed the chance to deal the buying and selling, and the customers lost business opportunities. The customers will encounter difficulty and be subject to loss. In rainy days, a consumer who needs rain gear arrives a shop and finds that the store has been closed; a customer to need a drug is unable to find pharmacy nearby. How anxious mood customer's failing to meet their needs, as you can imagine it. The consumer's shopping needs are not met, which is not because of a short of supply but because the consumer has no right to choose the way to get goods. This is why the traditional business mode is inadaptable to market transaction.
2. Under the traditional business mode, a blind area exists for the commodity information. People has a lack of understanding to commodity information in shopping mall, and they make no comparison. It is difficult to judge or find their suitable goods. When people want to shopping, their choice of shopping place is imaginary. The consumers do not know and are not clear that there what kind of goods in which shopping malls, or which business circle, how the quantity of goods is, how goods design is, how their specifications are, how their properties and functions are, and whether or not suitable to themselves. They can only by subjective make choice to the shopping mall. Which store is easy to arrive (or by bus, by driving or by walk), whether or not is the shopping environment comfortable on the shopping day (how many customers, indoor air quality, customer rest area), and whether or not will store staff be able to provide satisfactory service (how many service personnel, their mood and attitude), etc. Before the customers go to the mall, the situation are unpredictable. The customer shopping often fails, thus increasing the cost of shopping. They have to give up some demand, and that is, inadequate information results in that the customers cannot meet the demand.
3. Under the traditional business mode, the trading way cannot provide the consumer with convenient and pleasant service. Some consumers must wait or queue up for shopping and payment. In their consumption, some urban residents need face-to-face payment by the supply department of water, electricity, fueling gas and central heating. The supply department will allocate persons to visit the residents at home in order to receive their expense. That is very inconvenient. Payment way becomes a big burden for consumers and takes extra time. Many consumers depressed the way, not because of

the lack of payment ability, but because of time-consuming for the payment. Under the traditional business mode, the wasting additional time occupies a certain proportion in transaction costs.

Improvement of electronic commerce on social efficiency

Economic research and description to the problem of efficiency tend to associate with fairness. The efficiency and fairness are two major goals of society to expect. They are corresponding to each other, unified to each other and complementary to each other. The efficiency influences on social economic growth, being fair or not relates to social harmony and stability. Efficiency is essentially the problem how to achieve the effective allocation of social resources; Fairness is essentially the problem how to deal with all kinds of relations in social economy. Obviously, the efficiency to lose fairness and the fairness without speaking the efficiency are meaningless. And in our time which is characterized by high speed development of social economy, it is very difficult for the traditional business mode to realize the unity of efficiency and fairness. Because of its openness which is characterized by transmitting information through the network, e-commerce makes the market transaction and competition fairer and more reasonable. Industry boundaries become more blurred, and all kinds of enterprises are faced with the same competitive. Under the impact of the network, enterprises will be difficult to survival and development in the network era if they lack of innovation consciousness and cannot improve products and services in time.

The internet is used with low cost and wide coverage. E-commerce has an advantage of full function and flexible use. The e-commerce is widely applied in the social business, and promotes the improvement and increase of the social efficiency.

1. The forming of a virtual market brings a significant change in the trading way and the trading environment. Online ordering, online promotions, online inquiry, online negotiation and online trading provide the trading activities with online virtual information exchange. This new market space breaks through the prerequisite of the traditional market which must exist in a certain region. Global and unified big market is formed by taking information network as the link, in order to promote the formation of the globalization of world economy and at the same time to be benefit to the optimal allocation of social resources.
2. The appearance of a virtual company caused a major change of the operators in the trading activities. Modern communication technology enables many companies to joint with each other to establish huge information network. In this way, through the combination of core technology of a single company in its respective fields, the market function is achieved in order to provide the market and the society with goods and services more effectively. The virtual company does not have mandatory power to each of the associated companies in the capital relationship, but due to the role of the network information functions, it has changed some substantively. Merchants and buyers from all walks of life can carry out transactions through e-commerce, and such transactions will be more convenient, fast, safe and fair. The the working efficiency is greatly increased, and its effectiveness greatly improved.
3. Big changes occur for trading operation in the way of management. Based on computer network and information technology, the e-commerce system provides the society trading activities with open market environment in which an information is complete, so as to achieve the efficient allocation of social resources and production elements and to make the market mechanism play a full role. Trading under the e-commerce system has changed the traditional trading process and its management mode, breaks through

the operation mode of traditional trading activity which emphases only on one-way logistics, and start with a new trading process. The process will integrate information flow, trading flow, capital flow and logistics as a whole.

4. There is also big change with organization structure for trading intermediary organization. Producers and users and consumers can directly contact and communicate among them through the network, which makes it possible to timely supply and to realize zero inventory. And so, goods flow smoothly. Information network is used as communication platform or media, straightens out the principal-agent relationship resulting from the information asymmetry and eliminates the uncertainty caused by the reasons. The trading intermediary organization loses the possibility of survival.

The technical and economic analysis of influence of electronic commerce upon the social efficiency

Merchants and buyers conduct trading activity under the environment of e-commerce to save their own time and to produce the extra economic benefits. In modern society, the demand of people is full of personalization. In order to win bigger profit, the enterprise must operate on large-scale production. The personalized demand and the large-scale production make the enterprise narrow its profit space, so as to increase the difficulty of the enterprise winning profit. In order to effectively solve the conflict of the demand and production, the enterprise only make full use of e-commerce. By developing the e-commerce platform and customer self-service way, the electronic commerce effectively reduces the cost in order to meet huge personalized demands and at the same time to form the large-scale, personalized demand through search engines and word-of-mouth to spread.

3.1 At the macro level, the electronic commerce provides both parties of supply and demand at the market with extensive contacts and exchanges for the worldwide and draws great attention of the countries. Around the world, the electronic commerce is actively used, to vigorously develop the regional economy. In order to implement task objectives of the 12th five-year planning outline of our country for the national economic and social development about the development of e-commerce, the local governments across the country are in full depth in the creation of national e-commerce demonstration city. The governments increased the investment in e-commerce. They have been striving to complete the link up about the development of electronic commerce and modern service industry and strategic emerging industries, and gives strong support in the area of infrastructure and public service platform for electronic commerce applications, supporting system construction, and so on. Governments' support to e-commerce will have a far-reaching influence on national economy industries. E-commerce will also have a huge role to the development of national economy.

E-commerce shows its roles in the following aspects:

1. The electronic commerce and its development enhance the economic function of information and promote the development of the information industry. In turn, the development of information industry also promotes the development of electronic commerce. Information technology represented by e-commerce develops in an exponential growth trends, and becomes accelerator and important force of a national economic growth. As a public product, information usually is not exclusive. Once the information becomes a realistic productivity, it can quickly diffuse and disseminate. The diffusion and dissemination promote rapid improvement in productivity through chain reaction with no cost, so as to promote the rapid development of the whole national economy. In addition, as an implicit means of adjusting resources optimization

configuration, the information has the same adjustment role with the market price mechanism named as the 'invisible hand'. When the market price mechanism fails, the information plays an important role in filling the gap, so as to make the operation of the economy back into balance.

2. The electronic commerce leads to the change of the economic operation mode to the market. In facing e-commerce environment, enterprises must adjust or change the way of their operation and management. The traditional market structure has changed. The enterprises and their management thinking change along with the change. Production way of 'Supply pushing' is no longer adapt to the development of the market, and will be replaced by 'demand pulling' way. Traditional business activities are carried out under the condition of the face-to-face contact. Business travel for marketing, sales and after-sales is subject to a big spending. And so transaction costs are high. Since it was born and run, e-commerce completely changed the face to face way to conduct business. It makes all kinds of business activities carry out in computer network platform, greatly reduces the transaction cost and completely changes the operation mode of the market economy.
3. The electronic commerce promotes function transformation and the change of management philosophy for government sectors. In addition to both trade parties, many sectors of government participate in the electronic commerce, often involving industrial and commercial administration, customs, insurance, taxation and banking etc. In order to develop electronic commerce healthy and orderly, the government is doing strong and comprehensive coordination by adjusting means of the law and policy. The development of electronic commerce makes many works of the government in supervision and management from passive adaptation to active coordination, also effectively promote the transformation of government departments and their staff management. Government focusing on great importance to the development of e-commerce will certainly brings infinite vitality and broad prospects to regional economic development .
4. E-commerce has become an innovative means of collecting and monitoring regional tax. Network tax-declaring system can not only facilitates the taxpayers in paying a tax, but also effectively prevents the tax evasion. At the same time, e-commerce transactions is characterized by traceability, the data are real and reliable, and the goods in transaction and their prices can be used as the tax basis. E-commerce trading platform can also realize real-time declaring and paying tax by connecting with the tax system.
5. Adjustment of the electronic commerce to the world economic structure. For developed countries, their economic structure is toward the higher level development and their economic development speed is very fast, by giving priority to with high-tech technology and information industry development. Electronic commerce is in this period due to the rapid development of information industry. At the same time it also leads and promotes the development of information industry, so as to speed up the pace of the world economic structure adjustment.

3.2 On the micro level, the electronic commerce has huge impact on manufacturers and consumers. Enterprises use e-commerce to innovate their business mode. Thereby it directly saves expenses on communication, negotiation, business, marketing and others, increases business performance and produces the actual economic value. Personal use of e-commerce may transform peoples' ideology and attitude towards life, can make their work and life easier and on the other hand, e-commerce speeds up rhythm of the work and life. E-commerce shows a great push to the development of social economy, which is reflected in the following aspects:

1. Changing the management and operation of the enterprise. In the age of Internet, the enterprises will face a new change in the needs and purchasing behaviors of the customer, must redesign own work process based on the final customer and change the traditional management works. In order to win the market or to expand market share, the enterprises need to make a rapid response to the market. E-commerce provides the enterprises with the tools and measures to achieve the goal, which is convenient to obtain the market information and to get feedback from the market. Enterprises can get more quickly information about procurement, marketing, services, and even hiring, financing through e-commerce channels, and more accurately grasp the opportunity. At the same time, it can make enterprise reduce operating error, and save operating cost and time. In order to get more discounts on purchasing, the enterprises can close relationships with their suppliers under the electronic commerce environment. And the suppliers are able to participate in the production process of this enterprise, so as to timely provide the enterprises with the right amount of raw materials, equipment, capital and manpower. E-commerce efficiently compresses the enterprise inventory, lean logistics and reduce the backlog of funds.
2. Changing the way of personal thinking, work and life. People use the Internet to get a lot of information and business opportunities. They can work, do business negotiations and purchase goods by staying at their home. The Internet makes it convenient to process transaction for travel deals, such as buying air tickets, train tickets or bus tickets, car rental and hotel reservation, the conference room reservation etc. Every year, one purchases such services, (shown in Table 1-2). All data of the tables are from reference [14].

Table 1 Online retail market transaction size

Years	2011	2012	2013	2014	2015	2016
$,billions	116.2	191.4	241.3	408.9	554.6	756.8

Since ALI strategically invested Suning and Jingdong invested Yonghui, purchased shop No. 1 and reached a strategic cooperation with WAL-MART, the Internet retail development had gone to the combination of the new stage. With the Internet online business develops in steady growth, the offline business will become a new growth point of the Internet.

Table 2 The proportion of the online retail market transaction scale in total retail sales of social consumer goods

Years	2011	2012	2013	2014	2015	2016
Proportion	4.10%	6.30%	8%	10.60%	12.70%	15.10%

The reasons are: 1.The proportion of total retail sales of social consumer goods is increased continuously, thus stimulating domestic demand. Online shopping has changed the user's shopping habits, stimulated the user's shopping potential. 2. A series of smaller cities, continue to maintain the scale of online shopping, the e-commerce continuous innovation, such as "Net Red + live”, stimulate new purchases desire.

At the Internet platform, consumers are able to make comparison with performance and price of goods or services through full and public information, shorten the transaction time and reduce the transaction cost (shown in Tables 3-5), so as to increase the user's identity and satisfaction of service for the deal. People prefer this way of working and living more and more. All data of the tables are from reference [14].

Table 3 Online shopping user scale

Years	2011	2012	2013	2014	2015	2016
Users,millions	203	247	312	38	460	500

The reasons are: Online shopping users grow faster, especially mobile end users beyond the PC end user. Mobile terminal is more in line with user habits.

The rise of the middle class consumer groups, it means that the higher requirements occur in the quality, and there is a contest for the e-commerce in the brand, logistics, services and other aspects.

Table 4 Mobile online shopping transaction size

Years	2011	2012	2013	2014	2015	2016
$,billions	1.68	10.01	39.58	134.57	292.52	538.26

Tmall, Jingdong, Vip.com and so on enter the mobile field in depth. 2016 second quarter earnings of Ali and Jingdong showed that the Alibaba retail platform for mobile terminal reached 17.514 billion, accounting for 75% of China retail platform's total revenue; Jingdong orders in the mobile terminal channel accounted for about 79.3% of the total volume of orders completed, an growth of more than 130%. By combining of O2O and rural e-commerce and cross-border e-commerce, mobile e-commerce will release the consumption potential.

Table 5 Revenue of e-commerce logistics industry

Years	2011	2012	2013	2014	2015	2016
$,billions	8.38	15.29	20.88	29.64	40.13	57.39

China government encourages and supports the e-commerce development and China's express industry develops rapidly in recent years. The volume of business and revenue growth in recent years and the growth is in a gradual accelerate trend.

3. Making a breakthrough of the limitation of the business activities in time and space. E-commerce makes trade business process tend to be more flexible, to be real-time and internationalization. Enterprises will increase business opportunities and the individual will be more convenient. Internet thinking will lead to the development of electronic commerce beyond the infinite.

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