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ASPECTS MANIPULATING THE ADOPTION OF INTERNET BANKING IN KUWAIT USING HIERARCHICAL REGRESSION APPROACH

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ABSTRACT

This paper explain the effects of Internet banking in Kuwait. This study investigates costumers' adoption using a survey methodology within the context of clients that using Internet Banking services in Kuwait based on the extension of Technology Acceptance Model with Theory of Planned behavior and Trust.

The aspects includes Attitude, subjective norm, Perceived behavioral control, Perceived usefulness, Perceived ease of use, Trust and intention constructs. The study data was collected using a manual survey that measure the study aspects, 150 participants have been applied the survey to reflect their opinion about the influence of internet banking. Hierarchical Regression Approach was used to examine the entire pattern of inter-correlations among the proposed constructs and to test related propositions empirically. Results show that Attitude, Perceived behavioral control, Perceived usefulness, Perceived ease of use, Trust significantly influence customers' intention toward adopting Internet banking. Theoretical contributions and practical implications of the findings are discussed and suggestions for future research are presented.

Keywords: Electronic Banking, Internet Banking, Trust, Regression, Technology Acceptance Model

I.   Introduction

Using Technology Acceptance Model (TAM) (Davis, 1989), Theory of Planned Behavior (TPB) (Ajzen, 1991) and Trust to examines the aspects that effects the adoption and acceptance of the system of Internet in banking sector in Kuwait.

Accordingly, the initial adoption of e-service that involves the acceptance of Internet technology and on-line service providers. The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably: Perceived usefulness (PU) - This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance" and, Perceived ease-of-use (PEOU) - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

A model, named Trust and TAM, has been previously presented in exploring the acceptance of on-line shopping setting (Gefen et al., 2003a). This model specified of on-line system into both system features such as ease of use and usefulness and trust in e-vendors. After the adoption the model using the SPSS software, we found that study aspects are good predictors for behavior intention to use on-line shopping. However, a diffusion of innovative technology is highly related to communication channels, individuals, organizational members, and social system except for the technology itself (Rogers, 1995). Theory of planned behavior (TPB) is the model widely used in predicting and explaining human behavior while also considering the roles of individual organizational members and social system in this process (Ajzen, 1991). Accordingly to attitude, subjective norm and perceived behavioral control, can be interpreted as attitude for technology role.

As the aim of this study that related to internet banking setting, which is considered as a type of innovative technology, organizational and social systems such as peer or superior influence and self-efficacy in computer or external resource constraint should play the important role in determining the acceptance of Internet banking (Taylor and Todd, 1995). As a result, an extension of Trust and TAM model with TPB including subjective norm and perceived behavioral control should be in a more comprehensive manner to examine the acceptance of Internet banking.

II.   Literature Review

Burr (1996), for example, describes it as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. Internet banking allows consumers to access their bank and accounts to undertake banking transactions. Electronic banking is said to have three different means of delivery: telephone, PC, and the Internet. Daniel (1999), for example, introduces four different channels for electronic banking: PC banking, Internet banking, managed network, and TV-based banking. PC Home Banking allows customers to do their banking services only on PCs that have been installed the assigned software package, such as include Intuit, Inc.'s Quicken and Microsoft Corp.'s Money. Karjaluoto et al. (2002a) suggests that the main electronic delivery channel in banking is the Internet, accessed via personal computer. Electronic banking is the newest delivery channel in many developed countries and there is a wide agreement that the new channel will have a significant impact on the bank market (Daniel, 1999; Jayawardhena and Foley, 2000). According to Robinson (2000) the cost of an electronic transaction is dramatically less when done online compare to at a branch. According to Robinson (2000) the cost of an electronic transaction is dramatically less when done online compare to at a branch. Mols (1998) Conducted a survey in Denmark argued that Internet Banking might be useful for strengthening cross-selling and price differentiation. Internet banking makes it possible for banks to offer consumer a variety of services 24/7. Internet banking is attractive because the consumer are more satisfied with their banks, are less price sensitive have the highest intention to repurchase, and provide more positive word of mouth information than other bank customers. The pervasive impact of technology nowadays is driving several businesses to find new ways of delivering services to customers (Guriting & Ndubisi, 2006; Srinivasan, 2004). Of the various business sectors, it was noted that the impact of IS and its use is most significant in the banking industry (Lallmahamood, 2007). While banks endeavor to heighten technological initiates to put its services in ubiquitous reach of customers, the factors that motivate individuals to use online services are still not fully known (Lallmahamood). This has propelled IS research in an effort to discover the factors that impact users' IU an IS (Davis et al., 1989; Legris et al., 2003). The classical Technology Acceptance Model (TAM) has been a foundational model in understanding an individual's decision to use technology (Davis, 1989; Davis et al.; Legris et al., 2003). TAM, however, accounts for only 40% of intentions to use (IU) an IS (Legris et al.). TAM has been modified and replicated over the past two decades in IS research and has proven to be a very robust model in understanding user's IU

an IS (Jackson et al., 1997; Legris et al.; Vankatesh & Davis, 2000). Other factors such as trust and CSE have also been cited as critical in determining an individual's IU an IS (Compeau et al., 1999; Gefen et al., 2003; Tan & Sutherland, 2004; Wang & Emurian, 2005). With increased incidents of computer viruses, identity theft, and computer hacking, the issue of trust is especially noteworthy since BIS involves the exchange of personal and financial information in a remote environment (Komiak & Benbasat, 2004; Koufaris & Hampton-Soca, 2004; Wang et al.). Additionally, an individual's belief about his or her ability to successfully use a computer or a technological service to accomplished a specific task, known as their computer self- efficacy (CSE) have also been cited as essential in determining that individual's intention to engage in current or future use of an IS (Compeau & Higgins, 1995; Hasan, 2006). Researchers have also posited that men and women appears to accept technology differently; hence, gender differences appears to also play a role in individual's trust, CSE, and their acceptance of technology (Cyr et al., 2007; Imhof et al., 2007; Yi et al., 2006). However, literature suggest that most of the current research conducted on TAM, trust, and CSE is done in developed nations, while very little attention has been given in literature to such investigation in developing nations, especially in the context of BIS.

III.   Methodology

The model that describe in Figure 1 delivers an outline of the notion model used for this study. The model projected contains an addition of the traditional TAM concepts (i.e. PEOU, PU, ATT, and IU) with trust and CSE. Dependable with work prepared by Byrne (2001), this study used Structural Equations Modeling (SEM) to assess the influence of trust as well as CSE on the classical TAM's constructs (PEOU, PU, ATT) and their global impact on customer's IU BIS in Kuwait Country. Precisely, this research surveyed the following research inquiries:

RQ1: Trust effect perceived ease of use, perceived usefulness, and eventually an individual's intentions to use BIS in Kuwait?

RQ3: How does computer self-efficacy influence perceived ease of use, perceived usefulness, and eventually an entity′s intentions to use BIS in Kuwait?

RQ4: How does the incorporation of trust and computer self-efficacy to the classical TAM compares with the classical TAM in describing individual's intentions to use BIS in Kuwait?

This study was showed through a quantitative research design using survey implement to collect data from customers of banks in Kuwait. Precisely, the Analysis of Moment Structures (AMOS) software was used in adopting the research questions were analyzed by using AMOS to examine TAM' as depicted in the conception map in Figure 1 provided better results for the model fit. Levy and Green outlined seven common measures of model fit. This includes chi-square/ degrees-of-freedom ($\chi 2$/df) goodness-of-fit-index (AGFI), normed fit index (NFI), non-normed fit index (NNFI), comparative fit index (CFI), and standardized root mean square residual (SRMSR). Thus, this study followed these recommendations when comparing the two model fits.
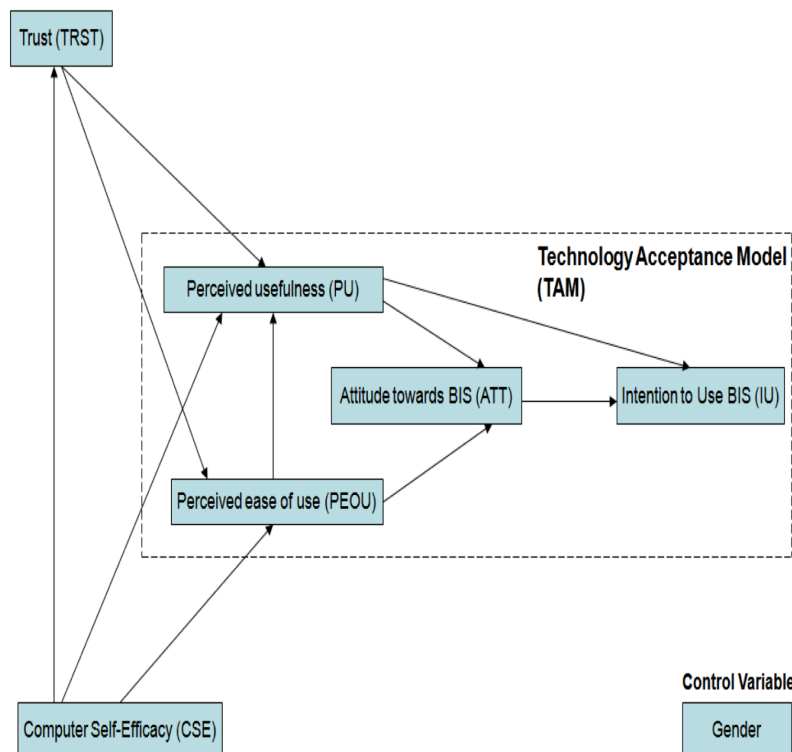
Figure 1. Concept model extending the classical TAM with Trust and CSE

The survey items for PU, PEOU, ATT, and IU used in this study were adapted from Taylor and Todd (1995) as well as Davis (1989). These measures were reported to have high Cronbach's Alpha indicating a good reliability for the measures. The CSE survey items were adapted from the classical Compeau and Higgins (1995) study. The development of Compeau and Higgins measures came about after they reviewed previous self-efficacy measures carried out by Gist, Schwoerer, and Rosen (1989), Webster and Martocchio (1992), as well as Burkhardt and Brass (1990). CSE has been reported in literature to demonstrate high reliability as well. The survey

items for TRST were adapted from Gefen et al. (2003) as well as Koufaris and Hampton-Sosa (2004) study.

The survey instrument used in this study consisted of a total of 43 items. The demographic information had nine items (D1 to D6), while the measurable constructs consisted of a total of 34-items: CSE (CSE1 to CSE10), TRST (TRST1 to TRST10), PU (PU1 to PU5), ATT (ATT1 to ATT3), PEOU (PEOU1 to PEOU5), and IU (IU1 to IU4).

IV.   Results

The survey implement was designed and distributed in Kuwait. Data collection took place over 45 days. According to Levy (2006), data selection is lead for four reasons: (a) to ensure the accuracy of the data collected; (b) to identify response-set; (c) to deal with missing data; and (d) to deal with extreme cases, or outliers. Following data screening 306 usable responses were available for further analyses.

Reliability analysis was performed here using Cronbach's Alpha tests were conducted for the CSE, TRST, PU, PEOU, ATT, and IU constructs to determine the internal consistency across items for each measure. Reliability analysis results for all constructs measured are presented in Table 1 indicating good reliability on all measures with Cronbach's Alpha for all equal 0.96. For gender, there were 106 participants that fell into the category of Female (34.8%). There were 199 participants that fell into the category of Male (65.2%).

For nationality, there were 87 participants that fell into the category of Non-Kuwaiti (28.7%). There were 216 participants that fell into the category of Kuwaiti (71.3%).

For age group, there were 72 participants that fell into the category of below 20 years (23.5%). There were 115 participants that fell into the category of 20-30 years (37.6%). There were 79 participants that fell into the category of 30-40 years (25.8%). There were 40 participants that fell into the category of over 40 years (13.1%).

For Internet usage experiance, there were 11 participants that fell into the category of below 2 years (3.6%). There were 67 participants that fell into the category of 2-6 years (22.0%). There were 101 participants that fell into the category of 6-10 years (33.2%). There were 125 participants that fell into the category of over 10 years (41.1%).

For salary ranges, there were 136 participants that fell into the category of below 1000 KD (45.6%). There were 93 participants that fell into the category of 1001-2000 KD (31.2%). There were 49 participants that fell into the category of 2001-3000 KD (16.4%). There were 20 participants that fell into the category of above 3001 KD (6.7%).

For district, there were 35 participants that fell into the category of Al-Asema (11.5%). There were 173 participants that fell into the category of Hawalli (56.9%). There were 42 participants that fell into the category of Al-Farwaniyah (13.8%). There were 15 participants that fell into the category of Al-Jahra (4.9%). There were 23 participants that fell into the category of Mubarak Al-Kabeer (7.6%). There were 16 participants that fell into the category of Al-Ahmadi (5.3%).

For CES participant responses ranged from 1.00 to 5.00. The average CES response was 3.61 (SD = 0.60). For IU1 participant responses ranged from 1.00 to 6.00. The average For IU participant responses ranged from 1.00 to 5.25. The average IU response was 3.72 (SD = 0.67). For ATT participant responses ranged from 1.00 to 5.00. The average ATT response was 3.70 (SD = 0.77). The average PU5 response was 3.64 (SD = 1.10). For TRUST participant responses ranged from 1.00 to 5.00. The average TRUST response was 3.67 (SD = 0.66). For PEOU participant responses ranged from 1.00 to 5.00. The average PEOU response was 3.75 (SD = 0.65). For PU participant responses ranged from 1.00 to 5.00. The average PU response was 3.69 (SD = 0.67). Means and standard deviations for continuous variables are presented in Table 2.

Table 1: Means and Standard Deviations for Continuous Variables

Variable	M	SD	Cronbach's Alpha
CES	3.61	0.60	0.85
IU	3.72	0.67	0.70
ATT	3.70	0.77	0.72
TRUST	3.67	0.66	0.86
PEOU	3.75	0.65	0.71
PU	3.69	0.67	0.72

A Pearson correlation matrix was created among CES, IU, ATT, TRUST, PEOU, and PU. Since each variable was used four times, a Bonferroni correction to the alpha level was used. Thus the

new alpha level is 0.10 (.050 / 5) . It was shown that CES was significantly positively correlated with IU, ATT, TRUST, PEOU, and PU. IU was significantly positively correlated with ATT, TRUST, PEOU, and PU. ATT was significantly positively correlated with TRUST, PEOU, and PU. TRUST was significantly positively correlated with PEOU and PU. PEOU was significantly positively correlated with PU.

For a significant positive correlation, when one variable increases, the other variable also increases.

Table 2 shows the full correlation matrix. Figure 2 shows the scatterplot matrix between the variables.

ETHICAL AND LEGAL IMPLICATIONS OF WHISTLEBLOWING: A VIEW FROM UNITED ARAB EMIRATES

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ABSTRACT

The paper seeks to dissect the meaning, people's understanding, effects and consequences of whistleblowing. It also tries to define the implication s the act has as laid down in United Arab Emirates (UAE) l aw. From defining the term to exemplifying with cases known across the world, the paper clearly spells out the major concerns that exist about whistleblowing in the UAE and the world more general ly . There exist several differences between the UAE law and t hat of other (mainly western) countries regarding whistleblowing. These differences affect the overall understanding of whistleblowing in the region, the frequency of reporting cases occurring and the penalties that result. This has a number of implications if viewed from a corporate view point , particularly where companies are operating in a number of jurisdictions as is increasingly common . Given that domestic operators require current information , as do transnational operators entering the UAE market, t he paper concludes by highlighting the existing and impending legislation that protect (or fail to protect) whistleblowers in the UAE and the laws required in order to provide sufficient protection to whistleblowers and thus bridge any existing gap .

I.   Introduction

Whistleblowing is not a modern day phenomena but has been prevalent from earliest times . In fact, ancient Greek inscriptions bear testimony to its importance in legal proceedings and the functioning of the law. For instance, in an inscription dating from 330 B.C., a famous Athenian orator said in his prosecution speech against his rival, the controller of Athenian finances, 'neither laws nor judges can bring any results, unless someone denounces the wrongdoers', (Patheja, 2016). Oxford dictionaries defines a whistle - blower as : ' A person who informs on a person or organization engaged in an illicit activity , (Oxford Dictionaries, 2016)

A more precise — and to a great extent more scholarly accepted — definition in the commercial context of the term 'whistleblowing' is:

> 'a deliberate non - obligatory act of disclosure, which gets onto public record and is made by a person who has or had privileged access to data or information of an organization, about non - trivial illegality or other wrongdoing whether actual, suspected or anticipated which implicates and is under the control of that organization, to an external entity having potential to rectify the wrongdoing ' (Jubb, 1999) .

Whistleblowing cases involving governmental actions are often highly sensitive and attract significant media attention. The media in some instances are contacted directly by whistleblowers so as to ensure material is placed on public record and pressure thereby exerted for changes to be made that might otherwise never occur, or simply in the interest of greater 'transparency'. For example, Edward Snowden had privileged access to highly sensitive data regarding US intelligence activities (and lack of government oversight) and disclosure had effects of international magnitude. This paper , however , discusses whistleblowing on a corporate level. It examines whistleblowing in the Middle East and the Gulf region , in particular, the UAE , due to its economic importance and the number of multinational corporations (domestic and foreign) now present , including those with interests in manufacturing, pharmaceuticals, finance, air and road transport, and construction , (Kader, 2011) , as the country continues its thrust to diversify its economy away from its dependence on an oil and petrochemical base , (The guardian , 2014) . It has been observed that globalization of business activities actually increases the probability of fraudulent activities within a corporation's operations, hence yet again the increasing need for legislation in this arena. The paper also address es the question of whether the existing laws

and /or regulations in the UAE are sufficient and/or appropriate , and provides recommendations/ suggestion s (if any) for the improvement of these laws and/or regulations .

It is simple to claim that wrongdoings are ' not ethical ' by their very nature and therefore disclosing wrongdoings must be an ethical action . However, in reality, employees disclosing or testifying to illegal or wrong acts of an employer may face a moral dilemma, rendering the simple antithetically derived explanation meaningless . In terms of whistleblowing, there are always questions that are difficult to answer because of their dependence on human subjectivity. Examples include: how is a ' wrongdoing ' itself defined? Are wrongdoings limited to contravening formal legislation or should they also be defined in terms of ethical and moral reasoning? A multinational corporation manufacturing in sweatshop - like conditions in its factories (or those of its contractors) might not violate laws, but from an ethical and moral standpoint, it s actions could still be considered a s wrong by some , (Hunter, 2015) .

Others viewing the same situation might ad vance the argument that sweatshop - like factories nevertheless provide otherwise absent employment and a livelihood for many families (Powell, 2013) . To disclose the conditions domestically or the nature or location of garment manufacture to the broader market in relation to overseas (outsourcing) manufacturers and ultimately to consumers may then result in the (at least temporary) closure of factories and consequent loss of employment. Such disclosure s have indeed led to campaigns to boycott certain manufacturers until changes are made to conditions or sub - contractors changed , (Oxfam, n.d.) . Whistleblowers may also put themselves at physical risk, and thus their family's livelihood as well as that of others (Khaleej Times, 2010) . Hence the multilayered ethical dilemma of the potential whistleblower as well as the demand for anonymity for whistleblowers, (Steinmetz, 2016) and/or for their protection by legislation.

Another subjective topic would be bribery. In some countries, it is considered a wrongdoing , prohibited by law and with punitive sanctions available where perpetrators are convicted; however , in others it may (though perhaps even equally against the law 'on paper') be common practice and considered a 'cost of doing business' . In this regard, it is worth noting that the Organization of Economic Cooperation and Development opened its Anti - Bribery Convention in the late 199 0s , (OECD, 1997) . Signing the convention indicated that 'a country acknowledges that bribery should not be considered an appropriate means of doing business ' , (Kinney & Raiborn, 2013) . A s at July 2011 , the Convention had 39 signatories, rising to 43 in

early 2017. A s a t May 2017, UAE has yet to accede to this convention , (OECD, 1997), nor have any of the Gulf States or Middle East and North Africa (with the exception of Israel), India, Bangladesh or Pakistan (and notably China) , while the UK, US, Australia and the vast ma jority of European nations are among the signatories , (Ibid, n.d.) . In regard to bribery, however, the Kingdom of Saudi Arabia has specific anti - bribery legislation.

Companies operating in member states of the Gulf Cooperation Council (UAE, KSA, Bahrain, Oman, Qatar, Kuwait and Yemen) may also have their own policies seeking to guarantee whistleblower anonymity, but

'this cannot be guaranteed within the context of allegations raised in the GCC. Anonymous allegations are not view ed as credible, and if the matter progresses to a police complaint and investigation, the identity of the whistleblower, if known, will be requested'. (Khoja et al., 2015) .

By far the largest problem for whistleblowers (whether in relation to fraud, bribery or other illegal or corrupt practices) is whether the information should be revealed in the first place

and , if so, how. There are various ways to disclose information . Each disclosure can be categorized as follows , namely whether it involves (i) a formal or informal approach, (ii) anonymous or identified source , and (iii) disclosure to external entities or internally. Research has found nationality to be a key factor in determining the nature of any disclosure in terms of these dimensions , most likely reflecting the legislation and underlying culture of the country , (Park, 2008) .

The definition cited earlier states that whistleblowing is the act of disclosing information to an ' external entity having potential to rectify the wrongdoing ' , (Jubb, 1999) . Especially in the case of whistle blowing related to a government (or ruler/s as is the case in some states) or to a government - owned entity , a major problem could be that there might not be an official entity in place to receive such information or to rectify any wrongdoing by governmental personnel or government owned entity . That is why the model of separation of power s (that is, the separation of the legislative , executive and judicial arms of government) is of crucial importance in cases of whistleblowing related to governmental entities. By limiting power of individual government institutions it aims to ensure freedom, provide equality, and most importantly in this context , prevent abuse of power.

II.   Whistleblowing : General Concerns

The act of reporting a wrongdoing that has been observed to have occurred in a workplace is both complex and delicate. There is a need to strike a balance amongst several competing interests. These interests could be personal to the whistleblower (affecting only the person disclosing), such as the loss of a job versus fighting for one's principles, or a myriad other interests, such as a concern for another's continuing employment, or even the survival of the company itself in a highly competitive market where release of the particular information could do irreparable damage to a company's operations or even national or international reputation.

The Kroll Global Fraud Report (2015 – 16) portrays the Gulf region as being among those regions t o have recorded the lowest levels of reported fraudulent corporate activities. This is, however, not because companies in the region have committed no such wrongs, but rather because the existing laws (or the lack of laws to protect potential reporters or whistleblowers) discourages the reporting of these wrongs. This highlights the gaps in legislation and regulation protecting whistleblowers in the UAE in particular, and the Gulf as whole. The

instances cited below touch on health insurance companies' activities and those of IT service provider Axact and are representative of what could be a bigger issue touching on the matter of ethics within businesses in the region. Insofar as there are insufficient laws to protect whistleblowers, many ills will remain uncovered as no - one dare report them to relevant authorities. To change this, there is a dire need for comprehensive protections for whistleblowers as well as the adoption of a robust approach that encourages and fosters a positive attitude to reporting wrongdoing, and doing so with anonymity, or with the full protection of the law, if not both.

On the other hand, as we fight for the establishment of a legal framework that provides sufficient protection for whistleblowers, governments and organizations must ensure that employees understand the consequences of hampering business undertakings with unfounded or malicious claims and allegations. Confidential business information should not be aimlessly disclosed to competitors, or the press, with an aim to hurt a company. This calls for well - defined laws that clearly outline the definition of whistleblowing. These laws must aim to strike a balance between business interests and legal protection for whistleblowers, and do so with utmost clarity.

Examples of whistleblowing are often not easy to evaluate and include various parties with different interest s in disclosing certain information. In corporate whistleblowing, one has to be aware of the different parties affected and the impact the case will have on them. While share or stock holders of a corporation can neither be held responsible nor be blamed, nonetheless they are the ones who will suffer the most significant financial losses. Publicly listed companies in many countries have a duty of continual market disclosure of anything that may materially affect the share price. This clearly is the case where the detection of severe fraudulent activities is involved . Executives that had or should have had knowledge of such activities can be held responsible for a b reach of their duty of care.

In terms of a lower level employee becoming aware of illegal fraudulent activities, their decision to disclose internally rather than externally may have ramifications for the individual involved. If a wrongdoing is clearly against the law and an employee fails to bring it to the attention of the authorities, he could eventually also be charged. Assuming this to be the case, it would be better for the respective individual to ' blow the whistle ' before someone else does in order to avoid putting their freedom at risk even at the cost of their employment . A n example of this is Sherron Watkins who was a key witness in the Enron fraud case. After finding out about the use of fraudulent accounting practices in the company , she sen t an anonymous memo to the company's CEO. When the case unfold ed several months later , she was accused of , and investigated for , not properly reporting these practices to an external entity that could have rectified this wrongdoing.

III .   Whistleblowing in the UAE

Whistleblowing has long been a major problem for employees in the UAE. According to the Kroll Global Fraud Report 2015 – 2016 (Global, 2016) , the number of fraudulent activities that have been exposed in the Gulf region is the lowest in the world; however, this may not be because all business es are virtuous, but due to the threat of stern legal action that can be taken against a whistleblower as well as the lack of statutory protection and support for the whistleblowers in the UAE as in much of the region . Therefore , employees are not willing to step forward and report illegal activities and practices taking place within the organizations , whether state - owned or private , (Batty, 2015) .

Nevertheless, it is worth noting a few of the rare examples of whistleblowing in the UAE , namely the fraudulent activities of a number of health insurance companies in Abu Dhabi and the sale of fraudulent degrees and other qualifications by the noted Pakistan - headquartered IT company Axact.

In 2010, 38 cases of fraudulent activities involving health insurance companies in Abu Dhabi were reported, (GulfNews, 2010) and several companies were heavily fined. The health insurance companies were involved in unethical practices such as charging for medical tests that had not been conducted as well as substituting non - prescription drugs for prescribed medications .

Apart from the fraudulent practices of health insurance companies, the IT company Axact was reported by one of its employees for making millions of dollars from selling fake degrees online , (Ahmad & Nazzal, 2015) . The employee, a Saudi - Arabian born Pakistani and fluent Arabic speaker, later fled with his family to the UAE for their safety after reportedly receiving threats (New York Times, 2016) . Although the IT company was headquartered in Pakistan, it was almost one hundred per cent owned by a Dubai registered company — illustrating the complexity can arise in companies operating across national boundaries . According to documents seen by reporters,

> '99.99 per cent of the company's shares are registered under the Dubai company's name, Axact FC LLC. The documents showed that the company has 600,000 shares. Only one share is under the name of Shoaib Shaikh, CEO and owner of Axact, another one share is under the name of his wife, Aisha, and the remaining 599,998 are registered under Axact.'

However, while UAE citizens were among those who fell victim to the scam, cases have been heard in relation to the matter in the US , (GulfNews, n.d.) and Pakistan, with matters appear as yet to be brought in the UAE (as far as the author can determine) .

The author believes that the general level of reporting fails to reflect the real situation regarding illegal activities at corporate level due to a number of reasons. Firstly , a lack of knowledge of the interpretation of the term 'confidentiality' or 'confidential' , almost universally present in the terms of an employee's contract of employment , can impede disclosure . Confidentiality is emphasized when an employee signs a contract , with disclosure of company secrets or sometimes any information come across in the period of employment (including the terms of

their own employment) strictly forbidden. Thus reporting any activities regarding the internal or external activities of the business means breaching the contract and indirectly breaching the law. This appears to entitle employers to supremacy in such a situation and grant them the freedom to retaliate as they wish (for example, demotion, termination of employment, prosecution) . In many cases, employees' hesitation to come forward a n d report wrongdoings is due to their view that such disclosure would fall within the definition of a revelation of company secrets and therefore breach of the law. Article 379 of the UAE Penal Code provides that, ' it is an offense for an individual, who is entrusted with secrets through his employment, subsequently to disclose those secrets ' . Consequently, whistleblowing , according to employees' interpretation, can be considered as a criminal offense and the committer of the action may be liable for at least one year in jail and/or a fine not exceeding AED 20,000.

Second, the confusion caused by the term of 'defamation', which is indeed considered as a criminal offense under the UAE Penal Code , is also a source of hesitation regarding whistleblowing . Defamatory statements and publications tarnish a company's reputation and reduces the honor and respect due to the business; it can also have quite serious commercial impacts. Therefore, defamation, if proven, attracts severe penalties. A whistle - blower may fear falling within the ambit of this law and bearing such consequences. Lack of knowledge on the part of potential whistleblowers might convince them to 'err on the side of caution' and remain silent for fear of breaching the defamation provisions. However, if a whistleblower's release of information is permitted or indeed required by law, liabilities will vary. If the disclosure deviates from what is requisite, the company can sue the whistleblower and file a civil and/or criminal suit against him/her for damages.

To sum up, any individual who contemplates reporting wrongdoings in such an environment will almost certainly not take action. Potential or actual employer intimidation and the fear of being charged with a criminal offense and severe penalties due to the disclosure of secrets (and a desire for self - preservation) would deter the whistleblower from reporting.

Nevertheless, times have changed and the UAE enjoys economic growth and increasing international corporate participation in its economy. According to the Brookings Global Metro Monitor survey (Brookings, 2015) (ranking ' the economic performance of the world's largest metropolitan economies based on growth in GDP per capita and employment rates'), Dubai was ranked the fifth - highest performing metropolitan economy of 2015 from amongst 300 cities.

During the period, the emirate enjoyed a boost of 4.5 per cent in per capita GDP and 6.5 per cent in employment. With the entrance of diverse and international businesses in to the market, the UAE turned its attention to increasing security and fighting corruption through the introduction of the new Financial Crime Law, the main aim of which is the establishment of the Dubai Centre of Economic Security.

The Centre has been created (on paper at least) under the legislation and is to combat financial crimes including ' corruption, fraud, bribery, embezzlement, destruction of public property, forgery, counterfeiting, money laundering, terrorism or illegal organizations financing or other crimes that may be committed in the entities ' within the Emirate of Dubai. Hence, the law opens the door for protection of whistleblowers under its intention to halt corruption. In Article 19, t he Financial Crime L aw provides ' protection of reporter ' . The la w states that the reporter's freedom and security will be guaranteed and no legal action will be taken against the whistleblower unless the information provided is proven to be false. The center has not yet been established , however, thus the credibility of the claim remains in doubt or at least untested at this time (late 2017) . In addition, other concerns accompany the law such as whether the regulation only applies to the emirate of Dubai or whether it includes the six other emirates. The UAE, rather like Australia, faces the challenge of a 'federation' with laws able to be enacted in any or all of the emirates individually . Similarly, national legislation is also able to be passed.

Various advanced countries such as the United States (US) and the United Kingdom (UK) have already implemented whistleblowing protection laws to secure whistleblowers from harsh employer retaliation. For instance, i n the UK, under the Public Interest Disclosure Act 1998 , ' employees who make a disclosure about unlawful activity are protected from prosecution and from termination of their employment by reason of that 'disclosure' (Ford & Braganza, 2016) .

In the US, whistleblowers were afforded protection as far back as 1863, under the False Claims Act (FCA). In 1978 and 1989, the US passed the Civil Service Reform Act and Whistleblower Protection Act respectively, which provided further protection for the whistleblowers and encouraged them to step forward and report fraudulent activities in their employers' operations, without having apprehensions about losing their jobs or facing other repercussions from their employers. It is therefore becoming increasingly evident that the lack of protection for whistleblowers in the UAE is a significant problem when we compare the policies in place there to those adopted by a number of the other countries.

However, due to increasing international pressure on the UAE , as well as local and international criticism for the lack of protection for whistleblowers, a new law was proposed early in 2016 with regard to whistleblowers. According to the new Financial Crime Law , (Ford, 2016) , the whistleblower will be protected and unless their claims are proven to be false . In the latter instance the entity accused of wrongdoing would then be allowed to take legal action. The proposed law is a welcome development, but (once promulgated) the biggest challenge is its implementation. Although the law has been passed, the Centre is not yet in place nor any part of the whistleblower protection legislation tested before the courts.

Implementation will be complicated because not only will the whistleblowers have to be protected legally, but the authorities will also need to ensure their safety from personal threats from employers and also from employees who will be directly impacted by the disclosure of unethical activities. The importance of providing protection to whistleblowers, as well as rewarding them as has been recognized in developed countries like the US (where in 2010 USD 452 million was set aside by the US Securities and Exchange Commission to for that purpose) and the UK and shows the significance of whistleblowing in the business world where it is now widely understood that whistleblowers supply much of the information required to detect and stem fraud. This reinforces the idea that the UAE needs to implement whistleblowing protect ion policies and to encourage whistleblowers to report fraudulent and unethical activities. While it is understandable that the UAE has lagged behind Western countries in providing protection to whistleblowers, since business has flourished in the UAE only in the last two decades , it is imperative that it join the international business and governments' push in this direction for its own sake and those of UAE businesses and stockholders .

On a positive note , some governmental institutions and firms have already preemptively incorporated whistleblowing policies in their codes of conduct. For instance, in February 2015, the Department of Municipal Affairs of Abu Dhabi established a whistleblowing policy. The purpose of the policy states :

> this Policy is to provide the Municipality's employees at all administrative levels as well as its clients a mean of reporting the violations, while being assured that their disclosures will be fairly treated in strict confidentiality to ensure that they will be protected against any potential revenge due to reporting such violation .' , (Abu Dhabi City Municipality, 2015) .

The UAE now comprises one of the largest business centers in the world and one in which most of the world's major multinational corporations operate, and it is now more important than ever that the UAE provides protection to its employees and encourage them to act as whistleblowers. The Financial Crime Law which was proposed in 2016 is a step in the right direct ion, but now the main objective should be its successful implementation , which will require a series of appropriate implementing regulations to put it into effect.

A recent example of successful implementation of legislation in the UAE that has involved increasing compliance in the corporate sector is the new Commercial Companies Law No. 2 of 2015 which was implemented by the UAE government in July 2015 and could act as a model for the implementation of whistleblower protection legislation . Companies operating in the UAE were given one year to comply with the new policies and companies that failed to comply were dissolved immediately. The Financial Crime Law regarding whistleblowing needs to follow a similar framework. Companies should be given a time period, preferably one year, to comply with the new whistleblowing protection laws and put them into practice. Failure to do so should result in repercussions for the companies, such as a heavy fine or temporary suspension, which will force the companies to comply with the whistleblowing policies. While this may seem more a 'stick' than a 'carrot and stick' approach, it has been demonstrated to work successfully in t he UAE environment.

IV.   Implementations and Recommendations

The UAE's proposed legal framework is a comprehensive solution that draws on the failures and successes of other nations in passing and implementing their regulatory frameworks. The framework must not be vague in its coverage and application. It should include not just public institutions , entities and organizations , including military and intelligence organizations , but also private businesses (small, medium and large) and corporations operating in or headquartered in the UAE, as well as government contractors among others . The scope is important to allow for maximum protection against damage caused by the actions of people within these organizations .

This legal framework must extend not just to permanent employees but to temporary contractual employees (both citizen and non - citizen) , and should cover all kinds of stakeholders and public

citizens who may interact with the organizations and observe their behavior . This will also allow the framework to protect people who expose not just obvious criminal acts, but more generally acts that m ay have grave public consequences, including threats to the country's resources, national security, environmental matters, even if such acts were not expressly yet designated as criminal acts.

The appeals process should be effective and clear of bias. Independence is crucial in the judiciary in this respect. They must be able to render justice 'without fear or favor ', having no obligation to the executive or legislative house/rulers. Rather their role is to interpret and enforce the law. Bias at any level is dangerous, but at higher authorities could damage the efficacy of lower bodies and render their work completely fruitless . In addition, there should be a constant review mechanism of the system to ensure that the whistleblower protection system is achieving its goals in the most effective and efficient manner , namely whether whistleblowers adequately protected (including within the employing entity and physically from threats or harm from employer or fellow employees if their identity is revealed in court), and whether they are coming forward and dis closing information that result s in successful prosecution of wrongdoers (that is, preempting detection by inspectorates etc or prompting such action)

The framework must require companies and other organizations to inform their employees and other stakeholders of their rights under the whistleblowing protection laws and regulations and stand ready to clarify any unclear points, and assert to potential whistleblowers the scope of the protection they have. These organizations' ethical codes are required to include clauses that encourage potential whistleblowers to carry out their responsibility to the public to reveal crucial information (revelations in the public interest as a duty and responsibility) . Appropriate fines must be mandate d so that companies that violate their entrusted responsibilities as laid down by the legal and ethical framework are appropriately punished and right action encouraged in other entities .

Finally, the protection given to the whistleblowers should include protection from all manner of retaliatory actions. This may include bullying because this has been well documented to generate negative effects to the same extent as more direct retaliation against whistleblowers . Reparations for damages resulting from such retaliation should also be commensurate with any damage caused.

V.   Conclusion

Businesses are established with the main purpose of creating wealth and maximizing stockholder profit. This, however, is not the sole reason that businesses exist. Limits are imposed by law and culture on the acceptability of various aspects of their operations (for example, labor or employment law, including working conditions; consumer law; fraud, bribery legislation and so on). Prevailing business ethics must adhered to so as to ensure that corporates operate within the regulations of the countries in which they operate. These informal or culturally embedded ethics may often be reinforced by the law of the land. It is worth noting that operating across a number of countries brings with it the need for increased sensitivity to cultural differences while ensuring the adoption of basic common commercial ethical practices that are becoming international norms.

There is a need to have laws that protect the interests of business stakeholders, shareholders in the case of public companies as well as customers and suppliers, and also employees where they may find themselves in the position of wish ing to report unethical undertakings by other employees or members of their organization or by their employer as a corporate entity . Legislation (together with required implementing regulations) must be put in place, especially in the UAE where protection is currently severely limited , to encourage employees to speak out against wrongdoing without encountering legal barriers to lodging notification of suspected or actual wrongdoing (together with evidence if possible) or facing harsh legal sanctions for doing so as well as the risk of potential lethal consequences from disgruntled fellow employees or the employer itself .

New provisions are required as Dubai is quickly establishing itself as an economic giant in the region, and a preferred business hub for people across the globe. As Dubai takes the lead in the role of a global business center , there should be laws that encourage ethical behavior within and by companies, including encouraging employees to speak up i n the face of employee and corporate wrongdoing and taking action where companies attempt to suppress the ability of employees to report wrongdoing. Without persons who have the courage to speak up in the face of evil, there is a high likelihood that a lot of wrong s will be ' swept under the carpet ' and illegal (and/or unethical) business practices continue and be encouraged by lack of whistleblower activities and adequate consequent prosecution of wrongdoers .

Corporate and other entities as yet unconvinced of the advantages whistleblower activities offer them, the broader business community, stockholders and the broader community in the longer term (for example, in improved corporate governance , increased transparency, greater reputation as an advanced) should be targeted in an education campaign to encourage compliance. Nor should unprincipled businesses be allowed to continue to intimidate their employees and trample not only employee rights but ultimately the public good .

By the government establishing strong laws to protect whistleblowers, both governments and organizations can encourage the process of uncovering unaddressed wrongdoing. Consequently, this increases accountability and strengthens the fight against corruption and mismanagement , increasing the reputation of the UAE as an environment that encourages ethical corporate behavior . Laws protecting whistleblowers are , therefore, a necessity, just as is making a profit for businesses.

The act of whistleblowing and its related moral and ethical questions are a highly subjective matter. Nonetheless, it can be argued that from a basic point of view that as illegal activities are unethical, disclosing information about such activities has to be ethical. However, a lack of clarity on how to define a wrongdoing, how to disclose it and who has to suffer from the revelation makes whistleblowing a difficult matter with regard to ethical and moral considerations for the whistleblower (in addition to the risk of unpleasant persona l consequences for themselves) .

A lack of clarity regarding legal aspects is discouraging to individuals, thus protection of whistleblowers by appropriate legislation is essential to encourage them to take action. The lack of such a protection in the UAE and the low number of reported cases in the Gulf region supports this argument and should help validate the nation's implementation of legislation addressing the issue .

The focus of the research was to analyze the significance of whistleblowing in the U AE and whether any policies have been implemented to provide protection the whistleblowers. Not only is there a lack of protection for whistleblowers in the UAE but , in some cases, whistleblowing is considered to be a criminal offense.

In 2016, a new Financial Crime Law was proposed to provide protection to whistleblowers. The challenge for the UAE now is to implement this law successfully. In order to do so, it will have to take some measures to ensure that companies that fail to comply with the legislat ion will face

serious repercussions. The implementation of the legislation, its implementing regulations, and subsequent testing before the courts (should reports be made to the new body as anticipated in the legislation) is eagerly awaited as is discovering whether the new legislation results in higher reporting and prosecution rates for offenders. The country is poised on the doorstep of a new era for whistleblowers, and thus for business and the public good.

References

1. 38 Cases of Health Insurance Fraud, Forgery and Abuse Uncovered in Abu Dhabi. (2010). Gulf News. Retrieved from

http:// gulfnews.com/news/uae/health/38 - cases - of - health - insurance - fraud - forgery - and - abuse - uncovered - in - abu - dhabi - 1.614170

2. Ahmad, A., & Nazzal, N. (2015). Meet Whistleblower Who Busted Fake Degrees Scam, Gulf News. Retrieved from

http://gulfnews.com/news/uae/crime/meet - whistleblower - who - busted - fake - degrees - scam - 1.1519158

3. Batty, D. (2015). Migrants building UAE cultural hub 'working in prison conditions, The Guardian. Retrieved from

https://w ww.theguardian.com/global - development/2015/apr/04/migrant - workers - uae - saadiyat - island - abu - dhabi - battery - hens

4. Bowers, S., & Garside, J. (2014). Ernst & Young whistleblower speaks out on conflict gold risks – video, The Guardian. Retrieved from

https://www.theguardian.com/business/video/2014/feb/25/ernst - young - whistleblower - conflict - gold - risks - video

5. Brookings. (2015). Report: Global M etro Monitor.

6. Civil Service Reform Act 5 USC § 1701 et seq (1978).

7. Ford, R. (2016). New Law Provides Protection for Whistleblowers in Dubai. People Management Magazine.

8. Global, K. (2015). Whistleblowers in the Gulf: Proceed with Caution.

9. Hunter, I. (2015). Crammed into Squalid Factories to Produce Clothes for the West on Just 20p a Day, the Children Forced to Work in Horrific Unregulated Workshops of Bangladesh, Daily Mail. Retrieved from

http://www.dailymail.co.uk/news/article - 3339578/Crammed - squalid - factories - produce - clothes - West - just - 20p - day - childre n - forced - work - horrific - unregulated - workshops - Bangladesh.html

10. Jubb, P. B. (1999). Whistleblowing: A Restrictive Definition and Interpretation. Journal of Business Ethics, 21(1).

11. Kader, B. A. (2011). Diversification Raises Non - Oil Share of UAE′s GDP to 71 %, GulfNews. Retrieved from

http://gulfnews.com/business/economy/diversification - raises - non - oil - share - of - uae - s - gdp - to - 71 - 1.795268

12. Khoja, S., Ford, R., & Higham, E. (2015). Managing a Workforce in the GCC: Employment Law Report.

13. Municipality, A. D. C. (2015). Whistleblowing Policy. Abu Dhabi: Abu Dhabi City Municipality.

14. OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions http://www.oecd.org/daf/anti - bribery/ WGBRatificationStatus.pdf (1997).

15. Oxfam.). Are Your Clothes Made in Sweatshops? Retrieved 10 August 2017, 2017, from

https://www.oxfam.org.au/what - we - do/ethical - trading - and - business/workers - rights - 2/are - your - clothes - made - in - sweatshops/

16. Park, H., Blenkinsopp, J., Oktem, M. K., & Omurgonulsen, U. (2008). Cultural Orientation and Attitudes toward Different Forms of Whistleblowing: A Comparison of South Korea, Turkey, and the U.K. Journal of Business Ethics 82(4).

17. Patheja, S. (2016). System of Whistle Blowing in India. International Journal of Scien tific Research, 4(7).

18. Powell, B. (2013). Sweatshops in Bangladesh Improve the Lives of their Workers, and Boost Growth, Forbes. Retrieved from

https://www.forbes.com/sites/realspin/2013/05/02/sweatshops - in - bangladesh - improve - the - lives - of - their - workers - and - boost - growth/#2aa0cc8674ce

19. Press, O. U. (E d.) (2002) A Dictionary of Law (Fifth ed.). Oxford : Oxford University Press.

20. Public Interest Disclosure Act (UK) (1998).

21. Steinmetz, J. T. (2016). Whistleblower: Sleep Deprivation - Flydubai Worked Crew to Death, ETN eTurbo News Retrieved from

https://eturbonews.com/137303/whistleblower - sleep - deprivation - flydubai - worked - crew - death

22. Whistleblower Killed in Pune. (2010). Khaleej Times. Retrieved from

https://www.khaleejtimes.com/article/20100114/ARTICLE/301149897/1002

23. Whistleblower Protection Act of 1989, USC § 2087 (1989).

A TRILATERAL ANALYSIS OF FINANCIAL SECTOR DEVELOPMENT, TRADE OPENNESS AND ECONOMIC GROWTH IN EMERGING MARKETS AND DEVELOPING ECONOMIES

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ABSTRACT

This study aims to explore the causal linkage among financial sector development, trade openness and economic growth in 86 emerging markets and developing economies (EMDEs). The time line covers the period between 1998 - 2016. Since EMDEs can vary in terms of different features, the country set of EMDEs in this study is divided into two groups as low income & lower middle income countries (LLMI) with 44 countries, and upper middle income & high income countries (UMHI) with 42 countries by regarding the World Bank's country classifications according to income level. Accordingly, this study aims to compare the LLMI and UMHI countries in terms of the trilateral relationship among these three economic variables for the recent years. The Panel Vector Autoregressive (Panel-VAR) approach is used as methodology by using the steps of Abrigo and Love (2015). The empirical findings show that there exist causality from economic growth to trade openness and causality from trade openness to financial sector development in LLMI country set. In addition, financial sector development also Granger-causes trade openness in LLMI country group. Similarly, trade openness Granger-causes financial sector development, and the causal linkage from economic growth to trade openness is also detected in UMHI country set. However, there exists no causal linkage between financial sector development and economic growth in UMHI country set.

Keywords: Financial sector development, trade openness, economic growth, panel-VAR, emerging markets and developing economies

THE CAUSAL LINKAGE AMONG FINANCIAL SECTOR DEVELOPMENT, FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH: A COMPARATIVE ANALYSIS FROM MIKT COUNTRIES

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ABSTRACT

This study aims to examine the causal relationship among financial sector development, foreign direct investment (FDI) and economic growth for the MIKT countries (Mexico, Indonesia, South Korea (hereafter Korea) and Turkey) individually for the time line covering the years between 1981 and 2016. These countries are selected and compared since they are regarded as rising economies in the emerging markets in the recent years. As for methodology, Toda-Yamamoto (1995) procedure is employed to detect the Granger causalities among these economic variables. The empirical findings offer that there exists causal relationship running from financial sector development to economic growth, and the economic growth is also found as key determinant of FDI in Mexico. On the other hand, as for both Indonesia and Turkey, only causal relationship is detected from economic growth to FDI. By regarding these results, the common finding is that market size in terms of economic growth could be forcing variable to attract FDI in emerging markets. However, the empirical results offer that there exists no causal relationship among these variables for Korea.

Keywords: Financial sector development, FDI, economic growth, Toda-Yamamoto, MIKT countries

I.   Introduction

In the existing literature there exist numerous studies inspecting the causal association between not only financial sector development and economic growth, but also foreign direct investment and economic growth. Furthermore, the literature has been enriched with the studies gathering foreign direct investment, financial development and economic growth under same roof simultaneously (as in the studies of Hermes & Lensink, 2003; Chee, 2010; Adeyini & Omisakin, 2012; Raheem & Oyinlola, 2013; Sghaier & Abida, 2013; Ayouni & Issaoui, 2014; Nasir et al., 2017).

After financial liberalization, the impacts of financial sector development on the economies have been mounted in considerable amount. However, in some cases it is possible to observe the impacts of economic growth on the financial sectors. Therefore, Patrick (1966) comes with two main hypotheses so as to clarify the linkage between financial sector development and economic growth. The first one is supply-leading hypothesis which indicates the financial sector development is essential requirement for economic development. Under supply-leading hypothesis of Patrick (1966), the capital stock, which is influenced by financial sector, is solidly associated with output. Firstly, tangible wealth (i.e. capital) is more efficaciously allocated in terms of its ownership and composition via financial intermediaries. Secondly, financial intermediaries promote investment by not only transferring resources from savers to entrepreneurial investors and but also from less efficient projects to more productive ones. Thirdly, the financial sectors offer incentives such as rate of returns in order to save and invest. In addition to these, Levine (1997) maintains that financial system contributes to the economic growth by easing diversifying, hedging and pooling the risk. He also adds that financial markets mobilize savings and improve the exchange of goods and services. The Patrick's second hypothesis is demand-following, which points outs that when the economy develops, the requirement or demand for financial services and markets boost. Hence in order to respond to these demands of savers and investors; financial markets, services and instruments are generated. The evolutions in the financial system such as increasing number and variety of financial products and services are consequence of economic developments.

The bi-directional linkage between FDI and economic growth can be investigated under two main hypotheses; FDI-led growth and growth-led FDI as stated in Zhang (2001). Many researchers come to a consensus on the view that FDI has affected economies from various

channels and support the FDI-led growth hypothesis. Duttarey et al. (2008) maintains that the first channel of FDI impact on economic growth is through capital accumulation. When countries have low capacities of savings and insufficient investment opportunities, the FDIs can provide them major resources to increase their domestic savings and investments, which in turn boosts their economies. Second channel of FDI effect on economic development is via the technological diffusion. The multinational corporations (MNCs) have access to advanced technological techniques in developed countries and they can generate modern capital goods at lower costs thanks to the advanced knowledge that they possess. Thus, the host countries receiving FDI inflows by MNCs benefit from the technological diffusion, and this interaction with MNCs makes significant contributions to their process of economic development (Borensztein et al., 1998). Furthermore, Dimelis (2005) also supports the view that domestic firms in the host countries which do not have too much technological gap between foreign rivals can benefit from technological spillovers and innovations provided through FDI inflows. This leads to rise in productivity. Finally, the host countries tend to export more and import less since they produce under FDI. Hence, it is argued that FDI inflows recover the balance of payments (BOP) of economies. In addition to this, FDI flows are more stable than other portfolio inflows, which also improves the BOP of host countries (Duttarey et al., 2008). On the other hand, it is argued that economic growth is one of main drivers of attracting FDI inflows, which put forwards growth-led FDI hypothesis. The growth-led FDI hypothesis actually is based on the eclectic paradigm of Dunning under OLI framework (Dunning, 1981). According to this framework, the firms decide to operate internationally by considering some specific advantages. O represents the ownership-specific advantages, which indicates the ability of firms to reach resources and exploit income-generating assets across international boundaries. L, standing for location-specific benefits, points out the preference of firms to locate in the markets across boundaries in which they can run value adding operations. Thus, they could benefit from location advantages. Finally, I denotes internalization advantages. Firms internalize the markets in order to provide best interest related to higher benefits and lower costs in cross border markets. Besides these, Zhang (2001) asserts that market size gauged by Gross Domestic Product (GDP) can be key determinant to attract FDI inflows even if countries have similar advantages. As the economy expands, the aggregate demand for domestic investments and FDI raise. Furthermore, when the economy boots, it improves infrastructures and investment opportunities, which in turn provides more lucrative opportunities for the entrepreneurs of FDI.

When it comes to the relationship between FDI and financial sector development, Hermes and Lensink (2003) argue that financial markets improve not only the efficiency in resource allocation but also absorptive capacity of a country. Therefore, as the financial systems develop then the technological spillovers associated with FDI also increases. In addition, they claim that the availability and quality of financial markets enhance the borrowing capacity of multinational firms in the host country to support their new innovative investments. Furthermore, Deichmann et al., (2003) also maintain that foreign investors find the countries with well-functioning financial systems and bank credits as attractive in order to bring FDI, since they carry out their financial transaction with their suppliers, customers and employees under developed financial system more conveniently. On the other hand, FDI can also have considerable impacts on the domestic financial sector according to Zakaria (2007). Firstly, FDI inflows develop the domestic stock market in the host country through the foreign investors' purchases of existing firms in the stock market. Thus, foreign investors increase the liquidity in the stock market. Secondly, as the inflows of FDI into the domestic financial markets rise, the obstacles of local firms to reach credit to improve their investments and project are eliminated. It can be said that FDI inflows remove the credit constraints of domestic firms and offer them capital opportunities. Besides these, financial FDI inflows as in the form of foreign banks also affect the domestic financial markets of host country. The entrance of foreign banks increase competition in the domestic markets, which in turn, forces local financial institutions decrease costs, enhance the quality of financial products and increase their quantities to compete with them (Coppel & Davies, 2003).

This study aims to investigate the causal relationship among financial sector development, FDI and economic growth in Mexico, Indonesia, Korea and Turkey, also called MIKT countries offered by Jim O'Neill as a new acronym. Since these countries are regarded as rising economies in the emerging markets having common features such as profiting from globalization with their industrial economies, and their bridge position in terms of economic and political aspect between zones as stated in Gallo and Biava (2013). The time period of the study lies between 1981 and 2016, which offers current empirical findings. As for methodology, Toda and Yamamoto (1995) approach is employed in order to reveal dynamic causal relationships among these economic variables for these countries.

II.   Data Set

This study examines the causal relationship between FDI, financial development and economic growth for the MIKT countries, namely; Mexico, Indonesia, Korea and Turkey for the time line spanning the years between 1981 and 2016. The economic growth (EG) and FDI are gauged by the annual growth in GDP per capita (%) and FDI inflows as a percentage of GDP (% GDP), respectively. As for financial sector development, there are various measures to capture the financial development level in economies. Domestic credit supplied by financial sector as a percentage of GDP (% GDP) is preferred as a proxy for financial sector development (FD) (see Rana & Barua, 2015; Doumbia, 2016).

III .   Econometric Methodology and Empirical Test Results

In order to examine the trilateral relationship among financial sector development, FDI and economic growth, Toda and Yamamoto (1995) (TY) approach is utilized. TY approach allows to conduct econometric analyses with variables having different integration order hence it does not lead to loss of information due to differencing procedure (Dogrul & Soytas, 2010). The steps applied in the studies of Soytas and Sari (2009), and Dogrul and Soytas (2010) are followed in this study.

In order to detect long-run causality between the variables, the maximum differencing order, denoted as dmax must be detected for each variable for each country. The well-known unit root tests, Augmented Dickey Fuller-ADF (1979) and Phillips Perron-PP (1988) are implemented. The unit root test results for Mexico, Indonesia, Korea and Turkey are presented in Table 4, Table 5, Table 6 and Table 7, respectively.

Table 1. Unit root test results for Mexico case

		ADF	PP
	Level		
Constant	EG	-6.040631*	-6.041125*
	FDI	-2.547611	-2.444119
	FD	-3.308775**	-1.515561
	Level		
Constant & Trend	EG	-6.242836*	-6.322570*
	FDI	-3.849467**	-4.045441**
	FD	-0.409966	-1.109140

		ADF	PP
	First Difference		
Constant	EG	-4.284435*	-31.11845*
	FDI	-6.963743*	-9.221039*
	FD	-3.933211*	-7.647103*
	First Difference		
Constant & Trend	EG	-4.352759*	-31.48534*
	FDI	-6.838616*	-9.075756*
	FD	-6.854034*	-24.70250*

Notes: ADF and PP tests have null hypotheses of that series have unit root. *, **, *** denote 1%, 5% and 10% significance levels, respectively.

Table 2. Unit root test results for Indonesia case

		ADF	PP
	Level		
Constant	EG	-4.444672*	-4.477426*
	FDI	-2.220400	-2.424120
	FD	-1.970256	-2.082808
	Level		
Constant & Trend	EG	-4.419433*	-4.418830*
	FDI	-2.210784	-2.458832
	FD	-1.757158	-1.628792

	First Difference		
Constant	EG	-7.780885*	-21.16168*
	FDI	-4.580037*	-4.592179*
	FD	-3.269429**	-3.269429**
	First Difference		
Constant & Trend	EG	-7.653578*	-21.04359*
	FDI	-4.503150*	-4.453730*
	FD	-3.336806***	-3.336806***

Notes: ADF and PP tests have null hypotheses of that series have unit root. *, **, *** denote 1%, 5% and 10% significance levels, respectively.

Table 3. Unit root test results for Korea case

		ADF	PP
	Level		
Constant	EG	-4.078004*	-4.154129*
	FDI	-2.660168***	-1.768478
	FD	-0.014129	0.012415
	Level		
Constant & Trend	EG	-6.346526*	-12.28378*
	FDI	-3.050293	-1.859985
	FD	-1.988246	-2.018128
	First Difference		
Constant	EG	-5.816627*	-23.00011*
	FDI	-5.730452*	-4.697980*
	FD	-4.987718*	-4.928056*
	First Difference		
Constant & Trend	EG	-5.708982*	-23.12684*
	FDI	-5.695636*	-4.991045*
	FD	-5.005176*	-4.942551*

Notes: ADF and PP tests have null hypotheses of that series have unit root. *, **, *** denote 1%, 5% and 10% significance levels, respectively.

Table 4. Unit root test results for Turkey case

		ADF	PP
	Level		
Constant	EG	-6.225623*	-6.253856*
	FDI	-2.012960	-1.872494
	FD	0.516407	0.680016
	Level		
Constant & Trend	EG	-6.201406*	-6.378885*
	FDI	-2.780321	-2.479745
	FD	-1.383736	-0.937212
	First Difference		
Constant	EG	-9.876327*	-20.92107
	FDI	-5.297050*	-8.797927*
	FD	-5.481491*	-5.477075*
	First Difference		
Constant & Trend	EG	-6.253856*	-20.21315*
	FDI	-5.208680*	-8.745871*
	FD	-5.941713*	-10.03835*

Notes: ADF and PP tests have null hypotheses of that series have unit root. *, **, *** denote 1%, 5% and 10% significance levels, respectively.

As for all countries, EG variable is stationary at level ($I(0)$), whereas FDI and FD variables seem stationary at first difference ($I(1)$). Thus, the dmax is determined as 1 for all countries. In order to detect long-run Granger causality among the variables, Vector Autoregressive (VAR) model is constructed by determining optimum lag length (p) according to Akaike Information Createrion (AIC), Schwarz Information Createrion (SIC) and Hannan Quinn (HQ). Then, augmented VAR(p + dmax) model is constructed for each country. The optimum lag lengths (p) for Mexico, Korea and Turkey are determined as 1, while optimum lag length (p) for Indonesia is set as 2.

The closed augmented VAR system for Mexico, Korea and Turkey is constructed as VAR (1+1=2) in Eq.1, and the closed augmented VAR structure for Indonesia is formed as VAR (2+1=3) in Eq2.

$$Mt = \beta_0 + \beta_1 Mt\text{-}1 + \beta_2 Mt\text{-}2 + ut \qquad (1)$$

$$Mt = \beta_0 + \beta_1 Mt\text{-}1 + \beta_2 Mt\text{-}2 + \beta_3 Mt\text{-}3 + ut \quad (2)$$

Here, Mt is a (3x1) vector including endogenous variables of EG, FDI and FD. β0 is a (3x1) constant vector, whereas β1, β2 and β3 denote (3x3) coefficient matrices. The vector of ut represents error terms.

In order to detect Granger causality, the first p parameters are tested by modified Wald test with Chi-square (p) distribution for both VAR (2) and VAR (3) models. The Chi-square test statistics with p degrees of freedom are offered in Table 5, Table 6, Table 7 and Table 8 for Mexico, Indonesia, Korea and Turkey, respectively.

Table 5. Granger Causality test results for Mexico

	Independent Variables		
Dependent Variable	**EG**	**FDI**	**FD**
EG	--	0.266232	4.292975**
FDI	3.883934***	--	0.000678
FD	1.365152	0.242061	--

Note: Granger test has a null hypothesis that independent variable does not Granger cause dependent variable. *, **, *** denote 1%, 5% and 10% significance levels, respectively.

Table 6. Granger Causality test results for Indonesia

	Independent Variables		
Dependent Variable	**EG**	**FDI**	**FD**
EG	--	0.421112	0.778922
FDI	11.61329*	--	1.258573
FD	0.263628	0.561176	--

Note: Granger test has a null hypothesis that independent variable does not Granger cause dependent variable. *,

, * denote 1%, 5% and 10% significance levels, respectively.

Table 7. Granger Causality test results for Korea

	Independent Variables		
Dependent Variable	EG	FDI	FD
EG	--	0.323320	0.171465
FDI	1.274605	--	0.137597
FD	0.025043	1.090409	--

Note: Granger test has a null hypothesis that independent variable does not Granger cause dependent variable. *, **, *** denote 1%, 5% and 10% significance levels, respectively.

Table 8. Granger Causality test results for Turkey

	Independent Variables		
Dependent Variable	EG	FDI	FD
EG	--	0.121419	0.197466
FDI	4.630911**	--	0.040736
FD	0.120738	0.144963	--

Note: Granger test has a null hypothesis that independent variable does not Granger cause dependent variable. *, **, *** denote 1%, 5% and 10% significance levels, respectively

According to Granger causality test results, there exists causal relationship running from financial sector development to economic growth, and the economic growth is also long-run key determinant of FDI inflows in Mexico as observed in Table 5. When Indonesia and Turkey are considered in Table 6 and Table 8, respectively, the economic growth Granger-causes FDI inflows in these countries. However, there exists no causal relationship among these three economic variables for the case of Korea as seen in Table 7. These causal relationships show that in these emerging markets, market size in terms of economic growth can be regarded as key determinant influencing the FDI inflows into the countries. The foreign investors can consider these markets as profitable in terms of their growth potentials.

All the equations for each country are subjected to diagnostic tests to validate the equations in terms of serial correlation between error terms and heteroskedastic variance. For Mexico and Turkey case, there exists no assumption violations regarding serial correlation and heteroskedastic variance. There is also no serious problem of heteroskedastic variance but there may exist suspicious about serial correlation in Indonesia case. However, when the CUSUM and CUSUMQ tests are applied in that case, then instable parameter evidence cannot be detected. As

for Korea, the serial correlation and the heteroskedastic variance is detected for only financial development equation, and the rest conforms to diagnostic assumptions. Nevertheless, financial development equation seems robust and stable when regarding its results of Ramsey Reset, and CUSUM & CUSUMQ tests[1].

As stated in Soytas and Sari (2009), the TY procedure offers the long-run causalities between the variables, however, they do not show the impact of one standard deviation shock in one variable on the others in the short term. Therefore, the generalized impulse–response analysis offered by Pesaran and Shin (1998) is employed in order to capture these impacts. The generalized impulse response is indifferent in terms of the order of variables in the VAR structure. The impulse response results for Mexico, Indonesia. Korea and Turkey are presented in Fig. 1, Fig.2, Fig.3 and Fig.4, respectively. As observed in Fig.1, one standard deviation (std) shock in financial sector development worsens the economic growth in Mexico at initial periods, then this impact becomes insignificant after two periods. This negative impact can be related with that economies can suffer from the financial challenges such as financial crisis etc. occurring in economies that do not have sound financial system. On the other hand, one std shock to economic growth generates positive impacts on the FDI inflows and this effect tends to die off in Mexico after three periods. As for Indonesia, the innovations in economic development lead to significant and positive impacts in FDI inflows up to five periods, then this positive impact vanishes as shown in Fig. 2. As supported in Granger causality test results, in Korea there is no remarkable response of FDI, FD and EG variables to any shocks in these variables in Fig. 3. Finally, in Turkey one std shock to economic growth has positive and significant effect on FDI inflows at initial periods, then this effect tends to disappear as detected in Fig. 4. However, despite the fact that there exists no causality running from FDI to financial sector development in Turkey, the impulse response analysis offers that FDI inflows have initially insignificant impact on its financial sector, but the inflows tend to affect positively the financial sector after four periods in Turkey.

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[1] All test results for diagnostic checks are hidden due to preserve space in study. They are available upon request.
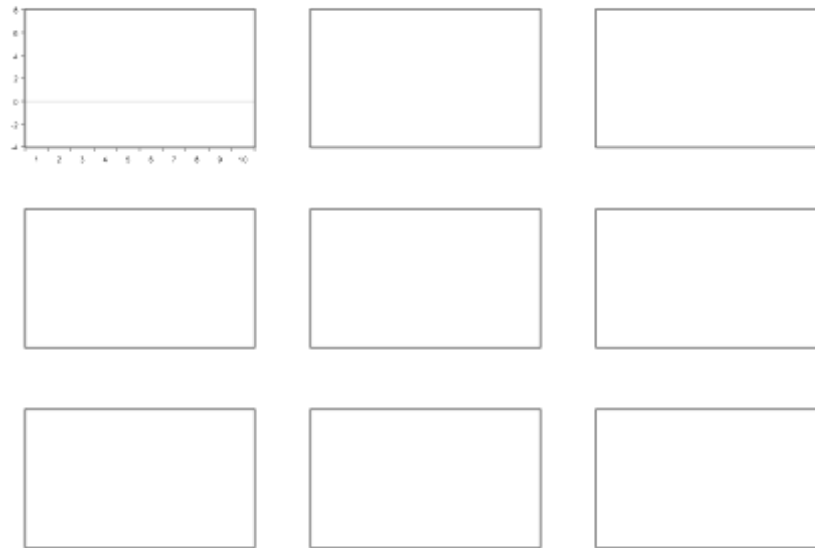
Figure 1. The generalized impulse response test results for Mexico
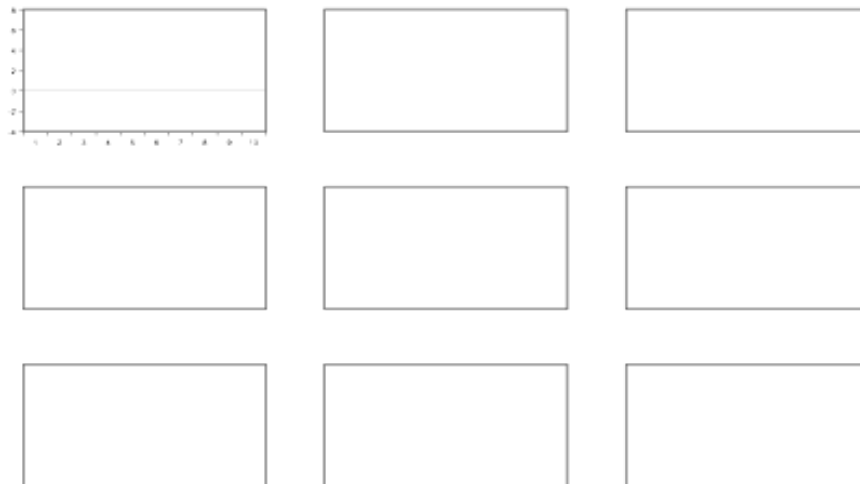
Figure 2. The generalized impulse response test results for Indonesia

Figure 3. The generalized impulse response test results for Korea

Figure 4. The generalized impulse response test results for Turkey

V. Conclusion

This study aims to investigate the causal linkage among economic growth, financial sector development and FDI for the MIKT counties (Mexico, Indonesia, Korea and Turkey) over the period 1981 - 2016. These countries are regarded as new BRICs in the emerging markets since they have potential to grow with their industries thanks to globalization and their connector position between important zones in the world (Gallo and Biava, 2013). Toda and Yamamoto (1995) procedure is applied to observe the dynamic relationship since this procedure allows that the variables can be in different integration orders. The empirical test results offer two significant findings. First, the financial sector development could be forcing variable of economic growth but it can have adverse impacts on economy if the financial infrastructure is not sound as observed in Mexico. The financial infrastructures and regulations should be reinforced in order to benefit from the advantages of financial systems. Second, the emerging economies such as Mexico, Indonesia and Turkey are regarded as profitable markets by investors of FDI due to their market size and growing potential. Even if the causal linkage from FDI to economic development is not detected, the FDI promoting policies could be more attractive for the investors who are already enthusiastic to bring FDI in these economies by regarding their growth potentials.

Biography

Dr. Bilge Canbaloglu has been working as an assistant professor at the Department of International Trade and Business at Ankara Yıldırım Beyazıt University since December 2016. Her academic interests are in the fields of financial economics, monetary economics and banking. She offers business analysis, international economics, risk management courses.

References

Adeniyi, O & Omisakin, O. (2012). Foreign Direct Investment, Economic Growth and Financial Sector Development in Small Open Developing Economies. Economic Analysis & Policy, 42(1), 105 – 127.

Ayouni, S. E. & Issaoui, F. (2014). Financial Liberalization, Foreign Direct Investment and Economic Growth: A Dynamic Panel Validation. International Journal of Economics and Financial Issues, 4(3), 677-697.

Borensztein, E., De Gregorio, J. & Lee, J-W. (1998). How does foreign direct investment affect economic growth?. Journal of International Economics, 45, 115-135.

Chee, Y.L. (2010). The Impact of FDI and Financial Sector Development on Economic Growth: Empirical Evidence from Asia and Oceania. International Journal of Economics and Finance, 2(2), 107 -119.

Coppel, J. & Davies, M. (2003). Foreign Participation in East Asia's Banking Sector. International Department Reserve Bank of Australia. Retrieved December, 19, 2017, from the World Wide Web: http://www.bri.org/publ/cgfs22rba.pdf

Deichmann, J., Karidis, S. & Sayek, S. (2003). Foreign Direct Investment in Turkey: Regional Determinants. Applied Economics 35, 1767-1778.

Dickey, D.A. & Fuller, W.A. (1979). Distribution of the estimators for autoregressive time series with a unit root. Econometrica, 64, 813-836.

Dogrul, H.G. & Soytas, U. (2010). Relationship Between Oil Prices, Interest Rate, and Unemployment: Evidence from an Emerging Market. Energy Economics, 32, 1523-1528.

Doumbia, D. (2016). Financial Development and Economic Growth in 43 Advanced and Developing Economies over the Period 1975-2009: Evidence of Non-Linearity. Applied Econometrics and International Development, 16(1), 13-22.

Dunning, J.H. (1988). The Eclectic Paradigm of Internnational Production: A Restatement and Some Possible Extensions. Journal of International Business Studies, 19(1), 1-31.

Duttaray, M., Dutt, A. & Mukhopadhy, K. (2008). Foreign Direct Investment and economic growth in less developed countries: an empirical study of causality and mechanism. Applied Economics, 40, 1927-1939.

Gallo, E. & Biava, G. (2013). After the BRICs, is now time for the MIKT? Retrieved December, 22, from World Wide Web: http://www.albertoforchielli.com/2013/04/03/after-the-brics-is-now-time-for-the-mikt/

Hermes, N. & Lensink, R. (2003). Foreign direct investment, financial development and economic growth. Journal of Development studies, 40: 142-163.

Levine, R. (1997). Financial development and economic growth: views and agenda. Journal of Economic Literature 35, 688-726.

Nasir, N.M., Rehman, M.Z. & Ali, N. (2017). Foreign Direct Investment, Financial Development and Economic Growth. International Journal of Financial Research, 8(4), 228 -239.

Patrick, H.T. (1966). Financial Development and Economic Growth in Underdeveloped Countries. Economic Development and Cultural Change, 14 (2), 174-189.

Pesaran, M.H. & Shin, Y. (1998). Generalized impulse response analysis in linear multivariate models. Economics Letters, 58, 17–29.

Phillips, P.C.B. & Perron, P. (1988). Testing for a unit root in time series regressions. Biometrica, 75, 335 – 346.

Raheem, I.D. & Oyinlola, M.A. (2013). Foreign direct investment – economic nexus: The role of the level of financial sector development in Africa. Journal of International Finance, 5(9), 327-337.

Rana, R. & Dhaka, S. (2015). Financial Development and Economic Growth: Evidence from a Panel Study on South Asian Countries. Asian Economic and Financial Review, 5(10), 1159-1173.

Sghaier, I. M. & Abida, Z. (2013). Foreign Direct Investment, Financial Development and Economic Growth: Empirical Evidence from North African Countries. Journal of International and Global Economic Studies, 6(1), 1-13.

Soytas, U. & Sari, R. (2009). Energy consumption, economic growth and carbon emissions: Challenges faced by an EU candidate member. Ecological Economics, 68, 1667-1675.

Toda, H.Y. & Yamamoto, T. (1995). Statistical inference in vector autoregression with possibly integrated process. Journal of Econometrics, 66, 225-250.

Zakaria. Z. (2007). The causality relationship between financial development and foreign direct investment. Jurnal Kemanusian 10, 1-23.

Zhang, K. H. (2001). Does foreign direct investment promote economic growth? Evidence from East Asia and Latin America. Contemporary Economic Policy, 19 (2), 175-185.

SETTING THE STAGE FOR CHANGE IN AN AMBULATORY ONCOLOGY CENTRE

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ABSTRACT

Ambulatory Oncology centres deliver day treatment and consultation services to cancer patients. Cancer prevalence is on the rise and demand for services are increasing exponentially as innovative treatments and technologies are increasing the curative rates as well as treatment options. This has demonstrated an increase of between 3% and 5% of new patient growth annually. Combined with an aging demographic, continued surveillance and follow up care has necessitated a reengineering of roles required in this area.

In 2015, a Canadian ambulatory oncology centre chose to introduce new roles into the clinic departments. These roles included four nurse clinician or in-scope leader roles and one medical office assistant role into the clinic environment. This centre's service delivery model was that of a traditional physician-nurse dyad and had only out-of-scope leadership roles. The introduction and integration of the new roles did not go well and to this day emotions, assumptions and judgements still linger. At the same time, many internal organization-wide initiatives were also implemented and external factors such as layoffs in other units and hiring freezes created an atmosphere of uncertainty and angst among staff and manager. This augmented the felt discombobulation at this point in history.

A qualitative approach was conducted to understand the disconnect between the change management that had occurred and the disparate feelings of staff about the introduction and integration of the new roles. Eighteen semi-structured interviews were completed on staff that were affected by these changes within different departments and hierarchical levels of the organization. Themes were then collated and brought to two focus groups to further delineate what work needed to be targeted in order to not have similar experiences in future new role introduction.

Results from this study show three central themes: planning and execution, emotions and behaviours, and experienced culture. In each theme, a common thread as a mediating factor was that of personal accountability. In relation to the managerial role, personal accountability for this change was an instrumental element to the new rolees' success in those departments. The spectrum experienced ranged from bullying, harassment and low uptake of the new rolees, to acceptance and collaboration with the new rolees. An influencing component was the level of manager's buy-in at the planning and implementation stages of this change.

Managerial buy-in is essential in any change management initiative. Gaining the buy-in in turbulent times is difficult yet cannot be underestimated or bypassed. The implications of this research are manifold. Ambulatory oncology clinic research is scant at best thus adding to the literature. Ambulatory oncology centres traditionally practice in a primary nurse model or physician-nurse dyad, yet with increasing scopes of practice, high volume clinics and a push for cost effectiveness, optimizing all healthcare roles is becoming an increasing mandate from healthcare organizations. This research seeks to help by highlighting the perils of planning and implementation of new roles within these types of centres. Lastly, this study brought to light the impact of success from a personal accountability lens and the managerial role supporting the literature on the critical part managers play in change management.

Keywords: change, ambulatory oncology clinics, management buy-in, personal accountability

Carol Baumgarten is the Director Cancer Care Teams and is responsible for the oversight of daily operations in an ambulatory clinic setting of 145 full time equivalent staff, three managers, and advanced practice nursing on two sites. Her previous experience includes leading the Systemic Treatment (chemotherapy) area and most recently an interim assignment of Acting Director of the Psychosocial Rehabilitation Oncology program. In 2014, Carol embarked on her Doctorate in Business Administration (DBA) through the University of Liverpool studying the integration of new staff roles in a traditional primary nurse ambulatory oncology setting through a qualitative methodology.

KEY ISSUES AND CHALLENGES OF HOSPITALITY LABOUR MARKET:

THE CASE OF CROTIA

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ABSTRACT

One of the main economic functions of tourism is the employment function, which provides workplaces, not only in tourism system, but also in economic activities directly and indirectly connected to tourism (e.g. transportation, trade, construction etc.). The vast majority of tourism employment belongs to hospitality industry, which employs more and more people every year. Therefore, hospitality labour market is greatly determined and affected by following tourism characteristics: constant growth in tourist arrivals, overnight stays and receipts, seasonality of tourism demand and great affection of employee on provided service, and therefore on tourist experience as well. According to UNWTO, in 2016, there were 1,235 million of international tourist arrivals, which is 3.9% more than 2015. According to the same source, international tourist arrival should reach 1.8 billion by 2013. Furthermore, tourism is (direct, indirect and induced) responsible for 10% of world's GDP. When it comes to Croatia, direct share of tourism in GDP, according to CBS (Croatia bureau of statistics), is estimated on 18% in 2016, which is significantly above the average. Therefore, it is possible to conclude that hospitality employment is of the great importance for Croatian economy.

Furthermore, some specific characteristics of tourism market in Croatia influence hospitality employment to a large extent. Consequently, it is possible to emphasize key issues of hospitality labour market in Croatia. Firstly, the vast majority of overnight stays (more than 80%) in 2016. is realized in the coastal part of Croatia, while the continental part, which covers almost 60% of the total surface of the country, generates less than 20%. Secondly, more than 85% of overnight stays

is realized in the summer period (June – September). This specific distribution of tourist arrivals and overnight stays leads to high rate of seasonal employment. When compared with the European Union, Croatia has high unemployment rate (13.6% in 2016). Seasonal employment reduces this rate only in summer period. One of the main challenges in hospitality labour market in Croatia is how to find qualified labor force only during the summer period. In this period, labour force demand often exceeds supply, which means that employer cannot find qualified employees within the local population. Therefore, labour mobility in hospitality industry in Croatia is very frequent. In theory, there are two main types of labour mobility, geographical and professional. In analyzed case, both types of mobility are present. When it comes to geographical mobility, in the most cases it involves people from the continental part of Croatia, while foreigners are still the minority. Concerning professional mobility, it frequently involves employees who are not educated for the job they perform. When hired, they often do not have the necessary training for services they provide because the employer does not want to finance training for people who will stay in the company for one season. Consequently, it affects provided service and customer satisfaction. To avoid negative effects of labour mobility, employers must provide with the minimum of education needed for particular position and motivation of the employee. The existence of financial support programs for entrepreneurs in tourism for professional training of employees should be an incentive for employers to educate their employees. This approach can ultimately result with the satisfaction of all sides involved (employers, employees and customers), and also extend the average time of employee retention in the company, even in the case of seasonal employment. In hospitality, around 50% of employees have a secondary education. Therefore, one of the issues analyzed in the paper is high school education for hospitality industry, which should be revised in a way that follows the needs of contemporary tourism market. Beside previously mentioned, it is necessary to emphasize and analyze the challenge Croatia faces in last few years, and that is departure of the work force. Young, educated people are leaving Croatia to find their opportunity abroad, which affects hospitality labour market to a large extent.

In accordance with previously written, the aim of the paper is to identify and analyze main issues and challenges of hospitality labour market in Croatia. To achieve these aim, four main objectives are set up: (1) to review the existing literature on hospitality labour market (2) to critically analyze

hospitality labour market in Croatia; (3) to identify key characteristics of hospitality labour market in Croatia (both positive and negative ones); (4) to provide recommendations for solving main challenges of hospitality labour market in Croatia. The main method used in this study is desk research which includes critical analysis of the available theoretical and practical findings. The paper is based on qualitative and quantitative analysis of data, using descriptive statistic methods. Systematization of literature and its critical analysis represents contribution for researchers, while the identification and analyses of key issues and challengers, together with given recommendations, provide main contribution for both researchers and practitioners.

CEO COMPENSATION AND FIRM PERFORMANCE

IN FASHION AND APPAREL COMPANIES

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ABSTRACT

This paper compares executive compensation and company performance for the 58 publicly traded fashion, apparel and accessory companies in the US for the 2012-2016 period. Different performance measures (gross and net profit growth, operating profit margin level and growth, activity and leverage ratios) are assessed against executive compensation levels and growth as obtained from each company's SEC filings. Results show that company performance is not necessarily related to the executive compensation in many of these companies.

Keywords: Executive Compensation; corporate governance; fashion and apparel industry

JEL Classification: G32; J33; L22

ESTIMATING THE WILLINGNESS TO PAY FOR RENEWABLE ELECTRICITY ENERGY IN TURKEY

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ABSTRACT

Turkey is a developing country with rapid economic growth; its energy needs have hugely increased thus putting the development of the sector a top priority. Pursuant to its 2010-2014 action plan framed by the Ministry of Energy and Natural Sources, Turkey has got an ambitious national energy goal of minimizing energy import and maximizing domestic energy and produce 30% of electricity production from renewable energy sources up to 2023. To actualize its ambitious renewable energy targets Willingness to Pay (WTP) plays the central role in directing appropriate policy and therefore based on this discrepancy this study aims to investigate the WTP of the Turkish citizens for green electricity by applying the Tobit model. The study was carried out by conducting face-to-face interviews of 2,500 households in 12 major metropolitan cities of Turkey based on contingent valuation method consisting of a total of 26 questions. The findings indicate that household income, household size, education, environmental conscience and gender are highly related to WTP for green electricity in Turkey. The mean WTP of Turkish citizens is found to be 4.35 Turkish Liras ($1.13). The findings of this study aim to offer useful insights to government agencies as well as utility companies that will help them to carry out the necessary targets.

Keywords: Renewable energy, Contingent valuation, Willingness to pay

WHAT ARE THE CRITICAL DETERMINANTS FOR LEADERSHIP IN UAE ORGANIZATIONS?

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ABSTRACT

Purpose - Managing across cultures playing an important role for worldwide business success. This paper investigates the main factors for leadership in UAE organizations.

Design/Methodology/approach – This study employs structured interviews with expatriates using stratified sampling to determine factors for leadership in UAE organizations.

Findings – Aspects such as pre-departure cross-cultural training, interactions in the work environment and individual-oriented cultures were found to be significant determinants for leadership success.

Practical implications –The study discovers approaches that will help expatriate leaders working in UAE organizations. This will help organizations in delivering more focused training programs relating to the local culture. It will also assist expatriate leaders in learning how to build working relationships with both local and non-local employees. Additionally, this will also be of assistance to expatriates currently on assignment.

Originality/value – The article focuses on management across cultures for expatriate leaders working in the UAE.

Keywords: Expatriate, management, interaction in the work environment, individual-oriented cultures, Al Ain, UAE

Article Classification – Research paper

STRATEGIC PLANNING UTILIZATION IN AUSTRALIAN START-UPS

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ABSTRACT

The Australian Tax Office (ATO) and Australian Bureau of Statistics (ABS) define small and medium enterprises (SMEs) as: small enterprises are less than $AU2 million turnover or less than 20 employees, and medium enterprises are $AU2-10 million turnover with between 20 and 200 employees. With SMEs accounting for 70% of private sector employment and over 99% of all Australian businesses, there is a need to ensure an improvement on the 50% failure rate of businesses in the first five years. Some literature and internet sites claim failure rates as high as 50% in the first year and up to 90% in the first five years. Strategic planning is used to set business priorities, focusing energy and resources towards common goals. This disciplined approach is future focused, providing progress actions and success measures. With as little as a vision or idea triggering some to start a business, strategic and business planning is needed to establish the foundations and deliver results. With such a high attrition rate, the question arises: Do Australian start-ups utilize strategic planning? Further, if they do so: Do they measure its effectiveness?

With so little support available to start-ups, although increasing under the innovation umbrella through the establishment of Small Business Commissions in most states to aid mediation, there continues to be a gap in the types of support in developing businesses from a solid understanding of business direction, market focus and financial stability. The objective of this research was to establish the current survival rate of Australian businesses sourced from ABS data as a baseline; then by understanding the use of strategic planning in establishing and growing Australian start-ups, and whether their effectiveness is measured, to provide a contribution towards increased business survival.

Using a mixed-method approach, a questionnaire was issued to 725 SMEs who considered themselves entrepreneurs in business from less than 12 months to over 20 years, resulted in 112 responses and 17 indicating willingness to participate in interviews or focus groups. Twelve individual interviews were followed by a focus group to triangulate findings. Within those who responded, only 56% indicated they used strategy tools to establish the business, 67% of those indicated these were documented and 75% would use if they had their time again. In measuring performance, 67% measure performance of some type but only 33% measure strategy tool effectiveness in some form, 56% business performance, and 44% business success. Plans used to establish and run businesses had a higher marketing plan focus, followed by budget/financial plans. While 78% use financial measures to manage the business, 56% use operational and external environment measures, and 22% use internal environmental measures. These findings and correlation between these performance measures offered insights for interviews and focus group discussion, eliciting differing views and perspectives. Some saw a clear link between consciously setting the strategic direction and planning their business direction, documenting those plans and associated budgets, understanding their market and monitoring the progress as beneficial in establishing and growing their business; others didn't.

Knowledge developed through greater understanding of strategy planning use and measurement of its effectiveness offers insights to influence government policy in addressing one aspect of business failure, planning to succeed. Additionally, offering input to developing a guiding framework to aid start-ups in planning and measuring effectiveness, using strategy tools that are able to be contextually applied to SMEs.

Keywords: Strategy/strategic, planning, measure/ment, SMEs, start-ups

POSITIONNEMENT DES TEC DANS LES CYCLES DE FORMATION AU SEIN
DES ENTREPRISES AU MAROC, QUELLE STRATÉGIE POUR UNE GESTION EFFICACE DES COMPÉTENCES EN TEC?

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ABSTRACT

Dans un contexte où la communication humaine fait face à plusieurs changements liés essentiellement à l'évolution technologique et aux impératifs de coût et de qualité, la communication est donnée à profusion. L'on est amené donc à s'interroger constamment sur les possibilités d'amélioration, d'encouragement et de mesure de la pertinence des moyens linguistiques adoptés par les acteurs professionnels dans une entreprise tant oraux qu'écrits. Les entreprises prennent en considération un ensemble de paramètres avant de concevoir un programme de formation.

Ils sont indéniablement une partie prenante des pratiques managériales. L'efficacité des programmes retenus ne se résigne pas à la simple évaluation à chaud aux termes de la formation. La pertinence des outils en TEC se mesure aussi bien par la pertinence du contenu et l'implication des acteurs que par la transformation de ces contenus en une véritable compétence. Les méthodes de formations, toutes en présentiel, sont choisies dans l'objectif d'affinement des techniques d'expression et de communication afin de réponde aux exigences de l'environnement des entreprises marocaines. Il y a lieu donc de préciser que la qualité de l'écrit professionnel conditionne en profondeur le travail et la performance au travail.

En effet, des cycles de formation en techniques d'expression et de communication (langues et communication) connaissent un essor sans précédent dans les entreprises marocaines. Ainsi parle-t-on d'une mise à niveau organisée qui se révèle particulièrement opératoire et transférable placée sous le signe de l'amélioration continue qui conduit directement à la certification. Autant de cycles de formations utiles. Le phénomène prend de l'ampleur dans le contexte marocain suite à une

demande institutionnelle, une demande des collaborateurs –apprenants-, des exigences de situations de communication quitte à maîtriser dans la langue cible...

A travers cette communication, nous les contenus des cycles de formations en langue et communication. Nous tenterons de nous concentrer sur le contenu de ces formations et s'il répond aux besoins réels des collaborateurs.

Notre intention nous pencherons plutôt sur le « Comment ? » et examinerons, de manière plus spécifique, ce qui, dans les contenus de la formation continue encourage les entreprises à s'y investir, ce qui ne cesse toutefois d'avoir du succès. Bien entendu, ce que nous découvrirons du « comment » nous ouvrira des pistes suggérant quelques idées sur le « Pourquoi ? ». Notre démarche repose sur une recherche empirique au travers le questionnement des contenus que nous avons menés nous-mêmes dans le cadres des actions de consulting au profit de quelques entreprises ainsi que des programmes auxquels nous avons eu accès chez d'autres entreprises.

Nous nous poserons des questions comme :

Les cycles de formation sont –ils efficaces et aboutissants pour les collaborateurs ?

Quels sont les supports choisis pour faciliter l'apprentissage ?

Qui profite de la formation en langue et communication ?

S'agit-il d'un nouvel apprentissage dans la perspective d'investissement ou d'une simple rubrique budgétaire débloquée en fin d'année ?

Peut-on former en TEC pour Diriger ?

Mots clés: Communication- Stratégie- Formation- Compétence

EVALUATION OF ACTIVE ECONOMIC AGENTS IN THE BITCOIN MARKET ACCORDING TO

PROSPECT THEORY   AN APPROACH

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ABSTRACT

Digitalization is playing a significant, omnipresent role in the everyday western life and is taking up the pace in developing countries as well (Vogelsang, 2010). Innovation around digital payments starting with credit cards and wired transfer continued with services like PayPal, Apple Pay, and M-Pesa especially prevalent on the African continent (Narang, 2014). In 2008 Satoshi Nakamoto – a pseudonym – published a paper providing the blueprint for the today's most popular cryptocurrency Bitcoin (Nakamoto, 2008) that has no central authority but a market capitalisation of 228 Bn US Dollar (as of December 2017)[1]

. Bitcoin has sparked the interest of financial institutions and regulators (ECB, 2016; European Banking Authority, 2016; He et al., 2016) as well as investors and academia likewise (Bank of England, 2014; Chuen, 2015). The Bitcoin network builds on the similarly hyped technology called Blockchain which has many potential applications outside of the financial realm itself (Tasca, Thanabalasingham, & Tessone, 2017). The Bitcoin Blockchain stores all transactional data in a pseudo-anonymous way but is publicly accessible via web pages and local software-clients as well. The transactional data resembles a directed graph where nodes represent the participants in the transaction and vertices the direction of the transaction itself with its value as a parameter. Although it is in some cases possible to identify certain aspects of the economic agents behind a transaction (Bohr & Bashir, 2014; Koshy, Koshy, & McDaniel, 2014; Ober, Katzenbeisser, & Hamacher, 2013; Reid & Harrigan, 2013) most of the transactions stay de-facto anonymous as the

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[1] https://coinmarketcap.com/currencies/bitcoin/

de-masking can be a tedious process just as a consequence of the extent of the network (Bonneau et al., 2014; Meiklejohn et al., 2013). Nevertheless, some attempts have been made to analyse, structure and understand the Bitcoin transaction network along different dimensions, some following a more technological approach (Ortega, 2013; Ron & Shamir, 2012), other focusing on economic indicators (Bartos, 2015; Polasik, Piotrowska, Wisniewski, Kotkowski, & Lightfoot, 2015; Vagstad, 2014).

For this research, a new approach is proposed by combining existing research results and modern techniques for analysing the investment behaviour of regularly active participants (economic agents) within the Bitcoin network. The ultimate goal is to examine the applicability and validity of the (cumulative) Prospect Theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992) and the disposition effect in particular when those economic agents are trading (Odean, 1998; Shefrin & Statman, 1985) in the Bitcoin network. To accomplish this in a first step this paper will explain how to make use of graph theory principles (Bondy & Murty, 2008) and novel methods out of the professional discipline of Data Science, particularly Machine Learning (Leskovec, Rajaraman, & Ullman, 2010) focusing on clustering, classification and regression where applicable. An outlook will be given on the second step regarding statistical analysis of the gathered dataset on economic agents and their conformity with the Prospect Theory (PT) emphasising the disposition effect.

The paper will aim to describe the planned two-step research approach that prepares, structures and clusters the available, massive amounts of data to enable further statistical analysis regarding Prospect Theory and the disposition effect. Hence the paper itself will depict the planned research steps that combine the existing body of knowledge, the necessary fundamental theoretical buildings blocks on PT and modern techniques like ML as summarised before, but will not (yet) be able to provide final, conclusive results as the research activity on data collection, preparation and labelling are currently in progress. Nevertheless, depending on the data processing progress, first insights and early assumptions on the general directions could be possible. The research will be continuously updated following the progression of the thesis and published accordingly.

1.   Introduction

Physical money is one of the closest manifest of an economic system that affects societies in their daily lives. The Greek philosopher Aristotle contemplated the nature of money and the usage of objects either for their original purpose or to sell or barter (Meikle, 1994). The evolution towards assignment of any monetary value to an object otherwise insignificant like for example coins had developed as the interacting counterparts of trades had evolved the psychological capacity to trust in each other as well as to external authorities (N. K. Lewis, 2007). The need to find a medium of exchange that is efficient, comfortable and easy to exchange surged and finally led to the various kinds of money popular in each epoch (von Mises, 1953).

Fast forward to the digital era where physical money is continuously substituted by electronic payment methods like credit and debit cards as well as the digitalisation of personal wallets in general (like Paypal) a disruption happened in 2008/2009 where Satoshi Nakamoto – a pseudonym – published his seminal paper on a digital currency that would have the potential to threaten the established monetary systems (Nakamoto, 2008). He introduced a concept of an electronic peer-to-peer cash system named Bitcoin that allows transfers of electronic cash from one party to another without the need for a central authority. It bypasses the need of a (central) clearinghouse to avoid double spending by applying cryptographic methods (e.g. digital signatures, mathematical/algorithmic proof of work) to ensure the consistency and trustworthiness of the transaction history. By combining the existing technologies like distributed computing, hash algorithms and proof-of-work, he indirectly created the technology called the Blockchain.

The Blockchain technology is the backbone of the Bitcoin system and provides the required fundamental functional building blocks like transaction linking in the Blockchain, proof-of-work and the incentive which keeps the network running (Nakamoto, 2008, pp. 2, 3, 4). Although Bitcoin is most likely the best-known implementation of a Blockchain, Paola Tasca and his team from the University College of London are listing principles how to identify different types of Blockchains in their comparative study of the most widely known Blockchain technologies Ontology of Blockchain Technologies (Tasca et al., 2017). In their bottom-up study, they classify the specific building blocks and their sub-components to compare them to each other. The result is a hierarchical Blockchain Ontology that groups their functional relation and possible design patterns. They conclude that Blockchain technology will athwart affect all business areas and will

shape many upcoming products and services in every industry field and not limited to financial transactions at all (Tasca et al., 2017, p. 53).

The digital economy and with it the sharing/collaboration economy is growing in the globalized world and changing traditional business paradigms (McDonald, 2015), the need for a technology that facilitates trust among people that don't know each other without a centralized clearing institution is imminent - this is precisely what blockchain technology can accomplish (Drescher, 2017). David Furlonger, Ray Valdes and Rajesh Kandaswamy Analysts from Gartner Research state regarding the significance of the blockchain technology:

> "Blockchain concepts are extremely hyped given their embryonic status, but ignorance is dangerous. Maturity will usher in dramatic and sudden changes, radically reshaping economic systems, institutions and societal models that have existed for hundreds of years. Scenario planning is essential." (Furlonger, Valdes, & Rajesh, 2017, p. 1)

For the reason of the level of novelty, Bitcoin as the first global spanning implementation of blockchain technology, combining the principles of money and digitalisation is an exciting and promising research area as it combines technological advances and the human factor regarding behavioural economics and human decision making in one place. This paper is part of a work-in-progress PhD research and summarises the theoretical fundamentals of PT and the disposition effect, putting them into the Bitcoin context as well as outlining the data collection, preparation and analysis approach that builds the basis for further statistical analysis.

To be able to test PT and in particular the disposition effect, the Bitcoin payment network needs to be dissected and enriched with further semantic data from outside the payment network itself, necessary for a reasonable cluster analysis that provides the underlying basis for the hypotheses testing. Hence, the research problem can be summarised as follows:

Bitcoin allows pseudo-anonymous payment interactions without an easy way of identifying the interacting counterparts. This poses a challenge when assessing economic patterns & behaviour in the network

Following the above stipulated research problem, the derived research question that this thesis addresses is:

Are active economic agents in the Bitcoin network following the (cumulative) prospect theory in their economic behaviour?

This research combines two academic realms necessary for the analysis. First academic discipline is graph theory and the methods/algorithms provided for analysing, structuring and clustering a vast amount of raw data available in the Bitcoin payment network. The second discipline applies principles of the prospect theory (Kahneman & Tversky, 1979) and the disposition effect (Shefrin & Statman, 1985) to test this theory on the Bitcoin market and explore the level of fit. The research question is broken down into the following four research objectives:

Research Objective 1 – Process, parse and structure the extensive Bitcoin payment network into a computable graph format to enable further (statistical) analysis steps.

Research Objective 2 – Apply graph and machine learning algorithms to semantically structure and cluster nodes according to active economic agents.

Research Objective 3 – Explore and gather empirical data regarding active economic agents per business category out of the semantic Bitcoin payment network.

Research Objective 4 – Test models of Cumulative Prospect Theory (CPT) & disposition effect to verify their level of fit and applicability for the Bitcoin market.

2.   Economics of the Bitcoin Market (and Bitcoin Transaction Network)

When discussing an economic system involving any means of payment aka money, different viewpoints and contradicting economic theories come into place. Following the academic discourse between John Maynard Keynes (Keynes, 2012) and Friedrich Hayek (Hayek, 1977) who both shaped modern macroeconomics with their different viewpoints primarily on the theory of money and economic fluctuations, the Bitcoin economic system would have been aligned to the more radical approach of Hayek and the market liberal principles. He claims that the creation of fiat money is a horrible creation of the state and government obstacles should be removed so that the free market can provide the optimal quantity of monetary products and their competition. Considering this argument, the Bitcoin system comes close to this approach.

Bitcoin was the first significant cryptocurrency available to a broader public but not the only one. Bitcoin is surrounded by effective competitors - so-called altcoins like Litecoin, Ripple or Ethereum with each of them having different design principles (privacy, security and robustness, transaction speed, smart contract capability, etc.) and purpose to follow (White, 2014). In a publicly available dataset based survey (n = 1.193 with all relevant limitations on drawing a random sample) Bohr and Bashir (Bohr & Bashir, 2014) explored the structure of Bitcoin community (before the issues with Mt. Gox exchange) in assessing wealth accumulation, optimism about the future of Bitcoin and themes that attract users to the system. They found that the results indicate that age ($p < 0.01$), time of initial usage ($p < 0.05$), geographic location (living in the U.S. $p < 0.01$), mining status ($p < 0.05$), the engaging online discourse ($p < 0.01$) as well as political orientation ($p < 0.05$) are all relevant factors contributing to the reason why people use Bitcoin.

Economists typically define money along three attributes (Ciaian, Rajcaniova, & Kancs, 2016, pp. 5, 6, 11) the function as a medium of exchange, 2) a unit of account and 3) a store of value. Yermack (Yermack, 2015) assesses that Bitcoin somewhat meet the first two criteria but poorly performs as a unit of account and as a store of value as it experiences high volatility and different trade prices on different exchanges. It is almost completely untethered to other currencies which makes its risk mostly impossible to hedge and poses challenges to risk management. The researchers around Ciaian compare Bitcoin to the standard currencies and their primary function as money, mainly its price formation and volatility and estimate the importance econometrically in the period 2009 to 2014. The researcher identified that Bitcoins' attractiveness is the main driver, followed by market forces in contrast to macro-financial developments that do not determine the Bitcoin price. They conclude that as long as the Bitcoin price is mainly driven by such speculative investments, no real competition to fiat currencies will emerge (Ciaian et al., 2016, p. 33).

Although there are mixed opinions about whether or not Bitcoin accounts as a currency, a commodity or pure speculative investment, for this research approach it does not make a difference as we are evaluating economic agents and their investment behaviour similar to regular currency or stock markets according to (cumulative) prospect theory and the disposition effect.

3 .   First step – empirical Data gathering & Preparation

Bitcoin transactions are stored in the Bitcoin Blockchain which is a distributed public ledger without any central authority in the case of Bitcoin. This way of storing the transaction history with the required confirmation procedures for each block containing transactions, allow everyone with an Internet connection and freely available client software to access the Bitcoin blockchain with all processed transactions. For this fact, Bitcoin is only pseudo-anonymous as with enough focused effort and know-how transactions can be de-anonymised and (theoretically) assigned to real life persons shown by Reid and Harrigan (Reid & Harrigan, 2013). Several attempts with varying motivations have been made (Bonneau et al., 2014; Koshy et al., 2014; Ober et al., 2013; Ortega, 2013) to parse the Bitcoin Blockchain for gathering a more detailed insight into the underlying network function and transaction phenomenon.

3.1   Directed Graph Model based on the Bitcoin Blockchain

The approach and methods chosen for this research are to combine and interlink the technological aspect of understanding and parsing the Bitcoin Blockchain with economic principles and theories, in particular, the (cumulative) prospect theory and the disposition effect. The aim is to apply advanced data processing models and techniques like graph & no-SQL databases and machine learning to overcome difficulties with the vast amount of data that needs to be handled and structured. By applying those methods, the aim is to enable the provisioning of a comprehensive and robust dataset that will act as a foundation for statistical analysis. This research combines several technologies to download[1][2], store[3][4][5], process[6], and prepare[7][8] the

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[1] Bitcoin Core Client Software - https://bitcoin.org/en/download

[2] Bitcoin Blockchain Rusty Blockparser - https://github.com/gcarq/rusty-blockparser/

[3] Graph Database Neo4j - https://neo4j.com/

[4] Open Source Relational Database MySQL - https://www.mysql.com/

[5] Open Source no-SQL Database Mongo DB - https://www.mongodb.com/

[6] Data Science Platform DataIku - https://www.dataiku.com/

[7] Meta Data Walletexplorer Collector - https://github.com/stevenuray/WalletExplorerDatasetUtility

[8] Apache Spark Machine Learning Library MLlib - https://spark.apache.org/mllib/

Bitcoin blockchain for further statistical analysis. A central component is the graph database which represents the Bitcoin blockchain in a directed graph model. The graph data model was partly inspired by the data model used by G. Walker (Walker, 2017) and is defined as follows – circles represent nodes, arrows represent relationships between nodes, both can and will have assigned attributes:

As of January 2018, the whole Bitcoin blockchain till 31.12.2017 has been downloaded and processed into a relational database (MySQL) from where further processing into the graph model will be done. The graph database will only contain the parsed raw data (mainly blocks, timestamps, transaction inputs/outputs, amounts, addresses, relationships between entities) from the Bitcoin blockchain but needs to be enhanced with additional context information like exchange rate, volatility and further economic indicators as necessary. The payment graph itself contains valuable information in a directed graph structure which enables analysis methods via graph algorithms (centralities, community detection and pathfinding) that are not available in traditional, relational databases (RDBMS) or are computationally expensive. This includes the possibility to follow the path of Bitcoins by, e.g. counting the number of hops taken from node A to node B and evaluate if any patterns can be discovered utilising graph databases that haven't been detected before. A graph structure is a natural fit for Bitcoin data as it inherently resembles a director graph and therefore Neo4j graph database was chosen to store Bitcoin transaction data.

3.2   Community detection, Clustering and Machine Learning

As soon as all data till the cut-off date (currently define per 31.12.2017) has been parsed and imported to the graph database, the raw data needs to be structured, clustered and enriched with additional metadata and existing research datasets outside of the Bitcoin network. Existing research like from the team around Paolo Tasca (Tasca, Liu, & Hayes, 2016) on relevant business categories by clustering groups of nodes together as well as further metadata on node categories from Walletexplorer Website[9] that have already successfully clustered Bitcoin addresses and grouped into business categories used as input parameters by similar research done by Harrigan and Reid et al. (Harrigan & Fretter, 2016; Reid & Harrigan, 2013). Compared to the methods applied in existing work, this research will apply concepts out of graph theory and machine learning to gather further insights into the rich dataset of the Bitcoin blockchain.

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[9] Bitcoin block explorer providing business categories – https://www.walletexplorer.com/

To identify the relevant economic agents inside the Bitcoin payment network, community detection procedures will be applied on the directed graph. Different approaches will be combined and the results compared to increase the dataset quality. The used graph database provides built-in algorithms like Louvain Modularity (Blondel, Guillaume, Lambiotte, & Lefebvre, 2008), label propagation (Bagrow & Bollt, 2005), weakly / strongly connected components based on Tarjan SCC (Tarjan, 1972) and triangle count / clustering coefficient (Holland & Leinhardt, 1971). Louvain Modularity is an efficient method for detecting groups of nodes within a network that are more closely / densely connected to each other than to other nodes. The modularity defines the quality of the assignment to communities/groups of nodes of the specific nodes. The aim is to use this heuristic to maximise modularity for community detection. This method should yield good results for nodes that are very active, produce lots of transactions but use different Bitcoin addresses for individual transactions. The theory of label propagation follows the idea of label flooding through a network where labels (of nodes) will become dominant if densely connected communities of nodes exist, compared to sparsely connected communities where the label has trouble to crossing those communities. This is useful for local community detection where a node can be initialised with labels and propagate through the network. This method seems promising as existing research, e.g. from Tasca et al. (Tasca et al., 2016) on business categories or Walletexplorer Website data can be utilised for this initialisation which is essential for efficient and reliable results. Weakly / strongly connected components allow partitioning of nodes based on their relationship and properties. It finds a group of nodes where each node is directly reachable from every other node that is part of the group. The applied algorithm is Tarjan Strongly Connected Components which takes a directed graph as input and provides partitions on nodes which are precisely in one of the strongly connected components. The algorithm follows the depth-first concept and visits all nodes only a single time. Triangle count was getting popular with the rise of social networks representing large sets of graph-based data structures but has numerous other applications too. It counts the triangles passing through each node in the graph where the node is part of a triangle when it has two linked nodes with a relationship between them. It uses the so-called clustering coefficient which is frequently used as a measure of how important a cluster is or how concentrated the enclosed nodes are. The number of triangles can help to identify unusual nodes which could be a useful analysis result for Bitcoin transactions, e.g. identifying Coin Mixing services and exclude them for further processing.

Adding to the graph algorithms additional methods out of the data science area, in particular, machine learning will be applied. Several models are available, the most commonly used clustering algorithm that clusters data points into a predefined number of clusters is the k-means (MacQueen, 1967) algorithms. Further models are available (e.g. Gaussian mixture, Power iteration clustering, Latent Dirichlet allocation, Bisecting k-means) to run on the dataset. Depending on the outcome of the chosen methods as well as the feasibility of applying further algorithms supporting the clustering quality, it will be assessed if additional algorithms will be applied. The result of this step should be clusters of nodes that represent groups of economic agents, specifically Bitcoin exchanges and their counterparts, where the traffic between these groups can be measured. Depending on the resulting data quality after the defined algorithms have been applied, the traffic from and to exchange related addresses are of interest and if the data allows sufficient separation, the traffic from exchange addresses and "individually hold addresses" are of high interest as it indicates investment patterns of the owner of this address. Significant variables are the number of total transactions as well as the number and number of Bitcoins exchanged in specific time windows. Those parameters will be the input for the second step to find correlations between those variables and assess the degree of adherence with the cumulative prospect theory and the related disposition effect if any.

4.   Second step – Theoretical Model via (Cumulative) Prospect Theory & Bitcoin

The term neoclassical economics was first used by Thorstein Veblen in 1900 (Veblen, 1900) and primarily focuses on supply and demand of goods or services in markets. This theory is underpinned by three central assumptions defined by E. Roy Weintraub (Roy Weintraub, 2007):

People have rational preferences – choosing between outcomes that can be identified and associated with specific values

Individuals maximise utility – whereas firms maximise their profits

People act independently – assuming the available basis of full and relevant information

The neoclassical theory is criticised to be too formal, and theory focused and therefore not efficiently modelling the real economies (Eichner & Kregel, 1975). It was also following the approach of natural sciences and deduced the behaviour of the economic agent in developing the concept of homo economicus (Persky, 1995) which was also subject to criticism by its own (Dohmen, Falk, Huffman, & Sunde, 2006). As this is an essential concept on how individuals are

making decisions in a (risky) economic environment, it applies to the Bitcoin market with its high volatility. The concept of the so-called homo economicus by Persky is used in (neoclassical) economic theories to describe human behaviour as rational and mainly self-interested subjects pursuing their own goals (Rittenberg & Tregarthen, 2009). This is in contrast to some alternative concepts, e.g. behavioural economics taking cognitive biases and other irrationalities into account (Bless, Fiedler, & Strack, 2004; Haselton, Nettle, & Andrews, 2015) as well as the homo reciprocans (Dohmen et al., 2006) that emphasises human cooperation on the contrary.

For economic decisions, people tend to apply heuristics in their decision process especially when deciding to invest in uncertain markets which is rooted in cognitive and motivational psychology. The term cognitive bias is used by many authors in behavioural finance to explain why people use heuristics in their decision process (A. Lewis, 2012). Gigerenzer (Gigerenzer, 1991) criticises compared to Kahneman and Tversky (Tversky & Kahneman, 1975) that those cognitive biases can also be the reason why those rules established by heuristics can lead to systematic errors. Using the classical demonstrations of overconfidence, conjunction fallacy and base-rate neglect Gigerenzer highlights from his point of view why the so-called "errors" in probabilistic theory are in fact not violations of the probability theory. This demonstrates that the academic discourse on the relevance and perception on heuristic is an ongoing dialogue. Respecting this discrepancy, we will have a closer look at Kahneman and Tversky (Tversky & Kahneman, 1975) regarding judgement under uncertainty.

4.1   Judgement under uncertainty

High volatility in the Bitcoin market as previously mentioned is one of the factors which adds to the uncertainty when judging whether the value of Bitcoin will increase or decrease. Kahneman and Tversky (Tversky & Kahneman, 1975) provide three heuristics or mental operations that are applied when executing judgement under uncertainty as well as the related biases that can emerge during this process. Although the authors state that those heuristics are highly economical (people rely on a limited amount of heuristic principles to reduce complex tasks, i.e. assessing probabilities and predicting values) and effective, they can also lead to systematic and predictable errors. We will set those defined three heuristics into the Bitcoin context as follows.

1.Assessment of representativeness or similarity – in the Bitcoin context, this heuristic could apply regarding how much information on Bitcoin or the Bitcoin market itself is available to the decision maker upfront as this heuristic is influenced by the fact of how

much previous evidence is available. As Bitcoin itself exists just since 2009, which makes it a relatively novel market, it is also not well established from a regulatory and legal point of view (European Banking Authority, 2016). Hence one could conclude by applying this heuristic, that decisions made by potential investors would be more reasonable if the decision maker is not biased, i.e. by the information available in the media which usually enforces a hype-like trend and overstating the potential gains (or risks).

2.Assessment of the availability of instances or scenarios – this kind of heuristic could apply regarding relating the Bitcoin market to a similar or well-known and established stock or currency exchange market. Hence people using Bitcoin as a speculative or investment instrument could try to draw conclusions from their experience in other instances of investment - like trading with foreign exchange (Forex) based assets. For example, the named instances of a class and its development could be the decision to buy or sell a Bitcoins assuming a particular development (market price rises or falls) based on established indicators like VaR (Value at Risk).

3.Adjustment from a starting point – for this heuristic, the Bitcoin market price itself could be a candidate for the anchor as the initial starting point on which basis a decision is made. Different starting points (market prices) yield different estimates when compared to the initial value (anchoring). Because this heuristic leads to biases like people underestimate the probability of failure in complex systems this pattern could be a component in the feedback loop into the volatility of the Bitcoin market price when relating the stated concepts of the chain-like structure of conjunction leads to overestimation vs funnel-like structure of disjunctions is leading to underestimation.

Considering these three judgemental heuristics, it is essential to state that they do not only apply to non-specialists but also to experienced researcher and statistically educated personnel and the subjective interpretation of probabilities (Tversky & Kahneman, 1975). As Bitcoin has developed from a "proof-of-concept" and more technology focused project into a main subject of academic and economic scrutiny, this could be one of the aspects that explain why even well-informed analysts have difficulties to judge where the market is heading (Johnson, 2017).

Studying stock markets and the related human decision process, Goetzmann et al. (Goetzmann, Kim, & Shiller, 2016) refer to the narratives which are relevant for economic fluctuations as the human brain is historically tuned towards to such narratives, no matter if factional or not. The

researchers state that it is even applicable on very basic decisions like investing and spending and why the perceived risk of a stock market crash is higher than the actual risk, relating it to the "availability heuristic" - people make a decision based on front-of-mind information - that causes this dichotomy. The researchers also claim that the media plays a significant and influential role in forming opinions.

> "We find evidence that the financial press mediates investor crash beliefs asymmetrically. Articles with 'crash' related terms are associated with higher crash probability assessments, but articles with 'boom' related terms are not." (Goetzmann et al., 2016)

This finding is highly relevant due to the high volatility of the Bitcoin market and proves that the media plays an important role in feeding into this dynamic, especially as the study finds, that "selective reporting" favour negative headlines compared to positive stories. Goetzmann et al. find that during the time of 2003 to 2004 the term "stock market crash" appeared seven times more often than the term "stock market boom". As for Bitcoin no country or other state-specific factors like, e.g. GDP or country risk can be factored in, Bitcoin is more than every other currency relying on the perception in the public, mainly fed by financial journals and online publications where Bitcoin has been "called dead" more than once (Willms, 2016) and therefore the relevance of the "availability heuristic" seems to be significant.

Following the explained basics on heuristics, we will focus on the prospect theory that is building on the above-described principles with emphasis on the disposition effect. Contrasting the neoclassical economics, Kahneman and Tversky (Kahneman & Tversky, 1979) formulated in 1979 the seminal paper "Prospect theory: an analysis of decision under risk" to explain various divergences when individuals make economic decisions compared to the neoclassical theory. Under prospect theory, people perceive outcomes as gains and losses rather than as final states of wealth.

Adding to this theory, A. List et al. (List et al., 2004) for instance compares the neoclassical with the prospect theory and finds in an experiment of 375 subjects participating in a well-functioning marketplace that prospect theory organises behaviour for more inexperienced consumers compared to consumers that have intense market experience. The latter are more adhered to the neoclassical predictions rather than matching the prospect theory model. Market participants following the neoclassical model have learned over time how to overcome the endowment effect

and rather see losses as opportunity costs. The two main building blocks of the prospect theory are two stages. The first stage is the editing phase followed by the evaluation stage which will be discussed and linked with the Bitcoin market in more detail in the following sections.

4.2   Prospect Theory – editing phase

This phase describes when a decision maker simplifies situations by using a set of heuristics of choice (Kahneman & Tversky, 1979). This is the early stage of the decision-making process where a preliminary analysis regarding the offered prospects is made. The result is a more straightforward representation of those offered prospects on which the second phase (described later) is building on. The factors or operators found and defined by Kahneman and Tversky applied are explained in the following subsections, and we will try to set them also into perspective for the Bitcoin market.

Coding (separate operator) The main finding is that people perceive outcomes of their decisions as gains and losses and not as final states of their wealth. The important factor is the reference point on which basis the decision outcome is coded as gain or loss. In the Bitcoin market, a reference point before a decision can be assumed as the (current) exchange rate. If someone makes an investment decision, the gain or loss will be judged relative to this starting point. As stated by the prospect theory, this reference point can change over time as the individual has adjusted to the new reality, either made peace with the losses or settled with the gains (in fact the new exchange rate index before your next decision).

Combination (separate operator) The offered prospects are sometimes simplified. The decision maker is combining the related probabilities associated with identical outcomes. The prospect (200, 0.25; 200, 0.25) will be reduced to (200, 0.5). As an investor has a binary outcome in an investment decision (gain or loss) the combination of multiple probabilities is not applicable to a buy or sell decision. Nevertheless, the combination editing operator could be applied on mining pools. Depending on how many mining machines are active and under the control of the decision maker, the probabilities on how likely one of the machines calculating the "proof-of-work" successfully in the quickest way and therefore receiving the reward could be an application of this operator.

Segregation (separate operator) For the segregation operator, the risk-less component (if available) of any of the offered prospect is separated from the related risky component. As an

example for gains, the prospect (300, 0.8; 200, 0.2) is split up into a sure gain of 200 and the risky prospect (100, 0.8). For losses the same pattern is applied, (-400, 0.4; -100, 60) is seen as first, a sure loss of 100 and the prospect of (-300, 0.4) Also for this operator multiple probabilities or combinations need to be part of the decision starting point that is not applicable for the buy or sell decision. From the mining pool perspective, the performance of two different mining pools (e.g. with different performance) could be a scenario where the segregation operator could play a role. If in a loss-scenario two low performing mining pools are active, the pool manager (economic agent) would assume the sure loss of the low performing mining pool combined with the prospect of further losses of the better performing mining pool (e.g. due to better hardware or software architecture).

Cancellation (set operator) The cancellation operator, is applied to two or more prospects. One form is the isolation or segregation effect previously described. It can also apply in the form of discarding common outcome-probability pairs between choices. For example, the pairs (200, 0.2; 100, 0.5; 20, 0.3) and (200, 0.2; 300, 0.4; -50, 0.4) are reduced to (100, 0.5; 20, 0.3) and (300, 0.4; -50, 0.4) cancelling the (200, 0.2) probability pair. Applying this operator in a scenario of six mining pools, where two mining pools perform the same, these two mining pools are cancelled in the analysis of pool performance as a whole. Similarly on the opposite compared with mining pools that perform well.

Simplification (set operator) Rounding as simplification operator is very likely to happen - as an example, a prospect of (51, 0.49) is likely to be evaluated as an even chance to win 50. Additionally, prospects with extremely unlikely outcomes are very likely to be discarded as a whole. The buy or sell trigger for the decision could probably be affected by this operator of simplification. Gains and losses which have differences only behind the decimal point are probably neglected when the decision is executed. Similarly the prospect of the extreme outcome of an investment is likely to be discarded. Nevertheless the high volatility could be a significant factor that could reduce this effect.

Detection of Dominance (set operator) If an outcome is dominated by another available option, it is rejected without further evaluation. For example, having two scenarios with the same risk, but different returns, obviously the scenario with the lower return is rejected immediately. Applied for buy and sell decisions the decision maker will choose the prospect where the probability of higher gains are more likely due to a specific event, for example right before or

after a block-halving event (the amount of Bitcoins rewarded is halved for every 210.000 block (Donnelly, 2016) and therefore steadily decreasing over time). Such scenarios can lead to predictable market situations where specific prospects on buy or sell are dominant.

4.3   Prospect theory – evaluation phase

This stage describes when risky situations are evaluated according to the following four principles below (Kahneman & Tversky, 1979). Kahneman and Tversky describe this second stage as where the decision maker or economic agent is building its decision on the previously described editing phase that aimed to simplify the following evaluation and choice itself happening in this stage. The prospect with the highest value is chosen.

Value function – The value function defined by Kahneman and Tversky visualises the different reaction of how people respond to losses compared to gains when starting from the specific, previously described reference point. First of all, the study shows that people respond to the actual change as gains or losses and are interested in the relative rather than the absolute outcome. The chart in figure 2 also shows the central tendency (S-shaped curve is the steepest at the centre) where people are more risk averse when acting in the domain of gains but more risk-seeking when acting in the realm of losses. The convex function plotted also explains that losses hurt more than the concave function that is applied in the gain domain of the chart. The researchers find that loss aversion is the most robust finding of their study.

Like for usual investments in stock markets where the value function is applicable, this is also true for the Bitcoin market. Also in this novel marketplace investments are made, although high volatility, uncertain regulation and jurisdictions are probably influencing investment decision more than on established markets. In any case the same patterns for gains or losses and their perception according to the value function take place, even though the deltas in the market can be higher due to the described circumstances, causing the decision maker to be placed on the more extreme ends of the value function curve when he is assessing his investment outcome.

Weighting function – The scaling of the value function is considerably more complicated than in the utility theory as decision weights need to be introduced as Kahneman and Tversky point out. The decision weights are inferred from choices between prospects, but they are not probabilities (they do not obey the probability axioms) but instead do they measure the impact of events on their desirability of prospects and not the actual neutral likelihood of the event. The

weighting function is visualised in figure 3 depicting the fact that very low probabilities are generally overweighed. Preferences are in general less sensitive to probability variations as the expectation principle would usually dictate. Summarizing those facts in other words:

Omitting of unlikely events - people tend to evaluate outcomes that are at the very end of the scale (either very certain or almost impossible) very differently than those changes in the midrange of the probability. The extreme ends of probabilities are difficult to assess and therefore often omitted by characterising quite unlikely events as they are impossible compared to quite likely events as they are certain to occur.

Weighting low vs medium and high probabilities - people attribute more importance to low probability events and simultaneously apply less psychological weigh on medium and high probability outcomes than normatively justified.
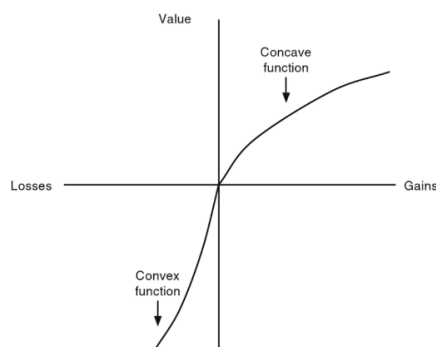
Figure 2 Value function in prospect theory, Source Kahneman and Tversky (Kahneman & Tversky, 1979), reproduced in part by Takemura (Takemura, 2014)
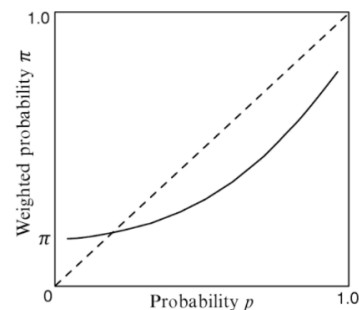
Figure 3 Weighting function in prospect theory, Source Kahneman and Tversky (Kahneman & Tversky, 1979), reproduced in part by Takemura (Takemura, 2014)

4.4   Cumulative Prospect Theory, disposition effect and Bitcoin

The Cumulative Prospect Theory (CPT) (Tversky & Kahneman, 1992) solves the theoretical problems of the (original) Prospect Theory like satisfying stochastic dominance and adopts the rank-dependent method for transforming probabilities. H. Fennema and P. Wakker find that CPT not only solves this theoretical problem but also gives better predictions than in the original PT (Fennema & Wakker, 1997). A component connected to the Prospect Theory is the disposition effect (Shefrin & Statman, 1985) which will be essential for this research in combining financial market investments investment patterns with Bitcoin investment patterns. In

simple terms, the disposition effect causes the investor's tendency to sell their winning investments rather quickly while on the opposite hold on to losing investments. Other underlying causes are mental accounting, regret aversion and self-control (Kaustia, 2011; Shefrin & Statman, 1985). The disposition effect will be the basis of one of the leading hypotheses to test if this stock market investment pattern is also valid in the Bitcoin market.

To test this hypothesis in the Bitcoin market, time windows for rising vs falling market prices will be defined according to pre-defined parameters and restrictions. Due to the high volatility of Bitcoin several occasions and extreme scenarios will be available to monitor the trading behaviour/transaction amount circulating from and to Bitcoin exchanges. Prospect Theory is a valuable ingredient when assessing the disposition effect and shows that PT can indeed predict a disposition effect more reliably in a model following the realised gains and losses rather than simply on annual gains and losses (Barberis & Xiong, 2009).

5.   High-Level Research Design

The detailed research design will be depending on the outcome of the data analysis in the first step. A critical part is the ability to identify and cluster relevant Bitcoin exchanges and the interacting counterparts. For Bitcoin exchanges, the outlook is positive as those addresses are usually exposed/known publicly (see Walletexplorer) for customers to interact with the exchanges to trade fiat currency to Bitcoins and vice versa. It is currently unclear how difficult the task will be to identify clusters of individually owned Bitcoin addresses and wallets reliably. In case this will not be successful, the fall-back scenario is to monitor and analyse the traffic solely from and to Bitcoin exchanges based on a statistically relevant, reliable and valid sample size. The dataset has a longitudinal dimension where transactions and connected clusters can be followed over defined time windows. In this scenario, a longitudinal observational study design focusing on the identified clusters/wallets with causality components for hypotheses testing should yield the variables which are of interest, mainly transaction count and transaction value per defined time window. The assumed causalities will be summarised in the following paragraphs.

5.1   Relevant Variables and Economic Indicators

The research aims to relate similarities from established / traditional markets (stock, currency, etc.) with the novel Bitcoin market and re-use economic indicators and established measurements where possible. Although there are significant differences between traditional and

Bitcoin markets like the high intraday volatility and risk assessments (Chu, Nadarajah, & Chan, 2015; Vagstad, 2014) this research aims to re-use these indicators as they have been applied for financial markets since decades and the underlying mechanics for the Bitcoin market are assumed to follow the same paradigms. Bitcoin-specific indicators are added which are relevant for this particular research objective. A non-exhaustive list of indicators and the reason why they have been chosen is depicted as follows:

> 1.VaR (Value at Risk) – used to estimates the potential loss of an investment (downside risk based on current positions) with a given probability for defined time windows. It is a well-established risk management instrument in the financial industry (Jorion, 2006).

> 2.Volatility (historical) – derived from previous market prices, the degree of variation measured over time of a market price and by the standard deviation of logarithmic returns (Poon, 2005).

> 3.BTC Transaction Count – the simple count of Bitcoin transaction between sender and receiver node

> 4.BTC Transaction Value – the sum of transferred Bitcoin value between sender and receiver node

> 5.PGR (Proportion of Gains Realized) – summed amounts of PGR for economic agents identified by the clustering effort (Odean, 1998, p. 1799)

> 6.PLR (Proportion of Losses Realized) – summed amounts of PGR for economic agents identified by the clustering effort (Odean, 1998, p. 1799)

The precise approach of interlinking the variables of interest, sampling method and the sample size is still in development and will be further refined also depending on the patterns and descriptive statistics emerging out of the data analysis. Using VaR and volatility indicators for defining according time windows of interests for rising or falling Bitcoin market prices could be a suitable approach. Certain thresholds for VaR and volatility can be defined to distinguish "regular market activity" from "heavy market activity", respecting the peculiarities of the Bitcoin market, analogous to traditional currency markets. Machine Learning could also help to identify additional, non-obvious deviations from regular market patterns for defining trading windows of interests. Monitoring transactions counts and transaction amounts in this trading windows of

interest between the interacting nodes (in particular traffic from and to exchanges) will be the nucleus for gathering the relevant data required to compute statistical significance testing.

5.2   Outlook on proposed Hypotheses

This paper focuses the theoretical framework based on (cumulative) Prospect Theory, the disposition effect and the approach how a reliable data basis is built for further investigations based on the current state of the ongoing research. It does not describe all required details on definitive variables, cause and effect relationships or all aspects of the research design and the according hypotheses testing. Nevertheless, the draft hypotheses that are imminent and give an idea into which direction the research will be heading are listed below. These hypotheses are drafts and do not (yet) constitute their final versions or the exhaustive list relevant for this research. It is likely that during the data gathering process and clustering relevant economic agents (nodes) additional cause and effect relationships are discovered. The central hypothesis is that the prospect theory, in particular, the disposition effect is valid for the Bitcoin market and formulated as follows:

H – Bitcoins are sold earlier when market prices rise and held longer when market prices fall

Breaking down the main hypotheses into separate / sub-hypotheses with corresponding null hypotheses:

HA1 – If the Bitcoin market price rises, the average number of transactions to Bitcoin exchanges increase

HA0 – If the Bitcoin market price rises, the average number of transactions to Bitcoin exchanges does not increase

HB1 – If the Bitcoin market price falls, the average number of transactions to Bitcoin exchanges decrease

HB0 – If the Bitcoin market price falls, the average number of transactions to Bitcoin exchanges does not decrease

HC1 – If the Bitcoin market price rises, the average transaction amounts to Bitcoin exchanges increase

HC0 – If the Bitcoin market price rises, the average transaction amounts to Bitcoin exchanges does not increase

HD1 – If the Bitcoin market price falls, the average transaction amounts to Bitcoin exchanges decrease

HD0 – If the Bitcoin market price rises, the average transaction amounts to Bitcoin exchanges does not decrease

HE1 – The higher the maximum loss expected (based on VaR - value at risk) the fewer transactions on currency exchanges are conducted

HE0 – The higher the maximum loss expected (based on VaR - value at risk) the more transactions on currency exchanges are conducted

HF1 – Proportion of Gains Realized is greater than Proportion of Losses Realized (for the entire year)

HF0 – Proportion of Gains Realized is less or equal than Proportion of Losses Realized (for the entire year)

Additional to the listed hypotheses, variables out of the graph theory are candidates for cause-effect relationships. betweenness-centrality, closeness-centrality as well as strongly / weakly connected components of the found clusters may be a source of information helping further profile the trading pattern of the active economic agents.

6.   Conclusion

This paper is the first one of a series based on the ongoing PhD research on Bitcoin markets and (cumulative) Prospect Theory focusing on the disposition effect. It starts by summarising the relevant economic background of Bitcoin which is one of the best-known cryptocurrencies worldwide. Following this short introduction, a framework of methods and tools is described that are applied to deal with the vast amount of data, utilizing novel technologies like machine learning and graph algorithms for pattern matching and node clustering as well as different types of databases to manage the graph structure of the Bitcoin blockchain itself with the available meta data required for graph colouring and labelling. The aim is to identify economic agents according to their business category (e.g. Bitcoin exchanges), isolate these transactions from and to Bitcoin

exchange addresses and monitor potential changes in a changing Bitcoin market itself. Time windows will be specified for "windows of interests" utilising established traditional market economic indicators (e.g. VaR and volatility) for gathering the required data points. The ultimate goal is to conduct the hypotheses testing via quantitative methods and statistics. As this is the first paper of a work-in-progress PhD not all parts of the research are yet finally defined as the findings during the data collection and preparation will have to be considered. Nevertheless, the potential hypotheses for testing the investment behaviour of economic agents/trading activities on Bitcoin exchanges are already proposed here but could be subject to change and further refinement.

Obviously future work will focus on finalising the data gathering and preparation which proves to be a labour intense activity with several setbacks that must be overcome. This is caused not only by but also due to the vast amount of data that needs to be handled by applying a set of different technological platforms, database systems and algorithms for gaining the necessary insight into the data. Eventually, all data wrangling will be successful and can be condensed into single variables/data points that follow the theoretical framework of PT and will allow for statistical testing of the proposed hypotheses resulting in a final statement regarding the applicability of PT, in particular, the disposition effect for the Bitcoin market.

V. Conclusion

This study aims to investigate the causal linkage among economic growth, financial sector development and FDI for the MIKT counties (Mexico, Indonesia, Korea and Turkey) over the period 1981 - 2016. These countries are regarded as new BRICs in the emerging markets since they have potential to grow with their industries thanks to globalization and their connector position between important zones in the world (Gallo and Biava, 2013). Toda and Yamamoto (1995) procedure is applied to observe the dynamic relationship since this procedure allows that the variables can be in different integration orders. The empirical test results offer two significant findings. First, the financial sector development could be forcing variable of economic growth but it can have adverse impacts on economy if the financial infrastructure is not sound as observed in Mexico. The financial infrastructures and regulations should be reinforced in order to benefit from the advantages of financial systems. Second, the emerging economies such as Mexico, Indonesia and Turkey are regarded as profitable markets by investors of FDI due to their market size and growing potential. Even if the causal linkage from FDI to economic development

is not detected, the FDI promoting policies could be more attractive for the investors who are already enthusiastic to bring FDI in these economies by regarding their growth potentials.

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References

Bagrow, J. P., & Bollt, E. M. (2005). Local method for detecting communities. Physical Review E, 72(4), 46108. https://doi.org/10.1103/PhysRevE.72.046108

Bank of England. (2014). The economics of digital currencies. Bank of England Quarterly Bulletin, (1), 1–11. https://doi.org/10.1145/903893.903946

Barberis, N., & Xiong, W. (2009). What Drives the Disposition Effect? An Analysis of a Long-Standing Preference-Based Explanation. The Journal of Finance, 64(2), 751–784. https://doi.org/10.1111/j.1540-6261.2009.01448.x

Bartos, J. (2015). Does Bitcoin follow the hypothesis of efficient market? International Journal of Economic Sciences, IV(No. 2), 10–23. https://doi.org/10.20472/ES.2015.4.2.002

Bless, H., Fiedler, K., & Strack, F. (2004). Social Cognition: How Individuals Construct Social Reality. Psychology Press.

Blondel, V. D., Guillaume, J. L., Lambiotte, R., & Lefebvre, E. (2008). Fast unfolding of communities in large networks. Journal of Statistical Mechanics: Theory and Experiment, 2008(10). https://doi.org/10.1088/1742-5468/2008/10/P10008

Bohr, J., & Bashir, M. (2014). Who Uses Bitcoin? An exploration of the Bitcoin community. In 2014 Twelfth Annual International Conference on Privacy, Security and Trust (pp. 94–101). IEEE. https://doi.org/10.1109/PST.2014.6890928

Bondy, A., & Murty, U. S. R. (2008). Graph Theory. (S. Axler & K. A. Ribet, Eds.), Statewide Agricultural Land Use Baseline 2015 (3rd Correc). New York City: Springer.

Bonneau, J., Narayanan, A., Miller, A., Clark, J., Kroll, J. A., & Felten, E. W. (2014). Mixcoin: Anonymity for bitcoin with accountable mixes. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) (Vol. 8437). Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-45472-5_31

Chu, J., Nadarajah, S., & Chan, S. (2015). Statistical analysis of the exchange rate of bitcoin. PLoS ONE, 10(7), 1–27. https://doi.org/10.1371/journal.pone.0133678

Chuen, D. L. K. (2015). Handbook of Digital Currency: Bitcoin, Innovation, Financial Instruments, and Big Data. Handbook of Digital Currency: Bitcoin, Innovation, Financial Instruments, and Big Data. https://doi.org/10.1016/C2014-0-01905-3

Ciaian, P., Rajcaniova, M., & Kancs, D. (2016). The digital agenda of virtual currencies: Can BitCoin become a global currency? Information Systems and E-Business Management, 14(4), 883–919. https://doi.org/10.1007/s10257-016-0304-0

Dohmen, T., Falk, A., Huffman, D., & Sunde, U. (2006). Homo Reciprocans: Survey Evidence on Prevalence, Behavior and Success.

Donnelly, J. (2016). What is the "Halving"? A Primer to Bitcoin's Big Mining Change - CoinDesk. Retrieved June 15, 2017, from http://www.coindesk.com/making-sense-bitcoins-halving/

Drescher, D. (2017). Blockchain Basics. Berkeley, CA: Apress. https://doi.org/10.1007/978-1-4842-2604-9

ECB. (2016). The Monetary Policy of The ECB. Retrieved from https://www.ecb.europa.eu/ecb/tasks/monpol/html/index.en.html

Eichner, A. S., & Kregel, J. (1975). An Essay on Post-Keynesian Theory: A New Paradigm in Economics. Journal of Economic Literature.

European Banking Authority. (2016). EBA Opinion on "virtual currencies." EBA Publication. Retrieved from https://www.eba.europa.eu/-/eba-proposes-potential-regulatory-regime-

for-virtual-currencies-but-also-advises-that-financial-institutions-should-not-buy-hold-or-sell-them-whilst-n

Fennema, H., & Wakker, P. (1997). Original and cumulative prospect theory: a discussion of empirical differences. Journal of Behavioral Decision Making, 10(1), 53–64. https://doi.org/10.1002/(SICI)1099-0771(199703)10:1<53::AID-BDM245>3.0.CO;2-1

Furlonger, D., Valdes, R., & Rajesh, K. (2017). Hype Cycle for Blockchain Business (2017). Gartner Research, ID G003326. Retrieved from http://www.gartner.com/resources/332600/332628/hype_cycle_for_blockchain_bu_332628.pdf

Gigerenzer, G. (1991). How to Make Cognitive Illusions Disappear: Beyond "Heuristics and Biases." European Review of Social Psychology.

Goetzmann, W. N., Kim, D., & Shiller, R. J. (2016). Crash Beliefs from Investor Surveys. https://doi.org/10.3386/w22143

Harrigan, M., & Fretter, C. (2016, May 20). The Unreasonable Effectiveness of Address Clustering. Retrieved from http://arxiv.org/abs/1605.06369

Haselton, M. G., Nettle, D., & Andrews, P. W. (2015). The Evolution of Cognitive Bias. The Handbook of Evolutionary Psychology. https://doi.org/10.1002/9780470939376.ch25

Hayek, F. A. (1977). Denationalisation of Money. Journal of Monetary Economics, 3(4), 483–485. https://doi.org/10.1016/0304-3932(77)90018-6

He, D., Habermeier, K., Leckow, R., Haksar, V., Almeida, Y., Kashima, M., … Verdugo-Yepes, C. (2016). IMF Staff Discussion Note - Virtual Currencies and Beyond: Initial Considerations. IMF Publication, (SDN/16/03). Retrieved from https://www.imf.org/external/pubs/ft/sdn/2016/sdn1603.pdf

Holland, P. W., & Leinhardt, S. (1971). Transitivity in Structural Models of Small Groups. Comparative Group Studies, 2(2), 107–124. https://doi.org/10.1177/104649647100200201

Johnson, T. (2017). You can't hold a bitcoin, but the web currency's value has skyrocketed. Why? Retrieved June 9, 2017, from https://phys.org/news/2017-06-bitcoin-web-currency-skyrocketed.html

Jorion, P. (2006). Value at Risk, 3rd Ed.: The New Benchmark for Managing Financial Risk. McGraw-Hill.

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. Econometrica, 47(2), 263–291.

Kaustia, M. (2011). Disposition Effect. In Behavioral Finance (pp. 169–189). Hoboken, NJ, USA: John Wiley & Sons, Inc. https://doi.org/10.1002/9781118258415.ch10

Keynes, J. M. (2012). The Collected Writings of John Maynard Keynes - The General Theory of Employment, Interest and Money. (A. Robinson & D. Moggridge, Eds.), Education (3rd ed.). Cambridge: Cambridge University Press.

Koshy, P., Koshy, D., & McDaniel, P. (2014). An analysis of anonymity in bitcoin using P2P network traffic. Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 8437, 469–485. https://doi.org/10.1007/978-3-662-45472-5_30

Leskovec, J., Rajaraman, A., & Ullman, J. D. (2010). Mining of Massive Datasets. Stanford.

Lewis, A. (2012). The Cambridge Handbook of Psychology and Economic Behaviour. Cambridge University Press.

Lewis, N. K. (2007). Gold: the once and future money. John Wiley.

List, J., Harrison, G., Koch, L., Knetsch, J., List, J., Harrison, G., … Knetsch, J. (2004). Neoclassical Theory Versus Prospect Theory: Evidence. Econometrica, 72(2), 615–625. https://doi.org/10.1111/j.1468-0262.2004.00502.x

MacQueen, J. B. (1967). Some Methods for classification and Analysis of Multivariate Observations. In Proceedings of 5-th Berkeley Symposium on Mathematical Statistics and Probability (Vol. 1, pp. 281–297). Retrieved from http://projecteuclid.org/euclid.bsmsp/1200512992

McDonald, K. C. (2015). Flat World Navigation: Collaboration and Networking in the Global Digital Economy. Kogan Page. Retrieved from http://viewer.books24x7.com/assetviewer.aspx?bookid=90880&chunkid=778103813

Meikle, S. (1994). Aristotle on Money. Phronesis. Brill. https://doi.org/10.2307/4182455

Meiklejohn, S., Pomarole, M., Jordan, G., Levchenko, K., McCoy, D., Voelker, G. M., & Savage, S. (2013). A Fistful of Bitcoins: Characterizing payments among men with no names. Proceedings of the Internet Measurement Conference - IMC '13, (6), 127–140. https://doi.org/10.1145/2504730.2504747

Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. Bitcoin Publishing. Retrieved from www.bitcoin.org

Narang, R. (2014). Orbit Shifting Innovation: The Dynamics of Ideas That Create History Chapter 8: In-market Versioning and Fissioning. In Orbit Shifting Innovation: The Dynamics of Ideas That Create History (1st Editio, p. 312). Kogan Page.

Ober, M., Katzenbeisser, S., & Hamacher, K. (2013). Structure and Anonymity of the Bitcoin Transaction Graph. Future Internet, 5(2), 237–250. https://doi.org/10.3390/fi5020237

Odean, T. (1998). Are Investors Reluctant to Realize Their Losses? The Journal of Finance, 53(5), 1775–1798. https://doi.org/10.1111/0022-1082.00072

Ortega, M. S. (2013). The Bitcoin Transaction Graph Anonymity. Universitat Autonoma de Barcelona.

Persky, J. (1995). The Ethology of Homo Economicus. Journal of Economic Perspectives, 9(2), 221–231. https://doi.org/10.1257/jep.9.2.221

Polasik, M., Piotrowska, A. I., Wisniewski, T. P., Kotkowski, R., & Lightfoot, G. (2015). Price Fluctuations and the Use of Bitcoin: An Empirical Inquiry. International Journal of Electronic Commerce. https://doi.org/10.1080/10864415.2016.1061413

Poon, S. (2005). A practical guide to forecasting financial market volatility (1st ed.). Wiley.

Reid, F., & Harrigan, M. (2013). An analysis of anonymity in the bitcoin system, 1318–1326. Retrieved from https://arxiv.org/abs/1107.4524

Rittenberg, L., & Tregarthen, T. D. (2009). Principles of Microeconomics. Flat World Knowledge, L.L.C.

Ron, D., & Shamir, A. (2012). Quantitative Analysis of the Full Bitcoin Transaction Graph. Rehovot: The Cryptology ePrint Archive. Retrieved from https://eprint.iacr.org/2012/584.pdf

Roy Weintraub, E. (2007). Neoclassical Economics. The Concise Encyclopedia Of Economics.

Shefrin, H., & Statman, M. (1985). The Disposition to Sell Winners Too Early and Ride Losers Too Long: Theory and Evidence. The Journal of Finance, 40(3), 777–790. https://doi.org/10.2307/2327802

Takemura, K. (2014). Behavioral Decision Theory: Psychological and Mathematical Descriptions of Human Choice Behavior. Springer Japan.

Tarjan, R. (1972). Depth-First Search and Linear Graph Algorithms. SIAM Journal on Computing, 1(2), 146–160. https://doi.org/10.1137/0201010

Tasca, P., Liu, S., & Hayes, A. S. (2016). The Evolution of the Bitcoin Economy: Extracting and Analyzing the Network of Payment Relationships, 1–44. https://doi.org/10.2139/ssrn.2808762

Tasca, P., Thanabalasingham, T., & Tessone, C. J. (2017). Ontology of Blockchain Technologies. Principles of Identification and Classification, 1–58. https://doi.org/10.2139/ssrn.2977811

Tversky, A., & Kahneman, D. (1975). Judgment under Uncertainty: Heuristics and Biases. Utility, Probability, and Human Decision Making, 185(4157), 141–162. https://doi.org/10.1007/978-94-010-1834-0_8

Tversky, A., & Kahneman, D. (1992). Advances in Prospect-Theory - Cumulative Representation of Uncertainty. Journal of Risk and Uncertainty, 5(4), 297–323. https://doi.org/Doi 10.1007/Bf00122574

Vagstad, K. (2014). A bit risky? A comparison between Bitcoin and other assets using an intraday Value at Risk approach. NTNU - Trondheim Norwegian University of Science and Technology. Retrieved from http://www.diva-portal.org/smash/get/diva2:742882/fulltext01.pdf

Veblen, T. (1900). The Preconceptions of Economic Science – III. E Quarterly Journal of Economics, 14(2), 240–69.

Vogelsang, M. (2010). Digitalization in Open Economies. Heidelberg: Physica-Verlag HD. https://doi.org/10.1007/978-3-7908-2392-9

von Mises, L. (1953). Theory of Money and Credit. (Douglas E. French & Murray N. Rothbard, Eds.) (Second). Yale: Yale University Press.

Walker, G. (2017). Bitcoin to Neo4j. Retrieved from https://github.com/in3rsha/bitcoin-to-neo4j

White, L. H. (2014). The Market for Cryptocurrencies. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2538290

Willms, J. (2016). Despite Naysayers, Rising Bitcoin Price Suggests the Digital Currency Is Alive and Well – Bitcoin Magazine. Retrieved June 24, 2017, from https://bitcoinmagazine.com/articles/despite-naysayers-rising-bitcoin-price-suggests-the-digital-currency-is-alive-and-well-1461346768/

Yermack, D. (2015). Is Bitcoin a Real Currency? An Economic Appraisal. In Handbook of Digital Currency (pp. 31–43). Elsevier. https://doi.org/10.1016/B978-0-12-802117-0.00002-3

NEW PLAYGROUNDS FOR IMPROVING LEADERSHIP AND TEAMWORK

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ABSTRACT

We are living in a business epoch of strengthening social networks and weakening social ties and communities. New social technologies support both collaboration and communication, which are indispensable for both effective leadership and teamwork. While there are numerous social media that may be used to engage learners in organizations' training endeavors such as: Blogs, Facebook, YouTube, Twitter, LinkedIn, Wikis, WhatsApp, Meetup, Second Life as the multiplayer online role-playing games, or video conferencing or distance learning via Blackboard or WebEx and so forth. In this paper I will focus on a specific game in FLIGBY (an on-line simulation game with an acronym for flow is good business for you) for the sake of brevity.

Virtual reality-based games have been gaining increasing attention lately since computer technology has provided new opportunities for mobile learning. Playing such on-line games that are embedded in social media is more than an isolated mental contest against a computer; it is both an interactive experience of a second self and a shared group action. Getting immediate feedback can induce high levels of engagement in such games as well as a feeling of control and development. These games may provide the highest degree of concentration simultaneously with social networking, thus, aiming at commitment and collaboration at workplace. In sum, the six C's for well-constructed games of all kinds are:

- *Conflict: Players must overcome obstacles to do a challenging task and achieve a goal,*

- *Control: The game must have a clear set of rules,*

- *Closure: The end of the game is time-bound or limited with a certain number of players.*

• *Contrivance: Making mistakes and trial and error is easy by its nature; games used to foster learning work best when competitive elements are minimized and emphasis is put on the value of the fun or learning experience as a process,*

• *Challenge: Difficulty levels of understanding need to increase with respect to time and effort spent,*

• *Competency: the specific skills to be improved by this game.*

According to Csikszentmihalyi (1991), for any player to attain flow in a game or any activity, a balance needs to be achieved between the external complexity of the game program and the internal model a user develops of that particular program; that way, a balance between challenge and skill will be maintained to keep up the motivation and will power. P. Drucker (2003) also states that the only way to become a leader of knowledge workers at a knowledge-based business is to spend time on promising professionals by challenging and motivating them.

By extending the flow theory M. Csikszentmihalyi (1991) into leadership in FLIGBY, both learning and teaching of flow-compatible leadership values, skills and practices through blended learning pedagogy, the focus is on action of both individual learners and teams in classes. Likewise, at workplace, benefits for the individual employees may lead to benefits of the whole organization. The intended purpose of this virtual game is to help individual leaders as well as organizations to create a flow-friendly team-based workplace in the 21st century.

Moreover, the twenty-nine skills as a competency system serve as a useful tool for strategic human resource management since FLIGBY's own "skillset" measurements can be easily adapted into any organization's own competency system. These competencies are:1) Active listening, (2) Analytical skills, (3) Applying personal strengths, (4) Assertiveness, (5) Balancing skill, (6) Business-oriented thinking, (7) Communication, (8) Engagement and Trust, (9) Conflict-management, (10) Delegating, (11) Diplomacy, (12) Emotional intelligence, (13) Empowerment, (14) Entrepreneurship (Risk taking), (15) Execution, (16) Feedback, (17) Future orientation, (18) Information gathering, (19) Intuitive thinking, (20) Involvement, (21) Motivation, (22) Organizing, (23) Prioritizing, (24) Timely decision-making, (25) Social system thinking, (26) Social responsibility, (27) Strategic thinking, (28) Teamwork, (29) Time management. Leadership

and teamwork are still the basic needs of future workforce; therefore, both the attraction and retention of rich source of skills depend on guidance, motivation and inspiration and continuous development of knowledge workers in such new platforms that provide connectedness along with interactivity.

Keywords: Leadership, Teamwork, Flow, Virtual reality-based serious games, FLIGBY

U.S MONETARY AGGREGATES AND PARTISAN POLITICAL CYCLES

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ABSTRACT

The U.S economy and stock markets typically perform significantly better under Democratic presidencies than the Republicans. We explore the presidential gap in U.S monetary aggregates. By examining monthly data from 1959 to 2017, we find a positive and significant Democratic premium in the inflation adjusted growth rates of narrow money, broad money and the money multiplier. The Democratic premium remains statistically significant and economically meaningful in M1 and M2 growth rates after controlling for the autoregressive components and the distributed lags of the federal funds rate. We find a partisan FED chair is a statistically significant indicator to explain the presidential gap. In other words, the Democratic FED chair gap is found to be more robust than the Democratic presidential gap in the growth rates of the monetary aggregates. Nonetheless, this study sheds further light on the role of political affiliation in deriving successful economic and financial outcomes.

Keywords: Monetary aggregates; Partisan politics

JEL classification: E51; P16

1.   Introduction

There is a striking phenomenon in U.S political-economy cycles. The U.S economy (Blinder and Watson, 2016) and stock markets (Santa-Clara and Valkanov, 2003; Pastor and Veronesi, 2017) perform significantly better under Democrat presidencies than Republican presidencies. Although, these empirical findings are strong enough to be able to argue that the U.S economy favours the Democratic Party, the theoretical implications of the U.S partisan political cycles are completely opposite. Tax reductions, deregulation and overall right-wing based economic policy, in theory, should have favoured Republican, as they are direct signals for less government interventions in the economy. Despite several attempts (Santa-Clara and Valkanov, 2003; Pastor and Veronesi, 2017; Blinder and Watson, 2016; Sy and Zaman, 2011) to suggest explanations to the partisan gap, the phenomenon is still considered as a puzzle.

In this study, we explore the potential presidential gap in monetary aggregates. Federal Reserve System (hereafter, FED) independence was determined within the famous Treasury-FED accord in 1951 which allowed operational independence to FED. However, historically, there have been several attempts such as Arthur Burn's contribution to the Richard Nixon re-election campaign (Abrams, 2006), Reagan's efforts to remove Paul Volcker (Silber, 2012) that could be argued to be political interventions in monetary policy. Moreover, given presidents have a mandate to appoint the FED chairperson raises another concern for the institutional independence. The most recent example would be President Trump's appointment of a Republican board member as FED governor violating the general practice that Presidents usually allow the continuation of the current FED governor to demonstrate the FED's institutional independence.

Nevertheless, we do not express any suspect to the Central Bank Independence within this study. Instead, we argue that if monetary policy is the sole driver of monetary aggregates, it should sweep away all the effects of the partisan gap. It has already empirically proven that the presidential gap in the economic output and the stock market performance remains significant even after controlling for widely known determinants.

FED, as any monetary organizations, aims to maintain price stability by tracking the equilibrium point of output and inflation in a Taylor framework. However, monetary organizations as ex-post decision makers in the economy merely react not proact to the economic activity. Therefore, Central Bank independence should be thought as operational independence not as to determine the economic outlook of the country which is widely carried out by governments.

Plenty of empirical and theoretical literature [1] has found significant linkages between economic activity, especially real output, and business cycle related monetary aggregates. Nevertheless, monetary aggregates growth rates, in turn, consistently exceed GDP growth rates and other economic activity indicators. Therefore, traditional explanations such as economic output, lag effects might not be enough to fully capture the huge growth rates of the money supply. As the "partisan" model of the political business cycles supports the idea that real output may become significantly different under the Democrat and the Republican presidencies, we can expect the money base, M1 and money multiplier may also be in line with the partisan cycles. To our best knowledge, it is the first study investigating partisan gap in the monetary aggregates.

Another channel that monetary aggregates can be linked to political cycles is the well documented partisan gap in stock returns (Santa-Klara and Valkanov, 2003; Sy and Zaman, 2011; Pastor and Veronesi, 2017). These previous findings reveal positive linkages between ex-post stock returns and monetary policy (Thorbecke, 1997). Furthermore, this linkage might be asymmetric as monetary policy has larger effects on stock returns in bear markets than bull market (Chen, 2007). Since, there is a strong evidence for the presidential gap in stock returns, the relationship between monetary policy and stock returns gives an additional stimulus to investigate the hypothesis that monetary aggregates might be also in line with presidential cycles.

The partisan gap in the economy is a specific U.S phenomenon as there is no evidence to support the puzzle elsewhere. Although the Conservative party positively influence the U.K stock market performance, the return differences are not significantly associated with changing political cycles (Black et al., 2010). Similar findings are attributed to the German elections (Dobke and Pierdrioch, 2004). In the meantime, panel regression analysis across 15 countries confirms that the partisan political gap in the economy is not a global finding (Bohl and Gottschalk, 2006). Hence, we examine U.S monetary aggregates to explore other evidence for the partisan political gap.

Our monthly empirical estimations from 01/1959 to 09/2017 reveal that the presidential gap in narrow and broad money indicators are even more pronounced than GDP growth and stock market performance, while less noticeable in the case of money multiplier. The Democratic premium is found 5.15 percent and 9.12 percent for M1 and M2 growth rates, respectively.

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[1] For instance, Freeman and Kydland (2000) found positive linkages between the U.S business cycles variables and monetary aggregates. Beenstock (1989) expressed the similar findings between real output and money multiplier in the UK case.

However, we did not find evidence for a stronger presidential gap after considering only first presidential terms.

Although the autoregressive components and monetary policy keep the explanatory powers in the variation of the monetary aggregates growth rates, the presidential gap remains statistically significant and economically meaningful. The non-linear estimation in the Markov switching framework confirms the findings of the linear regression analysis. High growth rates associated with the Democratic presidential years and lows growth rates linked to the Republican presidencies tend to be persistent with more than 90 percent probability in their respective regimes.

Another interesting finding is what after controlling the presidential effect in the autoregressive coefficients. Apparently, the presidential gap is not only the additive to the baseline growth of the monetary aggregates but also multiplicative to the coefficients. Moreover, the multiplicative presidential gap induces the additive partisan gap become less significant. Consequently, the findings reveal that the presidential gap might be potentially disappeared by decomposing the ARDL coefficients into economic and political parts. However, this finding might be due to the pure econometrical reasons as the multiplicative and additive dummies possibly have multi-collinear relationship.

Finally, we test the role of a partisan FED chair to explain the presidential gap. We find partisan FED chair a statistically significant and economically powerful indicator to resolve the presidential gap in monetary aggregates. Consequently, we can argue that the partisan FED cycle is a statistically more powerful than the partisan presidential cycles in the case of the monetary aggregates.

The rest of this paper is organized as follows. The second section reviews the literature on the U.S presidential cycles from the economic perspectives and the featured works on the monetary liquidity. In the third section, we present the data and the main empirical models applied in the estimations. The fifth section discusses the empirical findings and the additional checks for the robustness. In the last section, we discuss the major findings with concluding remarks.

2. Literature Review

2.   The US political economic cycles

The early literature on the economic models of political cycles, so called "political business cycle" theory describes the US political cycles in the "opportunistic" models where all parties find it optimal to adopt the same policy in order to capture the median voter (Downs, 1957). In addition to the assumption of the opportunistic behaviour of the parties, Nordhaus (1975) and MacRae (1977) contributed two more crucial assumptions and rejected the "partisan" factor. First, they argue that the voters have short term memories and can be systematically fooled. Second, the economy is described by an exploitable Philips curve and the rational expectations critique is not considered. Therefore, the opportunistic models of the "political business cycle" theory could not explain any differences across the Democratic and Republic administrations.

In contrast, originating with Hibbs (1977), the literature has developed "partisan" models of political cycles. Hibbs (1977) shows that lower income and occupational status groups are best served by a relatively low unemployment-high inflation macroeconomic configuration whereas a comparatively high unemployment-low inflation policy package serves the interests and preferences of upper income and occupational status groups. Therefore, the governments in the office pursue macroeconomic policies broadly in accordance with the objective economic interests and subjective preferences of their electoral elites and core political objectives. This pioneering attempt to modelling political business cycles in the context of partisan nature encouraged further researches to dig the structural differences between the political objectives in the macroeconomic policies of the main parties.

 Alesina (1987) and Alesina and Sachs (1988) develop a partisan economic model in a two party repeated games. By confirming Hibbs (1977) and Hibbs (1987), they find that partisan politics significantly matters when it comes to the macroeconomic policy and its outcomes in the business cycles. Moreover, they show that the first half of the administration portrays the systematic differences in output growth whereas the second half does not indicate a consistent differentiation between the macroeconomic outputs of the economic policies undertaken during the political cycles. Nevertheless, Nixon administration (Beck, 1984) and Kennedy (Alesina, 1987) governments are considered vivid exceptions in the "partisan" theory, more in line with the "political business cycle" theory.

Another striking feature of a partisan economic model originates from the differences in the tax policies. Left governments' (Democrats) periods in office have been observed with higher state tax burdens whereas right wing parties (Republicans) are known as in favour of low tax or small government principles (Reed, 2006). Moreover, left-wing governments across the world tend to expand government revenue and expenses (Cameron, 1978; Tavares, 2004). The role of the partisan gap in the economic growth has also been emphasized by early researches (Hibbs, 1987; Alesina and Sachs, 1988) based on short samples as well as empirical investigations (Blinder and Watson, 2016) by utilising a richer data. The US real GDP growth, during 1930 and 2015, is found to be 4.9% under Democratic presidencies, whereas only 1.7% during Republican presidents' periods in the office. The 3.2 % difference is found to be economically and statistically significant (Pastor and Veronesi, 2017).

The discussion above shed light on the role of the US partisan gap in the business cycles, macroeconomic policy, economic growth and tax burden. Given the fundamental differences in the structural aspects of the political objectives, historical roots and more importantly, subjective preferences of the electoral crowd may underlie rational explanations for the existing partisan political economy gap.

However, the partisan gap in the stock market returns remains puzzle and unresolved despite of the several attempts. In the seminal paper, Santa-Clara and Valkanov (2003) demonstrates that the stock markets perform significantly better under Democratic rather than Republican presidencies during 1927 and 1998. The 9 percent difference for the value-weighted and 16 percent for the equal-weighted portfolios are found to be statistically and economically significant. Moreover, business cycle variables, announcement effect, risk premium do not explain the return difference. The extended empirical analysis to 2015 show that the evidence is even stronger after 1998 (Pastor and Veronesi, 2017). The out-sample-sample estimation from 1999 to 2015 reports 17.39 percent for the partisan return gap compared to 9.38 percent in the 1927-1998 period. A striking feature of the presidential stock return gap is its mean reverting characteristics. The Democratic-minus-Republic return gap is found the highest, 36.88 percent per year when averaged over the first year of presidency alone (Pastor and Veronesi, 2017). The gap gradually decreases starting from the second year when the difference is 15.55 percent; it is 12.43 percent over the three years. However, these values are still higher than full term average (10.90 percent) which might be explained by high risk premium in the early presidential term, a lower difference in the late term.

2.2   Monetary liquidity

The definition of the monetary aggregates varies across the countries or the monetary organizations.

For instance, European Central Bank (ECB) does not define M0, adopt M1 as a narrow money indicator which includes physical currency in circulation as well as balances such as overnight deposits can immediately be converted to cash or cash equivalents[2]. ECB defines M2 as "intermediate money" includes M1 plus deposits with maturity up to 2 years and redeemable deposits up to 3 months. M3 considered as a broad money measurement comprises all M2 plus money market fund shares, repurchase agreements and debt securities up to 2 years. Bank of England[3] accepted the aggregates definitions as ECB, additionally defines M4 as M3 plus foreign currency deposits held by the private sector in the UK and sterling and foreign currency deposits held by UK public corporations with MFIs in the UK.

The US monetary aggregates definitions are slightly different from the European countries. Since 2006, Federal Reserve System has ceased to track M3, large-denomination time deposits, repurchase agreements and Eurodollars. Narrow money is defined [4] as M1 which includes all physical currency outside the U.S Treasury and Federal Reserve, demand deposits and travellers' checks. In the meantime, M2 is accepted as a broader monetary concept encompassing M1 plus saving deposits, small denomination time deposits and balances in retail money market funds. Finally, money multiplier is calculated as the ratio of M1 to money base which is the sum of currency in circulation plus reserve deposits. In simple words, money multiplier demonstrates how banks can create additional money in the economy by per unit reserve deposits in the Federal Reserve.

A handful of empirical macroeconomic literature has attempted to model money supply employing wide range of time series models. Nelson (2002) develops a theoretical model of the real money base growth and the real economic activity. The empirical evidence for the UK and the US shows that the money base growth is a significant determination of the economic activity.

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[2] https://www.ecb.europa.eu/stats/money_credit_banking/monetary_aggregates/html/hist_content.en.html

[3] http://www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/m3.aspx

[4] https://fred.stlouisfed.org/series/M1SL

As the "partisan" model of the political business cycles supports the idea that the economic activity may become significantly different under the Democrat and the Republican presidencies, we can expect the money base may also be in line with the partisan cycles.

Apart from modelling the monetary aggregates separately, Kurita (2011) attempted to model money multiplier by employing the co-integration analysis for the Bank of Japan data. It is a well-known fact that not only log of price indices but also of log of monetary aggregates contain stochastic I(2) trends. The paper shows that constructing linear combinations of logged monetary aggregates with linear combinations of logged prices indices can remove I(2) stochastic trends and remain only I(1) in the data. Consequently, the paper finds that the main monetary aggregates can be modelled in the light of the I(2)-to-I(1) transformation on the money multiplier.

The endogenous nature of monetary aggregates has firstly been explored with the procyclical movement of the nominal money stock by Firedman and Schwartz (1963). Since then, the business cycle literature has attempted to model money multiplier in the classical business cycle set-up (Freeman and Huffman, 1991), to calibrate the money aggregates considering a long-run vision for the U.S economy (Kydland and Prescott, 1982). On the contrary to the monetary models, Freeman and Kydland (2000) develops a money-output model using sticky prices or foxed money holdings and assuming all prices and quantities fully flexible. The paper finds several significant linkages between business-cycle related monetary aggregates and the U.S real output such as a positive correlation between M1 and real output, the money multiplier and deposit-to-currency ratios are positively correlated with real output, the price level is negatively correlated with output, correlation of M1 with contemporaneous prices is substantially weaker than the correlation of M1 with real output, correlations among real variables are essentially unchanged under different monetary-policy regimes and real money balances are smoother than money-demand equations would predict. As the "partisan" model of the political business cycles supports the idea that output may become significantly different under the Democrat and the Republican presidencies, we can expect the money base, M1 and money multiplier may also be in line with the partisan cycles.

The determinants of money multiplier have also been explored for the UK monetary data. Beenstock (1989) investigates evolutionary phases of the monetary policy in the United Kingdom, concludes that the monetary aggregates were endogenously determined until

mid-1970s when sterling was allowed to free float. The free float regime of the exchange rate allowed money supply to become exogenous starting 1980s. Consequently, the money multiplier has become more responsive to the interest rates and economic activity. Although, there is no evidence for the existence of the partisan business cycles in the United Kingdom, the findings of the paper provide additional motivation to consider the possible indirect linkages between the monetary aggregates and the political regimes via economic activity and output.

3 Data and Methodology

3.1   Directed Graph Model based on the Bitcoin Blockchain

Our monthly data set covering the period between 01/1959 and 09/2017 is available from the Economic Data of Federal Reserve Bank of St. Louis (FRED). The official definitions of the U.S monetary aggregates have considerably changed over the years. Since Federal mandatory reserve requirements were officially imposed in 1914, banks did not differentiate among demand, saving and time deposits (Anderson, 2003). Therefore, it is not possible differentiate between M1 and M2 until 1914 according to the modern definitions. Likewise, the U.S financial institutions did not distinguish between small and large denomination time deposits that are necessary to split M2 from the rest of "higher order" monetary liquidity. More importantly, the Board of Governors of the Federal Reserve System approved the monetary aggregates data from 01/1959, possibly due to the reasons emphasized above.

The first monetary aggregate we employ is M1 which is officially defined [5] as the sum of 1) currency outside the U.S treasury, Federal Reserve Banks, the vaults of depository institutions 2) traveller's checks of nonbank issuers 3) demand deposits 4) other checkable deposits.

Graph 1 presents the monthly M1 aggregate for the USA from 01/1959 to 09/2017. The seasonally adjusted data is collected from FRED. We subsequently adjusted it for monthly inflation which is available from FRED as Consumer Price Index (CPI) with all items, then found log value.

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[5] https://fred.stlouisfed.org/series/M1SL

Graph 1: Log of the U.S M1 indicator adjusted for seasonality and inflation from 01/1959 to 09/2017
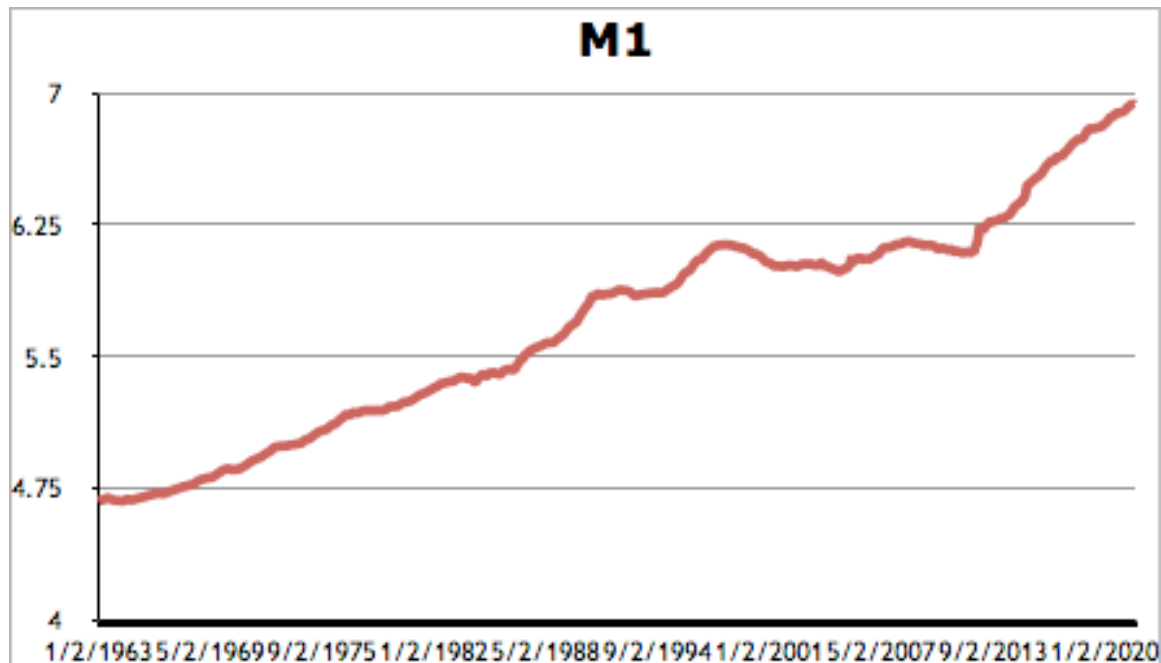
The graph overall suggests a gradual increase in the M1 amount in the real terms throughout the period. The small fluctuations and level-off trends during the 2008-09 crises are followed by a sharper increase during the recent seven years. The latest trend might be explained by the recent FED interest rate policy which remained historically low since last financial crises.

The second monetary aggregate we use is the U.S M2 which is officially defined [6] as the sum of all the M1 components, saving deposits, small-denomination time deposits and balances in retail money market mutual funds.

Graph 2 demonstrates the monthly U.S M2 aggregate from 01/1959 to 09/2017. The seasonally adjusted data is collected from FRED and adjusted for the monthly inflation by using Consumer Price Index (all items).

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[6] https://fred.stlouisfed.org/series/M2SL

Graph 2: Log of the U.S M2 indicator adjusted for seasonality and inflation from 01/1959 to 09/2017
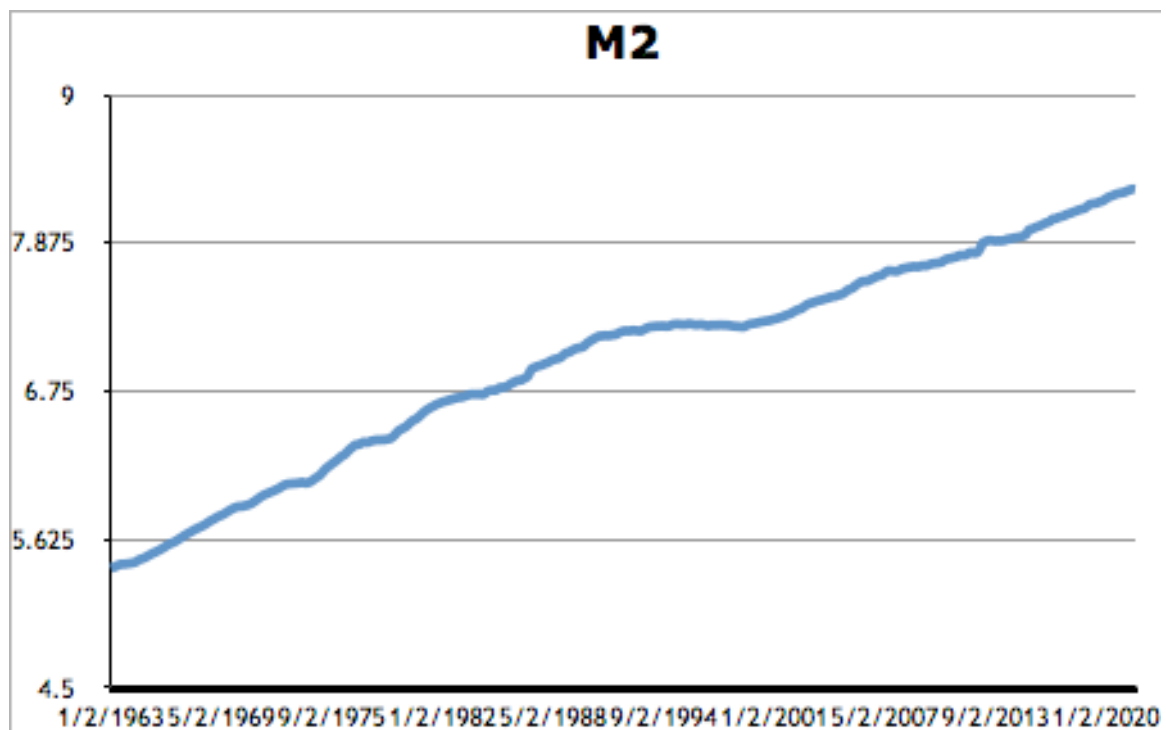
The graph suggests the similar pattern with M1 while a sharper increase in the M2 amount across the period. The difference between Graph 2 and Graph 1 suggests a considerable increase in the saving and small-time deposits and the balances of money market funds after carrying out the quantitative easing and expansionary monetary policy actions during the 2008/2009 crisis.

The final indicator, we employ is the U.S money multiplier computed as the ratio of M1 to the U.S monetary base. The ratio literally demonstrates how banks can create additional money in the economy by per unit reserve deposits in the Federal Reserve. The seasonally adjusted monthly data from 01/1959 to 09/2017 for the U.S money base is collected from FRED[7], subsequently adjusted for inflation as in the previous aggregates. To get money multiplier, we find ratio of the previously adjusted M1 to adjusted monetary base.

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[7] https://fred.stlouisfed.org/series/AMBSL

Graph 3:   Log of the U.S money multiplier adjusted for seasonality and inflation during 1959 and 201
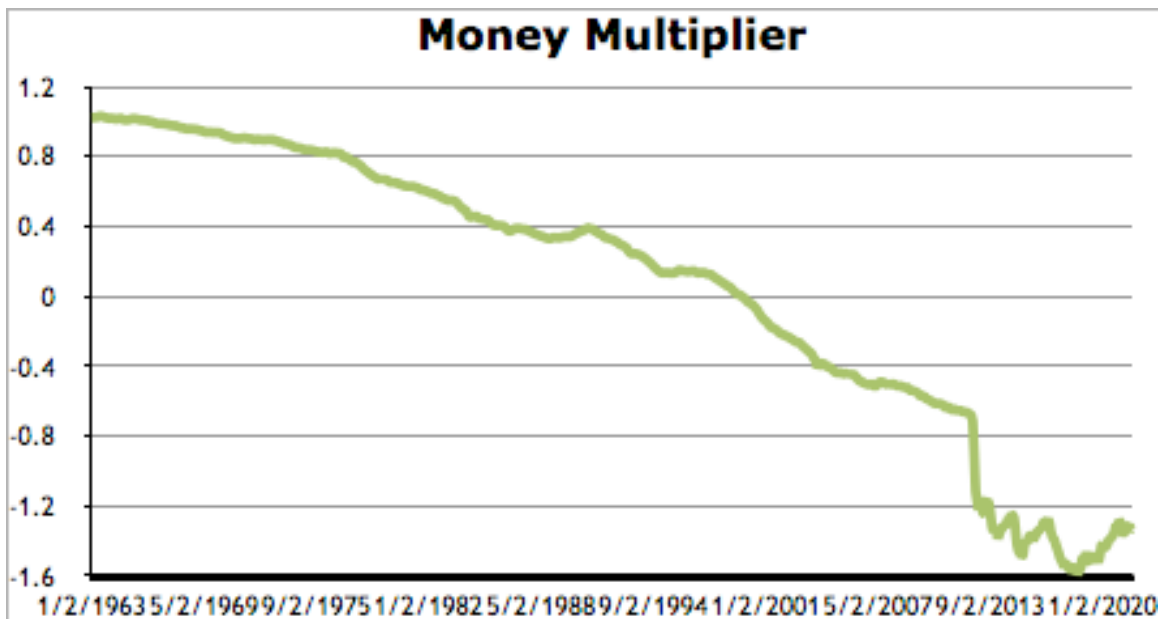
On the contrary to the M1 and M2 graphs, the money multiplier figure apparently exhibits a downward trend throughout the observed time frame. The graph suggests that the banks create less money on the economy per unit of reserved deposits in the Federal Reserve year by year since 1959.

Graph 4: Log of the U.S money base adjusted for seasonality and inflation during 01/1959 and
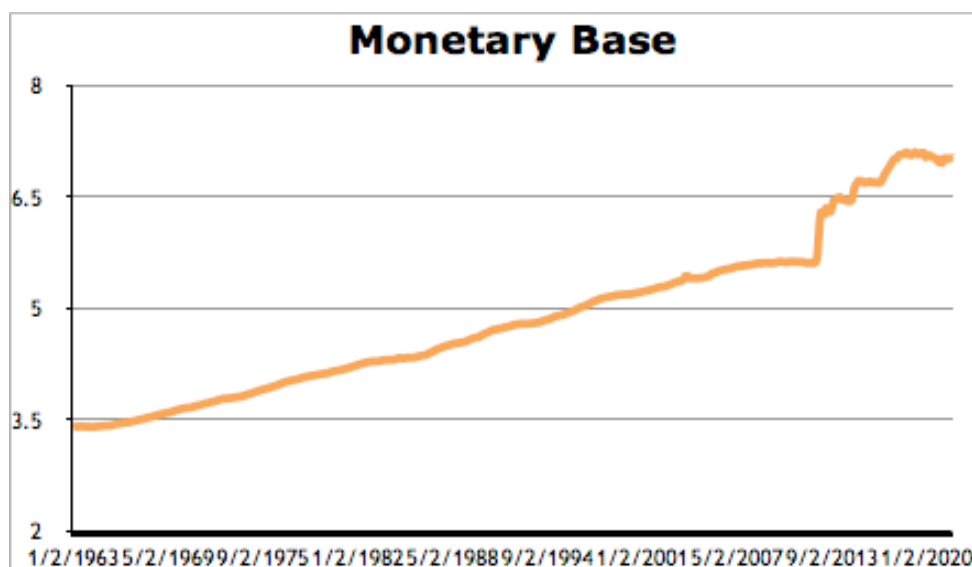
Considering the fact that M1 (Graph 1) exhibits an upward trend throughout the period, the downward pattern in the U.S money multiplier might be explained by an explosively increasing monetary base. Graph 4 confirms this guess, as the positive dynamics in the money base amount starting 2000s years are followed by an explosive pattern since last financial crisis.

On the one hand, the trend can be explained with fiscal stimulus packages and expansionary monetary policy as for the M1 and M2 aggregates. On the other hand, the considerable increase in the monetary base might be linked to the increased regulatory pressure on the banks since financial crises including "Dodd-Frank", the implementation the new Basel rules and so on.

 Table 1 presents the summary statistics of the underlying U.S monetary aggregates across the presidential cycles. In our estimation period, "Republicans" exhibit a longer presidential term with seven presidents than "Democrats" with five presidents. In general, "Republicans" have been in the office for 369 months compared to 348 months of "Democrats". The new elected president usually starts governing the White House after the inauguration day which takes place about 2-3 months after the election day. The U.S presidential elections usually take place in November followed by the inauguration day in January. However, the certain historical events contributed to the breaking of this chain such as John F. Kennedy's assassination of in November 1963, Richard Nixon's resignation in August 1974.

Although, the political science literature (Bartels, 2008; Comiskey and Marsh, 2012) frequently prefers to adopt one year or more lags to estimate the effect of changing political parties, we apply the most recent approach (Pastor and Veronesi, 2017) from the political economy literature which attributes the inauguration day as the beginning of each presidential term. The rationale behind this approach is to take the fact into account that the partisan political gap of the economic and financial indicators is found more robust in the first year of each presidency (Pastor and Veronesi, 2017). Nevertheless, we carry out the robustness checks to examine several other lagged responses.

In growth terms, the monetary aggregates are observed with higher magnitude under the Republican presidencies than the Democrat presidencies which are associated with lower growth rate of the monetary aggregates, albeit almost the same standard deviations.

In particular, Barack Obama's presidential years are observed with high standard deviation of M1 (11.07) and M2 (11.64), while relatively low standard deviation of money multiplier (0.0076). Mr. Obama's presidential terms started in the peak of finacial crisis in January 2009, although he was elected in November 2008 and gave a direction in the public expectations that the left-wing government is likely going to adopt an expansionary fiscal policy.

Although, the Federal Reserve System started to decrease the fund rate from the end of 2007, the transmission was either delayed or less noticeable. FED subsequently accompanied the expansionary monetary policy in 2008 by decreasing the fund rate six times and reached to de-facto zero rates. From the econometric perspectives, the lagged responses of the monetary aggregates to the monetary shocks absolutely make sense. Since most of the monetary shocks are materialized under Obama's presidency, the monetary aggregates expose high volatility.

A complementary note that in November 2008, the Federal Reserve Open Market Committee launched the first quantitative easing package and announced it would purchase up $600 billion agency mortgage-backed securities and agency debt. The decision was made two months before the Obama's inauguration day. Consequently, the combined effect of the monetary policy shocks and the quantitative easing package contributed to the high volatility of the monetary aggregates during the Obama's presidential terms in the White House.

Table I: The growth rates of the monetary aggregates across the U.S presidential cycles from 01/1959 to 09/2017

The figures are adjusted for seasonality and consumer price index. Column 2 shows the official presidential terms. Following (Pastor and Veronesi, 2016), we adopt the inauguration day as the beginning of each presidential term. Although, Eisenhower's office period started in 1953, we do not count his presidential term until 01/1959 when the data set starts to cover. The disruptions of the presidential terms are linked to the certain political events such Kennedy's assassination in 11/1963, Nixon's resignation in 08/1974.

President (Party)	Period in office	M1		M2		Money Multiplier	
		Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.
Panel A. By President							
Dwight Eisenhower (R)	01/1959-01/1961	0.68	0.36	10.32	0.55	-0.017	0.0091
John F. Kennedy (D)	02/1961-11/1963	2.62	0.25	21.69	0.68	-0.044	0.0078
Lyndon B. Johnson (D)	12/1963-01/1969	5.73	0.45	23.36	0.75	-0.033	0.0079
Richard M. Nixon (R)	02/1969-07/1974	6.08	0.59	30.67	2.21	-0.066	0.0092
Gerald R. Ford (R)	08/1974-01/1977	6.14	0.66	59.78	2.32	-0.063	0.0096
James E. Carter (D)	02/1977-01/1981	6.27	1.15	30.44	2.19	-0.082	0.0081
Ronald W. Reagan (R)	02/1981-01/1989	16.63	1.84	61.16	4.39	-0.027	0.0074
George H.W. Bush (R)	02/1989-01/1993	17.86	2.06	13.57	3.55	-0.046	0.0059
William J. Clinton (D)	02/1993-01/2001	-3.26	2.19	51.02	4.78	-0.063	0.0046
George W. Bush (R)	02/2001-01/2009	12.88	5.44	104.92	12.24	-0.041	0.0125
Barack H. Obama (D)	02/2009-01/2017	59.56	11.07	151.77	11.64	-0.007	0.0076
Donald J. Trump (R)	02/2017-09/2017	80.15	10.3	153.42	11.71	-0.009	0.0045
Panel B. By Party							
Political party	Total months in office	M1		M2		Money Multiplier	
		Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.
Republicans	370	20.06	3.04	61.98	5.28	-0.038	0.0083
Democrats	335	14.18	3.02	55.66	4.01	-0.046	0.0051

Table 2 presents the results of unit root test for the U.S monetary aggregates across the sample period. We employ three different, widely applied unit root tests. Augmented Dickey Fuller (ADF) and Philips Perron (PP) tests are performed under the null hypothesis that the series contain a unit root against the alternative that the series are stationary. The PP test is the modified version of the ADF test as it accounts for the serial correlation in the innovations. Conversely, KPSS test assumes that the observed time series are stationary around the deterministic trend (i.e trend stationary) against the alternative of a unit root.

The results from the three tests demonstrate that the U.S monetary aggregates contain a unit root throughout the sample period. Apparently, we fail to reject the ADF and PP tests under the null hypothesis that the series follow a unit root process. Meanwhile, the null hypothesis that the series are stationary around the deterministic trend is significantly rejected with KPSS test. It is also revealed the first differences of the underlying monetary aggregates are stationary. Concluding from the respective p values, the null hypothesis that the first differences are unit root processes are significantly rejected under the ADF and PP tests whereas fails to reject the null hypothesis of the stationarity for the KPSS test.

Table II: Unit Root Test for the U.S Monetary Aggregates.

The series are converted into the natural logarithm values before carrying out the unit root tests. By definition, the null hypothesis of ADF and Philips Perron test are imposed as the series contain unit root whereas KPSS test assumes series are stationary under the null hypothesis.

ADF test; : Series contain unit root			
	M1	**M2**	**Money Multiplier**
P value			
Level	0.97	0.99	0.64
First difference	0.00	0.00	0.00
KPSS test;: Series are stationary			
	M1	**M2**	**Money Multiplier**
P value			
Level	0.01	0.00	0.00
First difference	0.65	0.64	0.73
Philips-Perron test; : Series contain unit root			
	M1	**M2**	**Money Multiplier**
P value			
Level	0.99	0.99	0.73
First difference	0.00	0.00	0.00

3.2 Methodology

We start empirical estimations with linear models which were previously employed in exploring other areas of the partisan gap in economics and finance. To build the baseline models, we define political variable as following Santa-Clara and Valkanov (2003):

 if a Republican is in office at time t; otherwise

Alternatively

 if a Democrat is in office at time t; otherwise

To measure the correlation between the monetary aggregates and the political variable, we run the following regression:

$$(1)$$

Regression (1) is also estimated as with two dummies without intercept in Santa-Klara and Valkanov (2003)

$$(2)$$

Where the left-hand side variable is log growth rate of the underlying monetary aggregate.

In the second step, we allow the autoregressive components in the equation (1) to examine the ability to eliminate the significance of the partisan gap:

$$(3)$$

Where is the political variable included as an additive dummy indicate the Republican presidencies as 1, alternatively 0 for the Democratic presidents. The optimal number of lags in the autoregressive component is chosen based on SBIC information criteria due to the fact AIC inherently choose a higher order model that we do not aim in this study. The economic significance of the variables is as important as statistical significance in studying the partisan gap in the economic variables.

In the previous equations, we measured the amount of growth rates of the underlying monetary aggregates can be attributed in the light of two political cycles. Following Sy and Zaman (2010) we allow the coefficients of the autoregressive components change across the presidential cycles, so called multiplicative dummies given as follows:

$$(4)$$

Where is a political variable defined in the equation (1) indicates the changes in the autoregressive coefficients across the political cycles.

The monetary policy decisions are considered as an important determination of the monetary aggregates. Hence, we control federal funds rate as a complementary to the equation (3). Following Blinder and Watson (2016), we estimate the model based on the Autoregressive Distributed Lag Specification given by

$$(5)$$

Where is the federal funds rate defined

as the interest rate at which depository institutions trade federal funds with each other overnight.

We also employ non-linear Markov Switching models to support the non-linear findings. Since White House has been governed by only the Republicans and the Democrats parties in the

repeated games, switching models can be applied to model the US monetary liquidity in two political regimes. Non-linear time series models allow underlying variable(s) change under the existence of different regimes, so called state-dependent models (Gonzalez-Rivera and Hwy Lee, 2008). In spite of the large number of non-linear models in econometric literature, Hamilton (1989, 1990) and Tong (1983, 1990) are considered as two widely applied models in financial time series (Brooks, 2014).

Markov switching model

The first class of non-linear model we employ is the Markov switching model with two separate regimes. We denote the republican presidencies in White House as "republican regime" (regime 1) and the democrat presidencies in office as "democrat regime" (regime 2) Under Markov switching models, underlying monetary liquidity variables switches regime according to some unobserved state variables , takes two values. In other words, when is equal 1, we will observe pattern of the US monetary liquidity in regime 1, "republican regimes", otherwise takes value 2, the dependent variables will be observed in regime 2, "democrat regime". The model assumes the movements of the state variable between regimes are governed by a Markov process which can be expressed as

$$(6)$$

The equation states that the probability distribution of the state at any time depends only on the state at time not on the states that were passed through at times Therefore, Markov process are not path dependent (Brooks, 2014).

In a two-regime model, Hamilton (1989) defines an unobserved, latent state variable denoted as evaluated in the first order Markov process

$$(7)$$

$$(8)$$

$$(9)$$

$$(10)$$

Where and denote the probability in regime one, given that the system was in regime one during the previous period and the probability of being in regime two, given that the system was

in regime two during the previous period, respectively. Accordingly, defines the probability that will change from state one in the period , to state two in the period and defines the probability of a shift from state two to state 1 between times and . Based on this specification, evolves as an AR (1) process

$$(11)$$

Where . In our case, assuming the US monetary aggregates follow a Markov process, to forecast the probability in a given regime during the next period, we have to find out the current period probability and a set of transition probabilities given for the case of "republican regime" and "democrat regime".

To get a univariate Markov switching model, we use an autoregressive order process for the underlying monetary aggregates which can be specified as follows:

$$(12)$$

Where the parameters in the regression (2) can be defined as:

$$(13)$$

$$(14)$$

$$(15)$$

Where is the regression constant that defines and as the regression means for the "republican regime" and "democrat regime", respectively; is the slope coefficient for the order regression term; is the standard deviation; is a zero mean and unit variance shock; is the Markov switching variable takes value 0 at the "republican regime" and value 1 for the "democrat regime". The transition probabilities are assumed to be time-invariant and constant over time.

Table III. The U.S Monetary Aggregates across the Presidential Cycles

The table reports the empirical results based on the following regressions:

All the data covers the period from 1959:01 to 2017:09. The growth rates in the respective monetary aggregates are annualized by multiplying the monthly growth rates by 12. The numbers in the parentheses below the coefficients in the RD and DD columns represent p values under the null hypothesis that the estimated growth rates are not significantly different from zero.

The p values of the tests are calculated using Newey-West (1987) heteroskedasticity and serial-correlation robust t-statistics following Santa-Clara and Valkanov (2003). The p values under the coefficients in the "Diff" column is also obtained from Newey-West test indicating the null hypothesis that the difference between the growth rates of the underlying monetary aggregates across the democrat and the republican presidencies is not significantly different from zero.

The row "T/Republicans" indicates the number of observations and the number of the republican presidencies throughout the sample period. The row displays the average adjusted across the full sample and presidential months in the first four terms. The symbols *, **, *** are used indicate the statistical significance at 10%, 5% and 1% significance levels, respectively.

	Full Sample			First Terms		
	RD	*DD*	*Diff*	*RD*	*DD*	*Diff*
M1	13.19***	18.34***	-5.15***	13.56***	13.37***	0.19*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.07)
M2	59.28***	68.4***	-9.12***	53.18***	40.32***	12.85**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.03)
MM	-0.036***	-0.042***	-0.01*	-0.036***	-0.056***	0.0198**
	(0.00)	(0.00)	(0.10)	(0.00)	(0.00)	(0.03)
T/Republicans	705/370			435/255		
	0.03			0.01		

4. Empirical Results

We start with the significance of the correlation test between the U.S monetary aggregates and the political cycles by using an additive dummy variable which represents the political parties in

the USA. After estimating regression (2), we assess the difference of the monetary liquidity indicators across the political parties based on the equation (1) for the full sample period. Subsequently, we eliminate the second presidential terms from the data to examine the previous empirical findings that the partisan gap in the economic variables may be more robust during the first four years

 in the office rather than full presidential period (Blinder and Watson, 2016).

Table III reports the significance of the correlation between the growth rates of the underlying U.S monetary aggregates and the additive dummy variable indicating two political parties in the repeated manner. We conduct regression (1) and regression (2) across the full sample and only first four years of the presidential periods, accordingly.

During the full sample period, from 1959:01 to 2017:09, the U.S narrow money aggregate (i.e M1) was on average 18.34 percent under the Democratic presidencies versus 13.19 percent under the Republican presidential terms in the office. The Democratic partisan gap amounting 5.15 percent is found to be statistically and economically significant. Likewise, the broader money aggregate considered as M2 is found on average 68.4 percent under the Democratic presidencies whereas 59.28 percent during the Republicans' office periods. The suggested 9.12 percent Democratic partisan gap is found even more economically meaningful than M1 aggregate. We can observe similar findings for the money multiplier, albeit the growth difference across the political cycles appears less significant.

Surprisingly, the partisan gap in the monetary aggregates during the first presidential terms is found exactly opposite to the results of the full sample period. The growth rates of the underlying monetary aggregates are found to be more favourable under the Republican president in the office than the Democratic presidencies. The growth differences of the money aggregates are found statistically significant, albeit less economically noticeable. This finding is contrary to what Blinder and Watson (2016) found for the partisan gap in economic output.

Table IV: Modelling the Monetary Aggregates with Autoregressive Components Controlled by Additive Political Dummy

The table represents the statistical results based on the following regression:

All the data covers the period from 1959:01 to 2017:09. The optimal lag length is chosen with SIC information criteria which determines two lags for the M1 and M2 equations, while only AR(1) component for the MM equation. In the table, and indicate the coefficients of AR (1) and AR (2) components, respectively. The political variable is measured by which indicates 1 if a Republican president is in the office, otherwise 0 if a Democrat president is in the office.

Under the null hypothesis, the political variable should not be significantly different from zero. The numbers in the parentheses shows the p values to present the statistical significance of the coefficients. The p values of the tests are calculated using Newey-West (1987) heteroskedasticity and serial-correlation robust t-statistics. The regression performance is given by in last column. The symbols *, **, *** are used indicate the statistical significance at 10%, 5% and 1% significance levels, respectively.

M1	0.96*** (0.00)	0.11*** (0.00)	0.27*** (0.00)	-0.29*** (0.00)	0.21
M2	2.21*** (0.00)	0.47*** (0.00)	0.14*** (0.00)	-0.35*** (0.00)	0.41
MM	-0.003*** (0.00)	0.27*** (0.00)	-	-0.001* (0.09)	0.15

Table IV presents the statistical results of the equation (3) which allows autoregressive components in assessing the presidential gap in the growth rates of monetary aggregates. The number of AR lags is determined with SIC criteria which allow two lags for the M1 and M2 equations, while only one lag for the MM equation.

As one might expect the AR lags are found to be positive and highly significant in the 1 percent level. However, it does not eliminate the significance of the political variable. The additive dummy indicating the presidential parties is still found significant for all three equations albeit less economically noticeable for the MM equation. The positive Democratic gap (or negative

Republican) in the growth of the monetary aggregates remains significant after controlling for the lagged growth rates as explanatory variables.

In the previous estimations, we measured the presidential gap in the monetary aggregates growth rates by only additive dummy. Table V reports the empirical results based on the equation (4) which allows the coefficients of AR lags change across the presidential parties by simultaneously enabling the previously estimated additive dummy. The table exhibits interesting findings. The coefficients of the multiplicative dummies, as expected, are negative indicating the positive democratic gap (or negative republican gap) in the coefficients of AR lags and statistically significant in the all three equations. Moreover, after controlling for the multiplicative dummies, the additive dummies become less significant, albeit still economically meaningful.

One the one hand, this finding might be explained by the relative explanatory power of multiplicative political variable over the additive political dummy. On the other hand, however, it can be due to the merely econometrical reasons. We controlled both political variables in the same equation which may potentially increase the chance of the existence of the multicollinearity problem in the regression, even if value deliberately increases. Nevertheless, the additive political variables for the M1 and M2 equations are still significant at 10 percent and 5 percent levels, respectively whereas insignificant in the MM equation.

Table V. Modelling the Monetary Aggregates with Autoregressive Components Controlled by Additive and Multiplicative Political Dummies

The table represents the statistical results based on the following regression:

All the data covers the period from 1959:01 to 2017:09. The optimal lag length is chosen with SIC information criteria which determines two lags for the M1 and M2 equations, while only AR(1) component for the MM equation. In the equation, and indicate the coefficients of AR (1)

and AR (2) components, respectively. The political variable is measured by , an additive dummy variable which indicates 1 if a Republican president is in the office, otherwise 0 if a Democrat president is in the office. In the meantime, multiplicative dummies are added to the AR coefficients to measure the changes in the coefficients across the political cycles. Under null hypothesis the political variable should not be significantly different from zero. The numbers in the parentheses shows the p values present the statistical significance of the coefficients. The p values of the tests are calculated using Newey-West (1987) heteroskedasticity and serial-correlation robust t-statistics. The regression performance is given by in last column. The symbols *, **, *** are used indicate the statistical significance at 10%, 5% and 1% significance levels, respectively.

			*		*		
M1	0.91***	0.16***	-0.11**	0.25***	-0.03 **	-0.197*	0.29
	(0.00)	(0.00)	(0.03)	(0.00)	(0.05)	(0.07)	
M2	2.12***	0.43***	-0.09**	0.21***	-0.13***	-0.17**	0.48
	(0.00)	(0.00)	(0.03)	(0.00)	(0.01)	(0.05)	
MM	-0.001**	0.18***	-0.15**	-	-	0.00	0.20
	(0.04)	(0.00)	(0.05)			(0.14)	

The money supply is thought to be linked to monetary policy. One might suspect that the presidential gap in the monetary aggregates growth rates could be merely explained by the monetary policy decisions. Hence, we control the federal funds rate in the estimations based on the equation (5). Following Blinder and Watson (2016) on studying the partisan gap in the economic output, we model the growth rates of the monetary aggregates in the Autoregressive Distributed Lag framework which allows the current and lagged values of the federal funds rates as well as the lagged values of the growth rates of monetary aggregates as the explanatory variables. Consistent with the previous estimation, the optimal lag length is determined with SIC criteria. Meanwhile, the political variable is controlled with an additive dummy variable

Table VI reports the findings. Apparently, the SIC criteria choose a lag of federal funds for the M1 equation while leaves only contemporaneous values for the M2 and MM equations. As expected, the federal funds rates are highly significant and negatively linked to the monetary aggregates growth rates. However, an interesting finding is that the partisan gap becomes even stronger after controlling for the funds rate. The coefficients of the dummy variable are found to be highly significant; the absolute values of the coefficients are even higher than the previous estimations.

Table VII and VIII report the findings of Markov Switching Autoregressive model and its transition probabilities. In the estimations, we allowed the intercept and the volatilities to change across the regimes, while remaining the AR coefficients constant (i.e non-switching regressors). The switching intercepts and volatilities are found significant and economically meaningful. The democratic presidential periods in the office are observed with higher growth rates whereas low growth rates are associated with the republican office periods. As expected, the AR coefficients are mostly positive and highly significant, except AR (2) in the M2 equation.

It is clear from Table VIII that the regimes are highly stable with less than 10% probability that the monetary aggregates may shift from a low growth rate state (the republican state) to a high growth state (the democratic state) or vice versa. The monetary aggregates growth rates tend to exhibit path dependence as dictated by the theory of Markov process.

Table VI. Modelling the Monetary Aggregates with Autoregressive Components Controlled by Political Dummy and Fed Fund Rates

The table represents the statistical results based on the following ARDL regression:

All the data covers the period from 1959:01 to 2017:09. The optimal distributed lag length is chosen with SIC information criteria which determines two lags for the growth rate of M1 and the growth rate of the federal funds rate in the first row. M2 equation, however, is specified only AR (1) component and the contemporaneous funds rate followed by the fixed repressor political variable. The Money Multiplier equation is determined by only AR (1) and the contemporaneous

value of the funds rate. In the equation, and indicate the coefficients of AR (1) and AR (2) components while and represent the current and lagged value of the federal funds rate. The political variable is measured by , an additive dummy variable which indicates 1 if a Republican president is in the office, otherwise 0 if a Democrat president is in the office. Under null hypothesis the political variable should not be significantly different from zero. The numbers in the parentheses shows the p values present the statistical significance of the coefficients. The p values of the tests are calculated using Newey-West (1987) heteroskedasticity and serial-correlation robust t-statistics. The regression performance is given by in last column. The last column presents the F statistics results under the null hypothesis that all the coefficients of the repressors are simultaneously equal to zero. The symbols *, **, *** are used indicate the statistical significance at 10%, 5% and 1% significance levels, respectively.

								$Pr(Fstat)$
M1	1.08*** (0.00)	0.09*** (0.01)	0.26*** (0.00)	-2.25* (0.10)	-3.89*** (0.01)	-0.48*** (0.00)	0.34	0.00
M2	2.41*** (0.00)	0.46*** (0.00)	0.14 (0.21)	-8.73*** (0.00)	-	-0.58*** (0.00)	0.54	0.00
MM	-0.29*** (0.00)	0.22*** (0.00)	-	0.02*** (0.00	-	0.04** (0.05)	0.25	0.00

Table VII. Modelling the U.S Monetary Aggregates with Markov Switching model

The table represents the statistical results based on the following Markov Switching Autoregressive model

All the data covers the period from 1959:01 to 2017:09. The optimal AR lags is chosen based on the findings from the previous estimations. We allow intercept and volatility to change across the regimes while remaining the autoregressive coefficients constant. and denote the number of observations through the republican and the democrat regimes. In the last two columns shows

the average expected duration of two regimes across the all equations. The numbers in the parentheses indicate the p values.

Statistic					AR(1)	AR(2)				
M1	-0.33	0.60	0.83	3.36	0.43	0.22	370	332	27.84	12.85
	(0.00)	(0.00)	(0.09)	(0.00)	(0.00)	(0.00)				
M2	3.04	10.11	0.70	2.03	0.68	0.04	370	332	44.19	94.58
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.39)				
MM	-0.07	-0.02	-4.13	5.19	0.25	-	370	332	10.69	39.81
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)					

Table VIII. The Transition Probabilities of the Markov Switching Autoregressive Model

The table represents the transition probabilities under the Markov Switching model

In the equations, and denote the probability in regime one, given that the system was in regime one during the previous period and the probability of being in regime two, given that the system was in regime two during the previous period, respectively. Accordingly, defines the probability that will change from state one in the period , to state two in the period and defines the probability of a shift from state two to state 1 between times and .

Statistic				
M1	0.96	0.04	0.92	0.08
M2	0.98	0.02	0.99	0.01
MM	0.91	0.09	0.97	0.03

Partisan FED governor

FED chairs have political views either having party membership or ideological outlook. More importantly, the FED governing cycles are independent from presidential cycles, as there has been a long tradition that the presidents allow for the continuation of the current chair even if he/she is a member of the rival party. The only exception can be considered the most recent case that president Trump removed Janet Yellen at the end of her first term.

The U.S monetary policy history of last 50-60 years may suggest us to hypothesize that whether partisan FED chairs are able to explain the presidential gap in the monetary aggregates. For instance, we already know that Paul Volcker (Democrat) was quite successful in curbing high inflation inherited from the Arthur Burns's (Republican) governing years. Alan Greenspan (Republican) is known his ultra-liberal views on the financial regulation which is partially blamed for dotcom bubble as well as 2008-2009 crisis.

We test the significance of partisan FED chair gap in explaining the presidential gap in the monetary aggregates. Firstly, we carry out the significance of the correlation analysis as done for the presidential gap in Table III.

Table IX. The U.S monetary aggregates growth rates on the partisan FED chairs cycles

	RD	DD	Diff
M1	12.36	27.24	-14.88
	(0.00)	(0.00)	(0.00)
M2	56.76	87.96	-31.2
	(0.00)	(0.00)	(0.00)
MM	-0.05	-0.03	-0.02
	(0.00)	(0.00)	(0.00)
T/Republicans	705/547		

The Table shows that there is an economically and statistically significant Democratic (or negative Republican) FED chair gap in the growth rates of narrow and broad money indicators. Although, money multiplier is also found to be significant, it is economically less noticeable.

Remarkable democratic gap is found as much as 14.88 and 31.2 percent for the M1 and M2 growth rates, respectively which apparently outperform respective presidential gaps.

Afterwards, we check the power of partisan FED chair gap in explaining the presidential gap. As emphasized above, we can simultaneously control partisan FED chair gap with the presidential gap in the same equation, as there is no direct relationship between them. In other words, the equation will not suffer from multicollinearity problem. Therefore, we control FED chair gap in the equation (1) to hypothesise the possible explanatory power of partisan FED chair in explaining the presidential gap. Under the null hypothesis, the coefficient of partisan FED chair should not be significantly different from zero.

Table X. The U.S monetary aggregates in the partisan FED chair and presidential cycles

M1	2.52***	-1.26***	-0.45
	(0.00)	(0.00)	(0.12)
M2	7.78***	-2.63***	-0.81
	(0.00)	(0.00)	(0.11)
MM	-0.01***	-0.002***	-0.01
	(0.00)	(0.00)	(0.27)

Finally, to test the robustness of the explanatory power of the partisan FED chair gap, we control autoregressive components of the monetary aggregates in the same equation. As previously carried out, the optimal lag length is chosen with SBIC information criteria.

Table XI. The U.S monetary aggregates controlled by autoregressive components in the partisan FED chair and presidential cycles

		AR (1)	AR (2)		
M1	2.45	0.11	0.26	-1.18	-0.45
	(0.00)	(0.00)	(0.00)	(0.00)	(0.31)
M2	2.36	0.47	0.14	-0.89	-0.38
	(0.00)	(0.00)	(0.00)	(0.03)	(0.44)
MM	-0.002	0.27	-	-0.03	-0.01
	(0.05)	(0.00)		(0.07)	(0.93)

Table XI apparently shows that the FED chair gap remains its power in explaining the presidential gap even after controlling for the autoregressive components.

5. Conclusion

We explore the U.S presidential gap in monetary aggregates. The consistent findings regarding the partisan gap in the economic output and stock market performance motivated us to investigate the similar gap in the monetary aggregates. Based on the strong theoretical and empirical links between monetary aggregates and economic activity, as well as stock market return, we impose a hypothesis that the presidential gap might be present in the monetary aggregates. Additionally, this study potentially aims to shed light on the unexplored reasons of excessive growth rates of monetary aggregates over economic activity and monetary policy decisions. The major findings that we document are:

A positive and significant democratic gap is existent in the U.S monetary aggregates. While the gaps are found as much as 5 percent and 9 percent per annum in the M1 and M2 growth rates, respectively, the MM gap is less economically noticeable. The partisan gap remains significant after controlling for the autoregressive components and the federal funds rates.

The presidential gap is not only persistent as an additive component to the growth rates, but also highly significant in the coefficients. Hence, the magnitudes of the lagged growth rates are sensitive to the presidential cycles.

The monetary aggregates are also found significantly different under the Democratic FED chairs than the Republican governors. The gaps are remarkably high, as much as 14 percent and 31 percent in the M1 and M2 growth rates which considerably outperform the similar presidential gaps. Moreover, controlling the FED chair gap sweeps away the statistical significance of the

presidential gaps. Consequently, the Democratic FED chair gap is found more robust partisan gap than the Democratic presidential gap.

In general, this study might be suggestive to the new way of thinking in the U.S presidential puzzle literature. The local partisan gaps might be a more promising way of exploring the binary nature of the appropriate growth rather than the whole, country wide political picture.

References

Abrams, Burton A., 2006, "How Richard Nixon pressured Arthur Burns: Evidence from the Nixon Tapes", Journal of Economic Perspectives 20(4): 177-88

Alesina, Alberto, 1987, "Macroeconomic policy in a two-party system as a repeated game", Quarterly Journal of Economics 102, 651-678

Alesina, Alberto, and Jeffrey Sachs, 1988, "Political parties and the business cycle in the United States", Journal of Money, Credit, and Banking 20, 63-82

Anderson, Richard G., 2003, "Some tables of historical U.S. currency and monetary aggregates data", The Federal Reserve Bank of St. Louis, Working Paper Series

Bartels, Larry M., 2008, "Unequal Democracy: The political economy of the new gilded age", Princeton, NJ: Princeton University Press

Beck, Nathaniel, 1984, "Domestic political sources of American monetary policy: 1955-82", Journal of Politics 46, 786-817

Beenstock, Michael, 1989, "The determinants of the money multiplier in the United Kingdom", Journal of Money, Credit and Banking, 21(4), pp. 464-480

Blinder, Alan S., and Mark W. Watson, 2016, "Presidents and the US economy: An econometric exploration", American Economic Review 106, 1015-1045

Brooks, Chris, 2014, "Introductory econometrics for finance", Cambridge University Press, 3rd edition

Cameron, David R., 1978, "The expansion of the public economy: A comparative analysis", American Political Science Review 72, 1243-1261

Chen, Shiu-Sheng, 2007, "Does monetary policy have asymmetric effects on stock returns?", Journal of Money, Credit and Banking 39(2), 667-688

Comiskey, Michael and Lawrence C. Marsh, 2012, "Presidents and parties and the business cycle, 1949-2009", Presidential Studies Quarterly 42(1): 40-59

Down, Anthony, 1957, "An economic theory of political action in a democracy", Journal of Political Economy 65, 135-150

Freeman, Scott and Huffman, Gregory W., 1991, "Inside money, output and causality", International Economic Review, 32(3), pp. 645-67

Freeman, Scott and Kydland, Finn E., 2000, "Monetary aggregates and output", American Economic Review Vol. 90(5), pp. 1125-1135

Friedman, Milton and Schwartz, Anna J., 1963, "Monetary history of the United States", Princeton, NJ: Princeton University Press

Gonzalez-Rivera, Gloria and Hwy Lee, Tae, 2008, "Nonlinear time series in financial forecasting", Encyclopedia of complexity and system science, Springer press

Hamilton, James. D., 1989, "A new approach to the economic analysis of non-stationary time series and the business cycle", Econometrica 57(2), 357-84

Hamilton, James. D., 1990, "Analysis of time series subject to changes in regime", Journal of Econometrics 57(2), 357-84

Hamilton, James. D., 1994, "Time series analysis", Princeton University Press, Princeton New Jersey

Hansen, Bruce.E, 1996, "Inference when a nuisance parameter is not identified under the null hypothesis", Econometrica 64, 413-430

Hibbs, Douglas A., 1977, "Political parties and macroeconomic policy", American Political Science Review 71, 1467-1487

Hibbs, Douglas A., 1987, "The American Political Economy: Macroeconomics and Electoral Politics", Harvard University Press, Cambridge, MA

Kydland, Finn E. and Prescott, Edward C., 1982, "Time to build and aggregate fluctuations", Econometrica 50 (6), pp. 1345-70

Kurita, Takamitsu, 2011, "Modelling time series data of monetary aggregates using I(2) and I(1) co-integration analysis", Bulletin of Economic Research 65:4, 372-388

Luukkonen, Ritva, Saikkonen, Pentti and Terasvirta Timo, 1998,"Testing linearity in univariate time series models", Scandinavian Journal of Statistics 15, 161-175

MacRae, Cecil, 1977, "A political model of the Business cycle", Journal of Political Economy 85 (2), 239-263

Nordhaus, William D., 1975, "The political business cycle", Review of Economic Studies 42, 169-190

Nelson, Edward, 2002, "Direct effects of base money on aggregate demand: theory and evidence", Journal of Monetary Economics 49, 687-708

Newey, Whitney K., and Kenneth D. West, 1987, "A simple positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix", Econometrica 55, 703-708

Pastor, Lubos and Pietro Veronesi, 2017, "Political cycles and stock return", National Bureau of Economic Research, Cambridge, MA

Reed, W. Robert, 2006, "Democrats, Republicans and taxes: Evidence that political parties matter", Journal of Public Economics 90, 725-750

Santa-Klara, Pedro, and Rossen Valkanov, 2003, "The presidential puzzle: Political cycles and the stock market", Journal of Finance 58, 1841-1872

Silber, William L., 2012, "Volcker: The triumph of persistence", New York: Bloomsbury Press

Sy, Oumar and Ashraf al Zaman, 2011, "Resolving the Presidential Puzzle", Financial Management, vol. 40 (2), 331-355

Tavares, Jose, 2004, "Does right or left matter? Cabinet credibility and fiscal adjustments", Journal of Public Economics 88, 2447-2468

Terasvirta, Timo, 1994, "Specification estimation and evaluation of smooth transition autoregressive models", Journal of the American Statistical Association 89, 208-218

Thorbecke, Willem, 1997, "On stock market returns and monetary policy", Journal of Finance 52(2), 635-654

Tong, Howell, 1983, "Threshold models in non-linear time series analysis", Springer-Verlag, New York

Tong, Howell, 1990, "Nonlinear time series: A dynamical system approach", Oxford University Press, Oxford

Tsay, Ruey.S, 1998, "Testing and modelling multivariate threshold models", Journal of the American Statistical Association 93, 1188-1202

STRATEGY AND ORGANIZATIONAL PERFORMANCE OF KENYA HIGHLANDS

SAVINGS AND CREDIT COOPERATIVE SOCIETY LIMITED

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ABSTRACT

Savings and cooperative societies face challenges in achieving desired levels of performance. The strategic outcomes in terms of growth, effectiveness and customer satisfaction are not easily achievable. The objectives were; to examine the influence of management practices, quality management practices, human resource management, information communication and technology strategies on organizational performance. The study is important to all the managers in cooperative sector, the policy makers, prospective and present scholars in strategic management. Mckinsey 7s model is the pillars of the study, research design being descriptive, population of 115 and a sample size of 46, stratified and simple random sampling techniques were used. Data collected using open and closed ended questionnaire showed that management practice, quality management, human resource and Information communication technology are significant. The study recommends that, through management practice, should be motivated to achieve organization's goals and objectives. There is need for new approaches, improved communication systems. Further research should be carried out on evaluation of top management support on performance

Keywords: Strategy, Organizational Performance, Savings and Credit Cooperative Society

1.   Introduction

There are different forms of strategies which include corporate, business and functional strategies as argued by Johnson, & Scholes (2008). Kenya highland savings and credit cooperative society apply corporate and business level strategies namely strategic planning, organizing and directing strategies which play a pivotal role in customer satisfaction and subsequently determine the level of performance. Quality management strategies include certifications by Savings and Credit Cooperative Society Regulatory Authority and Internal Policies which are useful in effective resource allocation and maximization and it is one of the performance related tactics as argued by Chang (2006. Human resource management in terms of motivation, communication and staffing are strategically important in employee effectiveness. Use of cell phone in banking, Front Office Savings Account, Back Office Savings Account, Savings and Credit Cooperative Society's Automated Teller Machine Link is the effect of technology. Bett (2013) found out that technology is the most important strategy and alters the base of rivalry in industries that use it. Performance has become a critical component in organizations which are busy creating strategic initiatives to overcome the challenges and achieve strategic objectives.

OBJECTIVES

To analyze the effect of management practice strategy on organizational performance

To analyze the influence of quality management strategy on organizational performance

To investigate role of human resource management strategy on organizational performance

To analyze the influence of Information Communication Technology strategy on organizational performance

HYPOTHESES

H01: There is no significant effect of management practices on organizational performance

Ho2: Quality management practices strategy has no significant influence on organizational performance

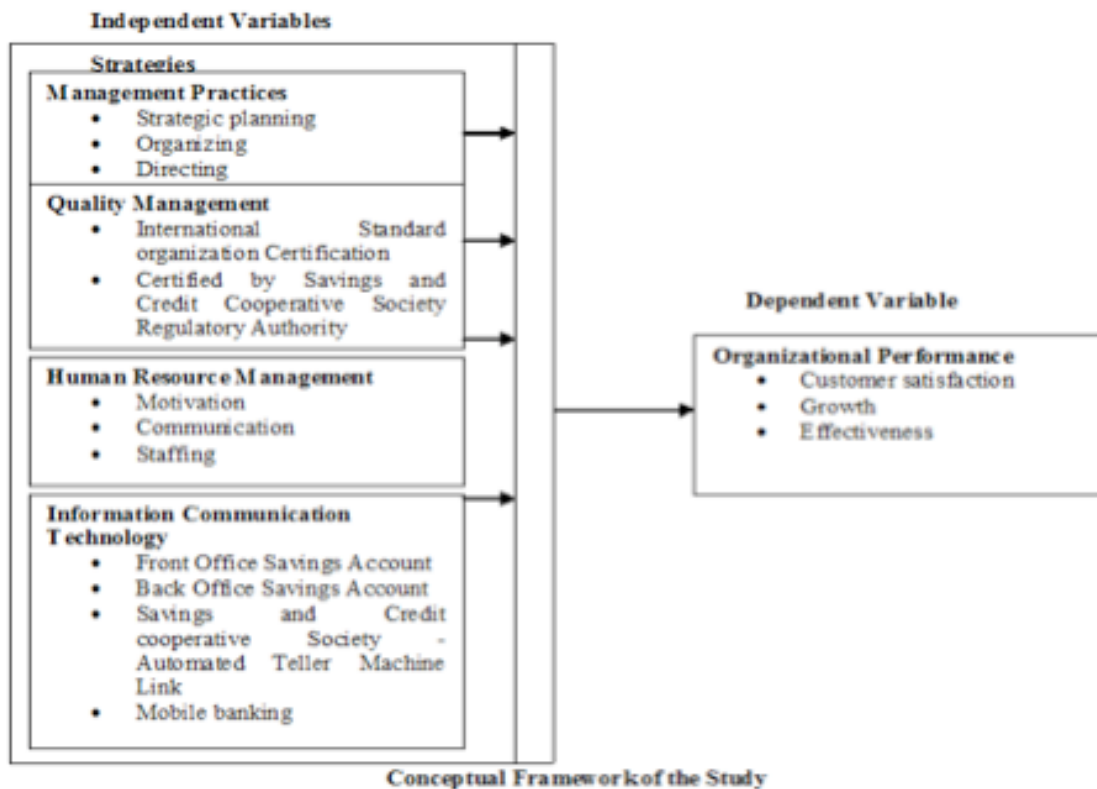Ho3: Human Resource Management Strategy has no significant role on organizational performance

Ho4: Information Communication Technology Strategy has no significant influence on the organizational performance

2.   Literature Review

With effective systems, institutions should attempt to be the best in quality practices and monitor external components for perfect results as argued by Fredendall, & Robbins (2006). Use of quality administration approaches by many organizations prompt them to develop systems associated with quality (Chang, 2006). Arslan & Staub (2013) recommend that there is need to consider organization's practices in various levels of execution. They argue that there is need to investigate the role of management practices in respect of customer satisfaction hence performance. Quality management in organizations improve production process, products hence minimal customer complaints and subsequently their satisfaction. Human resource management practices can influence individual's dedication and has attracted collaborative research (Meyer & Allen, 1997) and is a source of obligation and satisfaction for specialists (Ogilvie, 1986, Margo, 2001). It is hard to gauge the impact of the information technology on the efficiency (Sofield, 1998). Bett (2013) argues that the technological system should lead to an efficient way of obtaining feedback from customer to ensure their needs are made. The author further argues that it is crucial in the entire production leading to differentiation and cost reduction by the company. Savings credit and cooperative society requires the right technology for quality services to customers.

3.   Theoretical Framework

McKinsey 7s is management framework developed by Robert Waterman Jr. and Tom Peters in the 1980s. As argued by (Ravanfar, 2015), organizations perform due to structure, strategy, systems, style, staff, shared values and skills. Strategy is the rational set of actions to achieve competitive advantage. The set of actions according to the study are management practices, quality management, human resource management and information communication technology Style is the behavioural patterns used by the organization's leadership. In the study they include organizing, directing and staffing. Skills include the attributes and capabilities to do work; hence humanistic skill is required in motivation and communication. Systems consist of the business and technical infrastructure represented by Front Office Savings Account, Back Office Savings Account, Sacco Link- Automated Teller Machine. Structure is the formal authority and responsibility while the Staff refers to the people engaged in organizational activities. Shared values are the customer satisfaction and effectiveness. The theory is relevant to the study.

Independent Variables

Strategies

Management Practices
- Strategic planning
- Organizing
- Directing

Quality Management
- International Standard organization Certification
- Certified by Savings and Credit Cooperative Society Regulatory Authority

Human Resource Management
- Motivation
- Communication
- Staffing

Information Communication Technology
- Front Office Savings Account
- Back Office Savings Account
- Savings and Credit cooperative Society - Automated Teller Machine Link
- Mobile banking

Dependent Variable

Organizational Performance
- Customer satisfaction
- Growth
- Effectiveness

Conceptual Framework of the Study

Source: Researcher (2017)

According to Mugenda and Mugenda (2003) conceptual framework refers to conceptualization of the graphical and diagrammatic relationship between variables in the study. The aim of a conceptual model is to help the reader to quickly see the proposed relationships.

The conceptual framework shows the link between strategies and organizational performance. They include management practices, quality management, human resource management and Information communication technology.

4.   Methodlogy

Descriptive research design, stratified and simple random sampling techniques were used. Marczyk, DeMatteo & Festinger (2005) argue that the design is appropriate and the latter technique minimizes bias. Every element in the population has an equivalent chance of being sampled (Zikmund, Babin, Carr & Griffin, 2013). Stratified sampling is used in a situation where the population is not homogeneous (Kothari, 2004). Data was analyzed using Descriptive and inferential statistics with the aid of Statistical Package for Social Sciences (SPSS) software version 17. Frequency distribution tables and figures were used to present data. Multiple linear regression model used is indicated below:

$$Y = 0.483 + 0.741X_1 + 0.806X_2 + 0.641 X_3 + 0.548 X_4$$

Where Y= Dependent variable (organizational performance)

$0.483 = \beta_0$ (constant term)

$0.741, 0.806, 0.641$ and $0.548 = \beta$ (Linear coefficient which determines the power of the model)

X_1 = management practice strategy

X_2 = Quality Management strategy

X_3 = Human Resource Management

X_4 = Information Communication Technology Strategy

5.   Results and Discussion

Table 1: Management Practices

Statement	SA %	A %	N %	D %	SD %	Mean	Std Dev
Management practices include good strategic Plans which influence the number of annual general meetings	41.5	31.7	4.9	12.2	9.8	3.83	1.358
Management organizes various organizational committees which influences the number of meetings held over a given period of time	46.3	34.1	2.41	4.6	2.4	4.07	1.149
The management directs its employees to attain its goals which influences the number of loans approved	48.8	43.9	2.44	4.9	0.0	4.37	0.767
Management controls organizational operations which in turn determines the number of annual audits	41.5	48.8	4.9	2.4	2.4	4.24	0.860
Management practices determine the level of growth	31.7	48.8	12.2	2.4	4.9	4.00	1.000

Source: Research data (2017)

Table 1 shows that 41.5% strongly agreed that management practices which include good strategic plans influence the number of annual general meetings, 31.7 % agreed, 4.9% were undecided, 12.2 % disagreed and 9.8 % strongly disagreed. The influence was moderate (mean of 3.83) and standard deviation was somewhat low (1.358).Concerning management having various organizational committees which influence the number of meetings held over a given period of time, 46.3% strongly agreed, 34.1% agreed, 2.4% neutral, 14.6% disagreed and 2.4% strongly disagreed. The mean of 4.07 indicated that management is highly involved in the organizational matters. The deviation was slightly low (standard deviation of 1.149). About (48.8%) strongly agreed that the management directs its employees to attain its goals which influences the number of loans approved, 43.9% agreed, 2.4% were neutral, 4.9% disagreed. The mean of 4.37 indicated that the management highly directs their employees to attain goals which influences the number of loans approved. The goal attainment did not vary significantly (standard deviation of 0.767).On management controlling organizational operations which in turn determines the number of annual audits, 41.5% strongly agreed, 48.8 % agreed, 4.9 % were undecided, 2.4 % disagreed, 2. 4 % strongly disagreed. The control had great effect on operations and subsequently annual audits (mean of 4.24). The variation was low (standard deviation of 0.860. Approximately 31.7% strongly agreed, 48.8 % agreed, 12.2 % were undecided, 2.4 % disagreed, 4. 9 % strongly disagreed that   management practices determine the level of growth.

Figure i

The management is responsible for planning, leading, motivating employees, organizing and coordinating activities. Arslan & Staub (2013) argue that the goal of any organization is to survive in the markets through implementation. They point out that there is need to consider the process of an organization though there is limited understanding.

Table 2 : Quality management

Statement	SA %	A %	N %	D %	SD %	M	Std Dev
Quality Management based on standard certification							
Certification has influenced the number of certified documented procedures	51.2	34.1	7.3	7.3	0.0	4.29	0.901
Quality management is in line with Savings and Credit Cooperative Society Regulatory Authority							
certification has influenced the number of reports produced	46.3	36.6	7.3	9.8	0.0	4.20	0.954
Quality management has influenced the number of implemented policies	39.0	43.9	2.4	4.9	4.9	4.12	1.029
Quality management through internal International Standard Organization certified procedures influences the number of customers retained	34.1	63.4	2.4	0.0	0.0	4.32	0.521
Quality management strategies are important regarding the effectiveness in an organization	39.0	43.9	14.6	2.4	0.0	4.20	0.782

Source: Research data (2017)

Table 2 indicates that (51.2%) strongly agreed that quality management which is based on ISO certification has influenced the number of certified documented procedures, 34.1% agreed, 7.3% neutral and disagreed respectively. It has greatly influenced documentation of procedures (mean of 4.9), had low variation on procedures (standard deviation of 0901). Forty six percent strongly agreed that quality management in line with Savings and Credit Cooperative Society Regulatory Authority certification has influenced the number of reports produced, 36.6% agreed, 7.3% neutral and 9.8% disagreed. The mean of 4.20 indicated that it largely influenced reporting with a low standard deviation (0.954). Quality management has influenced the number of implemented policies and 39% strongly agreed, 43.9% agreed, 2.4% were neutral, 4.9 % disagreed and 4.9% strongly disagreed. The effect is great on policies (mean of 4.12) with a low variation   (standard deviation of 1.029)

Quality management through internal ISO certified procedures influences the number of customers retained and 34% strongly agreed, 63.4% agreed, 2.4% were neutral, 0.0% disagreed and strongly disagreed respectively. The mean of 4.32 implies that the influence was greatly important. The variation was very low (standard deviation of 0.521).Regarding quality management strategies being important in the organizational effectiveness,39.0% strongly agreed, 43.9 % agreed, 14.6 % were undecided, 2.4% disagreed and 0.0% strongly disagreed. Its importance was crucial in the effectiveness (mean of 4.20) and the variation was quite low (standard deviation of   0.782).Quality management has encouraged the achievement of targets, consistency in activities and customer satisfaction. Gharakhani, Rahmati, Farrokhi & Farahmandian (2013) contends that quality management is required to sustain consistency , direction and lead to change in quality and profit. Its key standard is that the cost of activities is not as much as the cost of change.
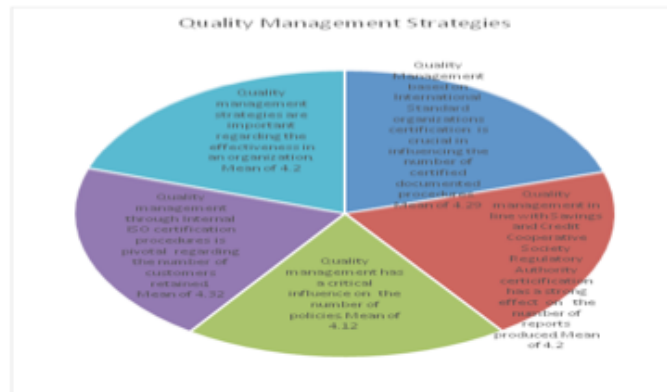

Figure ii

Table 3: Human Resource Management

Statement	SA %	A %	N %	D %	SD %	M	Std. Dev
Human resource management has influenced the number of incentives	53.7	34.1	2.4	9.8	0.0	4.32	0.934
Human resource management practices have led to awarding of certificates to employees	36.6	36.6	0.0	14.6	12.2	3.71	1.419
Human Resource Management practices encourage the promotion of employees	39.0	34.1	0.0	17.1	9.8	3.76	1.392
Human resource management practices motivate employees through trophies	43.9	48.8	2.4	2.4	2.4	4.29	0.844
Human resource management enhances recognition of employees through written letters	34.1	58.5	2.4	0.0	4.9	4.22	0.725
Information related to human resource is passed via internal memos	26.8	43.9	4.9	14.6	9.8	3.63	1.299
Human resource management incorporates feedback from customers	51.2	19.5	0.0	0.0	29.	3.24	1.854
Human resource management styles determine employees who exit	61.0	36.6	2.4	0.0	0.0	4.59	0.547
Human resource management strategy dictates the level of customer satisfaction	56.1	31.7	0.0	2.4	9.8	4.22	1.235

Source: Research data (2017)

Human resource management has influenced the number of incentives; 53.7% strongly agreed, 34.1% agreed 2.4% were undecided, 9.8% disagreed, 0.0% strongly disagreed. The influence on incentives was good (mean of 4.32)   and with a low standard deviation   (0.934); 36.6% strongly agreed that   its practices have led to awarding of certificates to employees 36.6% agreed, 0.0 % were neutral,   14.6 % disagreed and 12.2 % strongly disagreed.   The effect on award of certificates is moderate (mean of   3.71) and the standard deviation (1.419)   was low. Thirty nine percent strongly agreed that the practices linked with it encourage the promotion of employees, 34.1% agreed, 0.0% were neutral, 17.1% disagreed, 9.8 strongly agreed.   Practices moderately encourage promotion (mean of 3.76) with slightly low variation (standard deviation of 1.392).In addition, 43.9% strongly agreed that the practices motivate employees through trophies, 48.8% agreed, 2.4% were neutral, 2.4% disagreed, 2.4 strongly agreed. The practices greatly affect motivation in terms of trophies (mean of 4.29). The deviation was low (standard deviation of 0.844). Thirty four percent strongly agreed that it also enhances recognition of employees through written letters, 58.5 % agreed, 2.4% were neutral, 0.0 % disagreed, 4.9% strongly disagreed. The mean of 4.22 implies that recognition through letters was great and with a low deviation of 0.72. On information related to human resource being   passed via internal memos; 26.8% strongly agreed, 43.9% agreed, 4.9% neutral, 14.6% disagreed, 9.8% strongly disagreed. Relaying information internally through memos was moderately done (mean of 3.63) and deviation was low   (standard deviation of 1.299). Fifty one percent strongly agreed that human resource management incorporates feedback from customers, 19.5% agreed and 29.3% strongly disagreed. It is moderately done (mean of 3.24).The variation was somewhat low (standard deviation of 1.854); 61.0% strongly agreed its styles determine employees who exit, 36.6%

agreed, 2.4% neutral. The determinant had great effect (mean of 4.59) and it didn't cause significant in variation in employee turnover (standard deviation of 0.547).It also dictates the level of customer satisfaction as 56.1% strongly agreed, 31.7% agreed, 0.0% were neutral, 2.4% disagreed, 9.8% strongly disagreed. The effect on customer satisfaction is great (mean of 4.22) and its variation on the same is slightly low (standard deviation of 1.235).The influence of human resource management policies and procedures on employee retention requires organizations to have plans, strategies and devise approaches on current issues (Delery & Doty, 1996;Oakland & Oakland,2001

Figure iii

Table 4: Information Communication Technology

Statement	SA %	A %	N %	D %	SD %	M	Std.Dev
Information Communication Technology integrated Front Office Savings Account system existence has influenced the number of customers served efficiently	56.1	34.1	2.4	7.3	0.0	4.29	1.123
Information Communication Technology integrated Back Office Savings Account system existence determines the number of customers served efficiently	36.6	39.0	2.4	12.2	9.8	3.80	1.327
Information Communication Technology integrated integrated Automated Teller Machine linkage by Savings and Credit Cooperative Society eases withdrawals.	56.1	29.3	0.0	9.8	4.9	4.22	1.173
Information Communication Technology integrated integrated M- Banking system affects mobile transactions	51.2	39.0	0.0	4.9	4.9	4.27	1.049
Information Communication Technology integrated strategies play a crucial role in organization's efficiency	39.0	24.4	0.0	24.4	12.2	3.54	1.518

Source: Research data (2017)

Table 4 shows that (56.1%) strongly agreed that Information Communication Technology integrated Front Office Savings Account system has influenced the number of customers served efficiently, 34.1% agreed, 2.4% neutral, 7.3% disagreed. The mean of 4.29 indicated that it had important influence with somewhat low variation (standard deviation of 1.123). Concerning its influence on integrated Back Office Savings Account, 36.6 % strongly agreed, 39.0% agreed, 2.4% were undecided, 12.2% disagreed, and 9.8% strongly disagreed. It had a moderately high effect on number of customers served efficiently (mean of 3.80) and some low deviation of 1.327. Fifty six percent strongly agreed that the integrated Automated Teller Machine linkage by Savings and Credit Cooperative Societies eases withdrawals, 29.3% agreed, 9.8% disagreed and 4.9% strongly disagreed. The mean of 4.22 indicated that it is significantly effective in easing withdrawals. The deviation is slightly low (standard deviation of 1.173). Fifty one percent strongly agreed, 39.0% agreed, 0.0% were undecided, 4.9% disagreed, 4.9% strongly disagreed that the technology integrated M- Banking system affects mobile transactions. The effect was great (mean of 4.27) and some low standard deviation of 1.049.Techonolgy plays a crucial role in efficiency of an organization as 39.0% strongly agreed, 24.4% agreed, 0.0% undecided, 24.4 disagreed, 12.2% strongly disagreed. Its role was moderately efficient (mean of 3.54) and somewhat low variation (standard deviation of 1.518)
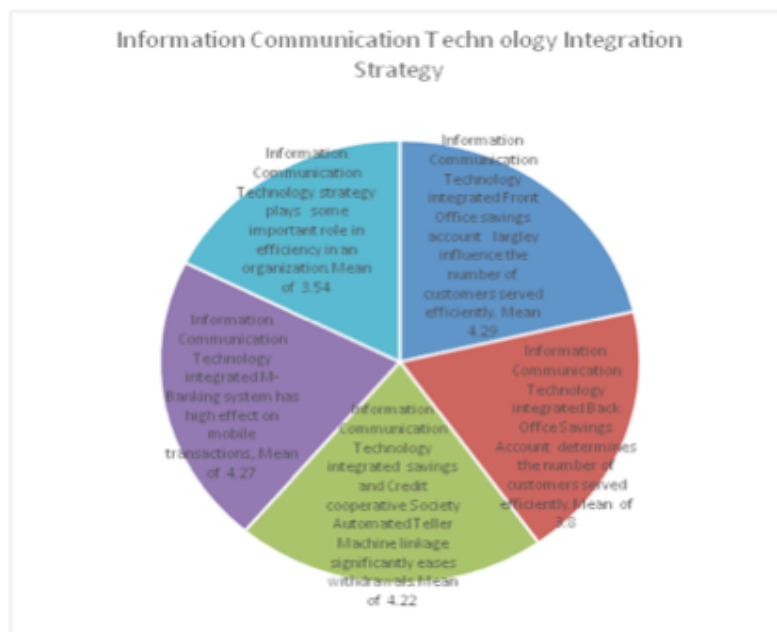
Table 5: Strategy and Performance

Statement	SA %	A %	N %	D %	SD %	M	Std.Dev
Management has influenced growth of Savings and Credit Cooperative Society	68.3	19.5	7.3	2.4	2.4	4.49	0.925
Total Quality Management has influenced effectiveness in Savings and Credit Cooperative Society	43.9	51.2	0.0	2.4	2.4	4.32	0.820
Human resource has influenced customer satisfactions in the Savings and Credit Cooperative Society	34.1	46.3	2.4	7.3	9.8	3.88	1.249
Information Communication Technology Integration has influence efficiency in Savings and Credit Cooperative Society	36.6	56.1	0.0	4.9	2.4	4.20	0.872
Growth in branches and customer satisfaction determine performance	46.3	51.2	0.0	0.0	2.4	4.39	0.737
Growth, effectiveness, Customer satisfaction and efficiency are significant in regard to performance	43.9	48.8	7.3	0.0	0.0	4.37	0.623

Source: Research data (2017)

Table 5 indicates that (68.3%) strongly agreed that management has influence on growth, 19.5% agreed, 7.3% were neutral and 2.4% disagreed and strongly disagreed respectively. The mean of 4.49 indicated that the influence was greatly high with a low standard deviation of 0.925.Regarding quality management having influence on the effectiveness; 43.9% strongly agreed, 51.2% agreed, 0.0 % undecided, 2.4% disagreed and 2.4% strongly disagreed. The effect was significant (mean of 4.32) and a low deviation of 0.820.Thirty four percent strongly agreed, 46.3% agreed, 2.4% were undecided, 7.3% disagreed, 9.8% strongly disagreed that human resource has influenced customer satisfactions. The contribution was moderately high (mean of 3.88) and slightly low standard deviation of 1.249. Majority (56.2%) of the respondents agreed that Information communication technology Integration has influenced efficiency in Savings and Credit Cooperative Society, 36.6% strongly agreed, 4.9% disagreed and 2.4% strongly disagreed. The mean of 4.20 indicated that the influence is important which didn't vary significantly (standard deviation of 0.872).Growth in form of opening new branches and customer satisfaction determine performance; 46.3% strongly agreed, 51.2% agreed, 0.0% undecided and disagreed, 2.4% strongly disagreed. The determinants largely affected performance (mean of 4.39) which didn't change significantly (standard deviation of 0.737).Growth, effectiveness, customer satisfaction and efficiency are significant in regard to performance as 43.9 % strongly agreed, 48.8% agreed, 7.3% remained neutral, 0.0% disagreed and strongly disagreed in that order.   To a great extent they were significant (mean of 4.37) and quite low standard deviation of 0.623

Strategy and organizational Performance

Table 6: Correlation Analysis using SPSS Version 17.0

		Management Practices Strategy	Quality Management Strategy	Human Resource Management Strategy	ICT Integration Strategy
Management Practices Strategy	Pearson Correlation	1	.654**	.142	.394*
	Sig. (2-tailed)		.000	.375	.011
	N	41	41	41	41
Quality Management Strategy	Pearson Correlation	.654**	1	.333*	.308*
	Sig. (2-tailed)	.000		.034	.050
	N	41	41	41	41
Human Resource Management Strategy	Pearson Correlation	.142	.333*	1	-.162
	Sig. (2-tailed)	.375	.034		.311
	N	41	41	41	41
ICT Integration Strategy	Pearson Correlation	.394*	.308*	-.162	1
	Sig. (2-tailed)	.011	.050	.311	
	N	41	41	41	41

Source: Research data (2017)

Correlation analysis revealed that, management practices strategy had moderate positive correlation with quality management strategy (0.654). Its correlation with human resource management strategy (0.142) and Information Communication Technology strategy (0.394)

were weak at 10% level of significance. Human resource management strategy had a weak positive correlation with quality management strategy (0.333). It had a negative correlation with Information Communication Technology (-0.162) which in turn had low correlation with quality management strategy (0.308).

Table 7: Coefficient of Determination Using SPSS Version 17.0

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.536	0.756	0.849	0.638

Source: Research data (2017)

Management practices, quality management, human resource management and Information communication technology strategies contribute to 75.6% of the organization's performance and 24.4% by other strategies not considered in the study

Table 8: Analysis of Variance (ANOVA) Using SPSS Version 17.0

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.867	4	.217	2.533	.002[a]
	Residual	14.645	36	.407		
	Total	15.512	40			

Source: Research data (2017)

The F value is 2.533 whose P value (0.002) is less than 0.01. Management practices, quality management, human resource managements and Information communication technology strategies were significant

Table 9: Coefficient Analysis Using SPSS Version 17.0

Model	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	0.483	.697		5.423	.000	2.368	5.197
Management Practices Strategy	.741	.102	2.090	3.403	.000	.166	.248
Quality Management Strategy	.806	.158	3.153	4.667	.002	.216	.427
Human Resource Management Strategy	.641	.120	1.062	2.344	.001	.202	.284
ICT Integration Strategy	.548	.102	4.086	1.469	.013	-.255	.159

a. Dependent Variable: Performance

Ho1: The null hypothesis "There is no significant effect of management practices on organizational performance" was rejected; p value of 0.000 is less than 0.01

Ho2: The null hypothesis "Quality management practices strategy has no significant influence on organizational performance" was acceptable; p value of 0.002 less is than 0.01.

Ho3: The null hypothesis "Human Resource Management Strategy has no significant role on organizational performance" was rejected;   p value of 0.001 is less than   0.001

Ho4: The null hypothesis "Information Communication Technology Strategy has no significant influence on the organizational performance" was accepted; p value of 0.013 is greater than 0.01

6.   Conclusion

Management practices strategy makes considerable contribution to organizational performance

The RECOMMENDATION

Management should improve on level of motivation. The current information and communications technologies require updating.

References

Arslan, A., & Staub, S. (2013). Theory X and theory Y type leadership behavior and its impact on organizational performance: Small business owners in the Şishane Lighting and Chandelier District. Procedia-social and behavioral sciences, 75, 102-111.

Bett, S. K. (2013). Strategy alignment with value chain for sustainable growth in technology related industries.

Chang, K. T. (2006). Geographic information system. John Wiley & Sons, Ltd.

Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. Academy of management Journal, 39(4), 802-835.

Fredendall, L.D., & Robbins, T. L. (2006, August). Organizational Culture and Quality Practices in Six Sigma. In Academy of Management Proceedings (Vol. 2006, No. 1, pp. F1-F6). Academy of Management.

Gharakhani, D., Rahmati, H., Farrokhi, M. R., & Farahmandian, A. (2013). Total quality management and organizational performance. American Journal of Industrial Engineering, 1(3), 46-50.

Johnson, G., Scholes, K., & Whittington, R. (2008). Exploring corporate strategy: text & cases. Pearson Education.

Kothari, C. R. (2004). Research methodology: Methods and techniques. New Age International

Marczyk, G., DeMatteo, D., & Festinger, D. (2005). Essentials of research design and methodology. John Wiley & Sons Inc.

Meyer, J. P., & Allen, N. J. (1997). Commitment in the workplace: Theory, research, and application. Sage.

Mugenda, O. M., & Mugenda, A. G. (2003). Quantitative and qualitative research methods

Oakland, S., & Oakland, J. S. (2001). Current people management activities in world-class organizations. Total Quality Management, 12(6), 773-788

Ogilvie, J. R. (1986). The role of human resource management practices in predicting organizational commitment. Group & Organization Studies, 11(4), 335-359.

Ravanfar, M. M. (2015). Analyzing Organizational Structure based on 7s Model of McKinsey.

Sofield, T. H. (1998). Information technology & telecommunications implications for tourism field research. Tourism recreation research, 23(2), 75-77.

Zikmund, William G., Barry J. Babin, Jon C. Carr, and Mitch Griffin. Business research methods. Cengage Learning, 2013.

THE EFFECT OF RELIGIOSITY ON TAKAFUL (ISLAMIC INSURANCE) DEMAND:

A CROSS-COUNTRY INVESTIGATION

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ABSTRACT

Takaful or Islamic Insurance has emerged as a distinguishable segment of Islamic Financial Products (IFPs) by providing Shariah compliant alternative to conventional counterpart for risk protection. For its critical connection with religion this paper is interested to analyze how the demand is affected through the influence of religion on human conduct. Precisely this study considers religiosity - a multidimensional construct which combines different facets of religious impacts on individuals' deportment and its impact on takaful participation and demand. To draw a causal inference, the study uses data of 15 (fifteen) years from 17 (seventeen) mostly Muslim majority countries. In a cross country setting and employing the static panel data model the study finds significant impact of religion in creating takaful demand. The analysis reveals that stronger the degree of religiosity higher will be the demand for takaful. This work expands the religiosity study allowing for Muslim religiosity which is limited in the existing research stream. Subsequently, the study findings contribute to stakeholders' decision and policy making to stimulate the development of the takaful sector.

Keywords: Takaful, Islamic Insurance, Religiosity, Insurance Demand

REGIONAL FISCAL POLICY AND THE BUSINESS CYCLE IN COLOMBIA, 2000-201

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ABSTRACT

This study aims to identify how the business cycle affects fiscal policy in the Colombian departments over the period 2000 – 2014. In doing so, the cyclicality of budget items in 32 departments is examined. From a theoretical point of view, fiscal policy can be used to smooth cyclical fluctuations of GDP. In this sense, regarding the demand-side effects of fiscal policy, the Keynesian approach assumes price rigidity and the presence of unemployed factors of production so that output is determined by aggregate demand. Expansionary fiscal policy has a multiplier effect in the short-run on aggregate demand and therefore on output. On the other hand, contractionary fiscal policy is recommended during booms in order to achieve a countercyclical effect. This issue has been studied widely for national fiscal policy. However, studies on behaviour of regional or local fiscal policy and its relationship with the business cycle are much more limited. The situation is even more critical if we look at the literature on this issue applied to developing countries. It follows that knowledge of the response of different budget items to business cycle in the Colombian departments is needed to understand if there is a possibility of adjust fiscal policy in order to smooth the business cycle out.

The results show that own revenues are not statistically significant. About 68% of these revenues corresponds to taxes on beer, spirits, cigarettes and non-tax revenues, items that are not clearly related with economic activity. Contrary to the expected, revenues coming from intergovernmental transfers are procyclical, with a higher effect for a positive shock than for a negative one. On the expenditure side, the results show that they are not affected by the business cycle. This happens because the composition of regional (departmental) expenditures is not flexible in Colombia:

During the period analysed here, 17% of total expenditures corresponds to current expenditures (wages and salaries, general outlays, among others), and 55% to social investment financed by intergovernmental transfers, whose use is established by the law. Degree of discretion of the remainder of expenditures is limited because the restraints on borrowing given by the law 358 of 1997. On the basis of these results, we conclude that there is not much space for fiscal policy in the Colombian departments to act in a countercyclical way.

Keywords: Regional fiscal policy, business cycle, GDP gap, Colombian departments

1.   Introduction

The wide scope of the fiscal policy has been permanently accompanied by the so-called deficit bias, which originated in the tendency to increase public spending to meet the greater and increasingly complex citizen demands; This aspect is most noticeable at the subnational level of government, given the appearance of failures in the dynamics of decentralization schemes and, in particular, in intergovernmental transfer systems (Schaechter, Kinda, Budina, & Weber, 2012). Thus, a good part of the policy makers' objectives are focused on the search for a balance between the satisfaction of citizen demands (which are infinite) in terms of public provision of goods and services, and the capacity of the State (which it is limited) to provide them, with their direct and indirect effects on macroeconomic stability and income redistribution.

Regarding the specific role that fiscal policy can play in macroeconomic stability, there are several theoretical conceptions on the effect that fiscal decisions could have on economic growth. In general, the literature highlights the benefits derived from a countercyclical fiscal policy in order to recover expected paths of economic growth, either through the discretionary decisions of policymakers, or on the basis of the existence of automatic stabilizers. In general terms, pro-cyclical or acyclic fiscal policies are considered as undesirable, since they increase the volatility in terms of provision of public goods and services (Ardanaz, Corbacho, Gonzáles, & Tolsa, 2015) (Jiménez & Terre). Minassian, 2016), besides the disastrous results to which a government position that does not have the capacity to react to negative phases of the business cycle can lead.

At the empirical level, most of the literature has been concerned with evaluating the incidence of fiscal policy as a factor of macroeconomic stabilization for the Central National Government, leaving aside the role of subnational governments (SG) in regional business cycles and, therefore, their impact on the macroeconomic stability of the country as a whole. The situation is even more critical if we look at the literature on this issue applied to developing countries. This gap can distort a comprehensive understanding of the phenomenon, since SG currently manages a significant share of government revenues and expenditures in different countries.

An example of the above is the case of the OECD countries, whose SG concentrated more than a third of total tax revenues and around 42.3% of total public revenues in 2014. In Mexico, the share was 51.3%. In federal regimes, SG accounted for more than 30% of public revenues, while in unitary regimes this percentage was between 7.9% (Greece) and 63% (Denmark). In terms of expenditures, SG ones in the OECD countries were, on average, 40.2% of total public

expenditures.

In Colombia, although between 1997 and 2003 a set of reforms was implemented to ensure territorial financial sustainability (Chamorro & Urrea, 2016), SG have increased its share within the accounts of the so-called Non-Financial Public Sector (NFPS). For example, between 2000 and 2015, regional and local governments revenues went from 25.8% to 31.7% of total revenues of the NFPS; and expenses from 23.7% to 43% of the total of the NFPS.

The objective of this study is to determine how the business cycle affects a set of fiscal items (total revenues, own collection, transfers, total expenditures and fiscal result) in the Colombian depatments over the period 2000-2014. This document is divided into 4 sections, including this introduction. The second one analyzes the state of the art, emphasizing the evidence found for the Latin American case and the studies applied to Colombia. The third section deals with detailing the methodological guidelines, model used, variables included, sources of information and analysis of the results. Finally, we draw a conclusion and some public policy recommendations are outlined.

2.   Fiscal policy and the business cycle: defined trends?

There are many studies that analyze the evolution of fiscal policy in the face of changes in economic dynamics and seek to determine the cyclical nature of budget items and their determinants. Most of these studies have been carried out for national governments or general governments (Jiménez & Ter-Minassian, 2016), leaving aside the specific analysis applied to subnational governments, in a context in which these institutional units have greater relevance in terms of the assigned competences, the increasing representativeness of the income they manage.

The state of the art presented here will focus on the empirical evidence found for Latin American countries and specific studies applied to the Colombian case. Klemm (2015) analyzes the stance of fiscal policy for a sample of advanced, emerging economies and for Latin America. The author finds, through the use of panel data models, instrumental variables and generalized method of moments, that fiscal policy (period 1980-2012) in advanced economies has a countercyclical nature, so that primary balance adjusts in times of strong economic activity. For emerging countries, the results are not conclusive, while for Latin America there is evidence of a pro-

cyclical stance from the analysis of primary balance as well as the cyclically adjusted primary balance. Procyclicality is attributed to a discretionary decision of policymakers. With respect to the specific results of Latin America, the author finds, despite problems of statistical significance, evidence of a recent shift towards countercyclical policies in Brazil, Chile, Colombia, El Salvador and Mexico.

On the other hand, Arenas (2016) argues that in the last 25 years economic growth of Latin America has been moderate, but with important signs of volatility, originated mainly by the fluctuations in the price of raw materials and by the shocks of international financial crisis. This situation has highlighted the need for countries to move towards a path of fiscal sustainability, a concept that is associated with the ability of governments to permanently guarantee the implementation of public policy without affecting their solvency.

Ardanaz, Corbacho, Gonzáles & Tolsa (2015), meanwhile, find a pattern of pro-cyclical fiscal policy in twenty countries of Latin America and the Caribbean, for the period 1990-2013. Through the use of panel data models with fixed effects, instrumental variables and the generalized method of moments, the authors obtain a negative and statistically significant correlation between the structural primary balance of the central and general governments and the output gap. Thus, an increases of 1% in the output gap brings about a decrease of the structural primary balance between 0.13% and 0.63%. Differences in this range are attributed mainly to the importance of income from activities related to primary goods.

Similar conclusions were found by Arbeola, Kataryniuk, Melguizo & Orozco (2016), since they state that fiscal policy in Latin America has maintained a procyclical bias, fostered by dependence on external credit and income from raw materials. For the period 1990-2014, they estimate a panel data model with fixed effects for the structural primary balance and the output gap. The results suggest that, in the first decade of the period, fiscal policy in Latin America was predominantly pro-cyclical. Only in the 2009-2010 period there were countercyclical responses to the international financial crisis. However, these have not been maintained over time, since in the 2011-2014 period, the trend has been pro-cyclical.

Based on quarterly data from the Central Government, Bello and Jiménez (2009) characterize the cyclical trend of fiscal policy in nine Latin American countries. The authors estimate the correlation between the cyclical components of primary expenditure and GDP (using first difference models and HP and BK filters). They find a pro-cyclical trend in Argentina, Colombia,

Mexico, Peru, Uruguay and Venezuela, given the existence of a positive cyclical component of primary spending in times of economic boom and a negative one in reverse. These results are similar to those of previous studies, such as those by Gavin and Perotti (1997), Catao and Sutton (2002), Kaminski, Reinhardt and Vegh (2004), Alessina and Tabelini (2005), and Talvi and Vech (2005), cited by Bello and Jiménez (2009). However, it should be mentioned that Bello and Jiménez (2009) also find evidence of an acyclic fiscal policy for Chile and Brazil.

Gonzalez, Baquero & Gómez (2009) analyze the margin of maneuver of fiscal policy in Latin American countries to minimize macroeconomic imbalances. On two phases of the business cycle (1998-2002 and 2003-2007) they estimate the elasticity of government revenues, expenses and budget balance with respect to the economic growth rate. They find that countries have applied a pro-cyclical fiscal policy in terms of expenditures; while in terms of revenues, they have tried to apply countercyclical policies, in particular in what corresponds to tax revenues. They conclude that the expansion of public spending has limited the achievement of macroeconomic stability and the reduction of indebtedness. Additionally, the authors argue that the political cycle has been decisive, since it has pushed the increase in spending in Latin American countries.

Jiménez & Ter-Minassian (2016), in turn, evaluate the cyclicality of subnational fiscal policy in six Latin American countries through an analysis of the structural fiscal balance of subnational governments, which takes into account estimates of their own income elasticity, transfers and income derived from the exploitation of non-renewable natural resources - based on the study by Ardanaz et al. (2015) -, and information on intergovernmental transfer systems. The study concludes that for the period between 2003 and 2013, subnational finances of Argentina, Bolivia, Brazil, Colombia, Mexico and Peru show a predominantly pro-cyclical trend, with differences between countries mainly related to controls on indebtedness, dependence on royalty income and the specificity of intergovernmental transfer systems.

Additionally, through a panel data model with fixed effects with the inclusion of some control variables, the authors find significant statistical evidence that correlates in a negative way the output gap with the variation of both structural primary balance and subnational primary expenditures for the same countries over the period 1990-2014. That is, the pro-cyclicality of fiscal policy is ratified.

For the specific Colombian case, the authors stress a marked pro-cyclicality of the territorial finances: between 2003 and 2005 the structural surplus increases in a context of negative output gaps and between 2006 and 2008 a deterioration of the balance sheet appears before the decrease of the output gap. On the other hand, in 2010 and 2011, there was counter-cyclicality, since the structural deficit was maintained in a context of negative gaps. The authors highlight the implementation of fiscal rules since 2003, specifically those related to the multi-year primary balance goals and the strengthening of debt controls.

Another study in which there is evidence of pro-cyclicality of fiscal policy in Colombia is that by Lozano (2009). The author analyzes the fiscal policy of the Central National Government for the period between 1960 and 2008. The results of this empirical study, obtained by using the ordinary least squares (OLS) method with time dummy variables, suggest the presence of long-term cyclicality of both the structural balance (β = -0.155) and the cyclically adjusted primary balance (β = -0.139) with respect to the output gap. At a graphic level, the author confirms the results in a short-term scenario.

In summary, the empirical evidence for the Latin American case shows a markedly pro-cyclical trend of fiscal policy for both central and subnational governments. The specific studies applied to the Colombian case are not unrelated to the previous considerations.

However, it is very important to broaden the analytical framework to examine, in the Colombian context, the relationship between the business cycles and a wider range of subnational fiscal items, as well as the use of regional GDP information, in order to differentiate regional and national cycles and to provide some additional elements to enrich the debate.

3.   Regional fiscal policy and the business cycle: Evidence from Colombia

Following Rodden and Wibbels (2010) we proceeded to estimate a set of panel data models to determine the elasticity of some fiscal items of the 32 departments in Colombia with respect to the departmental GDP, for the period between 2000 and 2014. The following fiscal variables were considered: total revenue, own collection revenue, transfers from natioanal government, total expenses and fiscal result.

To calculate the departmental GDP fluctuations, the methodology proposed by Sorensen, Wu and Yosha (2001), cited by Rodden and Wibbels (2010), was applied, as shown in equation 1:

 (1)

Where i corresponds to each department and t each year of the analysis.

It should be noted that the second component on the right hand side of the equation is the average real growth (geometric variation) of the entire period of the analysis. In that sense, it reflects a proxy of the potential GDP growth of each department.

Figure 1 shows the number of positive fluctuations of departments GDP for the period between 2001 and 2016. Since 2002, regional economic activity has gained dynamism (highest number of positive gaps), behavior that coincides with the recovery period after the macroeconomic and fiscal crisis that occurred at the end of the nineties. Likewise, a contraction was observed in 2009 as a result of the international financial crisis and its impact on the Colombian economy. Between 2011 and 2014, a reactivation of the departmental economies is evident.

Figure 1 - Number of Positive GDP Gaps by Department
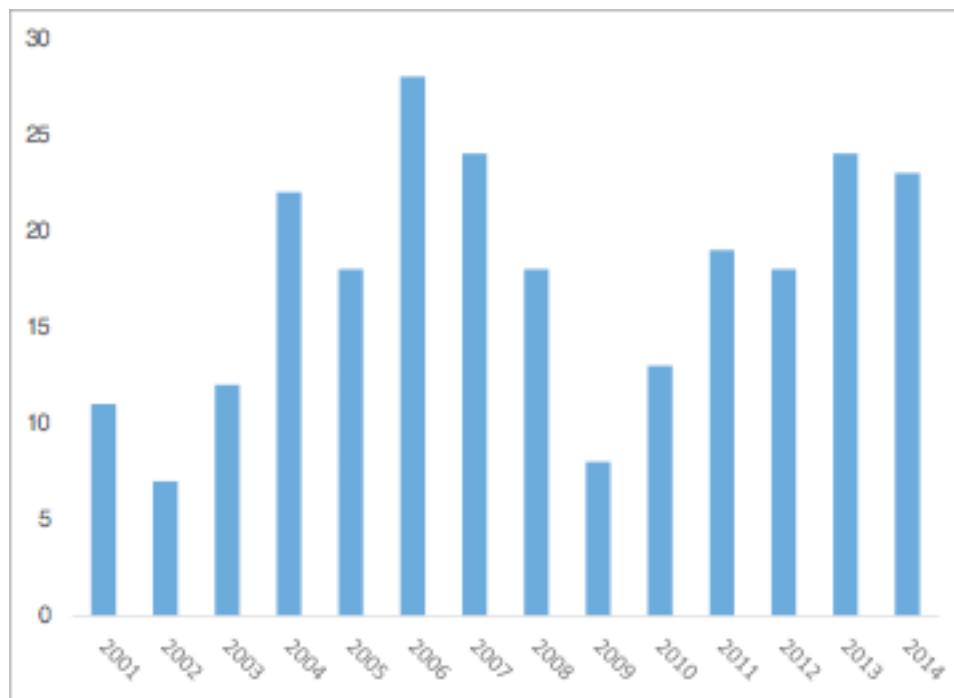
Source: Authors' calculations with information from DANE

The sources of information used and some methodological clarifications can be detailed in table 1:

Table 1. Variables used in the estimation process

Fiscal Variables		source
Departament GDP	Gap	DANE
Revenues	Growth rate (without loans)	DNP, FUT
Own Revenues	Growth rate	DNP, FUT
National Transfers	Growth rate	DNP, FUT
Expenditures	Growth rate	DNP, FUT
Fiscal Balance	Constant prices	DNP, FUT

Source: Authors

Under the previous considerations, the panel data models detailed below were estimated, including fixed effects (a dummy variable for each department) and time effects (a dummy variable for each year of analysis) for the universe of the 32 Colombian departments. It should be noted that the objective of this study is not to estimate the determinants of each of the mentioned fiscal items, but exclusively to verify their sensitivity to changes in departmental GDP by means of an exercise of correlations in panel data that takes advantage of the available set of information, in line with the methodological parameters applied by Rodden and Wibbels (2010).

(2)

(3)

(4)

(5)

(6),

where : Total revenue, : Own collection revenues, : National transfers, : Total expenditure, : Fiscal balance, : Dummy variable, : department, : year.

4. Empirical expectation

In the Colombian case, departments' GDP changes would not be expected to have significant effects on variations in revenues from own collection, given that the tax structure of this level of government is not very dynamic, since it is concentrated on taxes on consumption of liquors, wines, beer and cigarettes, which, in general, behave in an inelastic way in relation to income.

On the other hand, transfers are expected to be inelastic with a countercyclical effect, given that the constitutional and legal configuration of the Intergovernmental Transfer System established a growth in real terms to these resources from 2001 to 2016, regardless of GDP changes, so that in times of slowdown of economic activity, these resources maintain real growth and can potentially become instruments for recovering from bad times.

With the above, given the majority share of the national transfers within the income structure of the departments, it is expected the inelasticity of total revenues to be maintained.

On the expenditure side, a certain degree of inelasticity would be expected with respect to departmental GDP fluctuations, essentially for two reasons: first, the inflexibility of the current expenses (salaries, fees, transfers to pension funds and control agencies, among others); and second, because most of the investment undertaken by the departments is financed with resources from the Intergovernmental Transfer System, which have specific uses.

In any case, both from the perspective of income and expenditure, the expected results at individual level could be heterogeneous, given the incidence of resources coming from royalties, especially in the oil or coal producing departments, in which their income is sensitive to changes in the international prices of mining-energy products.

Results obtained

Public revenues from the Colombian departments have been concentrated mainly on national transfers that, on average, have represented 47% of the total over the analysis period. Own revenues (tax collection and non-tax revenues) have been one third of total revenues; while royalties, 15% of the total, on average.

By applying the specified models to the Colombian departments, the results show that total revenues tend to be elastic with respect to changes of regional GDP, a result that is not in line

with the empirical expectations described. The estimates were statistically significant at one percent of significance (Table 2).

Colombia	Total revenues	Own revenues	National Transfers	Total expenditure	Fiscal Balance	Total revenues
448 Observations *With Time Effects*		0,807***	0,067	1,227***	0,087	172.327

Source: Authors' calculations with STATA 14

The estimate of own revenues, in turn, was not statistically significant. However, it is striking that the coefficients showed to be highly inelastic. For the period analyzed here, around 68% of departments own revenues came from taxation on beer, liquors and cigarettes, and from non-tax revenues (fees, fines , sanctions and rent monopoly), items that do not have a direct relationship with economic activity.

In particular, revenues obtained from taxes on liquors, cigarettes and beer tend to be stable, since their consumption is associated with cultural factors. Additionally, tax management policies in the Colombian departments tend to be ineffective with respect to these items, due to smuggling of liquors and cigarettes, and adulteration and falsification of alcoholic beverages (Zapata & Sabogal, 2012).

Regarding revenues from national transfers, which are mainly composed of revenues from the Intergovernmental Transfers System, the estimate indicates that they are elastic to GDP (Table 2). The signs of the estimates suggest that, regardless of the type of shock, revenues received from transfers are pro-cyclical, contrary to the expected results. The importance of this type of revenues in total revenues boosted the elasticity of the last ones.

Thus, in practice, the system of intergovernmental transfers rewards the advantaged departments in their economic growth with respect to their potential level, and punishes the laggards in achieving their long-term growth, an aspect that can contribute to expanding horizontal disparities among the Colombian departments.

From this perspective, it is not surprising that the departments that have more productive and diversified economic structures are those that show increases of revenues received from national

transfers, since they concentrate a good part of the population and are the main recipients of migratory movements in Colombia.

In line with the above, Bonet-Morón & Ayala-García (2016) present statistical evidence on regional gaps in Colombia, which are explained by the low fiscal capacity of the regions, particularly those with less relative development; as well as a high degree of heterogeneity in spending needs. These are the basis for the design of a transfers system of equalization, which allows to reduce horizontal fiscal disparity and to match distribution of expenditure with real needs of regions.

Additionally, intergovernmental transfer schemes supported by incentives, such as the so-called budget for results, although they could have a positive effect on quality of spending, depend to a large extent on the institutional capacity and the resources endowments of the territories. (Robinson & Last, 2009). Neuralgic aspect at the local level of government, characterized by a high degree of productive and institutional disparity.

On the side of total expenses, the statistical results were not significant. Despite this, the coefficients show an inelastic behavior with respect to changes on department's GDP gap. This is mainly due to the inflexibility of the regional expenditures: on average, between 2000 and 2014, 18% of the total expenses were used to cover operating expenses (salaries, fees, general expenses, pension payments, transfers to control agencies, among others) and 53% to social investment expenses financed mainly with the revenues from the Intergovernmental Transfers System, which have specific destinations enshrined in the current regulations. In this way, the degree of discretion of other expenditures of this level of government is limited, largely because capital gross formation is a component that ends up tied to the behavior of the political cycle (with substantial decreases in the first years of mandate), and not to the economic activity of the department; and also because the credit resources likely to finance it, have numerical limits contemplated on the legislation. In that sense, the estimates are in line with the expected results.

Finally, it was found that fiscal result of the Colombian departments is not sensitive to shocks of the business cycle. On the basis of all of these results, the next section presents some conclusions and policy recommendations.

5.   Conclusions and Policy Recommendations

There are many studies on fiscal policy and its relationship with the business cycle; however, most of the empirical evidence has focused on the role of central governments, leaving aside the effects of subnational governments, even though they administer a large part of the general public sector budget.

According to the methodological framework proposed by Rodden and Wibbels (2010), departmental GDP gap elasticity of total revenues, own revenues, national transfers, total expenditures and fiscal balance were estimated using a set of panel data models for the period 2000-2014. The results show that departments own revenues tend to be highly inelastic the changes of GDP gap, due to the existence of static tax bases for this level of government.

The tax reforms of recent years have been addressed to increase the tax potential of subnational governments in Colombia. Most initiatives have focused on modifying the tariff range. Advancing in a real tax decentralization requires rethinking the model, especially regarding to departments, to provide them with dynamic taxable bases. Maintaining the tax status quo for departments could limit this intermediate level of government to play a crucial role in a post-conflict context.

With respect to national transfers, the evidence obtained suggests a procyclical effect. This implies that the system of intergovernmental transfers rewards the advantaged departments, and punishes the laggards in achieving their long-term growth, an aspect that can contribute to widening horizontal disparities. Given the permanent claims of citizens and the culmination of a transitional period established in the Legislative Act 04 of 2007 with regard to the annual increases of national transfers, Colombia is at a suitable time to rethink the transfer scheme and redesign it as an effective instrument for closing social gaps in the regions. In the specific case of the Colombian departments, incorporating a distribution criterion tied to the dynamics of their GDP could contribute to advance in the desired direction.

For departmental expenses, an inelastic behavior was found, a result associated with the high inflexibility of expenditures, derived from the high participation of salaries, pensions and social

expenses financed with resources from the Intergovernmental Transfers System. Without other possibilities of income and given the little margin of maneuver of the departments, we conclude that there is not much space for fiscal policy in the Colombian departments to act in a countercyclical way. This finding should be considered by the Commission of Studies of Public Expenditure and Investment in Colombia, created by the tax reform of 2016.

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References

Alberola, E., Kataryniuk, I., Melguizo, Á., & Orozco, R. (2016). Fiscal policy and the cycle in Latin America: the role of financing conditions and fiscal rules. Bank for International Settlements - BIS Working Papers No 543.

Ardanaz, M., Corbacho, A., Gonzáles, A., & Tolsa, N. (2015). Structural Fiscal Balances in Latin America and the Caribbean. New Dataset and Estimations. Inter-American Development Bank, 1-32.

Arenas de Mesa, A. (2016). Sostenibilidad fiscal y reformas tributarias en América Latina. Santiago (Chile): CEPAL.

Bello, O., & Jiménez, J. P. (27 de Enero de 2009). Política Fiscal y Ciclo Económico en América Latina. XXI Seminario Regional de Política Fiscal. Santiago de Chile, Chile.

Bonet-Morón, J., & Ayala-García, J. (2016). La brecha fiscal territorial en Colombia. Documentos de trabajo sobre Economía Regional, número 235. Centro de Estudios Económicos Regionales, Banco de la República.

Chamorro, R., & Urrea, A. (2016). Incidencia de las reglas fiscales en la sostenibilidad de la deuda pública territorial en Colombia. Cuadernos de Economía, 35(67), 207-251.

Jiménez, J. P., & Ter-Minassian, T. (2016). Política fiscal y ciclo en América Latina. Macroeconomía del desarrollo, CEPAL, 1-41.

Klemm, A. (2014). Fiscal Policy in Latin America over the cycle. IMF Working Paper, 1-31.

López González, M., Duque Baquero, S., & Blanca Gómez, O. (2009). Alcances de la política fiscal contracíclica: el caso reciente de América Latina. Revista Perfil de Coyuntura Económica, N° 14, Medellín, Universidad de Antioquia.

Lozano, I. (2009). Caracterización de la Política Fiscal en Colombia y Análisis de su. Borradores de Economía. Núm. 566, 1-30.

Robinson , M., & Last, D. (2009). Un modelo básico de presupuestación por resultados. Notas técnicas y manuales sobre gestión financiera pública. Departamento de Finanzas Públicas, Fondo Monetario Internacional.

Schaechter, A., Kinda, T., Budina, N., & Weber, A. (2012). Fiscal Rules in Responde to the Crisis - Toward the "Next-Generation" Rules. A New Dataset. IMF Working Paper/ 12/187.

Stiglitz, J. E. (2000). La Economía del Sector Público (Tercera edición ed.). (M. Rabasco, & L. Toharia, Trads.) Barcelona, España: Antoni Bosch, editor, S.A.

Zapata, J., & Sabogal, A. (2012). Una Estimación de la Adulteración y la Falsificación de Bebidas Alcohólicas en Colombia. Fedesarrollo.

ENERGY SECURITY IN ALBANIA - COMPARATIVE ANALYSIS

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ABSTRACT

Energy plays a very important role in the development of a country, as a result economically affordable and steadily energy-efficient supplies are essential requirements for this development. Energy security (sustainable availability of energy resources at a favourable price should be part of the key policy priorities in one country. Energy security is a multidimensional concept, which includes internal and external dimensions and can be analysed from the national, regional and global level. The purpose of this document is the synthetic analysis of the energy sector in Albania, focusing on the economic, social, environmental and energy security dimensions. This paper focuses on analysing the energy situation in the European context and the causes that have affected the energy security at three levels of analysis - the EU, the Balkans and Albania. Initially, we will monitor the energy situation in the region through the use of analytical approach and then focus on identifying the actors that influence this situation and the level of cooperation among these actors in the region. This will serve as a link for the analysis between the EU level and Albania, creating the internal coherence of the paper in function of the main topic. The Albanian case in micro level analysis focuses on analysing the energy situation, its challenges and opportunities. Energy dependence and diversification of energy resources is an important moment in Albania's energy development.

Keywords: Energy Security, Energy Sources, Mix Energy, Global Market

Introduction

Energy plays a crucial role in the development of a country and therefore economically affordable energy supply is an essential requirement for such development. Based on the importance of energy security (sustainable availability of energy resources at a reasonable price), it should be part of the key policy priorities in a country. Only an integrated approach, summarizing all dimensions of energy security, can turn into an effective way to guarantee such security.

Energy security represents a multidimensional concept, which includes internal and external dimensions and which can be analysed from national to regional and global levels. The purpose of this document is to elaborate on the precise the synthetic analysis of the energy sector in Albania, focusing on the economic, social, environmental and technical dimensions of energy security.

The energy sector in Albania is characterized by a concerning infrastructure, low efficiency, high dependence on imports and weather conditions, low level of resource diversification, having a direct impact on energy security. Accordingly, the document aims to draft the requirements that the energy sector will have to face in the future, as well as to pose the problems to be solved in a strategic perspective.

The data used in this paper is based on statistics provided by the World Bank, International Energy Agency, International Monetary Fund, Ministry of Energy and Industry, ERE and INSTAT.

In countries in transition, like most Balkan countries, the inheritance of a planned and centralized economy, artificially low prices of raw materials and products, services, etc., combined with an inefficient infrastructure, prevented these countries along their journey towards sustainable energy supply.

In Albania as well, the energy sector is characterized by the same features, from a problematic infrastructure, low efficiency, high dependence and low level of resource diversification, elements that have a direct impact on energy security. With a view to overcome this situation, a number of measures have been undertaken, however there is still a lot of work to do to comply with international standards.

The fundamental factor for guaranteeing sustainable energy supply is the systemic change, as replacing the old infrastructure would not be enough. The effectiveness of specific projects or initiatives depends on the quality of institutions, the legal framework and the nature of markets (market liberalization, carbon tax, fees reflecting costs, etc.).

 Given that energy security is a complex issue, which involves many factors, for a thorough analysis it is necessary to make use of a multidimensional approach involving both socio-economic and political and environmental dimensions.

1.   **Power security**

1.1   **Theoretical aspects of energy security**

The population growth and living standards are directly related to energy consumption. World energy consumption is growing of rapid pace and such trend will continue for the coming years. In countries where the demand for energy is growing rapidly, such as China and India, their capacities to adapt to the rules of a new dependence on world markets will be essential for energy security (Yergin, 2006). Simultaneously, the fossil energy resources, which account for about 80% of the resources which are used to meet such demand, are heading to exhaustion. The ratio between demand and supply is an important indicator to provide evidence on the need for long-term provision of energy security.

Although there is not yet any consensus on the definition of the term "energy security", it represents an umbrella concept that includes a number of complex variables, which are tailored and significantly assessed based on the position of each country in relation to energy resources. The basic meaning of "energy security" is the safe access to the necessary energy resources at an affordable price, access which should be affected by interruptions, as alternative resources of supply should be available at an affordable price and in sufficient quantity "(Ebinger, 2011, paragraph. I).

Another important definition is the one used by the Asia Pacific Energy Centre, which can be summed up in 4 A's of energy; Availability, Accessibility, Affordability, and Acceptability. Based on these 4 As, energy security is defined as "the ability of an economy to guarantee the availability of the supply of energy resources in a sustainable and timely manner with the energy

price being at a level that will not adversely affect the economic performance of the economy" (APERC, 2007, page 6).

 The research issued by this Centre also lists the factors that can influence energy security, such as:

> 1.the availability of fuel reserves, both from domestic production and from external suppliers;
>
> 2.the ability of an economy to enable the projected energy demand;
>
> 3.the level of diversification of energy resources and energy suppliers;
>
> 4.access to fuel resources, related to the availability of energy infrastructure and;
>
> 5.Geopolitical issues related to resource acquisition.

The threat towards energy security of a certain country or region may include all or some of the factors mentioned above, however, each state should take into account all of these elements when drafting its energy strategy and when undertaking any energy policies, considering them as the only way to handle such threat.

Non-sustainability and the rising energy prices, the rapid growth in demand for energy in developed and developing countries, the supply cut-off due to disputes arising between states (Ukraine-Russia), the need for sustainable economic development and reduction of poverty, represent some of the most significant indicators of energy affecting the entire globe nowadays and in the future. In addition to "normal threats" to energy security, there are also a number of other threats such as terrorism, geopolitical rivalry and political instability in exporting countries, which have a direct implication in ensuring energy security (Yergin, 2006). Such threats may also affect a number of actors such as: energy sources, energy infrastructure, end-users, different sectors of economy and industry, as well as ordinary consumers.

Through the use of different models of energy security analysis, countries may "understand their energy security profile in order to identify their energy policy priorities" (Jewell, 2011, page 7).

1.2   Energy independence and energy diversification as a factor of such independence

As regards to energy security, there are two significant operational concepts to be considered:

1.energy dependence, and

2.diversification of energy resources.

Energy dependence is defined as the ratio of the difference between import and export on one hand and consumption on the other hand:

Understandably, the higher the value of coefficient V (used as indicator, indicator of energy dependence), the higher is the country's energy dependence on other countries. The issue of such high level of dependence or low level of independence as an indicator of development and security of a country is mainly related to limited resources of production, imports or/and further increases of prices at unaffordable levels for a country's economy.

Energy dependence is conditioned by factors:

• Economic - a country's economic power is a very important element in guaranteeing energy security as regards - Affordability - of financial costs of access to available energy resources. The components of this dimension include the energy markets, international commerce [related to energy infrastructure] and technological leadership.

• Geopolitical - considering the geographical distribution of energy resources, the relationship between the actors on the system [producer, consumer, transit] and energy transport infrastructure, we may conclude that geopolitics plays a very important role in guaranteeing energy security.

The main components of such dimension include: 1 - international networks and international agreements; 2 - re-nationalization of energy infrastructure; 3 - the use of soft power by importing countries, in relations with exporting countries and energy transit countries.

• Natural - related to natural resources (energy resources), climate (precipitation, average annual temperatures, etc.), climate change as well as natural disasters.

Energy dependence on imports can be classified into:

• Energy dependence by re source type - mix energy;

• Energy dependence on the origin of the resource of domestic energy imports;

• Energy dependence on the origin of the resource of energy import from abroad - transmission lines

Based on an analysis of statistical data provided by the International Energy Agency on energy in general and electricity in particular in different countries (Table 1 and Table 2), it turns out that Albania's energy dependence has increased over years and today Albania is listed among those countries having high dependency on energy (Table 3). Table 1 and Table 2 respectively indicate the import, export and energy consumption data for the year 2016, as well as the electricity import, export and consumption data for the same period in Albania.

Whereas resource diversification, otherwise known as mix energy, relates to real or potential access to a variety of energy resources, without creating dependence on one single resource, access to which, due to various reasons and circumstances, may be limited, or even completely terminated.

The lower the number of available energy resources, the higher the threats to energy security of a country or region. Albania is listed among those countries with low level of energy resource diversity, more evident in electricity generation, where 100% of domestic production comes from hydro resources. (See Table 3).

Security of supply is also affected by the level of security in a given region, closely linked to factors such as political instability, economic risks and the use of large-scale violence, mainly in countries rich in resources, which constitute of important exporters of the global energy market. Albania is located in a region where the phenomena related to political, economic etc. stability are found at a considerable scale.

From this point of view, for purposes of this analysis, important data were also provided for Balkan Peninsula countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Kosovo, Macedonia, Montenegro, Romania, Serbia and Turkey). Three other countries (Italy, Austria and the Netherlands), which are not Balkan countries, are included in the analysis only for comparison purposes with the countries on the focus of the analysis.

Main data source on economic and energy indicators is the World Bank, the International Energy Agency, the International Monetary Fund and INSTAT, in the quality of the national specialized institution. The data mainly correspond to the years 2014-2016, since more complete and verifiable data are available for this time frame. At the same time, note that such data do not have any considerable difference from the data of recent years, and consequently do not affect the conclusions of this paper.

1.3   The economic situation in the Balkan peninsula

The Balkan Peninsula is of special significance for Europe and beyond, for its geo-strategic position, being a linking bridge between the various regions of the world. Therefore, both advantages and disadvantages of these countries have direct implications beyond the geographic boundaries of this peninsula. The region has undergone through a problematic past (transition and ethnic conflicts), which has left a mark on the economic development and energy infrastructure of these countries. It is important to highlight that the region is composed of member states, candidates and potential candidates for EU integration, thus demonstrating the added value of these countries. The region also includes two countries, Turkey and Greece, which are OECD and NATO members countries. Whereas, the other countries are featured by relatively "poorer" or "poor" economic indicators.

The Balkan Peninsula has a population of approximately 137 million, with a total GDP estimated for 2012 of approximately 1.1 trillion $, where the GDP growth rate is estimated at -0.2%. Whereas, the average GDP per capita is 11938 dollars, many times lower compared to the OECD countries. Markets in the region are diverse in terms of size, welfare and development. Turkey is the country with the largest population (74 million), followed by Romania (21.33 million) and Greece (11.28 million), while the country with the smallest population is Montenegro, 0.62 million inhabitants.

The country with the highest GDP is Turkey, whereas Greece is estimated having the highest GDP/capita and Bosnia and Herzegovina with the lowest GDP/capita. Kosovo (2.7%) and Albania (1.6%) are listed with the highest growth rate of GDP, whereas Greece (-6.4%) indicates the lowest rate. These indicators are of particular importance as the energy sector is directly linked to the economy. Therefore, the richer the country is, the higher will be the demand for

energy, however, at the same time, the country's ability to guarantee access to these resources is relatively higher compared to countries having "poor" indicators of economic development.

1.4   State of Energy

Despite the differences, there are some common issues between these countries, where the need to guarantee energy security still remains a key priority. Outdated technology, interdependence and the need to diversify energy resources are listed among the elements that pose real challenges to guarantee the energy supply of different sectors of the economy of these countries. The main energy indicators for the Balkan countries and some of the EU countries are listed in Table 1.

In addition to common problems, these countries differ in many aspects, such as the amount of energy generated, the ratio between import and export, consumption and mix energy. As indicated in the Table. 1, among the countries of the region Turkey is ranked first on the amount of energy produced (30.56 Mtoe), followed by Romania (27.19 Mtoe) and Bulgaria (11.78 Mtoe), the latter due to the use of nuclear power. Whereas, the lowest level of energy production is found in Montenegro, Albania, Macedonia and Kosovo.

As shown in the reported data, there is a clear link between a country's GDP and the amount of energy consumed by such country. The higher the GDP, the higher the amount of energy consumed. Among the countries in the Balkan region, Turkey is the country with the highest level of GDP and the largest amount of energy consumed, followed by Greece and Romania. While the country with the lowest level of GDP and the lowest amount of energy consumed is Montenegro, followed by Kosovo. Among other countries under analysis, Italy is the country with the highest level of GDP and the largest amount of energy consumed. This interconnection demonstrates that the amount of energy consumed is an indication of a country's development and welfare.

As regards mix energy, or diversification of energy resources, note that energy production in the case of Albania is based on resources such as crude oil and hydro resources. Electricity after the 90s is entirely generated from the hydro resources. Energy production in Kosovo is based on coal and bio-fuels. Kosovo imports oil and its by-products, as well as exports electricity. Energy production is Macedonia is based on coal. It imports crude oil. Montenegro bases energy

production on coal and bio-fuels, on the other hand, it imports oil and electricity. Energy production in Bosnia and Herzegovina is based on coal. The country imports crude oil and exports electricity. Bulgaria bases energy production on coal, nuclear energy and bio-fuels. It imports crude oil and natural gas; exports electricity. While Croatia's energy production is based on natural gas. In Croatia, electricity imports is predominated by oil. Serbia's production is coal-based. It imports oil and exports electricity. Energy production in Romania is based on natural gas, coal and nuclear power. Romania imports oil and natural gas, whereas electricity is mostly exported.

As noted in the above data, many countries manage to compensate for their resource limitations through import. As a summary, note that the dependence on energy imports and the geographical position and the location of these countries, makes Balkan countries directly implicated in the global energy market situation. Given that they are heavily dependent on imports of energy for domestic consumption purposes, they are affected by economic consequences due to potential disruption in supply. Moreover, their geographic position as a linking bridge between Europe, Eurasia and the Middle East makes their role and importance even greater for fuel transportation to the European energy market.

1.5   Energy dependence in Albania - comparative analysis

When it comes to energy security, one of the key elements determining its level is the relationship between demand and supply. Demand is determined by the same set of factors, ranging from the level of economic development to the population. Focusing on the population factor, the first basic principle is that the demand for energy is proportionate to the number of population. In case population increases, the demand for energy also increases. Such principle is not absolute, because companies with a high level of development may have a higher demand, however, this happens as long as energy is a public good indispensable for every individual.

Data provided from INSTAT, the World Bank and the International Energy Agency include a wide range of indicators related to economic development, population and energy. Referring to this data, Albania's population has declined in recent decades. The detailed performance of this indicator is reflected in Graph 1.

Graph 1: Population through years (Albania)
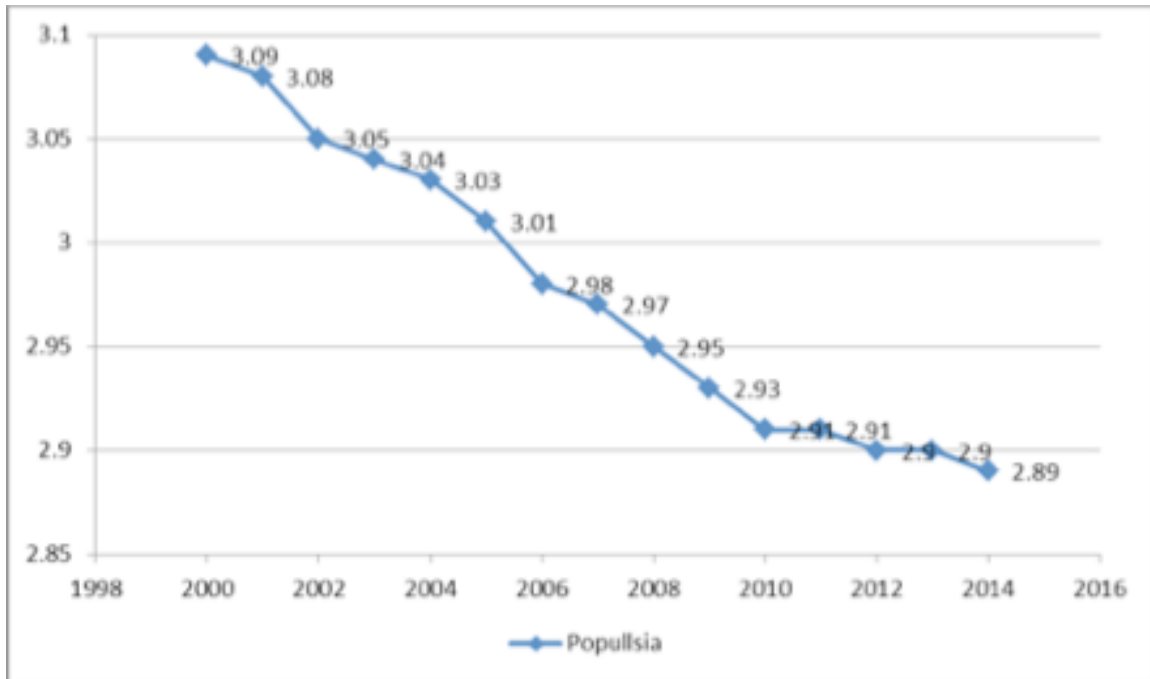
Referring to the first principle, i.e. the link between energy demand and population, it is expected that such demand should decrease as long as the trend of the population of Albania has been also decreasing: number of population was 3.09 million in 2000, whereas 2014 data on the number of population in Albania show about 2.89 million inhabitants. However this is not true, and this is supported through the second principle.

In 2000, Albania's GDP was estimated at about $ 15.84 billion, while 2014 data show a GDP of $ 29.12 million. Although Albania has been characterized by a GDP growth in recent decades, it is necessary to highlight that such development is still insufficient compared to the countries in the region or the EU average, where Albania tends to be integrated.

Graph no. 2 on Gross Domestic Product, reflects the data of the GDP level for the countries of the region.

Graph 2: Gross Domestic Product (GDP)
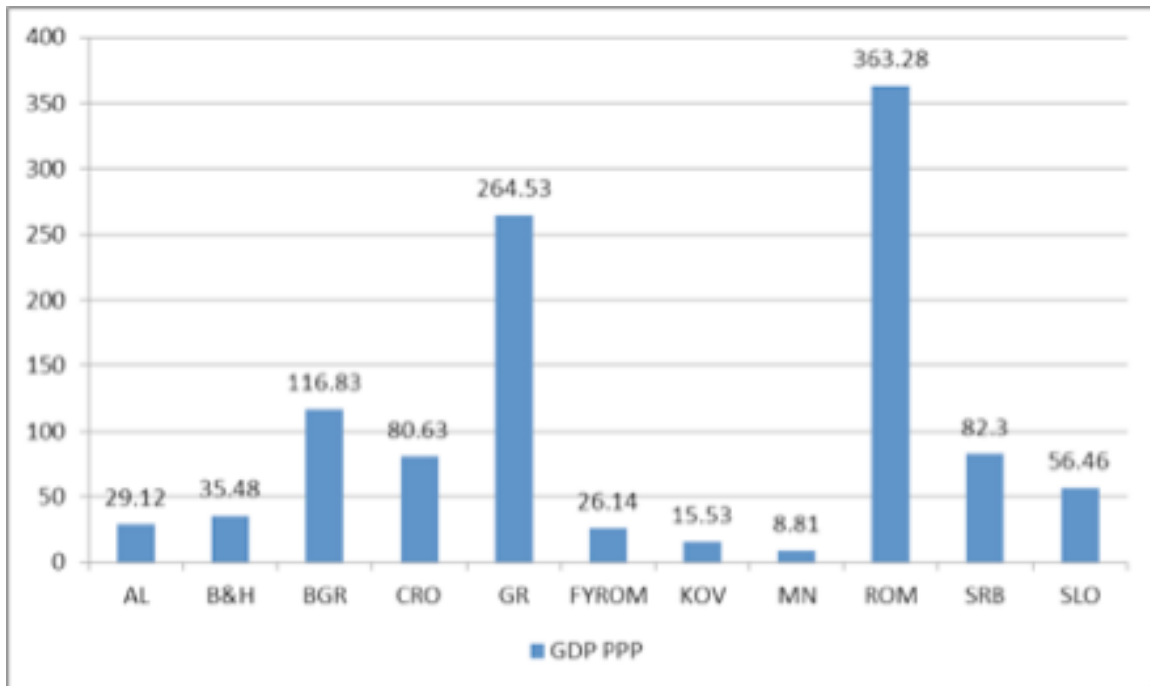
As noted in the chart above, Albania′s GDP is very low compared to countries such as Bulgaria, Croatia, Greece, Romania, Serbia and Slovenia. Data show a comparable or higher level of GDP compared to other countries in the region, such as Macedonia, Kosovo and Montenegro.

Being in less favourable position compared to other countries of the region, the energy dependence of Albania is also indicated, an indicator directly related to the energy security of a country. Energy dependence data for the countries of the region are shown in Chart 3.

Graph 3: Energy dependency
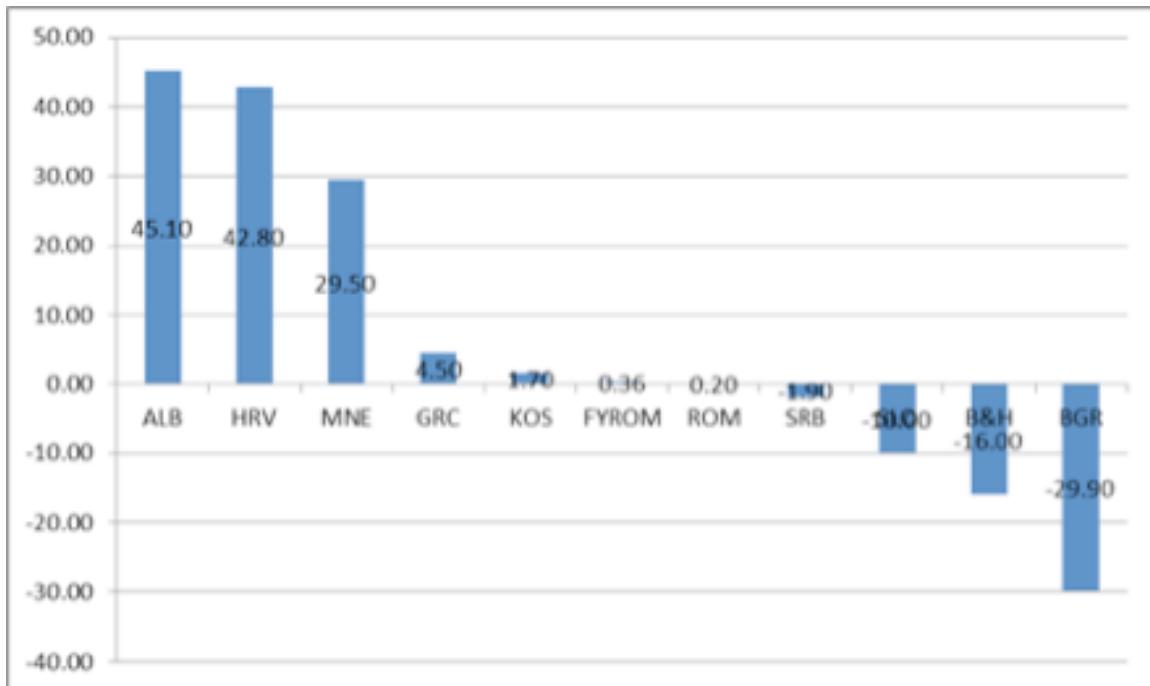
Energy dependence reaches 45%, which is estimated as very high in relation to other countries, such as Bulgaria, Romania and Slovenia, which possess nuclear power, and B&H, dependence, which can be translated as the countries with the lowest level of energy security. which has significant energy production from fossil and hydro resources. Albania, together with Croatia (42.8) and Montenegro (29.5) are the countries having the highest energy

Greece, Kosovo, Macedonia and Romania have a much lower dependence compared to these countries. However, even in these countries, the level of energy security in terms of energy dependence does not indicate the right level. A different situation is presented for countries such as Slovenia, Bosnia & Herzegovina and Bulgaria, which are characterized by a more satisfactory level of energy security.

As far as Albania is concerned, the energy dependency has indicated fluctuations in different years. The data of such progress is reflected in Graph 5.

Energy dependence over the years has fluctuated in the range of 24-50%. 2010 has been an exceptional year, with high production and export. The energy system in Albania is relatively small, with a hydro resources-based electricity production. Due to high and growing consumption, electricity imports are at high levels, since domestic energy resources cannot meet the level of demand.

Limited investments in the energy sector and big losses in the network make it difficult and costly to guarantee energy security in Albania. In this situation, it is indispensable to continue the reforms in the energy sector and to improve energy supply.

**Graph 4: Energy dependency in Albania (over years)**
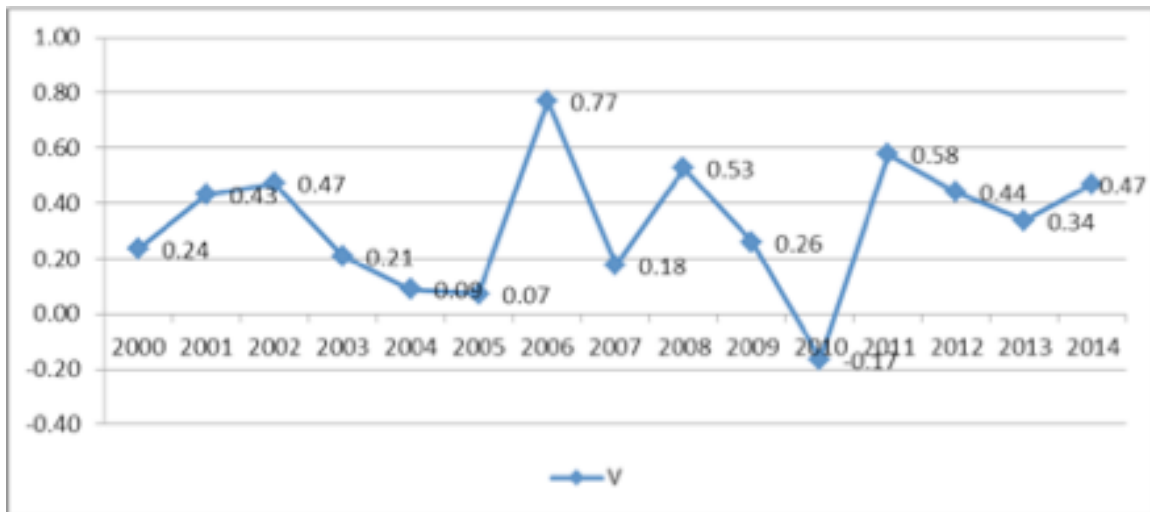
Diversification of energy resources and the reduction of dependence on climate factors are issues that need to be addressed with particular attention. The threat to energy security and the need to increase imports has a direct implication in every sector of the economy, as it affects the state budget as a whole. Building small HPPs, upgrading in the transmission grid and ongoing efforts to liberalize the electricity market are some positive elements. However, such elements have not managed to solve the energy problem in Albania. Interconnection lines may also serve to improve the security situation in the case of Albania.

There is a lack of direct links to the powerful Balkan energy resources, such as nuclear power plants in Bulgaria and Romania. The situation is also very vulnerable if the relations between Montenegro, Kosovo and Greece are aggravated.

Picture 1: Dependency from import sources

In addition to interconnection lines, special attention should be paid to resource diversification, mix energy, which irelates to real or potential access to a variety of energy resources, without creating dependence on one single resource, access to which, due to various reasons and circumstances, may be limited, or even completely terminated.

The lower the number of available energy resources, the higher the threats to energy security of a country or region. While the countries of the region have a balanced distribution of energy resources, Albania and Kosovo are 100% dependent on one single resource: hydro resources in the case of Albania and coal resources in the case of Kosovo. The most balanced countries are Bulgaria, Romania and Slovenia, as they have more than 2 types of energy resources in use.

Graph 5: Mix Energy
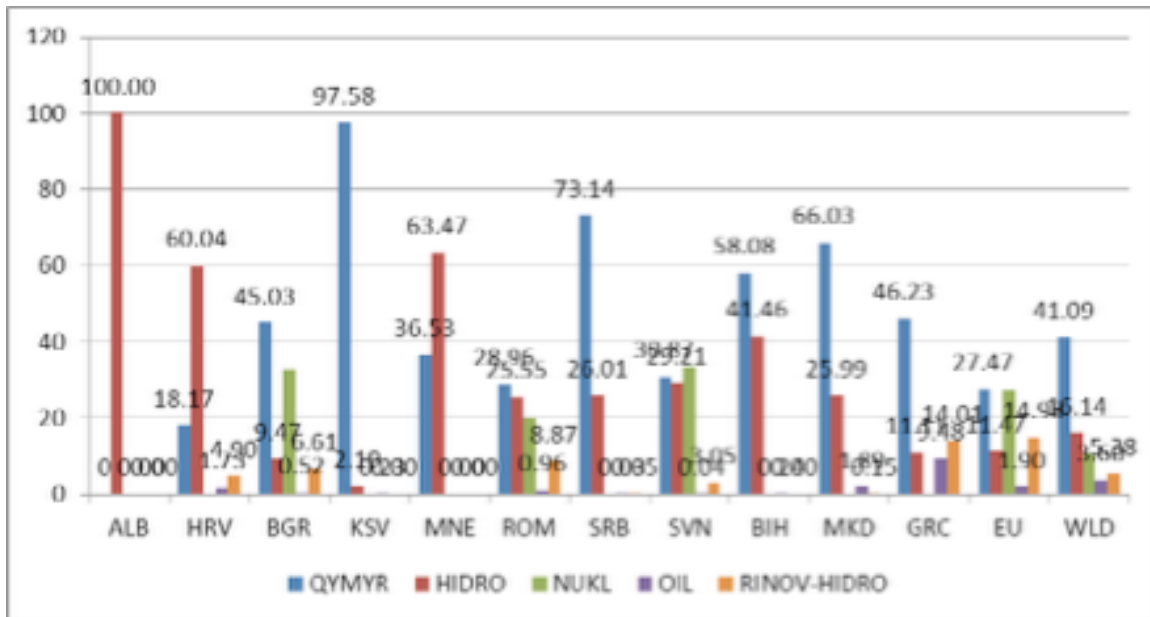
Energy dependency characteristics in Albania can be grouped as follows:

- Dependence on one single resource of energy - hydro energy

- Dependence on one single energy cascade - Drin cascade

- Dependence on electricity transportation lines - through MN, KO and GR

- Lack of transportation lines to exchange energy with powerful energy sources

4.   Conclusions

Ensuring energy security should be put at the centre of attention both for governments, as well as for private sectors or international institutions. Economic growth is directly linked to increased demand for energy. Since energy resources are limited, then stakeholders need to undertake appropriate and long-term energy policies, in order to overcome the problems that may arise from the low level of energy security. To accomplish such a goal, it is necessary for such stakeholders to know the situation in advance, to design future requirements, and to analyse all possible alternatives to be used to guarantee energy security. One of the key elements closely

related with energy security is energy dependence, which may include dependence on one single internal resource, or a small number of external resources.

Albania is characterized by a high level of energy dependence, which is due to high energy dependence on imports, the type of energy (100% hydro), from one single resource within the country (mainly from the Drin cascade) and imports limitations (limited interconnection lines). The diversification of energy resources, not just based on hydro resources that are climate dependent, should be considered as one of the national priorities. The main actions to be taken in this regard are closely related to the development of energy infrastructure, where interconnection lines would play a crucial role. Moreover, there is need for maintenance works on the existing hydro-power plants, as well as to build new large hydro-power plants, as the construction of small hydro-power plants does not guarantee energy security, and can either generate problematic issues, which may damage the area around the construction site, thus causing environmental implications. One of the alternatives that cannot be excluded for the future is the use of alternative energies (natural gas, solar, wind, etc.) or nuclear power.

References

APERC. (2007). 'A quest for energy security in the 21st century'. Asia Pacific Energy Research
    Center. Retrieved February 20, 2018, from
http://www/ aperc.ieej.or.jp/file/2010/9/26/
    APERC_2007_A_Quest_for_Energy_Security.pdf

Ebinger,C. (2011). 'The Meaning of Energy Security Depends on Who You Are'. Brookings.
    Marrë nga: Retrieved February 23, 2018, from http://www.brookings.edu/research/
    opinions/2011/10/10-energy-security-ebinger.

European Commission. (2000). Green Paper - Towards a European Strategy for the Security of
    Energy Supply.
Retrived from www.eurlex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!
    DocNumber&lg

JeWell, J. (2011). 'The IEA Model of Short-term Energy Security'.IEA Publications.

Kruyt, B., Vuuren, D., Vries, M., & Groenenberg, H. (2009). Indicators for Energy Security.
    Energy Policy.

Morina, F. & Fuga, P. (2015): The importance of transit countries in ensuring EU energy
    security: the case of Balkan Region. European Journal of Research in Social Sciences
    (EJRSS) ISSN 2056-5429.
Yergin, D. (2006). 'Ensuring Energy Security'. Foreign Affairs, Volume 85(2), 69-82. Retrived
    January 16, 2018, from http://WWW.foreignaffairs.com/articles/61510/daniel-yergin/
    ensuring-energy-security.
The official website of the International Energy Agency (www.iea.org)

Official World Bank website (www.worldbank.com)

Official INSTAT website (www.instat.gov.al)

List of Tables

Table 1: Exports, Energy Imports and Energy Dependence for Balkan Countries

Country	Import (Mtoe)	Export (Mtoe)	Total	Dependence (%)
Austria	25264	20454	63001	7.6
EU	363080	343063	2796615	0.7
B&H	4481	4525	11097	-0.4
Bulgaria	2353	10661	27845	-29.8
Greece	5954	4169	52017	3.4
Netherlands	32156	15046	106476	16.1
Italy	45407	2304	296762	14.5
Kosovo	1255	0	2444	51.4
Croatia	13174	5545	15350	49.7
Montenegro	1440	228	3220	37.6
Macedonia	2741	72	7005	38.1
Romania	3903	3650	42386	0.6
Serbia	5781	5392	27167	1.4
Albania	2538	0	5760	44.1
Slovenia	7452	8363	12549	-7.3
Turkey	5827	2954	192896	1.5

Table 2: Electricity Production (GWh) in Balkan Countries

Vendi	Total Production	Import	Export	Net Import	Domestic Production	Consumption	Final Consumption	Consumption/Capita (kWh/capita)	Depend (%)
Albania	4725	2538	0	2538	7263	6380	5760	1980	44.06
Kosovo	5943	2773	2619	-582	6097	5280	7005	2940	2.20
Macedonia	6262	2741	72	2676	8931	8170	7495	3960	35.61
Montenegro	2844	1440	228	1562	4056	3570	3220	5640	37.64
B&H	14082	4481	4525	-1489	14038	12240	11097	3260	N/a
Bulgaria	47329	2353	10661	-10661	39021	27845	27845	4780	N/a
Croatia	10557	13174	5545	7697	18186	16700	15350	3790	49.70
Greece	60959	5954	4169	3232	62744	59850	52017	5290	3.43
Serbia	36799	5781	5392	-278	37188	32480	27167	4470	1.43
Romania	59045	3903	3650	-1906	59298	53170	42386	2490	0.60
Slovenia	15729	7452	8363	3640	14818	13940	12549	6780	N/a
Turkey	239496	5827	2954	911	242369	197940	192896	2680	1.49
Netherlands	102505	32156	15046	9089	119615	117450	106476	7040	16.07
Austria	72616	23264	20454	8195	75426	63001	63001	8360	4.46
Italy	299277	45407	2304	45732	342380	327470	296742	5390	14.53

Table 3: Dependence of electricity produced from hydro sources (2000-2017)

Year	2000	2005	2010	2012	2015	2017
Electric Energy (%)	89.1	95.2	97	98.7	99.82	100