

Journal of Economic Cooperation & Development

**Mohd Nor Hakimin Bin Yusoff,
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Business Skills and Knowledge of
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**The Model of Capability Soft Governance in
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Editorial

The Organization of Islamic Conference (OIC), which is a delegate of fifty-seven Islamic nations, seeks, among many other noble goals, to bring unity amongst its member countries with a view to enhancing sustainable economic progress. Several related issues are seen to be important for OIC countries in order for them to achieve this goal. One of these is the “overall business knowledge” within these countries, which needs to be raised in order to promote entrepreneurship. The lack of overall business knowledge in many of these countries has deterred the successes of small businesses (especially the family businesses) as they lack adequate managerial performance. Islamic nations may model Indonesia and Nigeria’s relationship to establish more trading blocs to drive mutual economic development. In addition, to stabilize economies, central governments should update fiscal and monetary policies to support export and investment sectors while they proactively transit foreign investment flows from rent-seeking sectors to growth enhancing sectors. Furthermore, they should seek to diversify their investments and reduce reliance on the oil sector. Another factor that can inspire further development in OIC countries is internal investment in internet and telecommunications so that people can more efficiently communicate and gain access to knowledge. Last but not least, it is crucial to observe each nation from its unique socio-cultural, historical, and political perspective in order to enhance and facilitate economic cooperation among the bloc of OIC member countries.

In this context, the current issue of JECD includes eight articles which focus on: entrepreneurship, business skills, family business, intra-OIC trade, foreign direct investment, foreign aid, Islamic banking, information and communication technology, and economic growth and leadership attributes in the Arab region. A brief synopsis of each article is given below.

The first article, “Measuring and Comparing the Functional Business Skills and Knowledge among Entrepreneurs: Evidence from the Asnaf Community in Malaysia (Kelantan),” shows that the level of overall business knowledge (crucial for entrepreneurship, a promoter of economic growth and development) amongst the Asnaf entrepreneurs is moderately low. The research factored in the following skills to determine overall business knowledge: Financial Skills, Technical Skills,

Communication Skills, Market Orientation, and Networking Skills. Furthermore, the distribution of these skills varies across the districts of Kelantan. Therefore, policy makers and other developmental organizations should focus on interactive programs in order to increase and stabilize the level of knowledge and skills among the Asnaf entrepreneurs across all districts (particularly in the district of Jeli).

The second article, “The Model of Capability Soft Governance in Family Business: Empirical Study in Bus Transportation Industry in Jakarta, Indonesia,” investigates the relationship between managerial trait from family business (the bus industry in Jakarta, Indonesia) and managerial performance. The study’s results displayed that low managerial performance triggered low continuity and proved that soft governance capability has an ability to mediate the relationship between casualties of managerial trait variable on the bus transportation industry in Jakarta. The results can be used to enrich further research on managerial performance, family business, and human resource management.

The third article, “Indonesia - Nigeria Foreign Economic Relations: A Partnership for Economic Development,” highlights a high and successful volume of bilateral economic agreements and trade between the Federal Republic of Nigeria and the Republic of Indonesia. In 2001, both countries signed an Economic and Technical Cooperation agreement for establishing a joint commission, with the aim of promoting relations in the following areas of mutual interest: economy, trade, investment, and technical cooperation. Since 2014, Nigeria has been Indonesia’s largest trade partner in Africa and Indonesia, in turn, has significantly invested in industrialization via the non-oil sector. Furthermore, the study concludes that Nigeria can learn from Indonesia by improving its drive for non-oil export towards facilitating economic development.

The fourth article, “Foreign Aid, Foreign Direct Investment and International Workers’ Remittances in Nigeria: Are they Complement or Substitute Investment?” examines the complementarity and substitutability effects of capital flows (foreign direct investment, foreign aid, and international workers’ remittance) on economic growth in Nigeria from 1970 to 2016. Findings proved that in terms of influencing economic growth: foreign direct investment and foreign aid are substitute investments; foreign aid and international workers’ remittances are complementary investments; and foreign direct investment and

international workers' remittance are substitute investments. The study recommended that the central government should facilitate the flow of foreign direct investment from the rent-seeking sector (oil) to growth enhancing sectors (manufacturing, service, tourism, and agriculture).

The fifth article, "Modeling the Effects of Macroeconomic Expenditure Components on Pakistan's Import from China," indicates a long run co-integration between Pakistan's imports from China and the following macroeconomic expenditure components: personal consumption expenditure, investment expenditure, export expenditure, government expenditure, and relative price. Import demand was more sensitive to change in personal consumption expenditure. Investment expenditure had a negative impact on Pakistan's import from China. In addition, export and government expenditures had significant positive impact on import demand, whereas the relative price was positive but insignificant. Therefore, restricting imports through exchange rate policy may not be significantly important in the long run. Furthermore, the fiscal and monetary policy should be designed to support investment and export sectors. In addition, the Pakistani government should reduce luxury items imports from China and revive free trade agreement to reduce its trade deficit.

The sixth article, "Does Islamic Banking favors Price Stability? An Empirical evidence from the GCC, Iran and Sudan," shows the relationship between Islamic banking growth and inflation in the Gulf Cooperation Council (GCC), Iran, and Sudan during 2001-2015. Five out of seven countries considered in the study revealed that Islamic banking dampened domestic price inflation. Inflation inertia, monetary growth and exchange rate depreciation were the main factors that increased inflation in these economies. Also, while an increase in international food and oil prices increased domestic prices in certain countries, it dampened inflationary pressure in some other countries. This could be explained by government subsidies. The empirical results display a need for economic diversification and reduction on oil dependency. It also assesses a need for monetary authorities to implement tighten monetary policy.

The seventh article, "Information and Communication Technologies and Economic Growth: Evidence from EU and Turkey," explores the impact of Information and Communication Technology (ICT) on economic growth in the European Union (EU) countries and Turkey from 1997 to

2014 using the growth rates of fixed telephone, internet and mobile telephones subscriptions as proxy variables. From static and dynamic panel data analyses, fixed telephone subscriptions and internet variables had a positive effect on economic growth. The results showed no statistically significant correlation with mobile telephone's growth rate. As expected, there is a positive relationship of economic growth with physical capital growth but negative association with population growth.

The last article, "Leadership Concept and Constructs in Arabic Philosophy," sheds light to differences in preferences and domain values amongst Arab countries; they are often considered globally as one society with one culture. The Arab countries experienced different types of colonialism, economic activities, geographical variables, tribal ethnic makeup, and ecological variables. And these differences influenced the preferred leadership style of each country. The study's findings indicated how the concept of leadership in Arabic nations can be rooted in Arabic perspective and heritage to maintain effective leadership. In addition, this study extended a scholarly understanding of the measurement and examination of various leadership viewpoints by introducing established constructs for evaluating leadership.

As SESRIC, we will continue our efforts to make our Journal of Economic Cooperation and Development an opened window for academics and researchers within as well as outside the OIC members for sharing their valuable work and studies with all who are interested in the OIC member countries and the Islamic world at large through providing them with an opportunity to keep pace with the socio-economic developments in OIC member countries in the light of the changes taking place in the world economy.

Nebil DABUR
Editor-in-chief

Measuring and Comparing the Functional Business Skills and Knowledge of Entrepreneurs: Evidence from the Asnaf Community in Malaysia

Mohd Nor Hakim Bin Yusoff¹, Abdullah Al Mamun²,
Mohamed Dahlan Ibrahim³ and Hasannuddin Hassan⁴

This study aims to determine the distribution of the components of functional business skills and knowledge among entrepreneurs living across different geographical districts, using Asnaf Entrepreneurs of Kelantan, Malaysia as a data source. The study employed a cross-sectional approach and quantitative data were collected from 800 respondents in Kelantan, Malaysia. Based on the reliability and validity testing, this study finalized the instrument to 34 items yielding five factors, i.e., Financial Skills (3items), Technical Skills (5 items), Communication Skills (3 items), Market Orientation (14items),and Networking Skills (9 items). Findings of the study revealed that the level of business knowledge among the Asnaf entrepreneurs is moderately low. Furthermore, it was found that the distribution of ‘financial skills’, ‘technical skills’ ‘communication skills’, ‘marketing skills’, and ‘networking skills’ are significantly different across the districts of Kelantan. Policy makers and other developmental organizations should therefore focus on interactive programs in order to increase the level of knowledge and skills among the Asnaf entrepreneurs particularly in the district of Jeli, as knowledge is crucial to entrepreneurship, which in turn is vital for economic growth and development.

Keywords: Financial Skills; Technical Skills; Communication Skills; Market Orientation; Networking Skills

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Introduction

The issue of poverty remains a crucial component of developing countries, particularly in Malaysia (Hussain et al., 2014). This controversial issue is mostly confronted in rural areas (Solaymani et al., 2014). Failure to earn enough to fulfill basic survival needs such as food, shelter, and clothing, is illustrated as being poor. However, in the context of Malaysia, it has been reported that the average monthly household income has increased by more than twenty times from RM264 in the year 1970 to RM6, 141 in 2014. At the same time, the median income has also increased from RM166 to RM4, 585. According to the Eleventh Malaysia Plan (RMK11), the poverty rate in the country has reduced to 0.6% in the year 2014. It shows a great difference when compared to the year 1970 when it was 49.3%.

Some issues of poverty alleviation are challenges for poor communities in rural areas. One of the strategies in tackling the poverty issue is promoting entrepreneurship activities among the poor together with government intervention programmes. In such a context, micro-entrepreneurship, as a form of entrepreneurship among the underprivileged, plays the role of a powerful tool for combating poverty and empowering the poor economically (Basargekar, 2011), particularly in Malaysia where a significant proportion of such underprivileged micro-entrepreneurs operate within the informal economy of the country (Al-Mamun et al., 2016). Perhaps this is the reason the policies and programmes of the Malaysian Government along with other development organizations in the country have been nurturing an entrepreneurship supportive environment in order to promote entrepreneurial activities among low-income and underprivileged entrepreneurs (Al-Mamun & Ekpe, 2016).

Entrepreneurship is perceived as a behavioral characteristic of individuals including an input and an output where entrepreneurial behavior requires entrepreneurial skills and qualities (Wennekers & Thurik, 1999). Therefore, to be an entrepreneur, an individual needs the ability to generate ideas and knowledge, as entrepreneurship involves the development of skills to grow a business along with the personal competencies of the entrepreneur to transform it into a successful venture (Cooney, 2012). On the other hand, Entrepreneurial Knowledge is considered the factor through which entrepreneurs distinguish themselves

from their competitors and thereby transform poorly organized businesses into well-organized ventures (Omerzel & Antončič, 2008). According to research, knowledge is an important tool for strengthening a firm's competitive advantage (Hsu, Lawson, & Liang, 2006). Particularly in the context of developing economies, a recent study found that knowledge of business has the tendency to bring about development among rural entrepreneurs (Afrin et al., 2010). Thus, before the Governmental or Non-Governmental intervention is introduced to any group, the level of knowledge on the functional skills of the target group should be identified, so that the developmental programs can be planned and arranged accordingly.

The notion of stimulating greater entrepreneurial activities has emerged as a prominent goal for several national governments across the globe as a response to the current economic challenges confronted by them (Cooney, 2012). Moreover, contextually, in case of the Asnaf entrepreneurs (those who receive financial assistance for entrepreneurship from the state Zakat organization in Malaysia), most capital assistance is found to end in failed ventures despite providing training, facilities, and monitoring (Ramli et al., 2011; Muhamat et al., 2013). In this regard, a recent research had conveyed that capital coupled with courses, training, and knowledge is important to poor entrepreneurs, such as the Asnaf, helping the zakat recipients succeed in their businesses (Muhamat et al., 2013). Thus, answering the significant and timely call of research, this study was conducted to identify the level of entrepreneurship knowledge among entrepreneurs and to investigate the distribution of such entrepreneurial knowledge across different geographical districts, using the Asnaf entrepreneurs of Kelantan, Malaysia as a data source.

Literature Review

Knowledge of functional skills refers to the skills that a person has in terms of existing talents or natural skills. It is perceived that knowledge of functional skills influences entrepreneurial success, as a socially embedded activity, wherein the idea underlines the significance of skills and knowledge related to dealing with other parties (Pyysiainen et al., 2006). Knowledge is considered the factor through which entrepreneurs distinguish themselves from their competitors and thereby transform poorly organized businesses into well-organized ventures. Knowledge

acts as a significant source for the organization and it is evident that entrepreneurs with more knowledge will be less uncertain of their effectiveness and will be able to learn and notice market changes faster (Omerzel & Antončič, 2008). Earlier, Gibb (1987) forwarded the claim that training and education consistently influence the entrepreneurial role, acquired both experimentally and culturally. Therefore, it has been strongly argued that the traditional approach to entrepreneurship needs to change and the relevance of entrepreneurship training and education must be expanded. Recently, Cooney (2012) echoed that the concept of entrepreneurship involves more than just business start-ups; rather, it includes the development of skills required to grow a business along with the personal competencies necessary to make it a successful venture.

Empirical evidence upholds that enterprises with entrepreneurs nurturing their own skills and knowledge are more likely to have superior profitability and growth compared to firms run by entrepreneurs lacking such attributes (Omerzel & Antončič, 2008). Research extends the fact that entrepreneurs' knowledge influences organizational performance and the construct has emerged as an important tool for strengthening a firm's competitive advantage (Hsu et al., 2006). In the context of developing economies, a recent study found that knowledge of business has the tendency to bring development, particularly among women rural entrepreneurs in Bangladesh (Afrin et al., 2010). Particularly in the perspective of Asnaf entrepreneurs (the zakat recipients), a recent research has conveyed that capital assistance coupled with courses, training, and knowledge is important to the Asnaf entrepreneurs, in helping them succeed in their businesses (Muhamat et al., 2013). On the contrary to the above, a lack of skills has been found to lead businesses into failure (Longenecker, Simonetti, & Sharkey, 1999). Norfadhilah and Norasmah (2012) posited that the increasing demand for skills among entrepreneurs has influenced the global economy dramatically as entrepreneurs confront problems over the lack of basic skills required for an efficient day-to-day running of a business - keeping records, managing inventory, product pricing, and credit control. Extending this, Acemoglu and Zilibotti (2001) inferred that a country with less skilled workers would have greater difficulties in implementing effective technologies belonging to the innovation possibilities frontier, because of the derived lack of absorptive capacity.

Previous literature reports that there is no prevalent measure for entrepreneurial knowledge (Omerzel & Antončič, 2008). Nevertheless, the existing literature has been found to be fragmented regarding the indicators of business knowledge wherein majority of authors concentrate on the concept of knowledge in the context of entrepreneurs' characteristics (Lynskey, 2004). Recent relevant study recognizing the requirement of utilizing an action oriented, group-work and mentoring approach towards entrepreneurship to ensure greater learning effectiveness, forwarded that problem solving and critical thinking are key entrepreneurial skills, along with innovation, risk-taking, creativity and collaborative skills, developing all of which needs to be valued more (Cooney, 2012). According to Omerzel and Antončič (2008), in the paradigm of entrepreneurial practice, the dimensions of entrepreneurial knowledge and skills include self-confidence, education, and functional knowledge, particularly in the context of small to medium sized firms; the most significant components of entrepreneur skills and knowledge are analytical/critical thinking; leadership abilities; and finally knowledge of company management and organization. Based on the above, the present study therefore, in an effort to measure functional business skills and knowledge among the entrepreneurs, confines its discussions within the constructs of the immediate interest and thereby extensively defines, describes, and signifies financial skills, technical skills, communications skills, market orientation, and networking as dimensions of knowledge and skills.

Financial Skills

A review of literature has identified financial skills as a vital requirement for managers that directly affect organizational success and profitability by enabling managers to better manage their businesses as a whole (Burgess, 2007). Traditionally, financial skills are referred to as recording functions, being more analytical and supportive, including tasks of creating reports, explaining trends and variances, and forecasting potential future performance (Scapens & Jayazeri, 2003). With the developments in systems, the processing aspects of financial skills are reduced and the generic business management aspects have increased (Palmer et al., 2004). Accountants need more commercial awareness and need to act more like business advisors (Tamkin, 2005), with much more emphasis on a team approach (Scapens & Jayazeri, 2003). According to research, the present day financial competencies comprise of three levels

of management, and refer to skills such as cost control, accounting and budgeting, control processes and mechanisms, financial management, analysis, resource utilization, and risk assessment (Burgess, 2007). Scapens and Jayazeri (2003) stress that the constant evolution of management accounting indicates that line managers are now required to possess greater financial information and knowledge and need to be more accountable for their actions. Research has also extended that managers can be more effective in their management of operations and in customer relationships (DeSouza & Awazu, 2004) only if they possess accurate knowledge and possess better financial skills in order to constantly control the operations by effectively utilizing the acquired information. Improved financial skills could also enhance commitment towards the organization (Subramaniam et al., 2002) and therefore managers with good financial skills are more likely to achieve organizational success (Harper et al., 2005).

Technical Skills

Technical skills refer to knowing and understanding complex technologies and being able to access and leverage such knowledge (Bassellier, Reich, & Benbasat, 2001). According to research, entrepreneurial roles reflect a pattern whereby much emphasis is found on technical knowledge particularly in carrying out lower-level roles such as innovation (Hayton & Kelley, 2006). Technical skill is important for development in entrepreneurship, particularly in rural areas. The study done by Afrin et al. (2010) points out that technical knowledge of business is among the factors that contribute towards the development in women's rural entrepreneurship in Bangladesh. Technical knowledge or "know-how" possessed by the managers is vital in today's business environment and the construct could be represented by the dimension of "experience" (as a proxy for tacit knowledge) where the execution of a task goes beyond the simple requirement of a broader awareness, and attention is sought towards non-task-specific competences wherein awareness refers to a "familiarity with the capacities, advantages, limitations, and impact of innovative technologies" (Bassellier et al., 2001).

Communication Skills

High capabilities in social interaction and communication, particularly in the forms of higher trust, learning capability, and networking competences are known to be significantly associated with the social and

economic success of an enterprise (Morgan &Cooke, 1998). In terms of entrepreneurship, high levels of internal communication coupled with coordination and integration are more likely to facilitate corporate entrepreneurship by reinforcing the exercise of a competent behaviour (Morris, 1998; Hayton & Kelley, 2006). According to research, communication skill is one of the factors that guide the development, selection, and evaluation of entrepreneurship simulation activities whereby the credibility of such simulation activities depends, in part, on unambiguous communication (Honig, 2004). In the context of a work setting, communication skills remain the most significant for teams typically needing to reach outside their projects and engage in a mix of communications with various individuals and groups within the organization, which is particularly important for projects demanding a greater breadth of knowledge and involving highly complex tasks (Hayton & Kelley, 2006). Research further conveys that communication networks are formed and cultivated over time, and are vital for leveraging the strengths of different organizations (Hayton & Kelley, 2006).

Market Orientation

Market orientation could be defined as an organization's orientation towards promoting and supporting the activities of collection, dissemination, and responsiveness towards market intelligence in order to fulfill the needs of both existing and potential customers and thereby leading the firm towards high quality performance by offering hiked attention towards individuals and the departments for their efforts and projects within the firm (Kohli & Jaworski, 1990). Market-driven entrepreneurial activities will foster the success of entrepreneurs, resulting in overall national economic growth (Suntornpithug & Suntornpithug, 2008). Abdul-Mohsin et al. (2012) highlight that market orientation is composed of behavioural dimensions including customer orientation and competitor orientation. Customer orientation is one of the dimensions of market orientation that necessitates a culture where every employee puts the customer's satisfaction first in their day-to-day activities. Competitor orientation, on the other hand, involves active monitoring of all existing and potential competitors in the market place, and collects competitive intelligence to differentiate the competitor's approaches. Narver and Slater (1990) describe market orientation as an organizational culture, which most efficiently generates the much needed behavior to create superior value for buyers, thereby leading the

organization towards continuous superior performance. To meet the current needs, market orientation motivates and supports the refinements and adaptation of existing innovations (Atuahene-Gima & Ko, 2001). Previous relevant literature further upholds that market orientation is an adaptive ability through which enterprises react or respond to changing conditions within the market environment (Kohli & Jaworski, 1990; Narver & Slater, 1995).

Networking Skills

Existing literature addressing the concept of entrepreneurial networking has been found to be soaring in terms of both scope and sophistication (Dodd, Jack, & Anderson, 2006). The term network could be regarded as a linkage either between social and economic dimensions of human behavior, or between different types of discipline and methodology, or between the scholarly community and the world of practice. Entrepreneurial network provides the framework for different processes, which aims at organizing resources according to opportunities (Johannisson & Mønsted, 1997). Larson (1992) argues that entrepreneurial dyadic ties are the building blocks of networks that are built upon a history of preconditions for exchange, including both organizational and personal reputation along with prior relations. In the context where entrepreneurship represents change, entrepreneurs need to create change and respond to change, and thereby networking in such scenarios emerges as the mechanism for not only dealing with the environment and the conditions of entrepreneurship but also for coping with such change; and it is thus that the network and the nature of networking contacts has been found to significantly impact start-ups, growth, and developmental stages of an enterprise (Dodd et al., 2006)

Methodology

In quantitative research especially in social science, a study that analyzes data collected from a population, or a representative subset, at a specific point in time is known as a cross-sectional study. Generally, through the cross-sectional study, the sampling unit for this study was identified and focused on the bottom 40 percent group, which is measured by each individual who intends to do business. Researchers had approached the Kelantan Islamic Religious Council (MAIK) to obtain a list of the Asnaf group and the Federal Development Department (JPP) for e-Kasih members. Concerning the Kelantan state, which encompasses Bachok,

Tumpat, Jeli, and Gua Musang districts, there is a sampling frame of about 2358 persons registered under these agencies and about 800 persons were selected as the sample size for this study. Therefore, in order to gather data for this study, the researchers prepared a structured questionnaire that attributes to three sections namely the demographic profile, psychological characteristics, and knowledge about functional skills.

Results And Discussion

The findings of the study were divided into three sub-sections: (1) validity and reliability test results, (2) demographic information of the respondents, and (3) the respondents' level of functional business skills. Details of the finding are in the following sub-sections.

Validity and Reliability

To test the internal consistency of the items in measuring the variables, the validity and reliability tests were conducted. For such an assessment, the first and foremost criterion is typically the internal consistency reliability where Cronbach's alpha presumes that all the used indicators are uniformly reliable (Hair et al., 2013). The result showed (see Table 1 below) that the Cronbach's alpha values for Financial Skill, Technical Skills, Communication, Market Orientation, and Networking Skills ranges from 0.863 to 0.938. The values exceed 0.6 as the suggested value (Sekaran&Wagner, 1980). Thus, the measurement instrument used in the study is considered reliable.

Table 1: Reliability Analysis

Construct	Number of items	Cronbach's Alpha
Financial Skill	3	0.888
Technical Skills	5	0.875
Communication	3	0.863
Market Orientation	14	0.938
Networking Skills	9	0.934

The common method variance test was conducted before analyzing the model further. The common method variance test was performed to test the validity of the data collected. The result of the test is shown in Table 2.

Table 2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.88	46.70	46.70	15.88	46.70	46.70	7.26	21.35	21.35
2	3.12	9.17	55.87	3.12	9.17	55.87	5.92	17.42	38.77
3	1.57	4.63	60.50	1.57	4.63	60.50	3.98	11.70	50.47
4	1.52	4.47	64.98	1.52	4.47	64.98	3.30	9.70	60.17
5	1.05	3.10	68.07	1.05	3.10	68.07	2.69	7.91	68.07
6	0.99	2.91	70.98						
7	0.87	2.56	73.54						
8	0.70	2.05	75.59						
9	0.67	1.96	77.55						
10	0.55	1.62	79.16						
11	0.53	1.55	80.72						
12	0.50	1.46	82.17						
13	0.46	1.35	83.53						
14	0.45	1.31	84.84						
15	0.43	1.27	86.11						
16	0.41	1.20	87.31						
17	0.39	1.14	88.45						
18	0.36	1.05	89.50						
19	0.31	0.91	90.42						

20	0.30	0.87	91.29	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
21	0.29	0.85	92.14									
22	0.28	0.84	92.98									
23	0.26	0.77	93.75									
24	0.25	0.75	94.49									
25	0.24	0.71	95.21									
26	0.23	0.67	95.88									
27	0.23	0.66	96.54									
28	0.22	0.64	97.18									
29	0.21	0.60	97.78									
30	0.19	0.57	98.35									
31	0.16	0.46	98.82									
32	0.16	0.46	99.28									
33	0.14	0.40	99.68									
34	0.11	0.32	100.00									
<i>KMO and Bartlett's Tests</i>												
Kaiser-Meyer-Olkin Measure of Sampling Adequacy												
Bartlett's Test of Sphericity												
Approx. Chi-Square												
Df												
Sig.												
0.96												
22002.44												
561.00												
0.00												

The test was conducted using SPSS 23, into which 34 items from 5 constructs, were entered to run the factor analysis. The result suggested 5 factors and the variance explained ranges from 7.91% to 21.35% with the total variance explained in the model being 68.07%. The result in Tables1 and 2 reveal that there is no indication of multicollinearity. Therefore, there is no requirement for the discriminant analysis test to be conducted.

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Table 3: Rotated Component Matrix

	Component					Factor and factor loading
	1	2	3	4	5	
1	0.548					Market Orientation (0.61)
2	0.704					
3	0.615					
4	0.452					
5	0.319					
6	0.605					
7	0.726					
8	0.442					
9	0.755					
10	0.732					
11	0.557					
12	0.787					
13	0.755					
14	0.592					
15		0.656				Networking Skills (0.669)
16		0.658				
17		0.743				
18		0.496				
19		0.734				
20		0.731				
21		0.761				
22		0.718				
23		0.527				
24			0.670			Financial Skill (0.717)
25			0.695			
26			0.786			
27				0.665		Technical Skills (0.646)
28				0.799		
29				0.367		
30				0.795		
31				0.604		
32					0.587	Communication Skills (0.65)
33					0.672	
34					0.690	

Demographic Profile

The number of total respondents was 800. The data were collected from the Asnaf (needy) registered with the Religious Authority and Federal Development Agency in Kelantan, covering four districts in Kelantan namely, Bachok, Tumpat, Jeli, and Gua Musang. The number of respondents was equally distributed among the districts with 200 respondents from each district.

Table 4: Demographic Profile

	N	%			N	%
<i>Gender</i>				<i>Age</i>		
Man	256	32.00		< 31	81	10.13
Woman	544	68.00		31-45	250	31.25
				46-55	178	22.25
				> 55	291	36.38
<i>Monthly Income (RM)</i>						
> 500	414	51.75				
501 – 1000	332	41.50		<i>District</i>		
1001 – 1500	42	5.25		Bachok	200	25.00
1501 – 2000	4	0.50		Tumpat	200	25.00
2001 – 2500	7	0.88		Jeli	200	25.00
Above 2500	1	0.13		Gua Musang	200	25.00

Table 4 presents the profile of the respondents. The information is presented in actual figures and percentages for ease of interpretation. The majority of the respondents are female (68%) while the rest are male (32%). Regarding age, the majority of respondents were aged between 46 years and above 55 years (58.63%). Concerning education, 21.8% of the respondents obtained primary school education, 9.6% a Form 3 secondary school, 1.5% no education and other qualifications. 51.75% earned less than RM500 a month, 41.5% earned RM5010 to RM1000 a month.

Level of Skills

This study is to measure the level of knowledge of the respondents. The measurement uses the five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). To capture the level of knowledge, the mean score of below 4 is considered Low as it reflects neither 'agree nor disagree', on the items that the measurement used in this study.

Table 5: Mean Construct

Construct	N	Mean	Std. Deviation
Financial Skill	800	3.256	1.158
Communication Skill	800	3.956	0.703
Technical Skill	800	2.877	1.082
Marketing Skill	800	3.727	0.671
Networking Skill	800	3.521	0.777

This study dwells on the theory of poverty and entrepreneurship theories. According to the World Bank, poverty reflect conditions when people have no access to education resulting in groups of people with very low knowledge. Based on this definition and the theory of poverty, this study strongly argue that knowledge, particularly in terms functional business skills is crucial for poor entrepreneurs, such as Asnaf members involved in entrepreneurial activities.. On the other hand, entrepreneurship theories posit that a successful venture is influenced by managerial capabilities (financial, technical, communication, market, and network knowledge) related to business environments, such as the market demand, competition, technology development, product development, social, and networking.

Integrating the above theories, the findings show that generally, the level of knowledge of the respondents is moderately low. The mean value as indicated in Table 5 reflects that the technical knowledge is the lowest among the five constructs (2.877). The highest score is recorded by communication skills (3.97), which show that respondents tend to have relatively higher communication skills compared to other functional skills. Perhaps, it is the skills derived from daily social activities. The following sub-sections will discuss further details.

Level of Education and Financial Skills

As for the level of education among the respondents, Bachok recorded the highest mean among the other districts, followed by Tumpat, Gua Musang, and Jeli, respectively. The chi-square test shows that there is a statistically significant difference in the level of education of the respondents across the districts in Kelantan, Malaysia (see Table 7).

Table 6: Mean Level of Education (District)

District	N	Mean	Std. Deviation
Bachok	200	3.917	0.551
Tumpat	200	3.657	0.734
Jeli	200	1.837	1.017
Gua Musang	200	3.615	0.870

Table 7: Chi-square Test on the Level of Education

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	120.33	60	0.000
Likelihood Ratio	118.786	60	0.000
Linear-by-Linear Association	20.631	1	0.000

Based on the above Table 8, it is observed that financial skills are the highest among the respondents of Bachok with a mean rank of 533.10, followed by Tumpat, Gua Musang, and Jeli with the lowest mean rank of 158.47. Moreover, the Kruskal-Wallis Multiple test shows that there is a statistically significant difference in the financial skills of the respondents across the districts in Kelantan, Malaysia (Kruskal-Wallis Test Multiple Group, p -value: 0.000).

Table 8: Comparison of Financial Skills (Kruskal-Wallis Test)

District	N	Mean Rank
Mean Financial Skills		
Bachok	200	533.10
Tumpat	200	467.05
Jeli	200	158.47
Gua Musang	200	443.39

Level of Communication Skills

As for the communication skills among the respondents, Bachok recorded highest mean among other districts, followed by Tumpat, Gua Musang and Jeli respectively (Table 9). As noted in Table 10, it is observed that communication skills is highest among respondents of Bachok with mean rank of 454.71, followed by Tumpat, Jeli, and Gua Musang with the lowest mean rank of 339.63. The chi-square test shows that there is a

statistically significant difference in the level of communication skills of the respondents across the districts in Kelantan, Malaysia (see Table 10).

Table 9: Mean Communication Skill (District)

District	N	Mean	Std Deviation
Bachok	800	4.152	0.474
Tumpat	800	4.097	0.433
Jeli	800	3.788	0.895
Gua Musang	800	3.788	0.807

Table 10: Comparison of Commutation Skills (Kruskal-Wallis Test)

	District	N	Mean Rank
Mean Communication Skills	Bachok	200	454.71
	Tumpat	200	440.10
	Jeli	200	367.57
	Gua Musang	200	339.63
<i>Test Statistic</i>			
Chi-Square	39.424		
Df	3		
Asymp. Sig.	0.000		

Level of Technical Skills

As for the technical skills among the respondents, Bachok recorded the highest mean among the other districts, followed by Gua Musang, Tumpat, and Jeli, respectively (Table 11). As noted in Table 12, it is observed that technical skills is the highest among respondents of Bachok with a mean rank of 470.51, followed by Gua Musang, Tumpat, and Jeli with the lowest mean rank of 211.19. The Krustal-Wallis Test shows that there is a statistically significant difference in the level of technical skills of the respondents across the districts in Kelantan, Malaysia (see Table 12).

Table 11: Mean Technical Skills (by District)

	District	N	Mean	Std Deviation
Mean Communication Skills	Bachok	200	3.233	0.807
	Tumpat	200	3.093	1.118
	Jeli	200	1.979	0.967
	Gua Musang	200	3.203	0.879

Table 12: Comparison of Technical Skills (Kruskal-Wallis Test)

	District	N	Mean Ranks
Mean Technical Skills	Bachok	200	470.510
	Tumpat	200	453.660
	Jeli	200	211.190
	Gua Musang	200	466.640
<i>Test Statistic</i>			
Chi-Square	180.356		
Df	3		
Asymp. Sig.	0.000		

Level of Marketing Skill

As for the marketing skills among the respondents, Tumpat recorded the highest mean among the other districts, followed by Gua Musang, Bachok, and Jeli respectively (Table 13). As noted in Table 14, it is observed that marketing skills are the highest among the respondents of Tumpat with a mean rank of 493.685 and the lowest among the respondents are from Jeli, with the lowest mean rank of 267.845. The Krustal-Wallis Test shows that there is a statistically significant difference in the level of marketing skills of the respondents across the districts in Kelantan, Malaysia (see Table 14).

Table 13: Mean Marketing Skills

	District	N	Mean	Std Deviation
Mean Marketing Skills	Bachok	200	3.797	0.516
	Tumpat	200	3.979	0.394
	Jeli	200	3.304	0.805
	Gua Musang	200	3.830	0.695

Table 14: Comparison of Marketing Skills (Kruskal-Wallis Test)

	District	N	Mean Ranks
Mean Marketing Skills	Bachok	200	412.143
	Tumpat	200	493.685
	Jeli	200	267.845
	Gua Musang	200	428.328
<i>Test Statistics</i>			
Chi-Square	101.908		
Df	3		
Asymp. Sig.	0.000		

Table 15: Mean level of Networking

	District	N	Mean	Std. Deviation
Mean Networking Skills	Bachok	200	3.711	0.555
	Tumpat	200	3.818	0.472
	Jeli	200	2.837	0.823
	Gua Musang	200	3.716	0.764

Table 16: Mean level of Networking (Kruskal-Wallis Test)

	District	N	Mean Ranks
Mean Marketing Skills	Bachok	200	455.448
	Tumpat	200	495.465
	Jeli	200	189.838
	Gua Musang	200	461.250
<i>Test Statistic</i>			
Chi-Square	226.113		
Df	3		
Asymp. Sig.	0.000		

Level of Networking Skills

As for the networking skills among the respondents, Tumpat recorded the highest mean among the other districts, followed by Gua Musang, Bachok, and Jeli, respectively (Table 15). As noted in Table 14, it is observed that networking skills are the highest among respondents of Tumpat with a mean rank of 495.47 and the lowest among the respondents of Jeli, with a mean rank of 189.84. The Kruskal-Wallis Test showed that there is a statistically significant difference in the level of networking skills of the respondents across the districts in Kelantan, Malaysia (see Table 16).

Conclusion

The notion of stimulating greater entrepreneurial activities has emerged as a prominent goal for several national governments across the globe as a response to the current economic challenges confronted by them (Cooney, 2012). In such regards literature upheld entrepreneurial skills and knowledge as crucial components to determine success of businesses (Cooney, 2012; Omerzel & Antončič, 2008). Moreover contextually in case of Asnaf entrepreneurs of Malaysia, most capital assistance has been

found to end in failed ventures despite providing training, facilities, and monitoring (Ramli et al., 2011; Muhamat et al., 2013). According to recent research, capital coupled with courses, training, and knowledge is important for the success of poor entrepreneurs, such as the Asnaf members (Muhamat et al., 2013). Against such a backdrop, the present study measured and provided empirical evidence on the components of functional business skills and knowledge and their distribution among entrepreneurs living across different geographical districts, using Asnaf entrepreneurs of Kelantan, Malaysia, as a data source; concentrating on financial skills, technical skills, communication skills, market orientation, and networking skills as components of functional business skills and knowledge. Based on the reliability and validity testing, this study finalized the instrument to 34 items yielding five factors, i.e., Financial Skills, Technical Skills, Communication Skills, Market Orientation, and Networking Skills. Findings of the study revealed that the level of business knowledge among the Asnaf entrepreneurs is moderately low. Furthermore, it was found that Communication Skills are the highest skill possessed by the respondents, and significant differences in the distribution of business knowledge and skills exist across the districts of Kelantan. Policy makers and other developmental organizations should therefore focus on interactive programs in order to increase the level of knowledge and skills among the Asnaf entrepreneurs particularly in the district of Jeli. However, the findings of the present study are not without limitations. Although the sample size of this study is statistically adequate, however, data have only been collected from one state of Malaysia that might limit the generalizability of the study's findings. Moreover the reasons for such an unequal distribution of entrepreneurial knowledge and skills among respondents remain unanswered in this research. Therefore it is recommended that future studies could focus on the reasons for the unequal distribution, and identify key factors contributing to the low level of functional business skills and knowledge among different income groups living across the globe.

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The Model of Capability Soft Governance in Family Business: Empirical Study in Bus Transportation Industry in Jakarta, Indonesia

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This study aims to provide a clear explanation and answer on research gap of previous studies about the relationship between managerial trait from family business and managerial performance. This study also investigates the phenomenon about low managerial performance that triggered low continuity of bus industry belonged to family business in Jakarta, Indonesia. Model testing used in this study is multivariate analyses with Structural Equation Model (SEM), which is based on IBM SPSS AMOS version 22.0 software. The population in this study are managers who hold the position as supervisor and managerial control as many as 505 people. The number of samples is determined based on the sampling quota the number of bus unit ownership that reflects the size of family business. Questionnaires were distributed through direct distribution and by mail in June, July and August 2016. From the questionnaires distributed there left 283 according to the determination of the sample number. Based on SEM result for 9 proposed hypotheses, there are 6 accepted hypotheses and 3 rejected ones. Accepted hypotheses as follows; the influence of managerial trait in family business on soft governance capability which has coefficient value as 0.517 that shows positive and significant relationship since CR value is 2.705 and significant at 0.007, the influence of soft governance capability on managerial performance which has coefficient value as 0.506 that shows positive relationship since CR value is 6.183 and significant at 0.000. These results prove that soft governance capability has an ability to mediate the relationship between causalities of managerial trait variable on bus transportation industry in Jakarta, and it is significant with alpha value 5%. The results of this study will contribute to enrich the research on the topics of managerial performance, family business and human resource management

Keywords: Managerial trait, pro-organizational behavior, soft governance capability, family dynamics, managerial performance.

JEL Classification: M12, M21, M51, M54.

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Introduction

The research gap becomes the main factor to perform this study, since there are a lot of different opinions and inconsistencies of family influence to managerial trait. Some researchers such as Amran (2012), Lin and Hu (2007), Anderson and Reeb (2003), and Wesley (2010) also stated that managerial trait will influence managerial performance. Meanwhile, other researchers (Barontini and Caprio, 2006; Chahine, 2007; Chua, 2003; Cohen and Lauterbach, 2008; Gordini, 2012; Navarro, 2011) also stated that managerial trait from their family will not significantly influence managerial performance. There are phenomena about the low rate of managerial performance from family business in Indonesia that cause the discontinuity of family manager regeneration as found by (Credit Suisse Emerging Market Research Institute/ CSEMRI, 2011; Susanto, 2011).

Memili dan Chang (2009) and Gray (2010) argue that sustainability of family business is influenced by several factors such as how to maintain and increase the value of family assets in the form of credit, reputation, network, government connections and easier execution of property rights. In addition, business founders usually expect their management philosophy, values and satisfaction to be shared and replaced by their trusted members coming from families rather than outsiders (Arruñada and Vázquez, 2009; Mayew dan Venkatachalam, 2012; Andreou *et al.*, 2013). Concentrated ownership can also reduce the influence from outside and more freely (Dyer, 2006; Rautiainen, 2012). Inner conflicts lead to manager-ownership hesitation that impedes change along with changes in the business environment, as it is considered too risky or destroys business and family traditions (Astrachan and Shanker, 2003; Mannarino, 2008).

Moreover, the relationship between managerial background and managerial performance depends on the characteristics of the operation and control of the company's environment. This study aims to provide a clear explanation and answer on research gap of previous studies about the relationship between managerial trait from family business and managerial performance. This study also investigates the phenomenon about low managerial performance that triggered low continuity of bus industry belonged to family business in Jakarta, Indonesia through a new

concept of Soft Governance Capability that will pass the description as follows.

The results of this study will contribute to enrich the research on the topics of managerial performance, family business and human resource management.

1. Literary Review

Dyer (2006), Villalonga and Amit (2006), Westhead and Howorth (2007) divided family business into three parts based on control mechanism, ownership and managerial control. Meanwhile Boud (1999), Basco and Rodriguez (2011) categorized family business into four types based on internal decision, family consideration in business process, unleashed systematical rule. Sharma and Nordqvist (2007) develop family business typology based on ownership spectrum. Soft governance based on ownership is developed by Lussier and Sonfield (2012) and Yu *et. al.*, (2012), who promoted family business into some construct clusters, they are: performance, strategy, social impact and economy, governance, succession, family role and family dynamics.

Al Abduwani (2012) introduced soft skill wheel which consisted of three variables, situational, personal and interpersonal variable. There have been many studies on hard skill or technical aspect, our concern is not only about valuing its relative contribution and skillful component but also documenting the existence of soft skill in an organization (da Silva dan Tribolet, 2007; Hilmer, 2007). Theory about capability comes from Amartya Sen in Robeyns (2003) that defined capability as a basic skill which will become a subset of an ability, that refers to life continuity and poverty avoidance. Vaidya (2011) and Tsasis (2009) stated that cooperation inter organization may be formed by two organizations or more that pursue their aims together.

Other scholars that studied dynamic capability are Anand *et.al.*, (2009), Eisenhardt and Martin (2000). Based on concept tracking, it can be synthesized a new concept as Soft Governance Capability and it can be proposed as follow: *Soft Governance is an ability to manage a family business which is characterized by volunteer, open partnership, motivation, ethics to create and push potential managerial performance.*

This preposition is proposed differently from previous soft governance theory on technocratical tradition and bureacracy about efficiency that was formerly used by OECD and referred by many authors (Jessop, 2003; Esmark and Triantafillou, 2010; Bevir, 2003).

2. The Development Of Empirical Model And Hypoteses

2.1 The influence of managerial trait from family to pro-organization behavior

This study is about the changes of managerial trait from family business that depends largely on self report, and multiple questions as the determination of changes in behavior and traits (Zairi, 1998; Hassan, 2007). Manager trait from family business shows self efficacy that influences the productivity development and arouses commitment in proorganizational behavior (Busch, 1998; Friedkin and Johnsen, 2003). Moreover. Schwarz & Bahrner (2001) and Schwarz and Clore (1988) explained empirical order that is reponed by employee under supervision.

Wood (2012) provided evidence that shows relationship between enriched work design by manager and organizational performance and mediated by employee welfare which will finally influence organizational loyalty. Stites and Michael (2012), Brammer (2007) found evidence about relationship between employee perception and organizational commitment in manufacturing industry. King and Lennox (2001), Fazio and Zanna (1981) and Ajzen (2001) stated that managerial practice which is oriented on employees has been proved to be the best tool to push employee commitment.

Based on the explanations above, it can be concluded:

H1: The better the manager trait of family business, the stronger the pro-organizational behavior will be.

2.2 The influence of managerial trait of family business on soft governance capability

Organizational commitment, leadership and perfomance have been seriously investigated by Sosik (2001) and Graham et al (2013). They

categorized managerial leadership of family business. Managerial competence of family business also arouses belief on organizational system and influences organizational performance (Lahdevuori, 2013).

If managers want to get trust and acknowledgement, they need to consider employee's needs and development through specific aspect of unsatisfaction possibility and their social relationship (Bang and Jorgensen, 2007). Al Abduwani (2012) stressed soft governance through soft skill wheel which consists of situational, operational and personal variable. It is strengthened by Hillmer (2007) who said human capital as knowledge, skill and ability that will help increasing productivity and performance.

Based on the explanations above, it can be concluded:

H2: The better the managerial trait of family business, the higher soft governance capability will be.

2.3 The influence of manager from family business to family dynamics

Managerial trait had been investigated by (Graves, 2012 and Den Hartog et.al., 2013). They tested the effect of managerial trait which is influenced by psychological pressure, career satisfaction and performance when manager faces risk. A manager that can build conducive relationship personally will significantly decrease family dynamics in a family business (Levenson, 2006; Heslin & Vande Walle, 2011)

Brower (2008) found that managerial openness shows unique relationship between manager and the owner of family business. In this context, managerial openness will respond any dynamics occurred in the family business (Chua, 1999; Rautiainen, 2012). Manager has to be able to balance dynamics among family (Mannarino and Rocotta, 2008).

Relational dynamics in family business is the relatedness accumulation among managerial styles in a family business (Scranton, 1992; Michaud, 2005). Serious consideration needs to be included because family conflicts are highly correlated with family dynamics and succession (Nasser, 2013).

Based on the explanations above, it can be concluded:

H3: The better the managerial trait of family business, the stronger control on family dynamics will be.

2.4 The Influence of Family dynamics on soft governance capability

Creativity to respond environmental dynamics (both family and external environment) is influenced by managerial openness and ability to build relationship. It is postulated by Joo (2007), Yeh (2012). It is in line with the result from (Bryan, 2006; Dulebohn, 2012). They indicated that family business has prepared a “prince” to become a manager of the business through continuous training which is suited with organizational size to improve managerial capability.

Meanwhile, the result from Michaud (2005), Mueller (2013) and Connely (2013) stated that family business must be reminded not to reach individual ambition by sacrificing other interest and fail to solve organizational problems that may emerge. As a result, an organization needs anticipation to face family dynamics which is triggered by an event or action that is accumulated by pressure, an opportunity to make a basic change through resources availability, environment and family business purpose (Gersick, 1997; Lines, 2004).

Based on the explanations above, it can be concluded:

H4: The stronger control on family dynamics, the higher soft governance capability will be.

2.5 The influence of family dynamics on managerial performance

Craig and Moores (2005) and Hannah (2013) focused their studies in financial, innovational and learning, customer and succession planning variables that become important business dynamics as they will influence managerial performance. The relationship between family dynamics and business strategy can be tracked from the study of Auken and Werbel (2006), Short (2009) and Fletcher, 2010 in which family business continuity depends on family commitment and entrepreneurial orientation that will finally influence managerial performance of family business.

Generally, Smith (2007), Choet and Xiangkang (2009), Gunday (2011) investigated the difference between strategy and its implementation through small size family management team. Longenecker (1997), Chua and Sharma (1999), Ittner (2003) and Lee (2006) confirmed that family dynamics in a family business will push higher performance and income development from time to time. It will be much more beneficial if a family member is involved with management.

Family involvedness is an important factor in family dynamics that will influence managerial performance (Kotey, 2005, Bititci, 2006; Wee and Ibrahim, 2012; Doshi *et.al.*, 2013; Conchie, 2013).

Based on the explanations above, it can be concluded:

H5: The better the manager trait of family business, the higher soft governance capability will be.

2.6 The Influence of soft capability governance on managerial performance

Novelty as I offered will be tested empirically. It is in line with Coltman *et.al.*, (2011), Lu & Sonfield (2012) and Greenhouse & Powell (2006) who tried to relate managerial practice capability with the use of infrastructure and informational and technology software. Greenhaus and Powell (2000) and Schwepker Jr and Good (2013) proved the relationship between managerial leadership and organizational trust, sales performance and managerial performance. Parnell and Dent (2009) and Auden (2006), Holloway and Holloway (2009) and Gruman and Saiks (2011) investigated managerial practice which is related with intuitive role to build managerial performance togetherness.

Other relevant evidences about managerial ability to move employee involvedness are self adjustment, apologizing, courage, empowerment, accountability, originality, humble attitude, and service that all will influence managerial performance (Yarrington, 2007; Siu, 2010; Dierendonck, 2011; Lu, 2012).

There are five factors that influence the relationship between soft skill capability and managerial performance, they are trust, communication, response to employee aspiration, and rule order (Li and Lin, 2006; Gunasekaran, 2008; Hatala and Lutta, 2009; Charbonnier-Voirin *et.al.*, 2010, Ehtesham *et.al.*, 2011).

Based on the explanations above, it can be concluded:

H6: The higher soft governance capability, the higher managerial performance will be.

2.7 The influence of pro-organizational behavior on soft governance capability

The concept of Self Determination Theory (SDT) was firstly introduced by Ryan and Deci (2000) and continued by Wallace (2013). As a result, high employee involvement in workplace will improve managerial effectiveness to run a strategy (Brummelhuis, 2010; Ng and Feldman, 2010). In soft governance capability context, helpful behavior which is initiated by family can help improving helpful willingness among team member, as it is conceptualized by soft governance capability.

Stewart (2010) performed some research by showing leadership approach on individual rate which is closely related with proorganizational behavior. Other result from this study stated that organizational commitment to its employee (OCE) will improve managerial performance as long as it increases the quality of decision making process that pushes adequate, collaborative and initiative informational management (Florea and Florea, 2013; Islafatun, 2013; Adiprasetyo, 2013; Soenjoto, 2013).

Furthermore, the process of knowledge creation and perception are closely related with proorganizational performance. It has been proven to be the best tool to improve organizational learning in managerial competence repairment and organizational soft governance (Duh, 2007; deGroot and Antonsson, 2012; Song and Kolb, 2013). Decision making process in foreign investment can be set as the explanation of organizational behavior through a proorganizational perspective which is associated with managerial entrepreneurial orientation (Skarlicki *et.al.*, 2008; Kaya and Agca, 2009; Wilks, 2011 and Illie, 2012).

Based on the explanations above, it can be concluded:

H7: The stronger proorganizational behavior, the higher soft governance capability will be.

2.8 The influence of pro-organization behavior on managerial performance

Wall *et.al.*, (2004) and Appelbaum *et.al.*, (2006) argued that convergent validity as the measurement tool of subjective and objective managerial performance. In addition, the influence of various manager on managerial performance is proven to be the strong employee's initiative and commitment for an organization compared with homogenous employee and manager (Hambrick and Mason, 1984; Nishii, 2007; Morin, 2011, Kanten and Ulker, 2013).

Next, Thomas and Pandey (2010), Zribi and Souai (2013) and Ng *et.al.*, (2014) had proven the relationship between high performance and certain characteristics such as future orientation, optimism, and active orientation that all will contribute to manager's success. Yukl and Mashud (2010), Rishipal and Jain (2013) underlined the importance of managerial effectiveness to be the most important element in managerial performance as the tool to push competitive advantage for an organization.

Webster and Adams (2010) and Choudhary (2012) also tried to investigate the managerial effectiveness as the main attention of a research.

Based on the explanations above, it can be concluded:

H8: The stronger proorganizational behavior, the higher managerial performance will be.

2.9 The influence of managerial trait of family business on managerial performance

Positive attitude attribute such as trust in a form of involvedness and negative attitude attribute such as reward and organizational fairness will positively influence the achievement of managerial performance (Rynes, 2002; Lee, 2006; Chitoo and Das, 2007). In such a context of family business, Winter (2004), Tsai *et.al.*, (2007) stated that there is a positive

relationship between managerial trait and managerial performance of family business. It explains that an organizations with strong market share will achieve more positive managerial trait on work autonomy and reward for their performance (Chahine, 2007 and Vicente, 2013).

Chompukun (2011) and Lotto (2013) stated that mangerial trait positively related with targeted performance, empowerment and managerial performance effectiveness. In family business context, Kok *et.al.*, (2003) and Davies *et.al.*, (2010) proved that professionalism is influenced by personal managerial competence and it will finally influence organizational performance.

Based on the explanations above, it can be proposed:

H9: The better the managerial trait of family business, the higher the managerial performance will be.

Based on developed model, literery review and proposed hypotheses, empirical model in this study can be described as follow:

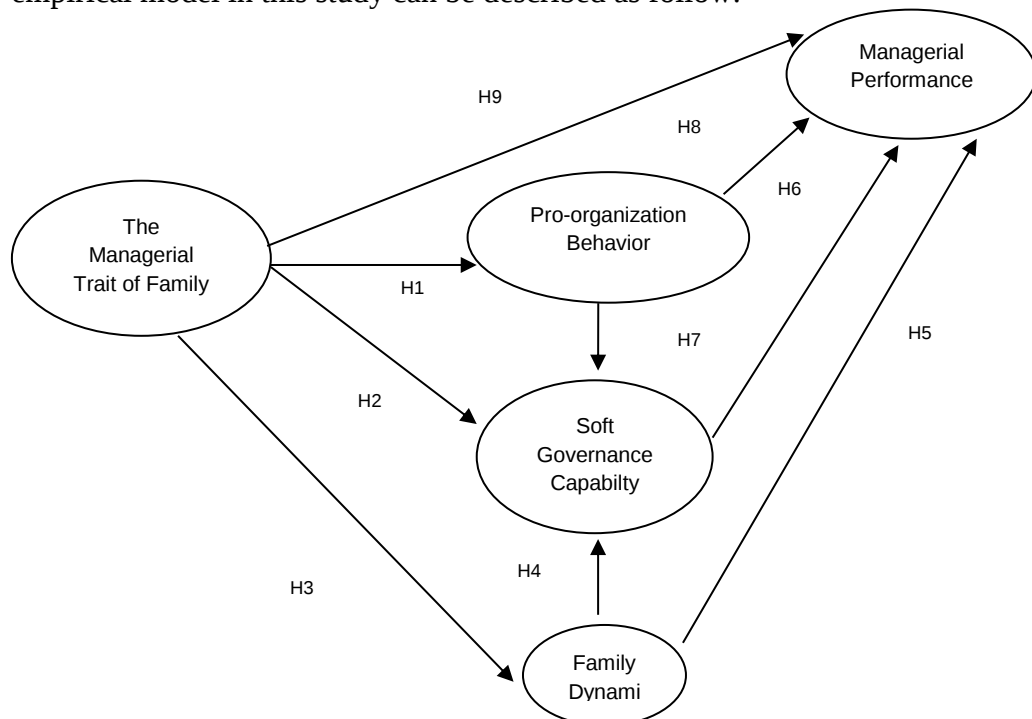


Figure 1: The Empirical Research Model

3. Methods

The population in this study are managers who hold the position as supervisor and managerial control as many as 505 people. The number of samples is determined based on the sampling quota the number of bus unit ownership that reflects the size of family business. Questionnaires were distributed through direct distribution and by mail in June, July and August 2016. From the questionnaires distributed there left 283 according to the determination of the sample number. Once selected, 262 questionnaires can be retested using the Structural Equation Model (SEM) processed with IBM SPSS Analysis of Moment Structure (AMOS) version 22.0. A modeling software that can be used to analyze multivariate research models that allow for more accurate results between graphical interfaces.

4. Result

Based on the respondents age in this study, most of the manager and the owner of family business fills the range of age between 40 till 50 years of age as 18 person or 36,73%. The owners/managers that come from family and fill the range age more than 25 years are 16 person or 32,66%, whereas the younger one that fill the range of age between 31 until 40 years of age are 13 persons or 26,53%. The owners/managers from family who fill the range of age from 21 until 30 are 2 person or 4,08%, and there is no respondent under 20 years of age.

Based on the educational background, most respondents have at least Diploma degree as 41 person or 83,67% and the rest of it are from Post Graduate program as 8 person or 16,33%.

4.1 Goodness of Fit Model Test

SEM testing aims to view the adjustment model. The result testing of full model is presented in table 1 below.

Table 1: The result of Full Model testing

<i>Goodness of Fit</i>	<i>Cut off value</i>	<i>Result Model</i>	<i>Information</i>
<i>Absolute Fit Measures</i>			
χ^2 -Chi-square (df=1)	≤ 3.84	2.782	Fit
CMIN/DF	≤ 2.00	2.782	Un fit
Probabilitas	≥ 0.05	0.095	Fit
RMSEA	≤ 0.08	0.088	Moderate
GFI	≥ 0.90	0.995	Fit
<i>Incremental Fit Measures</i>			
AGFI	≥ 0.90	0.927	Fit
TLI	≥ 0.95	0.981	Fit
CFI	≥ 0.95	0.998	Fit
NFI	≥ 0.95	0.997	Fit

Based on model testing, it shows chi square value (χ^2) is 2,782 lower than cut off value 3,84, it means that the model is similar with empirical data. As a result, model fit can be accepted. GFI value (1.000), AGFI value (1.995), TLI value (0.982), CFI value (0,998) and NFI value (0,997) from the model has filled required criteria and the model shows no difference between predicted model with observed data. RMSEA value (0.088) is in the range 0.08 till 0.10, it shows that the model is accepted moderately. It is supported by adequate measurement. As a result, the predicted model is accepted and suited with observed data.

4.2 Causality Testing (Significance Test) – Regression Weight

Output result of full composite model from empirical model is presented in table 2.

Tabel 2: The Full Model Hypothesis Testing of The *Regression Weight*

			Estimate	S.E.	C.R.	P
Pro-Organization Behavior	<---	The Managerial Trait Of Family Business	.911	.055	16.586	0.000
Family Dynamics	<---	The Managerial Trait Of Family Business	.804	.050	15.950	0.000
Soft Governance Capability	<---	The Managerial Trait Of Family Business	.517	.191	2.705	.007

			Estimate	S.E.	C.R.	P
Soft Governance Capability	<---	Family Dynamics	.397	.077	5.156	0.000
Soft Governance Capability	<---	Pro-Organization Behavior	.005	.174	.028	.978
Managerial Performance	<---	Family Dynamics	.410	.066	6.194	0.000
Managerial Performance	<---	Soft Governance Capability	.506	.082	6.183	0.00
Managerial Performance	<---	The Managerial Trait Of Family Business	-.145	.169	-.861	.389
Managerial Performance	<---	Pro-Organization Behavior	.216	.142	1.520	.129

Table 3: Standardized Regression weight for hypotheses testing

			Estimate
Pro-organization behavior	<---	The Managerial Trait Of Family Business	.908
Family Dynamics	<---	The Managerial Trait Of Family Business	.800
Soft Governance Capability	<---	The Managerial Trait Of Family Business	.514
Soft Governance Capability	<---	Family Dynamics	.397
Soft Governance Capability	<---	Pro-Organization Behavior	.005
Managerial Performance	<---	Family Dynamics	.410
Managerial Performance	<---	Soft Governance Capability	.507
Managerial Performance	<---	The Managerial Trait Of Family Business	-.145
Managerial Performance	<---	Pro-Organization Behavior	.217

Table 2 shows 6 of 9 relationships that have significant influence at significant rate 5% with $CR > 2.000$ and $p\text{-value} < 0.05$. As a result, CR value shows that the relationship among variables in this model significantly influence each other, therefore the hypotheses can be accepted. Table 3 shows causality relationship from 9 hypotheses, and it shows that there are 6 relationships which have CR value > 2.00 and significant at > 0.05 .

5. Conclusion and discussion

First, the result testing for hypothesis 1 stated that managerial trait positively influences pro organizational behavior, it enriches of (Wood, 2012; Stites & Michael, 2011). **Second**, the result testing for hypothesis 2 stated that manager from family business trait positively influences soft governance capability, it enriches of (Barbutto, 2005; Rowold and Wolff, 2009; Wu, 2013). **Third**, the result testing for hypothesis 3 stated that manager trait positively influences family dynamics, it enriches from (Latham & Baun, 2009; Wu, 2009). **Fourth**, the result testing for hypothesis 4 stated that manager trait positively and significantly influences soft governance capability. It enriches and contributes theory about ownership, resistance, environmental pressure, and managerial practice from (Lavie, 2010 and Mueller, *et al.*, 2013). **Fifth**, the result testing for hypothesis 5 stated that family dynamics positively and significantly influence managerial performance, it enriches of (Pattilo and Soderbom, 2009). **Sixth**, the result testing for hypothesis 6 stated that soft governance capability positively influences pro organizational behavior, it enriches of (Schwepker & Good, 2013; Gruman & Saks; 2011; Ehtesham (2011). **Seventh**, the result testing for hypothesis 7 stated that this hypothesis is denied, it is in line with Ilie (2012) and Skarlicki (2008), but different from Bennet and Robinson (2000) who stated that unethical proorganizational behavior is frequently done by employee to protect negative things from an organization. **Eighth**, the result testing for hypothesis 8 stated that there is positive but not significant relationship between proorganizational behavior and managerial performance. It is line with Appelbaum (2006), Morin (2011) but different with argue from (Kanten & Ulker, 2013; Chiaburu, 2013). **Ninth**, the result testing for hypothesis 9 stated that there is negative and insignificant relationship between managerial trait and managerial performance, it is line with evidence from Cremes and Petajisto (2008) and Gordini (2012) that recommend family business to be performed by internal people.

6. Future research

Future research can be performed by viewing the weakness and replication of this study; (1) future research can replicate the retested variable relationship between managerial trait of family business and managerial performance, (2) future research can test the newest concept soft governance capability introduced in this study to other family business in different subject.

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Appendix: Fitur of Structural Equation Model (SEM) AMOS version 22,0

Variable and measuring indicators

- A. The Managerial Trait of Family Business (TMTFB)**
 - (1) Managers give freedom in carrying out routine work (TMTFB1).
 - (2) Willingness to reward work performance (TMTFB 2)
 - (3) Enthusiastic in performing the task (TMTFB 3)
 - (4) Control over employment of employees (TMTFB 4)
 - (5) Confidence (TMTFB 5)
 - (6) Emotional control (TMTFB 6)
- B. Pro- Organizational Behavior (POB)**
 - (1) Informal communication skills (POB1)
 - (2) Empathy (POB 2)
 - (3) Decision making (POB 3)
 - (4) Participation of members of the organization (POB 4)
 - (5) Willingness to receive input (POB 5)
 - (6) Freedom to carry out routine work (POB 6)
- C. Soft Governance Capabilities (SGC)**
 - (1) Sincerity of serving (SGC 1)
 - (2) Open (SGC 2)
 - (3) Keeping trust (SGC 3)
 - (4) Building a spirit of togetherness (SGC 4)
 - (5) Ability to motivate employees (SGC 5)
 - (6) The skill of creating enthusiasm work (SGC 6)
 - (7) The application of ethics (SGC 7)
 - (8) Ability to praise outstanding employees (SGC 8)
- D. Family Dynamics (FD)**
 - (1) Reliable in communicating with other family members of the company owner (FD1)
 - (2) Eager in developing relevant knowledge (FD 2)
 - (3) Involvement of family members other than managers in corporate management (FD3)
 - (4) The visionary vision (FD 4)
 - (5) Conflict solution (FD5)
 - (6) Mentoring (FD 6)
 - (7) Orientation to the value instilled by the founder (FD9)
 - (8) Succession process (FD 8).
 - (9) Exploration of innovation (DK9)
 - (10) Motivating the implementation of work significantly (FD10)
 - (11) Building a team of planners (FD11)
 - (12) Professionally build relationships with company owners (FD12)
- E. Managerial Performance (MP)**
 - (1) The ability to determine the company's target (MP1)
 - (2) Investigate to collect quality information (MP2)
 - (3) Implementing information exchange within the organization (MP3)
 - (4) Evaluation skills of work unit performance (MP4)
 - (5) Lead ability (MP5)
 - (6) Ability to develop staff (MP6)
 - (7) Negotiating skills for the benefit of the company (MP7)
 - (8) Capacity building positive corporate image (MP8)

Figure Full Composite Model

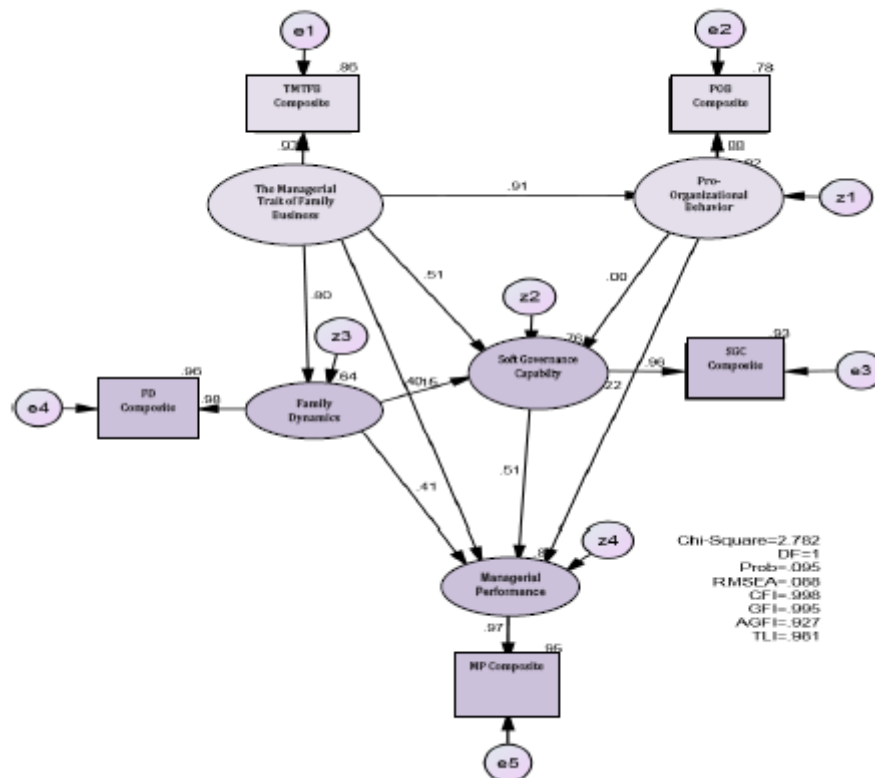


Table Structural Equation Model

Structural Equation Model	
Pro-Organization Behavior	= γ_1 The Managerial Trait Of Family Business + Z_1
Soft Governance Capability	= γ_2 The Managerial Trait Of Family Business + β_1 Pro-Organization Behavior + β_2 Family Dynamics + Z_2
Family Dynamics	= γ_4 The Managerial Trait Of Family Business + Z_3
Managerial Performance	= γ_3 The Managerial Trait Of Family Business + β_3 Family Dynamics + β_4 Pro-Organization Behavior + β_5 Soft Governance Capability + Z_4
Structural Equation Model	
Pro-Organization Behavior	= 0.908 (The Managerial Trait Of Family Business) + Z_1
Soft Governance Capability	= 0.514 (The Managerial Trait Of Family Business) + 0.005 (Pro-Organization Behavior) + 0.397 (Family Dynamics) + Z_2
Family Dynamics	= 0.800 (The Managerial Trait Of Family Business) + Z_3
Managerial Performance	= -0.145 (The Managerial Trait Of Family Business) + 0.410 (Family Dynamics) + 0.217 (Pro-Organization Behavior) + 0.507 (Soft Governance Capability) + Z_4

Indonesia- Nigeria Foreign Economic Relations: A Partnership for Economic Development

Muhammad Fuad Othman ¹ and Ismail Bello ²

Bi-lateral relations between Federal Republic Nigeria and Republic of Indonesia is traced back to 1965, when Indonesia opened its first diplomatic mission in Sub Saharan Africa in Lagos, Nigeria. Nigeria reciprocated in 1976 by opening a diplomatic mission in Jakarta. Since then Nigeria-Indonesia have enjoyed fruitful diplomatic and economic relations. The aim of this paper is to investigate the volume of bilateral economic agreements and trade between both countries. The paper utilizes secondary sources of data. The research finding shows that both countries have enjoyed fruitful bilateral economic relations. In 2001, both countries signed Economic and Technical Cooperation agreement for establishing a Joint commission, with the aim of promoting relations in five areas of mutual interest which are, economy, trade, investment and technical cooperation. Since 2014, Nigeria has been Indonesia's largest trade partner in Africa, with a total trade volume standing at USD 3.9 million. Also, notable is Indonesia's companies in Nigeria includes Sayap Mas Utama, Indorama, Kalbe Farma and Dufil (Indomine) which is the largest producers of noodles in the country. This study shows that Indonesia has significantly invested in industrialization via the non-oil sector. The study thereby concludes that Nigeria can learn from Indonesia by improving its drive for non-oil export towards facilitating economic development.

Keyword: Economic Relations, Development, Trade, Indonesia, Nigeria.

Introduction

The discussion on foreign economic relations places emphasis on understanding the importance of foreign direct investments or foreign capitals for nation states and expansion of trade between states in the

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international system (Simons & Zachary, 2004; Milner & Keiko, 2005; Krugman & Obstfeld, 2006; Balaam & Dillman. 2010; Oatley, 2010; V. Jeníček, 2009; Grančay et al., 2014). In the study of international relations, foreign economic relations is understood as important in forging relations between nations states in the international system and to ensure that states experience economic growth and development to enable them to be active participants in global economy (Folarin, Ibietan, Chidozie, 2016; Bello, Othman, Shariffudin, 2017).

In a global and increasingly interconnected world, developing countries have devised a means to survive in this continuous challenging world, usually achieved through multilateral cooperations. This relation between these countries birthed cross-border trades relations between two or more countries, these are usually done to improve economic development and growth of both parties. Bilateral economic relations emphasize the conduct economic, political and cultural relations between states, these sovereign states recognize each other and agree to extend both diplomatic and economic relations between each other. Economic agreements between these states include ASEAN-China Free Trade Area (ACFTA), ASEAN-India Free Trade Area (AIFTA), China-Australia Free Trade Agreement, European Free Trade Association (EFTA), Chile-Mexico Free Trade Agreement, Japan-Mexico Economic Association Agreement. Northern Triangle of Central America economic integration agreement, Trans-pacific Strategic Economic Partnership, Hong Kong-New Zealand Closer Economic Partnership Agreement, European Union-South Korea Free Trade Agreement, Japan-Thailand Economic Partnership Agreement, Central America Free Trade Agreement.

From the context of Nigerian economic relations, scholars have argued that its economic relations have somewhat failed to provide needed goods, especially from the perspective of improvement of the standard of living of populace and balance of trade as equilibrium has not tilted towards the advantage of Nigeria (Akpuru-Aja, 2012; Ayoola, 2013). This is largely attributed to the fact that policy makers have failed to put into consideration one of the most important principles of bilateral and trade and economic relations is situational differentiations. In bilateral economic relations, parties are supposed to ensure that agreements are made based on specific rules. It is common to observe that an influential state usually has an upper hand in partnership with Nigeria during bilateral agreements, these are usually associated with economic terms

especially with regards to surplus and low economic cost. To address these issues there is a need for Nigeria to tailor bilateral agreement with needs of the country to make it beneficial to each party.

Indonesia and Nigeria are geographically distant from each other, however, both countries share some similarities, for example, both countries have experienced colonialism, high rankings in corruption index, military juntas, diverse culture and people, and high population. In terms of economic development, as at the time of her independence Nigeria had higher GDP, however with successive years of bad leaders and the adoption of Structural Adjustment program (SAP) in the mid-1980 its economy took a downward trajectory, while Indonesia's economy has taken an upward trajectory which is evident in Indonesia been among G20-group of 20 major economies in the world (Akinyoade, 2012).

A number of research exist on comparative studies on Indonesia and Nigeria (Cohen, 1971; Diamond, 1982; Akinola, 1988; Bevan, Collier, & Gunning, 1999; Mustapha, 2006; McNicoll, 2011; Akinyoade, 2012; Fuady, 2012). Lewis, (2007) examined the stability in leadership during General Suharto and Nigeria leaders where he argued that *"the stability of Suharto's regime and his relatively consistent commitments to growth reveal a marked contrast to the sporadic tenure of Nigerian leaders and their strategies of clientelism, distributional politics, and economic predation"* (Lewis, 2007). This argument is evident in the fact that Nigeria experience change in government nine times between 1966 and 1998 coupled with civil war and botched democratic government on two occasions within the period under review. Akinyoade, (2012) examined the ministerial tenure stability between both countries and its effect on countries national development, he concluded that Indonesia ministerial stability allowed for policy formulation and implementation to take longer time which led to socio-economic development in Indonesia, while on the other hand, the ministerial tenure in Nigeria ranges from three months to two year which has ultimate effect on policy formulation and implementation. Fuady (2012) examined the role of elites in the economic development of both countries from mid-1960 to mid-1990's, he further argued that despite sharing similar political and socioeconomic conditions in the early 1960's, Indonesia has recorded huge success in its drive for economic development while Nigeria still lagged behind. He posited that this is largely due to both countries ways and manners of designing and

implementing economic policies. From the foregoing literature, studies have not touched on foreign economic relations between both countries.

The objectives of these paper are therefore to evaluate the foreign economic relations between Indonesia and Nigeria to provide recommendations on how Nigeria could partner with Indonesia to fast track the country's development considering the fact that Indonesia is more developed economically than Nigeria.

Methodology

This paper utilized secondary sources of data for the research; this includes journals, relevant books, periodicals, newspapers reports, internet sources, government releases, and pronouncement. Search engine used include Google scholar, with keywords such as Nigeria, Indonesia, trade, economic relations, and foreign policy.

Theoretical Thrust

The research utilized theory of comparative advantage. States in the international system differs in their environmental and natural resources which give them an edge over others when it comes to international trade. David Ricardo (cited in Khorto, 2018), According to him, a country which lacks absolute advantage in the production of some certain goods and services, should create an advantage by specializing in the production of certain goods with lowest absolute disadvantage. Furthermore, when states trade in goods which each country has a comparative advantage in its production, there would be increased in the quantity of goods thereby allowing increase in total consumption. In order words if a country specializes in the production of a good and service in which it is moderately efficient compared to other states or its competitor it will be successful (O'Brien & Williams, 2010).

Situating this theory within the context of the research, Indonesia is a success story in the agriculture sector, as stated in this research, Indonesia and Nigeria signed an MOU for agricultural development in Nigeria. Indonesia is known as world largest exporter palm oil, cinnamon and cloves. Also, it is the second largest producer of cassava, vanilla, nutmeg and coconut oil, and third largest producer of cocoa and rice. All this is largely due to progress in its agricultural sector which Nigeria can learn from Indonesia and become a force to reckon with in the international

system while also provided needed goods for the citizenry. While on the other hand, it is pertinent to state that Indonesia just like Nigeria is an oil producer, currently Indonesia oil production stands at 775,000 bpd of crude oil, while Nigeria produce over 2,000,000 bpd of crude oil. Nigeria has an advantage over Indonesia in crude oil production. This is also evident that Indonesia largest import from Nigeria is crude oil which stood at \$1.5 billion.

A Brief Overview of Indonesia's Economy and Economic Relations

Indonesia is the largest economy in Southeast Asia, and it operates a mixed economy in which both government and the private sector play a significant role. As at 2017, Indonesia's Gross Domestic Product (GDP) Purchasing Power Parity (PPP) stood at \$3.257 trillion while GDP nominal was \$1.020 trillion, thereby making it the 7th largest economy in terms of GDP nominal and in terms of GDP PPP it is currently the 15th largest economy in the world. In terms of per capita GDP, PPP is \$12,432 while per capita GDP nominal stood at \$3,895. The country is also G20 member nation. The services sector accounts for 43.3% of the country's GDP, these are followed by manufacturing sector with 42.9% and agricultural sector with 13.7% of GDP respectively. Indonesia is currently regarded as the largest producer of palm oil in the world, as it provides a half of the world needs. In 2017, United Nations Conference on Trade and Development (UNCTAD) stated that Indonesia is now the fourth investment destination in the world behind the United States, China, and India respectively. The country has also received favorable investment ratings from Fitch Ratings, Moody's investor service, and Standard & Poors (World Bank, 2017; Netralnews, 2017).

Indonesia is regarded as a 26th largest exporting country and 31st largest importing country in the world, as at 2015 total export volume stood at \$161 billion while import at \$139 billion, this meant \$21.7 billion of positive trade balance. Top export destinations include United States, China, Japan, Singapore, and India while its import origin includes China, Singapore, Japan, South Korea and Thailand. Indonesia exports products include coal briquettes, palm oil, petroleum, crude Petroleum, and rubber while its import products include refined petroleum, broadcasting equipment's, vehicle parts, crude petroleum, and telephones. In terms of figures, the top export destination accounted for \$20 billion (US), \$18.5 billion (China), \$18.5 billion (Japan), \$13.6 billion (Singapore), \$12.6 billion (India) among others. With respect to import figures \$34.4 billion

(China), \$27.8 billion (Singapore), \$11.3 billion (Japan), \$7.87 billion (South Korea), \$7.71 billion (Thailand) among others (Patunru & Rahardja, 2015, mit.edu, 2017)

A Brief Overview of Nigeria's Economic and Economic Relations

With the last rebasing of the Nigerian economy, the country overtook South Africa as the largest economy in Africa in 2013. Nigeria's economy can be described as a middle-income, emerging market and mixed economy with expansion in the country's financial, communication, manufacturing, entertainment, and technology sector. The country is ranked 21st largest economy in terms of nominal GDP and 20th largest country in terms of Purchasing Power Parity (PPP). The country's GDP is estimated at \$509.9 billion (nominal) and \$1,105.343 billion (PPP), GDP per capita 42,758. And GDP by sector is agriculture 17%, Industry 25.7% and Services 54.6%. The unemployment rate stands at 13.9 %. life expectancy for male 53.4 and for females 55.6 years. Nigeria is reputed for its oil as a major exporter of crude oil to countries around the world, government annual budget is usually estimated based on oil revenue projections which badly affect the economy when there is a fall in global oil prices. (CIA World Fact Book, 2017).

The total foreign trade in Nigeria as at end of Q4 in 2016 was 5.29 trillion naira, of the total import of 2.31 trillion naira and 2.98trillion naira. Major imports partner of Nigeria are as follows for export India ₦ 475,644,091,644.54, Netherlands ₦334,222,632,210.68 , United States ₦ 317,210,597,479.15, Spain ₦ 286,779,435,862.68 , South Africa ₦ 160,350,684,747.24 , France ₦ 158,260,566,454.83, Indonesia ₦ 113,219,360,429.19, Sweden ₦105,014,878,319.00, Singapore ₦ 99,216,784,298.2, Ivory Coast ₦ 81,260,161,635.54, while for import, China ₦404,130,210,499.33, Belgium ₦356,381,371,881.42, Netherlands ₦230,033,905,168.48, United States ₦205,648,529,762.85, India ₦113,890,987,967.49, United Kingdom ₦101,647,365,659.51, Germany ₦78,634,375,321.79, Brazil ₦78,024,954,496.00, France ₦75,091,192,736.96, Russia ₦38,847,210,702.00 (NBS, 2017). Some major agricultural export products include frozen shrimps and prawn, sesame seed, cashew nuts, crude palm kernel and flour and meals of soybean. Other sources of exports are crude oil which amounts to 45.9%, manufactured Goods 22.1%, non-crude oil products 21.8%, raw materials 5.85%, solid minerals 0.3%. (NBS, 2017)

Nigeria has experienced slow economic growth since 2015. It went from 6.25% in 2014 to 3.0% at the end of 2015, with inflation increase from 7.8% to 9.0%. This is partially attributed to falling global oil prices coupled with inadequate foreign exchange to fund request for the country's imports.

The table below compares socio economic condition in both Indonesia and Nigeria.

Table 1: Socio economic conditions in Indonesia and Nigeria

		Indonesia	Nigeria
Region		East Asia & Pacific	Africa
Land Mass		1,904,569 km ²	932,768 km ²
Population		261,115.456 million	185,989,640
GDP (PPP)	Total	\$3.257 trillion	\$1,125 trillion
	Per Capita	\$12, 434	\$5,960
GDP (Nominal)	Total	\$1.020 trillion	\$400.621 billion
	Per Capita	\$3,895	\$2,123
Life Expectancy		70.8	53.05
Poverty Rate		11.13% (28.51 million)	60.9% (112 million)
Currency		Indonesia Rupiah	Naira

Indonesia-Nigeria Relations

Indonesia-Nigeria relations is better understood within the context of South-South relations; which argues for the need for developing countries to work together for a common goal to foster development. Bi-lateral relations between Federal Republic Nigeria and Republic of Indonesia is traced to 1965 when Indonesia opened its first diplomatic mission in Sub Saharan Africa in Lagos Nigeria. Nigeria reciprocated in 1976 by opening a diplomatic mission in Jakarta. Since then Nigeria-Indonesia has enjoyed fruitful diplomatic and economic relations. Both countries are members of Developing 8 Countries, World Trade Organization, Non-Aligned movement.

To foster diplomatic and economic relations between both states, there have been several state's visit by Head of States of both countries, the first of which was in 2001, when Abdulrahman Wahid the Indonesian leader visited Nigeria in 2001, this was reciprocated by Olusegun Obasanjo the former Nigerian president who visited Indonesia in 2001, 2005 and 2006. The next high-level meeting between both countries was in New York in

2007 between President Susilo Yudhoyono of Indonesia and Nigerian leader Umar Musa Yar'Adua. Susilo Yudhoyono followed the New York meeting up with another meeting with Nigeria new president Goodluck Jonathan between February 2 & 3, 2013 (Bergstresser, 2007, 2017).

During the meeting, the both leaders agreed to improve relations between both countries especially with regards to improving Asia-Africa partnership because Nigeria is key to Africa. Both leaders also agreed to work on the achievement of Post-2015 Development Agenda as members of UN Secretary General High-Level Panel of Eminent Person. There were also agreements on improving cooperation in areas of Security and Defense sector especially with regards to the development of strategic industries, also it was agreed that there should be an exchange of information to counter insurgency and terrorism. Both presidents signed a Memorandum of Understanding on combating trafficking of illicit drugs, psychotropic substances, drug abuses and chemical used in making of these drugs. Indonesian president also invited Nigerian students to take part in scholarships provided for international students by the Indonesian government. With regards to sports, it was agreed that Nigeria would assist Indonesia in the development of football sector while Indonesia would assist Nigeria to improve on Badminton. Both leaders also agreed to support the Nigeria's candidate for International Fund for Agricultural Development while Indonesia's candidate for Director General of World Trade Organization 2013-2017 period also got the Nigeria support. Both leaders also agreed to reciprocal support their countries bid for a non-permanent seat at the United Nations Security Council (Nigeria 2014-2015) while Indonesia (2019-2020). This State visit between both countries has been usually followed by high-level meetings between Ministers of foreign affairs (Indonesia Ministry of Foreign Affairs, 2013).

To strengthen relations between both countries, it was agreed that a Bilateral Indonesia Nigeria Joint Commission be established to follow up the agreement during the meeting. This is to foster cooperation in global peace and security, democratization, agriculture, women empowerment, investment, social culture, good governance, mining among others. Both countries have also partnered in the areas of science and technology, staffs of National Infrastructure Science and Engineering Agency of Nigeria (NASENI) in 2013 and 2014 received training at HYCON in Badung, Indonesia as part of cooperation in the areas of science and technology. Indonesia has also worked to improve its ties with Nigeria through various

cultural diplomacy initiative such as the building of schools and donations to education facilities, organizing of cultural programs aims at showcasing Indonesia (Budaliksono, 2013).

In 2007, Indonesia's Corruption Eradication Commission (KPK) and Nigeria's Economic and Financial Crime Commission (EFCC) signed an MOU to foster cooperation in areas of fighting corruption. The importance of Nigeria to Indonesia relations is very important, being the largest country in Africa, Indonesia embassy in Nigeria is also accredited to Ghana, Gabon, Liberia, Benin, Cameroon, Burkina Faso, Sao Tome and Principe, Niger, Togo, Congo, and ECOWAS.

Economic Relations Between Indonesia and Nigeria

To cement their relationship and improve their economic relations, Indonesia and Nigeria signed Economic and Technical Cooperation agreement in 2001, which served as a precursor to the establishment of a Joint Commission in 2007, while the MOU was finally signed in 2010, these were done to promote relations between both countries especially with respect to import and export which is central to economic development. It is also noteworthy that in 2013, both countries signed a contract for the maintenance of airlines and aircraft. The Nigeria side was represented by Service Air Ltd, Kabo Air, Max Air, Silverback Africa and Hak Air, the \$2.2billion contract provided these companies an opportunity for their fleet to be maintained by Garuda Maintenance facility in Indonesia. The agreement was also signed between Chamber of Commerce and Industry Indonesia and Chamber of Commerce, Industry, Mines and Agriculture Nigeria, this was meant to improve bilateral economic relations between both countries private sector. Agreement on Preferential Trade Agreement on Tarif Reduction. There are also MOU on Fisheries and Marines, MOU for the improvement of agricultural products such as palm oil, cocoa, rubber plantation, and groundnut in Nigeria. Other bilateral agreements between both countries include cooperation in the protection of investments, reciprocal promotion, trade, agriculture, illicit drugs, and gas. This was evident in the agreement for the construction of \$2.5billion gas methanol and fertilizer plant. In 2017, during the Indonesia-Nigeria business forum Garuda Maintenance Facility and Max Air signed a \$3.4 million dollars on-site support operation. Indonesia's major exports to Nigeria includes palm oil, automotive parts, pharmaceuticals products, electronic products, paper products and soaps, while Nigeria mainly exports mainly leather raw

materials, cotton, fuel, consumer goods, textile and clothing, woods among other goods (Anozie, 2013; Echono, 2017). There are a few bodies that promote bilateral trade between both countries they include Nigeria-Indonesia Chamber of Commerce and the recently formed Nigeria-Indonesia Commercial Association, it was formed in 2014 in the aftermath of the visit of Indonesian president to Nigeria in 2013.

Trade relations between both countries have been fluctuating since 2014, in 2014 trade relations account for almost \$4 billion dollars (\$3.9billion), however, there have been declines since then to \$1.75 billion in 2015 and \$1.6billion in 2016. This meant between 2014 and 2015 trade volume dropped by 56%. This was largely attributed to falling in prices of crude oil in the global market, coupled with the fact that Indonesia buys crude from third parties not directly from Nigeria government, Direct trade between both countries is bound to improve trade volumes and strengthen relations between both countries (Salau, 2017). The decline in trade relations between both countries has been an issue of concern as both countries have continued high-level meetings to improve trade relations, these was evident in the visit of Indonesia's Foreign Minister and Minister of Trade and Investments visit to Nigeria in July 2017, who led a delegation of business interest from Indonesia to Nigeria to attend the Indonesia-Nigeria Business Forum, this was followed up with a meeting between Nigeria's Minister of National Planning and Indonesia's Ambassador to Nigeria.

Table 2: Indonesia–Nigeria trade between 2011 and 2015 (in million USD)

S/N	Year	Export	Import	Total Trade Value
1	2011	465.99	1626.87	2092.86
2	2012	413.08	2770.66	3183.74
3	2013	558.17	3122.45	3680.62
4	2014	648.61	3306.30	3953.91
5	2015	445.74	1288.15	1733.90
6	2016	310.82	1287.96	1598.78

Source Indonesia Ministry of Trade (2016) and Tarrósy (2016)

There are currently 15 major Indonesian companies operating in Nigeria, they include Indoroma, Kalbe Farma, Indofood, Sayap Mas Utama, Wings group among others. Indofood is currently the largest producer of instant noodles in Nigeria and Africa, it established a factory in Nigeria

in 1995, and it has grown to be the most widely consumed and popular noodles in the country. Recently the Nigerian acting President commissioned a fertilizer plant worth \$1.5 billion dollars built by Indorama Eleme Fertilizer company, the plant which has a capacity of 1.5 million metric tons of fertilizer will provide some opportunity, Nigerian farmers, to get fertilizers to boost yields and in the long run reduce Nigeria's dependent on imported food products. To foster agricultural cooperation between countries, Indonesia recently invited Nigeria to the Council of Palm Oil Producing Countries (CPOPC) for stabilization of palm oil prices and derivatives from palm oil. Both countries also have agreements on agriculture, in March 2011, Nigerian Minister of Agriculture and Rural Development and Minister of Agriculture of Indonesia signed an MOU on Agricultura Cooperation between both countries, these was to provide Nigeria an opportunity to get machinery, equipment products, training for farmers and other agricultural appliances which could benefit Nigerians (Indonesia Ministry of Foreign Affairs, 2012).

In order to better understand the foreign economic relations between Nigeria and Indonesia, table 3 and 4 provides the volume of import and export between both countries in the year 2017.

Table 3: Major Indonesia imports from Nigeria in 2017

Goods	Value	Year
Mineral fuels, oils, distillation products	\$1.55B	2017
Cocoa and Cocoa preparations	\$30.5M	2017
Cotton	\$1.25M	2017
Raw hides, Skins and Leather	\$756.18k	2017
Machinery, Nuclear Reactors and Boilers	\$718.10k	2017
Aluminum	\$456.54k	2017
Oil Seed, Oleagic fruit, grain, seed, fruit	\$351.59k	2017
Lead	\$175.48k	2017
Manmade stable fibers	\$161.44k	2017
Coffee, tea, mate and spices	\$40.75k	2017

Source: UN Comtrade

Table 4: Major Nigeria imports from Indonesia in 2017

Goods	Value	Year
Animal, vegetable fats and oil products	\$99.10M	2017
Paper and paperboard, articles of pulp, paper and board	\$91.04M	2017
Mineral fuels, oils, distillation products	\$35.53M	2017
Miscellaneous edible preparations	\$32.96M	2017
Organic chemicals	\$28.06M	2017
Essential oils, perfumes, cosmetics, toiletries	\$16.13M	2017
Machinery & Nuclear Reactors	\$13.69M	2017
Plastics	\$13.08M	2017
Miscellaneous chemical products	\$11.06M	2017
Soaps, lubricants, waxes, candles, modelling pastes	\$10.95M	2017
Inorganic Chemicals, precious metal compound	\$7.74M	2017
Ships, boats, and other floating structures	\$1.52M	2017
Aircraft, Spacecraft	\$37.39K	2017

Source: UN Comtrade

Partnership for Economic Development

From this research, it was observed that trade relations between Indonesia and Nigeria has been on the decline due to the inability of both states to improve its relations and work out modalities on improving partnership between both countries, It is pertinent to note that Indonesia is currently the largest producer and exporter of palm oil in the world, proceeds from the exports account for Indonesia's second largest export and it stood at \$12.3 billion, despite been one of the pioneer palm oil producers the contribution of palm to foreign income of the country is insignificant. Nigeria could improve its bilateral relations in areas of agriculture to benefit from palm oil and other agricultural products which are abundant in the country, Indonesia could assist Nigeria with the needed expertise to improve its palm oil and other agricultural products industry. Nigeria can partner with Indonesia to improve its agriculture sector which could serve as an important avenue for foreign exchange earnings and help the country improve the economy in general.

It is also important to note that Indonesia is more of an export country, unlike Nigeria which is import dependent economy, the total export 2015 volume stood at \$161 billion while import at \$139 billion, this meant

\$21.7 billion of positive trade balance, while Nigeria total export bill was \$47.8billion and import bill of \$39.5billion in 2015, these shows that Nigeria experience a minimal trade balance of just \$8.26billion compared to Indonesia's \$21.7billion. This is largely due to industrialized nature of Indonesia which has made it possible for the country to experience a positive trade balance which will, in turn, improves its country economic standings. Nigeria has also blessed abundantly with natural resources which could help facilitate the countries drive for industrialization and dependency in the global economy.

Conclusion

The paper was able to access Indonesia-Nigeria relations within the context of trade and economic relations. Indonesia been one of the G20 countries has been able to record some success with regards to industrialization and development, which provides an opportunity for Nigeria to learn from. It is also pertinent to point out that more than 70% of Indonesia economy was formerly based and dependent on agriculture, it has been reduced to only 40%. Nigeria needs to also reduce its dependence on oil sector towards non-oil sector. The research also reveals that 2014 was the peak of Indonesia-Nigeria relations as trade volume was about \$4 billion dollars however since then both countries have recorded decline in their trade, this was largely attributed to falling in oil prices and lack of proper coordination between both countries to explore other areas of interest outside crude oil trade. Using the theory of comparative advantage, the research deduced that Indonesia has a comparative advantage in the agricultural sector which has made it the largest producer of some goods. This is evident that top of Nigeria import from Indonesia are agricultural products such as animal, vegetable fats and oils products which amount to about a hundred million dollars. The paper also concludes that Nigeria can learn from Indonesia determination to improve its agricultural sector especially the palm oil (seedling) which was gotten from Nigeria, also Nigeria can also learn from Indonesia for it to diversify its export to get more source revenue.

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Foreign Aid, Foreign Direct Investment and International Workers' Remittances in Nigeria: Are they Complement or Substitute Investment?

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This study examined the complementarity and substitutability effects of capital flows (foreign direct investment (FDI), foreign aid (AID) and international workers' remittance) on economic growth in Nigeria for the period 1970 to 2016. Employing the Vector Error Correction Modelling (VECM) technique, the study observed that foreign direct investment and foreign aid are substitute investment in influencing economic growth; foreign aid and international workers' remittances are complement investment in promoting economic growth while foreign direct investment and international workers' remittance are substitute investment in influencing economic growth in Nigeria. Based on the above findings, the study recommends the need to re-direct the flow of foreign direct investment from rent-seeking sector such as the oil sector to growth enhancing sectors such as the manufacturing, service, tourism and agricultural sectors. Also, there is the need for government to channel the flows of foreign aid towards to investment channels, as this will enhance the growth of the Nigerian economy.

Keywords: Foreign Direct Investment, Foreign Aid, International workers' Remittance, VECM, Nigeria.

JEL Classification: F21, F24, F35.

1. Introduction

Developing economies have largely struggled on the need to promote economic growth owing to various macroeconomic challenges such as

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high level of unemployment, high poverty level and investment deficiencies to mention a few (Adeleke, 2014; Olise, Anigbogu & Okoli, 2013). The aftermath of the global financial crisis on developing countries and instability in the international commodity markets have further made the achievement of sustained growth by these developing countries elusive. Thus, capital flows (foreign aids, foreign direct investment and remittances) are seen as essential tools for developmental finance in the attainment of economic growth and other developmental goals. Theoretical and empirical literatures have largely shown the significant influence of these foreign inflows on economic growth in developing countries (Xu, Zhang & Bhavan, 2010; Kosack and Tobin, 2006). While the 2002 United Nation Monetary Consensus affirmed the complementary role of foreign aid to other sources of external financing (such as foreign direct investment and international workers' remittances); the nature of the relationship among these capital flows in influencing economic growth has been a subject of intense debate. This debate centered on whether the capital flows are complement or substitute investment in influencing growth; and literatures on this issue is dichotomized into three distinct stands.

Firstly, some studies claimed that capital inflows are complementary in enhancing economic growth (see Selaya & Sunesen, 2012; Wang & Balasubramanyam, 2011; Bhavan, Xu & Zhong, 2011; Kimura & Todo, 2010; Asiedu, Jin & Nandwa, 2009; Hein, 2008; Harms & Lutz, 2006). According to these authors, foreign direct investment is often driven by the presence of strong absorptive capacity (such as basic infrastructures; stable political and macroeconomic environment; quality labour force among others). The absence of these factors in most developing countries has increasingly called for foreign aid. Foreign aid in the form of projects funded by the World Bank have increasingly included components of public sector reforms in areas such as anticorruption, legal and judicial systems, public expenditure management, fiscal transparency and civil service while administrative capacity building has equally become a significant part of recent World Bank concessional loans³ (Karakaplan,

³ Knack (2001) noted that World Bank lending in support of public sector institutional reforms increased from US\$4 billion in 1997 to US\$ 7.5 in 1999; the share of approved projects that include public expenditure and financial reform components increased from 9% to 28%, while the share of those that include anticorruption or fiscal transparency components increased from 8% in 1998 to 50% in 2000 (Karakaplan et al., 2005).

Neyapti & Sayek, 2005; Knack, 2001). The presence of these investment enhancing facilities in developing countries through foreign aid help in creating enabling environment that attracts and spurs the performance of foreign private capital in promoting economic growth. Besides, foreign aid could increase the inflow of workers' remittance through the provision of physical and financial infrastructures that can reduce the transaction cost of sending money by migrants. Furthermore, by improving the home country's absorptive production capacity (by building human capital and improve macroeconomic performance), could influence international workers' remittances and private capital inflows which in turn may promote economic growth of the recipient economy (Kpodar & Le Goff, 2012).

Secondly, some literature posited that capital inflows act as substitute for each other which may slow down economic growth (see Wang & Balasbramanyam, 2011; Caselli & Feyrer, 2007; Karakaplan et al., 2005). Caselli and Feyrer (2007) noted that the marginal product of capital is roughly the same across countries and increasing foreign aids flow to developing countries will lower the marginal product of capital in these countries. Moyo (2010) and Tandon (2008) noted that foreign direct investment will replace foreign aid as the main drive for economic growth in developing countries due to radical modification on the terms and conditions imposed by the foreign aid donors. Also, when foreign aid is in form of investment in physical capital, it competes directly with other types of capital and thus substitutes for private investment (Selaya & Sunesen, 2012). Kpodar and Le Goff (2012) noted that international workers remittance could reduce foreign aid flows when remittances are invested in human and physical development rather than consumption, thereby improving access to health and education; and reducing the need for foreign aid. Finally, the third strand argued that capital inflows are unrelated in influencing economic growth (see Carro & Larru, 2010; Kimura & Todo, 2010; Kosak and Tobin, 2006). These authors stressed that foreign aids are directed towards strengthening fiscal operations of the government and improving human capital development while foreign direct investment is concentrated exclusively on physical capital.

Besides the empirical contentions on the nature of the relationship among foreign capital flows on economic growth, available data from World Development Indicators (WDI) showed that in recent times international

workers remittance has increased over foreign direct investment and foreign aid (Aziz, Sen, Sun & Wu, 2015; Dzansi, 2013; Meyers, 2002). The seemingly decline in foreign aid calls to question its complementary role to other sources of external financing and also makes it difficult to say with precision if these foreign capital complements or substitutes each other in promoting growth. While the debate on the complementarity and substitutability among capital inflows is a growing one (see Bhavan et al., 2011; Wang & Balasubramanyam, 2011; Chansomphou & Ichihashi, 2011; Janský, 2012), the author is unaware of any empirical studies relating to this issue in Nigeria. Most of the studies in Nigeria focused extensively on the individual impact of these foreign capital inflows on economic growth (see Nkoro & Uko, 2015; Chigbu, Ubah & Chigbu, 2015; Danladi & Akomolafe, 2013). Consequently, this study aims at filling the gap in literature by providing answers to the following questions. (i) Is foreign direct investment and foreign aid complement or substitute or neutral in influencing growth in Nigeria? (ii) Is foreign direct investment and International workers' remittances complement or substitute or neutral in influencing growth in Nigeria? and (iii) International workers' remittances and foreign aid complement or substitute or neutral in influencing growth in Nigeria?

2. Literature Review

While studies exist on the individual impacts of capital flows (foreign direct investment, foreign aid and international workers' remittances) on economic growth and also on the determinants of these capital flows. The few studies on the complementarity and substitutability impact of foreign capital on economic growth are presented below. Javaid (2017) examined the impact of external capital flow (foreign direct investment, foreign aid and international workers' remittances) on economic growth in Pakistan for the period 1973 to 2014. The study employed autoregressive distributed lag technique and the result of the study showed that foreign direct investment and foreign aid are complementary investment in promoting economic growth while foreign direct investment and international workers' remittance are substitute investment in influencing economic growth. The study further observed that foreign aid and international workers' remittance had substitute effect on economic growth. Abdiaziz and Abdulkadir (2016) examined the impacts of foreign direct investment, foreign aid and domestic investment on economic growth in Somalia for the period 1970 – 2014. Employing the ordinary

least squares, the study observed that the investment variables are complementary in influencing economic growth in Somalia.

Janský (2012) examined the substitutability or complementarity hypothesis between official aid (Aid) and Foreign Direct Investment (FDI) for a group of 180 countries for the periods 1971 to 2007. Using panel regression estimate, the result of the study showed that foreign aid and foreign direct investment were substitutes rather than complements. Also, the result of the study showed no evidence or causation between foreign aid and foreign direct investment. Selaya and Sunesen (2012) examine the complementarity between composition of foreign aid and foreign direct investment. The study observed that foreign aid invested in complementary inputs complement foreign direct investment while foreign aid invested in physical capital crowds-out foreign direct investment. The study concluded that the composition of aid matters for its overall level of efficiency.

Wang and Balasubramanyam (2011) examined the complementarity between foreign aid and foreign direct investment for a cross section of 58 provinces in Vietnam over the period. Employing a panel regression technique, the result of the study showed that foreign aid had a significant impact of the inflow of foreign direct investment in Vietnam. Also, the result of the study showed that foreign aid and foreign direct investment were substitute investment in growth process while the interactive term between foreign aid and foreign direct investment had significant impact on economic growth in Vietnam. Mallaye and Yogo (2011) examined whether remittances, foreign direct investment and foreign aid are complement or substitute investment in fragile states. The study used a cross-country panel data of 33 fragile states for the period 1995 to 2008. Employing a three stages least square (3SLS) technique, the study observed that foreign aid complemented both remittances and foreign direct investment. However this effect partially vanished after a certain level of GDP per capita. The study observed that the threshold effect arise when the level of GDP per capita equal 305 USD for the whole sample of fragile states and 260 USD for Sub-Saharan fragile states. The threshold results suggest that as far as foreign aid complements both remittances and foreign direct investment, an optimal policy in the case of fragile states should rely on the increase of foreign aid which can lead to the increase of remittances and foreign direct investments.

Bhavan, Xu and Zhong (2011) examined the relationship between decomposed Official Development Assistance (ODA) and foreign direct investment (FDI) in five South Asian countries (Nepal, Pakistan, India, Sri Lanka and Bangladesh). The study utilized co-integration and granger causality techniques. The co-integration estimate showed the existence of a long-run relationship between official development assistance for physical capital development and foreign direct investment in Sri Lanka, Pakistan, Nepal, India and but not in Bangladesh. Also, the co-integration estimate showed the existence of a long run relationship between foreign direct investment and official development assistance for human capital and infrastructure development in India, Nepal, Bangladesh and Sri Lanka, but not in Pakistan. The causality estimate showed a unidirectional causation from official development assistance for physical capital development to foreign direct investment in Nepal while in Sri Lanka and Pakistan the direction of causality is from foreign direct investment to official development assistance for physical capital development. The causality result also showed a bi-directional causality between official development assistance for physical capital development and foreign direct investment in India. Finally, the panel regression estimate showed that foreign aid complements foreign direct investment in South Asian economies. The study concluded that the argument that official development assistance for physical capital development acts as substitute for foreign direct investment is weak in case of South Asian countries. Thus, the study proposed that receiving foreign aid in the form of human capital and infrastructure development complements foreign direct investment in South Asian region.

Arazmuradov (2011) examined the relationship between foreign aid, foreign direct investment and their effect on domestic investment in five landlocked and emerging economies of Central Asia for the period 1992 to 2009. These economies include Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The study adopted a seemingly unrelated regression technique and the empirical analysis on foreign aid-foreign direct investment link was conducted on two levels: regional and country. On regional level, it was revealed that: (a) foreign aid has a positive effect on the flows of foreign direct investment; (b) foreign aid and foreign direct investment are complement flows, and (c) foreign direct investment complements domestic investment, while foreign aid decreased it. On country level, the result showed that foreign aid and foreign direct

investment are complementary investment only in Kyrgyzstan and Tajikistan.

Kimura and Todo (2010) examined the relationship between foreign aid and foreign direct investment flows in less developed countries. The study employed a large data set of source-recipient country pairs and conducted gravity equation-type estimation. The findings of the study showed that foreign aid in general does not have any significant effect on foreign direct investment. However, when the study allowed for differences in the size of foreign aid effects across donor countries, it was observed that foreign aid from Japan in particular has a vanguard effect, that is, Japanese foreign aid promoted foreign direct investment from Japan but does not attract foreign direct investment from other countries. Edwards (2010) examined the effects of workers' remittances and foreign aid on economic growth for a group of 22 Latin American and Caribbean Countries (LACs) for period 1979 to 2008. Applying a fixed effects panel estimate, the study showed that workers' remittances and foreign aid inflows had negative impact on economic growth. Furthermore, the study revealed that workers' remittances and foreign aids are substitute investment in influencing economic growth.

Blaise (2009) examined the nexus between Japan's official development assistance and foreign direct investment flows in Southeast Asian countries. The result of the study showed that foreign aid complement or crowd-in foreign direct investment among the Southeast Asian countries. Kosack and Tobin (2006) examined the role of foreign aid, foreign direct investment and government in economic success. The study also investigated the substitutability / complementarity hypothesis between foreign aid and foreign-direct in promoting economic development of the world's poorer countries. The result of the study showed that foreign aid and foreign direct investment had differential impact on economic development. Specifically, foreign aid had positive and significant effect on economic growth and human development while foreign direct investment was insignificant in influencing economic growth and actually slowed the rate of human development in less-developed countries. Also, the study found no evidence that the effectiveness of either aid or FDI was conditioned on the degree of democratic responsiveness in government while it equally observed that democracy independently increases human development in all but the most developed countries. The study concluded

that FDI and foreign aid were not substitutes investment in the development of the world's poorer countries neither can they be thought of as complements because of their differential impact on economic development. The literature review above showed that the issue complementarity and substitutability among capital flows in influencing economic growth is controversial and the results can best be described as inconclusive. Furthermore, most of these studies were not relating to the Nigerian economy, therefore, the policy references of the studies are of little or no relevance owing to the differences in political and economical circumstances.

3. Research Methodology

3.1 Theoretical Framework/Model Specification

This study employed the standard neoclassical Solow's growth model as its theoretical framework in which output "Y" is a function of technology "A", (production efficiency), labour "L" and "K" capital. The model is specified as:

$$Y_t = f(AK^\alpha L^{1-\alpha}) \quad (1)$$

where A is assumed to be greater than zero and α is a constant with $0 < \alpha < 1$. The neoclassical production function can be written in intensive form as:

$$y = Ak^\alpha \quad (2)$$

Capital (k) in a broad sense can be decomposed into human capital (k_H^β) and physical capital (k_P^ψ) as in Lucas (1988). Thus,

$$k_t = (k_H^\beta, k_P^\psi) \quad (3)$$

Incorporating equation (3) into equation (2), we have:

$$y_t = Ak_H^\beta k_P^\psi \quad (4)$$

Following studies by Catrinescu, Leon-Ledesma, Piracha and Quillin (2009) and Burnside and Dollar (2000) physical capital is divided into public and private capital. Since foreign aids is a source of government revenue, then public investment is partly financed by foreign aid while private investment is composed of domestic investment, foreign direct investment and workers' remittance (Driffield and Jones, 2013). Thus, physical capital (k_p^ψ) is a function government spending (GS), foreign aid (AID), domestic investment (DI), foreign direct investment (FDI) and international workers' remittance (WR) that is:

$$k_F^\psi = (GS^\phi, AID^\theta, DI^\varphi, FDI^\eta, WR^\tau) \quad (5)$$

where ϕ , θ , φ , η and τ are the capital share of government spending, foreign aid, domestic investment, foreign direct investment and workers' remittance respectively. Foreign aids can influence growth directly or via public investment while foreign direct investment and international workers' remittances influence growth via external private sources (Driffield and Jones, 2013).

Substituting equation (5) into equation (4) gives:

$$y_t = Ak_H^\beta GS^\phi AID^\theta DI^\varphi FDI^\eta WR^\tau \quad (6)$$

Thus, the estimating form of equation (6) is:

$$y_t = A_t + \beta k_{Ht} + \phi GS_t + \theta AID_t + \varphi DI_t + \eta FDI_t + \tau WR_t + \varepsilon_t \quad (7)$$

Equation (7) is re-written as:

$$y_t = \delta_0 + \delta_1 TSE_t + \delta_2 GS_t + \delta_3 AID_t + \delta_4 DI_t + \delta_5 FDI_t + \delta_6 WR_t + \varepsilon_t \quad (8)$$

A_t , β , ϕ , θ , φ , η , τ and k_H in equation (7) are represented by δ_0 , δ_1 , δ_2 , δ_3 , δ_4 , δ_5 , δ_6 and TSE in equation (8). In equation (8), y_t is per capital GDP; TSE_t is human capital measured by tertiary school enrolment (TSE); GS_t is total government spending measured by the sum of recurrent and capital expenditure; AID_t is foreign aid measured by net overseas development

assistance (ODA) and official aid received by the Nigerian economy; DI_t is domestic investment measured by bank credit to the private sector; FDI_t is foreign direct investment measured by the annual aggregate flow on direct investment into Nigeria;; WR_t is workers' remittance measured by the sum of personal transfers and employees' compensations which are remitted to the migrants households in Nigeria.

Data on government spending, domestic investment and foreign direct investment were obtained from the various volumes of Central Bank of Nigeria (CBN) Statistical bulletin while data on per capita GDP, foreign aid and workers' remittance were obtained from World Development Indicator (WDI).

4. Data Analysis and Interpretation

4.1 Descriptive Statistics

The descriptive statistics of the variables of estimate are presented in table 1 below⁴. From the table, it is observed that the mean (average) values of GDP per capital (GDPPC) tertiary school enrolment (TSE), government spending (LGS) and foreign aids (LAIDS) are 0.0027, 5.06, 11.70 and 19.30 respectively while the mean values for domestic investment (LDI), foreign direct investment (LFDI) and international workers' remittances (LWR) are 11.48, 9.54 and 18.94 respectively. Also, the standard deviation statistics showed that workers' remittance (LWR) is the most volatile variable while GDP per capita (0.0018) is the least volatile variable. The skewness statistics showed that government spending (LGS) and foreign direct investment (LFDI) were negatively skewed while the remaining variables were positively skewed. The kurtosis statistics showed that all the variables were platykurtic, suggesting that their distributions are flat relative to normal distribution. Finally, the Jarque-Bera statistic accepts the null hypothesis of normal distribution for all the variables at five percent critical value.

⁴ For the graphs of the variables see Appendix section.

Table 1: Descriptive Statistics

Variables	GDPPC	TSE	LGS	LAIDS	LDI	LFDI	LWR
Mean	0.0027	5.0613	11.7019	19.3032	11.4820	9.5370	18.9400
Std. Dev.	0.0018	3.5576	2.7590	1.6066	2.5299	3.4461	3.5582
Skewness	0.2717	0.4446	-0.1364	0.5907	0.0915	-0.0789	0.0976
Kurtosis	2.5960	1.6980	1.6381	2.3202	1.6631	1.3704	1.5431
Jarque-Bera	0.8978	4.8684	3.7782	3.6383	3.5656	5.2493	4.2311
Probability	0.6383	0.0877	0.1512	0.1622	0.1682	0.0725	0.1206
Observations	47	47	47	47	47	47	47

Source: Author, 2017.

4.2 Unit Root Test

This study commenced its empirical analysis by conducting the unit root test based on the Augmented Dickey Fuller test. The results of the test are presented in table 2. From the table is observed that the variables were integrated of order one, suggesting that the variables are I(1) series.

Table 2: Unit Root Test

Augmented Dickey Fuller (ADF) Test			
Variables	Level	1 st Difference	Status
GDPPC	-0.2743	-6.7989*	I(1)
TSE	0.0385	-7.84410*	I(1)
LGS	-1.7095	-7.5037*	I(1)
LAIDS	-0.4728	-6.0634*	I(1)
LDI	-0.9699	-4.9362*	I(1)
LFDI	-0.6093	-9.4822*	I(1)
LWR	-1.0376	-4.3452*	I(1)
Critical Values	Level	1 st Difference	
1%	-3.5812	-3.5847	
5%	-2.9266	-2.9281	
10%	-2.6014	-2.6022	

Source: Author, 2017. * implies one percent significance level. The automatic maximum lag length for the Augmented Dickey Fuller (ADF) unit root test was based on Schwarz Info Criterion.

4.2 Co-integration Estimate

Sequel to the unit root test, the Johansen co-integration test examined the existence of co-integration among variables. From the co-integration estimate on table 3 below, it was observed that the null hypothesis of no co-integration for none and at most one were rejected by the trace and maxi-eigen tests because the statistic values were greater than the critical values while the null hypothesis of no co-integration for at most 2 was not rejected by both tests, suggesting the existence of two co-integrating equations. Thus, the trace and maxi-eigen statistic asserted the existence of a long run relationship among the variables in equation (8).

Table 3: Co-integration Estimate

Trace Test			Maximum Eigen value Test		
Hypothesized No. of CE(s)	Statistics	0.05 Critical values	Hypothesized No. of CE(s)	Statistics	0.05 Critical values
None*	165.68	125.62	None*	62.37	46.23
At most 1*	103.30	95.75	At most 1*	49.76	40.08
At most 2	53.54	69.82	At most 2	24.43	33.88

4.3 Regression Estimates

Sequel to the existence of co-integration among the variables in equation (8), this study proceeds to estimate the complementarity and substitutability impacts of capital flows on economic growth in Nigeria using the Vector Error Correction Modelling (VECM) technique. The VECM long run regression estimate presented on table 4 below showed that tertiary school enrolment (TSE), government spending (GS) and foreign direct investment (FDI) had negative and significant effects on per capita GDP in Nigeria. The adverse effect of tertiary school enrolment on per capita GDP could result from the high level of graduate unemployed graduates in the labour market while the adverse effect of government spending on per capita GDP could result from poor implementation of the yearly budget and the lack of government spending on infrastructural facilities capable of enhancing the production of the real sector. The negative and significant effect FDI on per capita GDP suggests that the inflow of foreign direct investment impedes economic growth in Nigeria. Also, the negative effect of foreign direct investment

in Nigeria could result the argument that foreign direct investment takes advantage of market imperfections of the host country, thereby affecting the economy negatively.

From table 4, it was observed that foreign aid (LAID) and international workers' remittances (LWR) had positive and significant impact on per capita GDP. The positive impact of foreign aid stem from the fact the Nigerian government have been a recipient of foreign aid in the form of finance and otherwise which might have contributed to influencing the per capita GDP while the positive contribution of international workers' remittance stems from the increased volume of remittance inflows into the country which have influenced the volume of consumption and investment and hence economic growth However, domestic investment (LDI) had positive but insignificant effects on per capita GDP. Finally, the error correction term (ECM) was insignificant and non-negative indicating no feedback movement from short run disequilibrium to the long run equilibrium.

Table 4: VECM Regression Estimate

INDEPENDENT VARIABLES							
	TSE (-1)	LGS (-1)	LAID (-1)	LDI (-1)	LFDI (-1)	LWR (-1)	ECM (-1)
Coefficient	-2.7293	-5.946	7.814	-2.270	-5.331	1.755	0.048
t-Statistics	-3.995*	-3.451*	6.302*	-1.547	-6.122*	4.716*	0.0737

Source: Author, 2017. Note: * denotes 1% significance level.

With respect to the focus of this study which is to examine the complementarity and substitutability effects of capital flows on economic growth in Nigeria, it was evident that foreign direct investment and foreign aid had alternate signs, indicating that these capital flows are substitute investment in promoting economic growth in Nigeria. This result supports the findings of Jansky (2012) and Wang and Balasubramanyam (2011) but in contrast to those obtained by Javaid (2017), Abdiaziz and Abdulkadir (2016), Selaya and Sunesen (2012), Bhavan et al. (2011) and, Kosack and Tobin (2006). With respect to the second research question, the regression estimate showed that foreign aid and international workers' remittances had similar signs and their

coefficients are statistically significant, indicating that these capital flows are complement investment in promoting economic growth in Nigeria. This result is in support of the findings by Mallaye and Yogo (2011) and Kpodar and Le Goff (2011) and but in contrast to the findings of Javaid (2017) and Edwards (2010). Finally, with respect to the third research question, this regression estimate showed that foreign direct investment and international workers' remittance had alternate signs with significant coefficient values, suggesting that these foreign capitals are substitute investment in influencing economic growth in Nigeria. This finding is in support of the findings by Javaid (2017) and Muhammed, Sallahuddin and Khairuzzaman (2013) but in contrast to that obtained by Chami, Fullenkamp and Jajah. (2003).

The robustness of the VECM regression estimate above is shown conducting the Serial Correlation LM Test. The Serial Correlation LM test confirmed the absence of serial correlation in the residuals of the VECM estimate. This is because the probability values of the LM-Statistics at various lags were insignificant, suggesting that the residuals were conditionally normally distributed and the estimate can be used for policy inference.

Table 5: VEC Residual Serial Correlation LM Tests

Lags	LM-Statistics	Probability
1	34.768	0.9379
2	55.555	0.2415
3	41.635	0.7632
4	54.399	0.2765
5	40.847	0.7898

Source: Author, 2017.

5. Conclusion and Policy Recommendation

This study examined the complementarity and substitutability effects of capital flows (foreign direct investment (FDI), foreign aid (AID) and international workers' remittance) on economic growth in Nigeria. The study covered the period 1970 to 2016 and employed the Vector Error Correction Modelling (VECM) technique. The results from the VECM estimate showed that foreign direct investment and foreign aid are

substitute investment in promoting economic growth; foreign aid and international workers' remittances are complement investment in promoting economic growth while foreign direct investment and international workers' remittance are substitute investment in influencing economic growth in Nigeria. Based on the above findings, the study recommends the need to re-direct the flow of foreign direct investment from rent-seeking sector such as the oil sector to growth enhancing sectors such as the manufacturing, service, tourism and agricultural sectors. Also, there is the need for government to channel the flows of foreign aid towards to investment channels, as this will enhance the growth of the Nigerian economy. Further, there is the need for value re-orientation on the prudent use of international workers' remittance by the recipient households in investment purposes rather than on consumption. Such investment will ultimately enhance the growth of the Nigeria economy.

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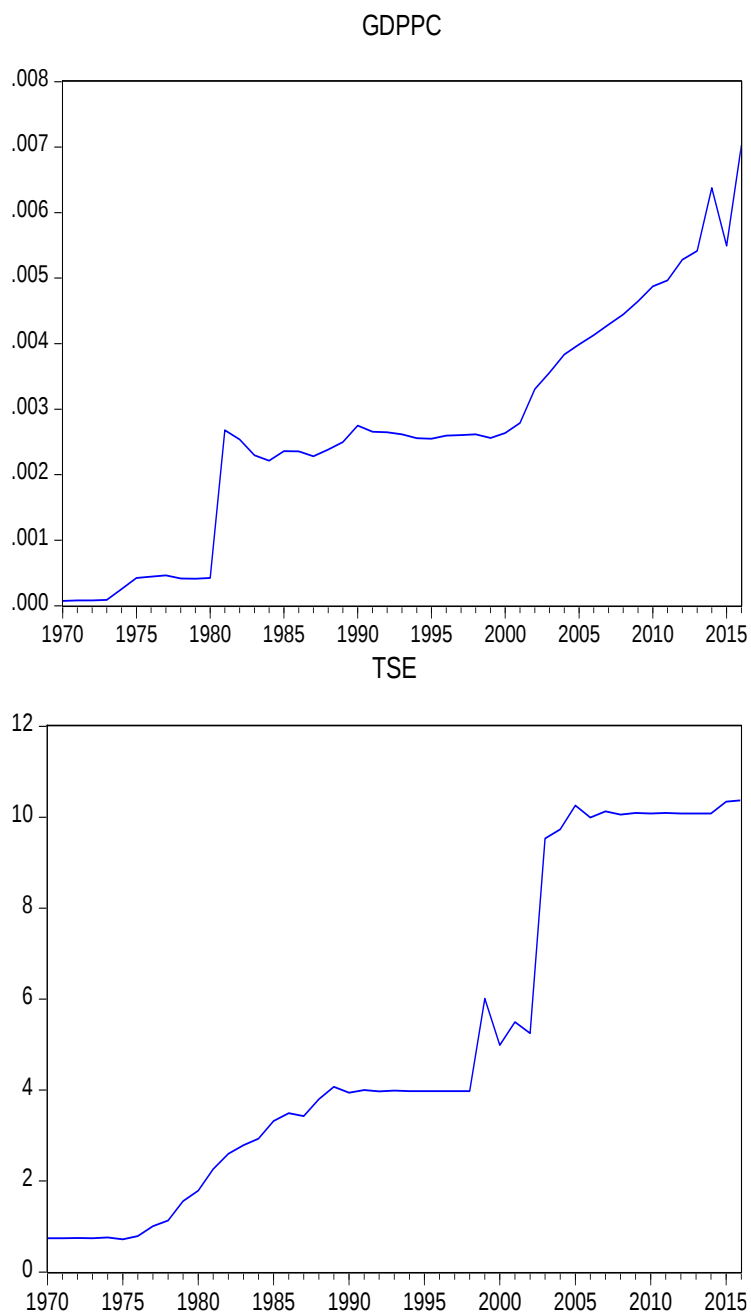
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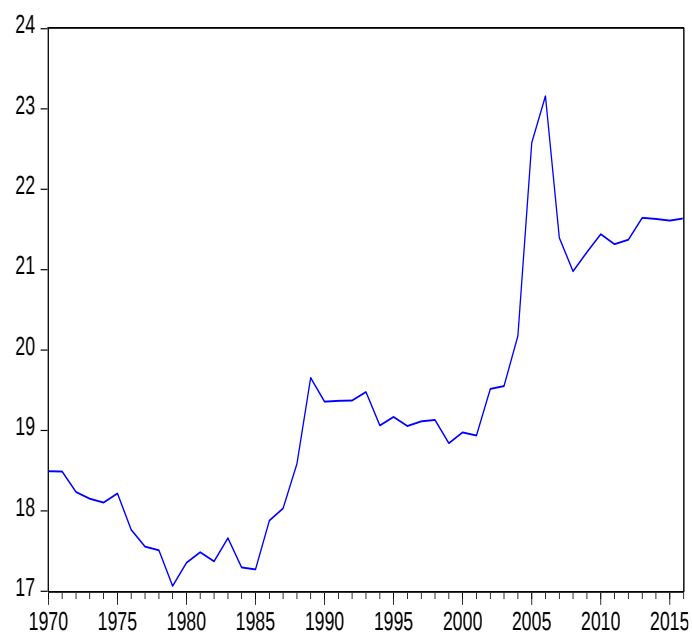
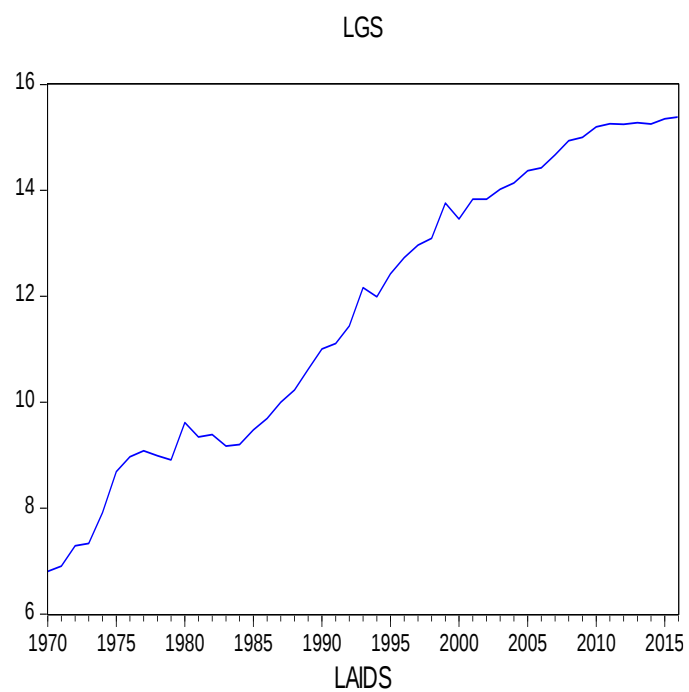
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Appendix: Graphs of the Data



Gross Domestic Product Per Capita (GDPPC)

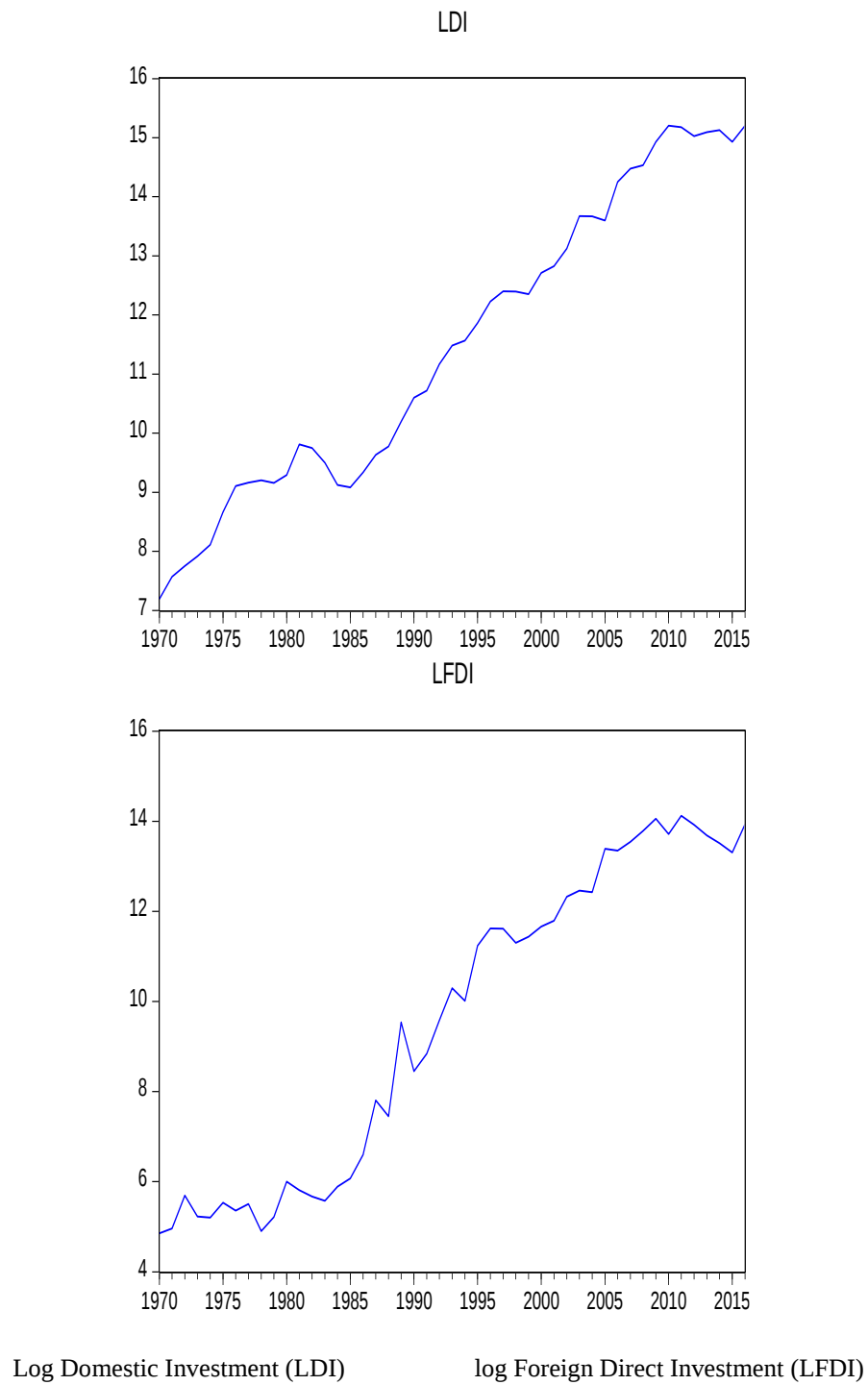
Tertiary School Enrolment (TSE)

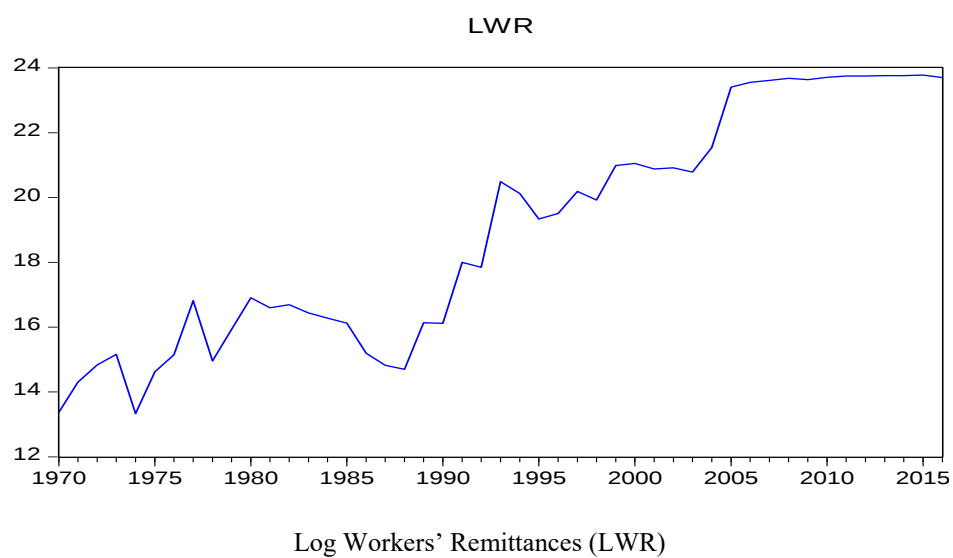


Log Government Spending (LGS)

Log Foreign Aids (LAIDS)

98 Foreign Aid, Foreign Direct Investment and International Workers' Remittances in Nigeria: Are they Complement or Substitute Investment?





Modeling the Effects of Macroeconomic Expenditure Components on Pakistan's Import from China

Sadaf Majeed¹

This study attempts to highlight the response of import demand from China with macroeconomic expenditure components and relative price in case of Pakistan over the period 1972-2016. The (ARDL) Autoregressive Distributed Lag approach is used to drive the long run elasticities of the import demand. The results indicate that there exists a long run cointegration between Pakistan's import from China and macroeconomic expenditure components: personal consumption expenditure, investment expenditure, export expenditure, government expenditure and relative price. Moreover, import demand is more sensitive to change in personal consumption expenditure. The investment expenditure is found to have negative impact on Pakistan's import from China. In addition the export and government expenditure have significant positive impact on import demand, whereas the relative price is positive but insignificant. It is recommended therefore that to restrict import through exchange rate policy may not be significantly important in the long run. Furthermore, the fiscal and monetary policy should be designed to support investment and export sectors. In addition, government should reduce luxury items import from China and revive free trade agreement in order to reduce trade deficit in Pakistan.

Key words: Investment, import demand, exchange rate, expenditure components

JEL Classifications: E22, F14, F31, F41

1. Introduction

The research over international trade has become an important key policy task in the global economy. Imports become a major discussion part of international trade in the current scenario due to its importance to

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stimulate economic growth and on the other side its negative effects on trade balance of the economy.

Many researchers estimated the import demand function more in depth to resolve the problem of trade deficit and provided useful policy implications in this regard. Pakistan facing same trade deficit problem like other developing countries. The export penetration ratio was about 10.5% in 2011-12 while it has been declined up to 7.4% in 2015-16 as this decline was mainly associated with low global demand and domestic energy crisis, on the other hand the import penetration ratio was 20.0% in 2011-12 but in 2015-16² it decreased by 16% and this decline was due to low oil prices. Pakistan's economy is highly reliant on imports of petroleum products, capital goods, industrial raw material, automobile and machinery, etc. These facts indicate that the economy of Pakistan is highly dependent on import demand and thus, facing trade deficit.

However, a meaningful research is essential from the macroeconomic perspective because country's reliance on imports is increasing consistently. The previous studies were mainly based on traditional approach, but later on traditional approach has been converted into expenditure approach in which import demand is estimated with expenditure components, this analysis give depth analysis of import demand over traditional approach. There exist a number of research that has received more attention to discuss the issue of import demand and expenditure components such as Alias and Cheong (2000), Xu (2002), Abbott and Seddighi (1996), Funke and Nickel (2006) and Fukmoto (2012) found the import demand elasticities with expenditure components (private and government consumption, investment and export).

As a matter of fact, the close proximity due to political and geo-social and economic relations has resulted Pakistan's high trade association with China. Given the structural changes by raising the performance of the services sector and spread the volume of remittances, Pakistan's import from China provided the evidence for high trade growth in recent year. In this perspective the role of expenditure components and relative price on Pakistan's import from China is required strong policy implication. The estimation of import elasticities with respect to China in macroeconomic policy formulation is important, the research work in this context in

² Economic Survey of Pakistan(2016)

Pakistan is lacking. Thus, the objective of this study is to capture the responsiveness of Pakistan's import from China with respect to macroeconomic expenditure components (investment expenditure, export expenditure, household consumption expenditure, and general government expenditure) and relative price. The ARDL bound technique of cointegration is used by using annual time series data from 1972-2016. The remainder of the study is organized in five sections. Section 2 highlights Pakistan - China trade overviews Section 3 sets out the empirical literature. Section 4 describes the model specification, methodology and data source. Section 5 comprises the empirical findings and interpretation of the results finally section 6 provides concluding comments.

2. Pakistan- China Trade Overview

From the last decades the volume of trade has been rising between Pakistan and China; however the percentage of export growth to China on yearly basis has been reducing. The following table shows an expansion of bilateral trade, but balance of trade is constantly rising in favor of China.

Table 1: Pakistan- China Trade

US\$ Millions

Year	Export	Import	Total Trade	Balance
1990	71.8	271.2	343	-199.4
1995	90.6	458.1	548.7	-367.5
2000	180.4	471.6	652	-291.2
2005	354.2	1842.9	2197.1	-1488.7
2010	1153.9	4410.6	5564.5	-3256.7
2015	2169.5	10395	12564.5	-8225.5

Source: State Bank of Pakistan (2015)

Pakistan's exports are mainly based on raw material, cotton and copper etc. On the other hand, the imports are consist of value added manufactured goods and machineries. Consequently, China's export to Pakistan constitutes more than 20% of its imports, while Pakistan's exports to China only 0.13% of Chinese import.

Table 2: Pakistan's Export growth and Import growth with China

Year	Export Growth %	Import Growth %
1973	34.30	80.85
1976	16.45	2.78
1981	147.73	20.55
1985	19.09	14.92
1988	159.38	6.35
1991	15.32	42.37
1995	68.72	4.35
2000	21.16	19.30
2005	22.94	59.74
2008	19.31	32.66
2010	64.47	7.96
2015	10.27	34.55

Source: State Bank of Pakistan (2015), calculated by author.

In the initial years, the trade balance was in favor to Pakistan. During the Korean War, the demand for Pakistan's exports of cotton and jute was high in China. On the other hand Chinese items were less popular in Pakistani market because of tight import control policy and competition from western items. Table 2 shows that Pakistan's export growth to China is about 34.30% while import from China is quit high 80.85% in 1973. In order to remove the ban and other restriction on imports in 1977 the export to china has jumped high about 45.20% while import from China to Pakistan was slightly increase but not more than export growth. As the economy moves towards trade liberalization, the export growth increase up to 147.73% and import growth increase about 20.55% in 1981. However, in 1991 the Pakistan's export to China decline about 15.32% and import from China was jumped high 42.37%. In 2003 a preferential trade agreement was signed and it becomes operational in 2004. In 2005 Pakistan- China trade showed continuous increase, but again was in favor of China. Even in 2006 both countries signed a Free Trade Agreement (FTA), but, after this agreement Pakistan facing trade deficit with China because, Pakistan's export to China has not increased but import from China raised significantly. Consequently, Imports showed downward trend in 2010 because of global financial crisis in 2008. In 2010 the export growth increased sharply, while the import growth declined so far 7.96% against of 32.66% in 2008. In 2015 the case became opposite and Pakistan again faced trade deficit with China.

3. Review of Literature

Traditionally, import demand is determined by income and relative price. However, the importance of the determinants of import demand explained differently in trade related theories such as the theory of comparative advantage, Keynesian theory (trade multiplier) and new trade theory. Two models are generally dominating like perfect substitute and imperfect substitute model. The imperfect substitute model is widely used in empirical analysis to formulate the import demand model traditionally or with disaggregating the domestic activity. Following many empirical studies highlight the determinants of import demand.

Abbott and Seddighi (1996) estimate the UK's import demand function with the expenditure components. The authors use Johansen cointegration technique for empirical long run estimation. The results find the long run relationship between import demand and its determinants. The import demand is highly elastic (1.29) and statistically significant with a 1% change in consumption expenditure on the other hand, import demand is inelastic with investment and export expenditure (0.26) and (0.10) respectively. Furthermore, the coefficient of import demand shows small sensitivity (-0.105) with the change in relative price. The study concludes that the trade distortion may not reduce through the implication of exchange rate policy in UK.

Dutta and Ahmed (2004) empirically estimate the aggregate merchandise import demand function for India during the period 1971-1995. The cointegration and error correction modeling approaches are used in the study. The results highlight that in the long run the aggregate import demand is cointegrated with GDP and relative price. In the short run, the real import price, GDP (lagged two periods) and dummy of import liberalization policies are main determinants to influence the aggregate import. Moreover, the coefficient of error correction indicates the slow speed of adjustment towards equilibrium. This study suggests that import demand is highly influenced by real GDP. So, if general level of economic activity grows faster it will lead to import growth. On the other hand import demand is not more sensitive with relative price which suggest that by lowering of import prices through reduction of tariff and non tariff barriers will be ineffective to increase the demand of imports in India.

Therefore, the import demand will not sufficiently influenced by import liberalization policy.

Joseph and Fosu (2006) highlight the role of expenditure components on aggregate import demand in Ghana. The study uses time series data over the period 1970-2002 by applying ARDL bounds testing approach and error correction mechanism to connect the relationship between import demand and expenditure components. The results indicate that the import demand shows inelastic behavior with respect of expenditure components and relative price. Investment and export are the main determinants to influence the import demand in the long run. In addition, in the short run household and government expenditures are the main variables to change in import demand. Moreover, the import demand is not more sensitive with relative price but, shows negative relationship. They conclude that price competitiveness in international market should improve, which enables the economy to reduce trade deficit as well as enhance the volume of foreign exchange. Eventually, price competitiveness may increase the export sector side by side increase the production of domestic industries.

Agbola (2009) empirically estimates the role of expenditure components on import demand function in Philippines. The study uses time series data form 1960-2006 by applying Johansen cointegration and error correction mechanism. The results explore that there is a long run relationship exist between import demand and its determinants. Moreover, the import demand elasticities with respect to expenditure components are inelastic both in the short run and long run. The import demand is more influenced by export and private investment in the short run while, in the long run export, government expenditure and private investments are the main determinants of import demand. This research suggests that the exchange rate policy may not be suitable in case of Philippines. On the other hand, interest rate policy and trade liberalization policies will be more effective in the long run and short run.

Constant and Yue (2010) examine the disaggregate import demand function for Cote D'Ivoire. The authors use time series data over the period 1970-2017 by using ARDL approach to cointegration. The results show that there is long run equilibrium relationship exist among variables. The results further indicate that import demand is inelastic by 1% change in all expenditure components, specifically investment and export are the main determinant to change in import demand. The coefficient of relative

price is inelastic and insignificant with respect to import demand. This study point out that economic growth can be achieved through the improvement in price competitiveness.

Yin and Hamori (2011) find the import demand elasticity in China by using ARDL technique from the period 1978-2009. The results postulate that import demand response more with the change in investment expenditure this result indicates that if the increase in domestic investment, it will increase the demand for more imports which resulted a trade deficit in China. The authors conclude that domestic inflation may cause to increase import demand in China, therefore, it is necessary to design a policy to curb domestic inflation. In addition, if China's economy is continuously dependent on high import than export, it will further deteriorate the trade balance in China.

Hibbert, Thaver and Hutchinson (2012) analyze the import demand behavior of Jamaica's with the United States and United Kingdom. This study uses quarterly data form Q1: 1996 to Q3:2010 by applying ARDL technique of cointegration and Error correction mechanism. The results indicate that in the case of Jamaica-US import, GDP is statistically significant and negatively related with import in the short run but, in the long run it shows the positive relation. The import is more influence by change in exchange rate and foreign exchange reserve has a positive influence on import demand but, statistically insignificant. On the other hand, in the case of Jamaica-UK import, GDP and exchange rate volatility response inelastic in the short run than in the long run. Furthermore, foreign exchange reserve and relative price are both statistically significant and not highly inelastic with respect to import demand. In addition the dummy variable of tight monetary policy indicates a significant influence on Jamaica's import demand for UK but, not with the US because of highly trade dependence on USA. This study provides policy implications that Jamaica should reduce the import of capital , oil and intermediate goods by adopting fiscal and monetary policies as well as there is a need of diversification of export base. Moreover, to develop strong trade relations with other island countries such as Trinidad and Tobago to reduce the dependence on US import. Finally, to promote the regional currency with island trading partners this may reduce the pressure on balance of payment in the case of import from US and UK.

Majeed and Waheed (2012) capture the role of expenditures components on import in Pakistan by using time series data from 1974 to 2009. The study uses Johansen multivariate cointegration technique and error correction model to find the long run and short run response of import demand. The empirical results show that the long run association exists between import demand and expenditure components. The import demand is highly sensitive with the change in consumption expenditure. Consequently, the consumption and investment are the main variables to change the import demand in the short run. This study concludes that there is a need to control inflation over import prices because if a domestic price continues to grow faster this will lead to further promote trade deficit in Pakistan. Furthermore, Government should ban against the unnecessary imports in Pakistan.

Khan, Khan and Uz-zaman (2013) find out the relationship between import demand and expenditure components in Pakistan by applying the time series data from 1981-2009. This study uses the Engle- Granger and ARDL bounds technique of cointegration. The results confirm the long run relationship between import and its determinants. Furthermore, the investment expenditure plays an important role followed by consumption and export expenditure to change in import demand in Pakistan. This study recommended that the exchange rate policy may be more useful in improving trade balance. Furthermore, the policy makers design the fiscal expenditure to promote investment goods rather than expenditure on consumption.

Marabuah (2013) estimates the Ghana's import demand function by finding the impact of the relative price, international reserves and expenditure components. The ARDL and error correction techniques have been used to find the cointegration relationship between the variables. The results indicate that coefficient of import demand is inelastic with all estimated coefficients except the consumption expenditure. The private consumption expenditure is more responsible to change the import demand in Ghana. The study concludes that the macroeconomic policies should be designed in the context of consumption pattern towards imported goods in order to improve trade condition in the economy.

Ziramba and Bbuku (2013) find elasticities of the import demand and expenditure components in Namibia. The authors use Autoregressive distributed lag technique by applying time series data from 1980-2009.

The results indicate that in the long run the coefficient of import demand is more sensitive by 1% change in investment expenditure, consumption expenditure and relative prices. The study recommends that the exchange rate policy may not be effective in regulating the import in Namibia. The policy makers should design the policy to curb the domestic inflation. Furthermore, the monetary and fiscal policies both should be used in effective manner to maintain the internal and external balance in the economy.

Budha (2014) analyzes the effect of expenditure components in Nepal's import from India by using time series data from 1975-2011. The author uses autoregressive distributed lag technique. The study finds a long run association between import demand and its determinants like personal consumption, government expenditure, investment, export and relative prices. The Nepal's import demand from India is highly influenced by change in personal consumption, while the export and domestic investment coefficients show negative and relative price indicates a positive relationship with import demand, which indicate that increase in domestic investment and export reduce the import bill in Nepal. The study concludes that the expenditure switching policy will be feasible from personal consumption to other sectors by adopting monetary and fiscal policies, while exchange rate policy will not be beneficial to reduce trade deficit in Nepal.

The above section discussed the number of studies that empirically examined import demand model with its determinants. The literature provided the importance of import demand to design the trade policy in the context to resolve the trade deficit in the economy. Although most of the studies have empirically highlighted the issue of foreign trade of Pakistan, but yet no any empirical research work have been done in the context of disaggregated demand function for Pakistan's import from China. Therefore, this study fills the research gap by providing analytical evaluation about the contribution of macroeconomic expenditure components and relative price in determining the Pakistan's import behavior from China.

4. Model Evaluation and Econometric Technique

Theoretically, the import demand function is generally explained by real domestic income (Y) and relative price (RP). Economically, both

variables and their elasticities are particularly important to design the import demand policy in the long run. The import demand model is shown as:

$$M = f(Y, RP) \quad (1)$$

Here, (M) shows imports of goods and services, (Y) represents the real income and (RP) indicates the relative price of import. Then, following literature Giovannetti (1989), Narayan and Narayan (2005), Majeed and Waheed (2012) and Ziramba and Bbuku (2013) estimate the import demand elasticities with expenditure components and relative price. For measuring the elasticities of macroeconomic expenditure components on import demand in Pakistan from China, a linear regression analysis are constructed which has the following functional form as:

$$LM_t = \alpha_o + \alpha_1 LI_t + \alpha_2 LEX_t + \alpha_3 LG_t + \alpha_4 LPC_t + \alpha_5 LRP_t + \mu_i \quad (2)$$

Where (LM) indicates the log of import from China, (LI) is the log of gross fixed capital formation, (LEX) is the log of export of goods and services, (LG) is the log of general government expenditure, (LPC) is the log of private expenditure, and (LRP) represents the relative price of imports, and ui is an error term.

4.1 Data Source

The current study uses annual data of different macroeconomic expenditure variables and import demand from China to Pakistan from the period 1972- 2016. The multiple data sources such as World Development Indicator; (WDI) and Hand Book of Statistic; State Bank of Pakistan (SBP) are used to collect import demand from China to Pakistan (LM), gross fixed capital formation (LI), export of goods and services (LEX), general government expenditure (LG), private consumption expenditure (LPC) and relative price of import (LRP). All data series are transformed in natural logs and in billions US dollar with base year 2010.

4.2 Estimation Technique

4.2.1 The stationary Test

This study used the Augmented Dickey Fuller (ADF) statistic and Phillips- Perron (PP) test in order to control the problem of spurious regressions. Both unit root tests carried out under the null hypothesis that the series used in the study is non-stationary against the alternative hypothesis of a unit root.

4.2.2 Long Run Analysis

There are several cointegration tests available to highlight the long-run association among the underlying series. The previous work used Engle-Granger (1987) and Maximum likelihood technique Johansen (1991, 1992), and Johansen and Juselius (1990). Recent studies have generally used autoregressive distributed lags (ARDL) model developed by Pesaran and Shin (1995, 1999) and further modified by Pesaran, Shin, and Smith (1996, 2001). The ARDL modeling approach has many advantages over other earlier methods of cointegration, such as, the order of integration does not matter here, whether a set of variables included in the ARDL model are I (0) or I (1). Moreover, this technique is suitable for small sample, even the variable series contain on different lags.

Because of these benefits, this study used ARDL bond testing approach. The equation (3) is represented here in the ARDL form:

$$\Delta LM_t = \kappa_0 + \sum_{i=0}^{K1} \delta_1 \Delta LI_{t-i} + \sum_{i=0}^{K2} \beta_2 \Delta LEX_{t-i} + \sum_{i=0}^{K3} \omega_3 \Delta LG_{t-i} + \sum_{i=0}^{K4} \eta_4 \Delta LPC_{t-i} + \sum_{i=0}^{K5} \phi_5 \Delta LRP_{t-i} + \sum_{i=1}^{K6} \varphi_6 \Delta LM_{t-1} + \lambda_0 LI_{t-1} + \lambda_1 LEX_{t-1} + \lambda_2 LG_{t-1} + \lambda_3 LPC_{t-1} + \lambda_4 LRP_{t-1} + \lambda_5 LM_{t-1} + v_t \quad (3)$$

Equation (3) identified the long run relation among variables which are already defined in equation (2), here $K_1, K_2, \dots, K_6$ are representing the optimal lag length which is measured by information criterion and Δ denotes the first difference operator. Bound technique approach is technically based on F or Wald- Statistics, a joint significant test under the null hypothesis of no cointegration $H_0: \alpha_0 = \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \alpha_5 = 0$ against the alternative hypothesis $H_1: \alpha_0 \neq \alpha_1 \neq \alpha_2 \neq \alpha_3 \neq \alpha_4 \neq \alpha_5 \neq 0$ is tested. This F test is carried out non-standard distribution and two sets of

critical values. The lower bound critical value indicates the regressors hold I(0) and the upper bound assuming that the regressors contain I(1). The decision of cointegration is based on these lower and upper bond F values. If F calculated value exceed the upper bond then H_0 will be rejected. If the F value is lower than the lower bound the H_0 will not be rejected and test become inconclusive, if F calculated values lay between these two critical bound.

Next, this study estimates the short-run relationship by applying an error correction technique. The short run dynamics are presented as follows:

$$\Delta LM_t = \kappa_0 + \sum_{i=0}^{K1} \delta_1 \Delta LI_{t-i} + \sum_{i=0}^{K2} \beta_2 \Delta LEX_{t-i} + \sum_{i=0}^{K3} \omega_3 \Delta LG_{t-i} + \sum_{i=0}^{K4} \eta_4 \Delta LPC_{t-i} + \sum_{i=0}^{K5} \phi_5 \Delta LRP_{t-i} + \sum_{i=1}^{K6} \varphi_6 \Delta LM_{t-1} + \lambda_5 ECM_{t-1} + v_t \quad (4)$$

Here, $\delta_1, \beta_2, \omega_3, \eta_4, \phi_5, \varphi_6$ are dynamic short run elasticities of the empirical model which moves towards long run equilibrium. ECM shows error correction term and λ indicates the speed of adjustment towards long run equilibrium.

5. Empirical Application

In the application of ARDL model, there is no requirement of order of integration, but in the estimation process any higher order of integration like I(2) may estimate unreliable results Ouattara (2004). To assure that if the series is integrated at lower than the I(2), the Augmented Dickey Fuller test will be best to perform. The results of stationary test is reported in Table 3, here all series are non-stationary at level, but after applying first difference the series became stationary at order I(1).

Table 3: Unit Root Test

Variables	ADF test statistic p-value				PP test statistic p-value			
	I(0)		I(1)		I(0)		I(1)	
	C	C&T	C	C&T	C	C&T	C	C&T
LM	0.1887	0.3398	0.0000	0.0000	0.1887	0.3398	0.0000	0.000
LI	0.3027	0.5616	0.0004	0.0016	0.3278	0.7473	0.0004	0.0020
LEX	0.7161	0.7965	0.0000	0.0000	0.7118	0.7240	0.0000	0.0000
LG	0.9156	0.5185	0.0000	0.0000	0.9305	0.5050	0.0000	0.0000
LPC	0.9097	0.4124	0.0002	0.0009	0.8717	0.3350	0.0002	0.0009
LRP	0.8665	0.3676	0.0000	0.0000	0.8693	0.3538	0.0000	0.0000

Source: Authors' estimations

The long run coefficients are estimated by Equation (3) with selecting 4 lags which measured by AIC and BIC.

The ARDL bond testing approach estimates the total $(4+1)^5 = 3125$ regressions. The model is selected by AIC criterion which is (444344). Table 4 shows calculated values along with Narayan (2004) critical bond values; the results finally present that the calculated F value is 18.483 which is greater than the upper bound limit; this result confirms the existence of cointegration in the model.

Table 4:F-statistics for Co-integration Relationship

Bound Critical Values (Restricted Intercept and No Trend)				
	value		I(0)	I(1)
F- statistic	18.48302**	1%	3.871	5.571
		5%	2.741	4.060
		10%	2.293	3.448

Note: Critical values are obtained from Narayan (2004) – Case II and ** denotes statistical significance at 1% level.

The long run elasticities of import demand are reported in table 5.

Table 5: Estimated Long Run Elasticities of Import Demand
ARDL (444344) selected on the basis of AIC

Dependent variable is Import (LM)			
Regressors	Coefficient	Standard Error	T-Ratio[Prob]
LI	-3.125376	0.911723	-3.427987[.0056]
LEX	1.297228	0.639014	2.030047[.0672]
LG	1.465998	0.244552	5.994635[.0001]
LPC	1.443075	0.666505	2.165139[.0532]
LRP	0.238752	0.351518	0.679202[.5110]
C	-2.957446	1.793210	-1.649247[.1273]
Diagnostic Test			
R-squared	0.976470		
R-Bar-Squared	0.916577		
F-statistic	16.30339[.000]		
A: Functional Foam	F (1, 10)= 0.012645[.912]		
B: Serial Correlation	F (2,9)= 0.829618[.467]		
C: Heterosedasticity	F(28,11)= 1.012948 [.519]		

Note: A: Ramsey's RESET test using the square of the fitted values.

B: Lagrange multiplier test of residual serial correlation

C: Based on the regression of squared residuals on squared fitted values.

The estimated results confirm the long run equilibrium between macroeconomic expenditure components and import demand in Pakistan from China. The elasticities of investment expenditure, export expenditure, general government expenditure, and private consumption expenditure are statistically significant while the elasticity of relative price is positive but insignificant. The results find that domestic investment in Pakistan has a negative impact on import from China, which indicates that if domestic investment activities grow faster in Pakistan, it will reduce the import demand from China.

Furthermore, the coefficient of import demand is positive and elastic (1.297) with respect to export expenditure which indicates that the export growth in Pakistan enhances the import growth. In addition the elasticity of import demand is highly elastic (1.443%) with respect to private consumption and statistically significant with a correct positive sign, this result provides the true picture of Pakistan's economy as Pakistan is consumption based economy and consumption expenditure is highly dependent on import from China. The coefficient of government

expenditure has positive and significant. On the other hand the relative price indicates a positive, but insignificant impact on import demand.

In addition, the bottom of Table 5 consists of diagnostic tests which confirm that the model is well fitted with a high R^2 . The LM test is used for serial correlation which confirms no serial correlation. Ramsey's RESET confirms that the functional form is correct, whereas the White's test for heteroscedasticity test also supports to no heteroscedasticity in the model.

The results of short run behavior of macroeconomic expenditure components on import demand is applied through error correction mechanism from equation (4) which is presented in Table 6.

Table 6: Results of Error Correction Model
ARDL (444344) selected on the basis of AIC

Dependent variable is Import (LM)			
Regressors	Coefficient	Standard Error	T-Ratio[Prob]
DL(M(-1))	-0.45742	0.18054	-2.5336[.027]
DL(M(-2))	-0.64878	0.11985	-5.4132[.000]
DL(I)	-2.00401	0.63905	-3.1358[.009]
DL(I(-1))	-3.68779	0.76298	-4.8333[.000]
DL(I(-2))	0.16268	0.78401	0.2074[.839]
DL(I(-3))	2.72243	0.58397	4.6618[.000]
DL(EX)	0.44898	0.22351	2.0086[.069]
DL(EX(-1))	0.21085	0.21917	0.9620[.356]
DL(EX(-2))	0.69744	0.19589	3.5603[.004]
DL(EX(-3))	-0.62248	0.25601	-2.4314[.033]
DL(G)	1.71081	0.27915	6.1285[.000]
DL(G(-1))	-0.12221	0.38333	-0.3188[.755]
DL(G(-2))	0.40355	0.29198	1.38207[.194]
DL(PC)	1.43050	0.43650	3.2771[.007]
DL(PC(-1))	-2.37809	0.54490	-4.3642[.001]
DL(PC(-2))	2.50516	0.52004	4.8171[.000]
DL(PC(-3))	0.61738	0.36710	1.6817[.120]
DL(RP)	-0.08623	0.31588	-0.2729[.789]
DL(RP(-1))	-1.43174	0.35081	-4.0812[.001]
DL(RP(-2))	-0.07931	0.34241	-0.2316[.821]
DL(RP(-3))	0.45704	0.22650	2.0178[.068]
CointEq(-1)	-0.68211	0.21145	-3.2257[.008]

Source: Authors' estimations

The coefficient of ECM is identifying the short run dynamics at which import demand will change by changing in explanatory variables. The significant ECM(-1) term is (-0.682) which shows the existence of cointegration and this coefficient shows the potential effect of adjustment from short run to long run which is about 68%. Moreover, the coefficient of investment (ΔI_t) appears to be negative and significant at level, but at first lag (ΔI_{t-1}) the sign of the coefficient supports the long run results. Similarly, the coefficient of export is positive at current and second lag and statistically significant. The coefficient of private consumption shows mixed signs, but its sum is positive (5.400) and significant.

5.1 Stability Test of the Model

This study uses the stability test to find the stability of the model. The stability of import demand model may help to develop a well organize trade policy. This study focus on, how parameter response over time periods through the cumulative sum (CUSUM) and cumulative sum of squares (CUSUMQ) test, and the recursive coefficient test (Brown, Durbin, and Evans, 1975) to detect the parameter stability.

Figure 5.1(a): Cumulative sum of Recursive Residuals

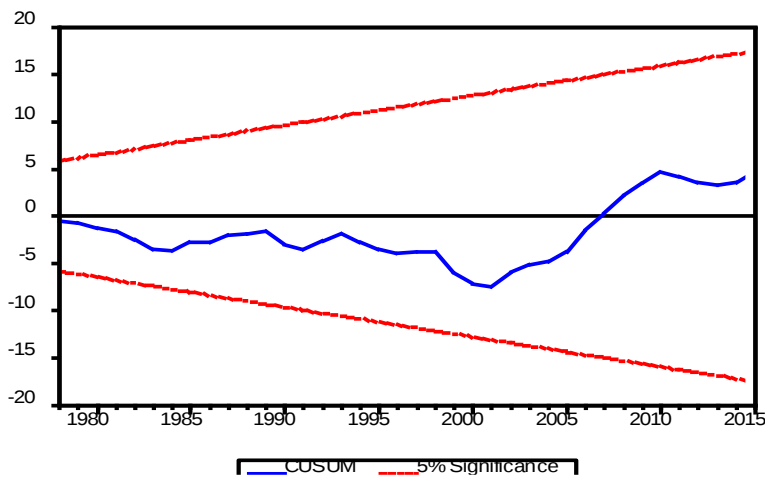


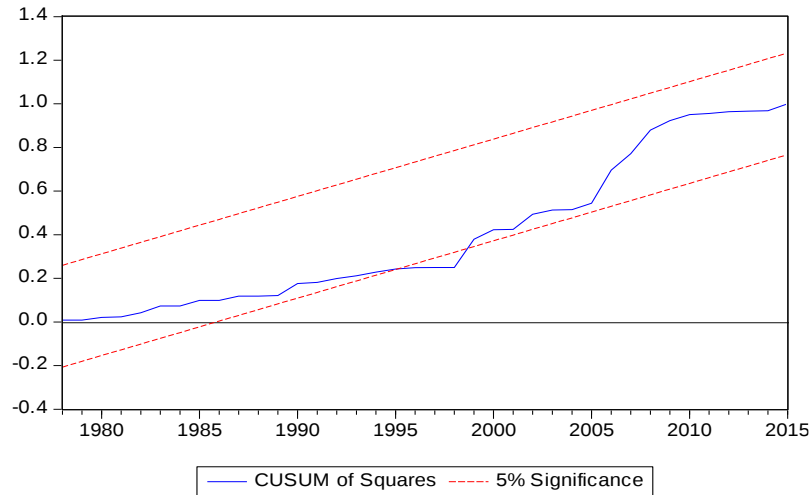
Figure 5.1(b): Cumulative sum of Squares of Recursive Residuals

Figure 5.1(a) represents that the Cusum statistic is within the critical boundaries at 5% significance level and there is no systematic change is detected, while figure 5.1(b) shows that Cusum of square statistic is deviated from critical boundaries in 1997 but after 1999 it lies in the boundaries at 5% significance level. This test clearly shows that Pakistan's import demand function from China is stable.

6. Concluding Remarks and Policies

The purpose of this study is to estimate the response of import demand from China by using the variables of expenditure components in case of Pakistan. This study used time series data from 1972-2016. The ADF and PP stationary tests were applied to confirm the stationary the series. In addition the ARDL technique captured the long run elasticities of final expenditure components and relative price with respect to Pakistan's import from China. The bounds test explores that the long-run elasticity exists between Pakistan's import from China and its determinants. The results indicate that domestic investment in Pakistan has a negative impact on import from China, which elaborates that if domestic investment activities grow faster, it will reduce the import bill in Pakistan. Such negative relationship also explore that an increase in productive capacity in Pakistan will promote domestic investment with less reliance on import from China. On the other hand, the coefficient of import demand

elasticity with respect to export is positive and elastic (1.297) and statistically significant which indicate that the export growth in Pakistan is dependent on import growth from China. Consequently, export growth stimulates the economic growth in Pakistan side by side increase the balance of trade distortions.

Moreover, the government expenditure is also a positive and significant impact on import demand. The coefficient of private consumption is a positive and significant effect on the Pakistan's import from China. It indicates that high domestic demand especially personal consumption leads to high import pressure in Pakistan. While, relative price indicates a positive but insignificant impact on import demand.

This study has some policy implications, the government should promote investment activities by providing tax rebate and subsidies to domestic investors, and this may help to reduce the import demand from China. Further, Pakistan's export is highly dependent on China's import which indicates that export growth may increase economic growth, but the same time push the import growth in Pakistan. So policy makers should move their direction towards import substitution policy by replacing the policy of export promotes economic growth with high import content. Moreover, the most important policy task in reducing the Pakistan's import from China is to adopt the expenditure switching policy from personal consumption to other productive sectors. The fiscal and monetary policy should be constructed keeping in the view of investment and export sectors as well as unnecessary imported items should be banned or impose high tariff and import duties in Pakistan. Finally, Pakistan should improve trade volume with China and other trading partners to achieve favorable balance of payment.

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Does Islamic Banking Favors Price Stability? An Empirical evidence from the GCC, Iran and Sudan

Tamsir Cham¹

This paper studies the relationship between Islamic banking growth and inflation in the Gulf Cooperation Council (GCC), Iran and Sudan using monthly time series and unbalanced monthly panel data covering the period 2001- 2015. Several econometrics models are applied including single equation model, panel ordinary least squares (OLS) and Vector error correction model (VECM). The empirical findings revealed that Islamic banking does not increase domestic prices in all the models applied. According to the single equation OLS results, Islamic banking growth dampen domestic prices in Oman, Qatar and Iran. From VECM analysis, in the short-run, Islamic banking decrease inflation in Iran and Sudan and in the long run, Islamic banking growth dampen inflation in Bahrain and Iran. The panel regression results revealed no indication that Islamic banking growth increases inflation. Five out of seven countries considered in the study revealed that Islamic banking dampened domestic price inflation. Inflation inertia, monetary growth and exchange rate depreciation are the main factors that increase inflation in these economies. The impact of an increase in international food and oil prices on domestic prices revealed mixed results. While an increase in international food and oil prices increases domestic prices in certain countries, it dampens inflationary pressure in some other countries, which could be due to government subsidies. The empirical results call for the need for economic diversification and reduce heavily dependent on oil. It also requires the need for the monetary authorities to implement tighten monetary policy. The results offer new views and insight for further empirical work on Islamic banking and macroeconomic stability.

JEL: C1, E5, E41, E51, F31

Keywords: Islamic banking growth, domestic inflation, *Sharia*, The GCC, Iran, Sudan

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1. Introduction

Islamic banking is growing rapidly in recent years in terms of both asset and loan. Islamic financial institutions spread around the world in both Muslim and non-Muslim countries. Although Islamic banks are heavily concentrated in the Middle East, the Islamic financial instruments are used in other countries such as Malaysia and Pakistan. These countries operate both Islamic and conventional banking systems.

Iran and Sudan have been experiencing high inflation. These two countries have few things in common: The banking system purely operates under *sharia* principles; Iran and Sudan are under economic sanction and both countries are oil-exporting countries. We expand our analysis to include the Gulf Cooperation Council (GCC) countries because these countries have larger presence of Islamic banking and finance². Although most of the GCC countries pegged their currencies to the US dollar, Iran and Sudan are under a managed float exchange rate regime. The rules and regulations governing Islamic mode of finance and Islamic banking remain the same across the economies. However, different jurisdictions have their own *sharia* board who set the necessary guidelines for the effective functioning of Islamic banks.

Inflation in the GCC have remained relatively low in single digits. However, from 2007 to 2010 there was an uptick in inflation, which elevated to double digits for Kuwait, Oman, and Saudi Arabia. This period coincided with the global financial crisis. For Iran and Sudan, inflation continues to remain high. Although inflation rate moderated during certain periods with inflation rate below ten percent, Iran and Sudan continue to register double digits inflation since September 2010. The highest inflation rate occurred in Sudan and Iran during November 2012 and July 2013 with a rate of 49 and 44 percent respectively. However, inflation rate moderated during the global financial crisis (see figure 1).

There are a lot of studies that look into the determinants of domestic prices in the GCC, Iran and Sudan applying various methods. Many of these studies investigated the linkages in money demand, money supply, exchange rate and inflation. Moriyama (2008) examined inflation dynamics in Sudan using single, vector-auto regression and Vector Error

² In our analysis, we exclude United Arab Emirates due to incomplete data series.

Correction Models (VECM). The empirical results revealed monetary growth and changes in the nominal exchange rate affect inflation with a lag period of 18 to 24 months.

Almounsor (2010) investigated inflation dynamics in Yemen using quarterly data from 2005- 2007 applying single, structural vector-auto regression and (VECM). The empirical findings revealed that international prices and exchange rate depreciation significantly affect domestic prices.

Osorio and Unsal (2011) presented a quantitative analysis of inflation dynamics in Asia including the GCC, Iran and Sudan using a Global VAR (GVAR) model, which incorporated the role of regional and global spillovers in driving Asia's inflation. They found the main drivers of inflation are mainly on monetary and supply shocks although the contribution of these shocks has declined. However, demand-side pressure has picked up in recent years.

Kandil and Morsy (2009) examined the determinants of Inflation in the GCC using a model that include both domestic and external factors. They found inflation in a major trading partners with the GCC is the most important external factor. Oil revenue also reinforces inflationary pressure in the GCC. Hence, in the short run increased in government spending increases inflation. Bonato, Leo (2007) studied the determinants of inflation in Iran. The empirical findings revealed strong relationship between inflation and money supply.

McCarthy (2007) examined the pass-through of external factors such as exchange rate and import prices on domestic prices for several industrialized economies using a VAR model. According to his study, in the post-Bretton Woods era, impulse responses indicate that exchange rates have a modest effect on domestic price inflation. In addition, while import prices have a stronger effect, the pass-through is greater in countries with larger import share and more persistent exchange rates and import prices.

In the GCC countries, studies have shown that higher government spending and credit growth have successfully targeted supply side constraints, slowing down price inflation (see Kandil and Morsy (2009)). Imam and Kpodar (2016) investigated whether development of Islamic

banking is good for growth using data covering the period 1990- 2010. They found that Islamic banking is positively associated with growth after controlling other determinants of growth.

Imam and Kpodar (2013) investigated the determinants of the pattern of Islamic bank expansion worldwide using country-level data spanning from 1992 to 2006. Their study revealed that Islamic banks compliment conventional banks. Adedifar et al. (2015) reviewed recent empirical literature in Islamic banking and finance. The empirical findings revealed no major difference between Islamic and conventional banks in terms of their efficiency, competition and risk features. They found that Islamic finance enhances inclusion and financial development.

Gheeraert and Weill (2015) investigated whether Islamic banking influence macroeconomic efficiency that is total productivity by employing stochastic estimation technics with a sample of 70 countries, covering Islamic banks worldwide for the period 2000- 2005. Their results support the view that Islamic bank enhance macroeconomic efficiency to certain point. Zeitun (2012) study the impact of foreign ownership, bank-specific variables and macroeconomic indicators on the performance of Islamic and conventional banks in the GCC region employing annual data for the period 2002- 2009. They found that GDP and inflation significantly affect bank performance.

Hassan and Bashir (2003) examined the performance of Islamic bank using data for the period 1994- 2001 data. Their findings revealed that while macroeconomics variables have a positive impact on banks performance, taxes negatively impact banks performance. Similarly, Bougatef (2015) examined the impact of correction on health of Islamic banks using GMM estimation method for 69 Islamic banks with data series ranging from 2008 to 2010. Their empirical findings revealed that corruption level significantly impact financial soundness indicators. Cihak and Hesse (2010) looked into financial stability of Islamic banks covering 18 banking systems with significant presence of Islamic banks. They found that small Islamic banks tend to be financially stronger than small commercial banks. However, large commercial banks tend to be financially stronger than large Islamic banks.

However, we have not come across in any study that include Islamic finance as one of the determinants of inflation, despite the importance of

Islamic mode of finance in the demand for money in the region. We investigate whether Islamic finance through its facility in extending credit could affect domestic price inflation. To the best of our knowledge, we have not come across any empirical work to back the claim that Islamic finance is non-inflationary. This research aimed to address this empirical research gap and to provide an insight on the relationship between Islamic banking and inflation. We assess whether Islamic bank growth has been one of the contributing factors to high inflation in these countries.

The motivation for the study is the recent increased in Islamic banking growth and the high level of inflation in Iran and Sudan³. The two countries have double digits inflation rate. The paper is organized as follows: section 2 provides an overview of Islamic mode of finance. Section 3 discusses the model and estimation method used. Section 4 presents data and empirical results. Conclusions and recommendations are discussed in section 5.

³ The banking systems in these countries operate under *shari'ah* principles.

2. Islamic mode of finance: Stylized facts

Sales base mode of finance is a financing mode, which include different types of *murabaha*, *salam* (forward sale), *Istisna* (manufacturing contract whereby a manufacturers promise to produce and deliver a good at an agreed price and given date), *Ijarah* (selling the service, utility generated etc.)

Murabaha is a sale transaction in which a commodity is exchange for the cost of the commodity and above some profit margin.

Salam is a sale contract where monetary transaction made in exchange for a good(s), which is delivered in advance with certain payments. Salam serves the interest of both the buyer and seller. The seller gets the desired money in advance exchange of the promise to deliver the commodity which is sold. This facility helps to cover the seller's financial needs which includes personal expenses and his productive activity.

Istisna is a sale transaction where the monetary payments are effected either in full, in parts or promised to settle in exchange for a commodity which will be delivered at an agreed-upon time.

Ijarah is a mode of leasing transaction where an agreement is undertaken between the Islamic bank and a client. The former finances the equipment or any facility on behalf of the latter with an agreed term such as agreed rental plus additional fees which is paid by the client in an account. This will allow him the latter to purchase the equipment or facility at the end of the lease period when all the payments are effected. In this leasing arrangement, Islamic banks buy and acquired the necessary asset as a result of a request from a customer who prefer to own the leased asset at the end of the lease period.

Finance based contract is a type of contract were the investor provide the capital and or expertise or management. There are five types- *Mudaraba* (partnership finance), *Muzara'a* (offer land and share proceeds of the produce), *Musakah* (agriculture), *Muharasa* and *Musarakah* (provide finance and or management)

Mudharabah is a mode of finance where Islamic banks use depositors' money in exchange of specified ratios. The banks use the money and lend it to potential investors in exchange of agreed return.

Muzara'a is a contract agreement where one party present the required resources mainly land to another party with required technical expertise and the proceeds of the produce is shared between the two parties.

Investment based contract includes mutual fund, *takaful* (solidarity, mutual support), and wealth management.

3. Model

We develop a hybrid model by borrowing from an earlier work by Valdovinos (2008) and Moriyama (2008) with few modifications. The Model is based on the following: the composition of inflation and the quantity theory of money (QTM). Firstly, an overall country's consumer price index consists of domestic price (P_d) and foreign (P^*) components, given by:

$$P = P_d^\alpha (EP^*)^{1-\alpha} \quad (1)$$

Where α is the share of the domestic component, which is assumed to be constant and E is the exchange rate. From the quantity theorem of money⁴, domestic inflation follows the former given by the equation:

$$MV = P_d Y \quad (2)$$

$$P_d = MV/Y$$

Where M denotes the money supply, V is the velocity of money (the rate at which money changes hands), and Y is the level of output of the economy. Taking the natural logarithm of equations (1) and (2) yield equation 3 and equation 4 respectively:

$$p = \alpha p_d + (1 - \alpha)[e + p_*] \quad (3)$$

$$p_d = m - y + \mu t + \lambda \quad (4)$$

The lower-case letters represent percentage changes (growth rates) and the term $(\mu t + \lambda)$ presents the velocity component of equation n (2).

The expansion of Islamic finance and banking, credit could expand which could stimulate domestic demand. In addition, the profit-risk sharing

⁴ Aggregate prices and total money supply are related according to equation 2. The intuition is that a change in the rate of money growth results to an equal change in

nature of Islamic finance could further increase spending expectations and increase velocity of money which feed into domestic prices. Taking these arguments as bases, we introduction of Islamic banking variable in the augmented QTM model. Hence, from substituting equation (4) into equation (3) and the introduction of Islamic banking variable term (*Ib*), gives a linear transformation of the quantity theory of money represented in equation 5 below:

$$p = F(e, m, y, wcpi, ib; X) = Z\beta + X\gamma + \varepsilon \quad (5)$$

Where $Z = F(e, m, y, wcpi, ib)$, X is a vector of other variables and ε is the disturbance term. The coefficients of the exchange rate and money supply capture the effects of exchange rate and monetary developments on inflation respectively. Other things equal, the depreciation of the country's currency and an increase in money supply will lead to an increase in inflation. In addition, an increase in foreign prices will be transmitted to domestic prices and subsequently lead to an increase in domestic prices. Islamic banking growth could increase output enhance demand which could translate into higher prices since Islamic banking offer more resources and capital to economic agents. The transfer of resources through Islamic mode of finance where depositors' money are offered in the form of credit on agreed terms. This arrangement increases economic agents' resources and income to some extent. The increased resources increased demand and with unchanged supply will lead to increase in prices.

In addition, an increase in international food and oil prices may positively affect domestic prices.

We investigate the impact of Islamic banking growth on inflation using equation (5). We first use the single-equation model; second, we then

inflation rate, which apparently led to the conclusion by Milton Friedman that "Inflation is always and everywhere a monetary phenomenon". The reason for such a claim is the assumption that velocity of money or its growth rate is constant. However, recent US data have claimed that velocity of money is no longer constant. Hence, money forces may not be the only factors affecting inflation.

apply the vector auto regression (VAR) and finally, we use vector error correction (VECM) to examine whether there is any long run relationship among variables. In order to solidify our findings, we apply panel regression analysis as well.

In order to derive a single equation from equation (5), we need its linear transformation and use the first difference of the variables⁵, which is given as⁶:

$$P_t = \alpha_0 + \alpha_1 MS_t + \alpha_2 ER_t + \alpha_3 WCPI_t + \alpha_4 Y_t + \alpha_5 IB_t + \alpha_6 Woil_t + \alpha_7 Wfood_t + \varepsilon_t \quad (6)$$

Where,

P_t is the monthly inflation rate at time t ;

MS_t is the monthly money and quasi growth rate at time t ;

ER_t the dalasi per US dollar exchange rate at time t ;

$WCPI_t$ is the monthly world consumer price index at time t ;

Y_t is the monthly growth in imports (proxy to real economic activity) at time t ⁷;

IB_t is the Islamic banking growth rate at time t ;

$Woil_t$ is the World oil price growth rate at time t ;

$Wfood_t$ is the World food price growth rate at time t ;

And ε_t is the disturbance term.

Inflation depends on money supply growth, real GDP growth, nominal exchange rate, world consumer price index, world food prices, world oil prices, and Islamic banking growth. All the variables are transformed into growth rate. Equation 6 comprises different models of inflation within which different hypothesis can be tested. Since macroeconomic variables

⁵ The Unit root test indicated that all the variables are non-stationary at level but stationary at first difference. See table 1 for unit root results.

⁶ Note that M and MS denote the same variable (money supply growth); e and ER (exchange rate) and Y and IMP (output proxy by imports).

⁷ Real economic activity was approximated by the monthly volume of imports.

do adjust instantaneously, we rewrite the above equation in autoregressive lag form:

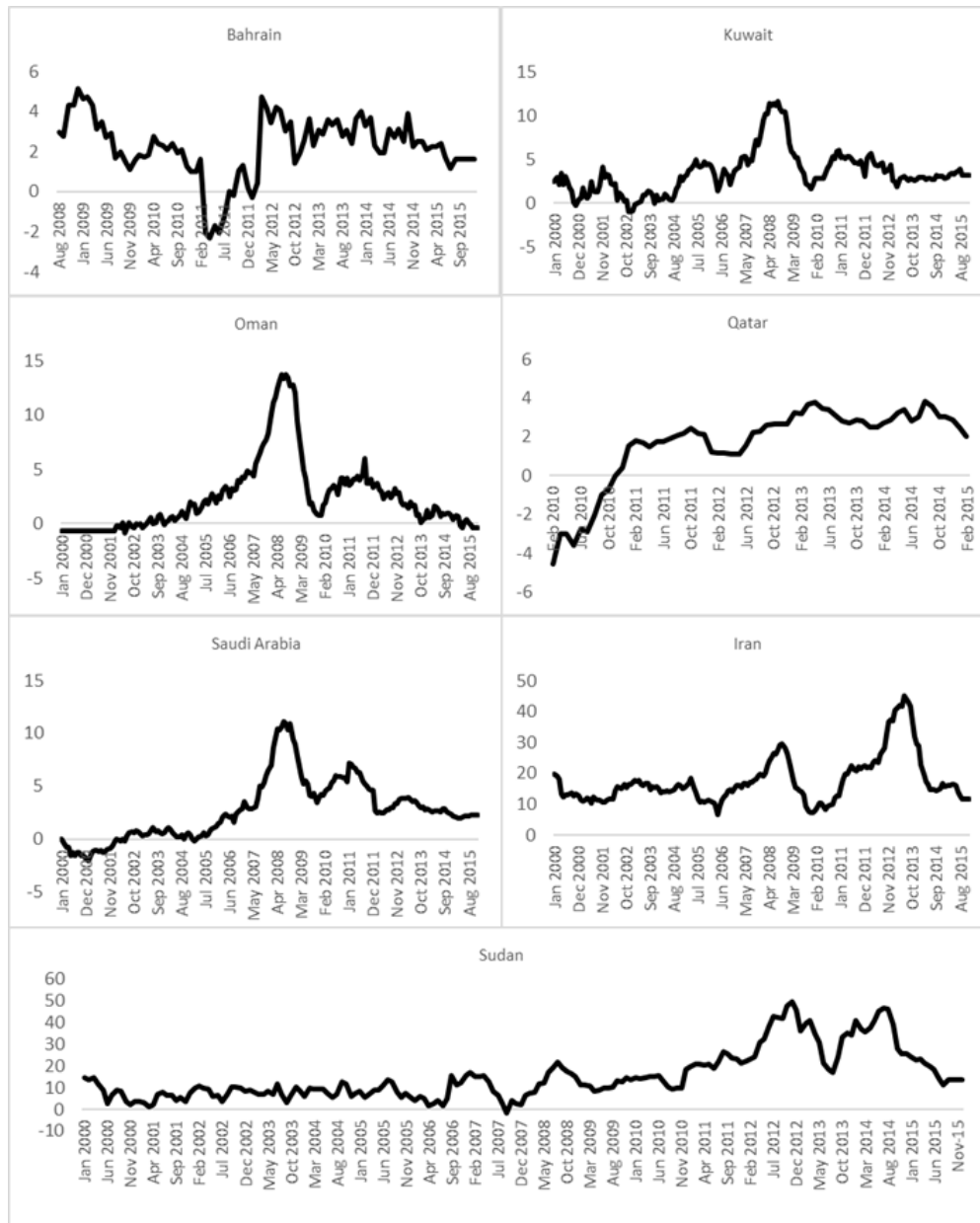
$$P_t = \alpha_0 + \sum_{i=1}^k \alpha_{1i} P_{t-i} + \sum_{i=0}^k \alpha_{2i} ER_{t-i} + \sum_{i=0}^k \alpha_{3i} WCPI_{t-i} + \sum_{i=0}^k \alpha_{4i} MS_{t-i} + \sum_{i=0}^k \alpha_{5i} Y_{t-i} + \sum_{i=0}^k \alpha_{6i} IB_{t-i} + \sum_{i=0}^k \alpha_{7i} WOIL_{t-i} + \sum_{i=1}^k \alpha_{8i} WFOOD_{t-i} + \varepsilon_t \quad (7)$$

Where k is the lag length.

Since the macroeconomic variables are nonstationary and integrated of order one, we reformulate equation 7 into an error correction format as specified below:

$$\Delta P_t = \beta_0 + \sum_{i=1}^k \beta_{1i} P_{t-i} + \sum_{i=0}^k \beta_{2i} ER_{t-i} + \sum_{i=0}^k \beta_{3i} WCPI_{t-i} + \sum_{i=0}^k \beta_{4i} MS_{t-i} + \sum_{i=0}^k \beta_{5i} Y_{t-i} + \sum_{i=0}^k \beta_{6i} IB_{t-i} + \sum_{i=0}^k \beta_{7i} WOIL_{t-i} + \sum_{i=1}^k \beta_{8i} WFOOD_{t-i} + \beta_9 [P_t - \alpha_1 ER_t - \alpha_2 WCPI_t - \alpha_3 M_t - \alpha_4 Y_t - \alpha_5 IB_t] + \varepsilon_t \quad (8)$$

The term in bracket represents the error-correction term and the coefficient, β_9 , is the speed at which the economy adjusts for any disequilibrium. Likewise, the parameters of the variables in the log-difference ($\beta_{1i} - \beta_{8i}$) display the short response and α_s signify long-term responses. A substantial effect from a lagged to current prices β_{1i} would show inflation inertia which could be because of expectations.

Figure 1: Inflation

4. Data and Empirical results

4.1. Data

The empirical analysis is conducted using monthly data from 2001M1 to 2015M12⁸. While data on money supply, consumer price index, exchange rates, world oil price, world food prices, world oil prices are sourced from International Money Fund (IMF), IFS database, imported value are sourced from IMF, DOT database. Islamic banking data are sources bankscope. Since data on Islamic banking is annual and the rest of the data variables are monthly, we transform the data from low frequency to high frequency using evIEWS. We admit the loss of data quality due to data transformation; however, this is most possible option available data to us. All variables are in growth rates. For money supply, we used money and quasi-money. The CPI variable used is the composite consumer price index. For foreign price, we used world consumer price index (WCPI). We used nominal exchange rate of national currency per United States dollar. Since Gross Domestic Product is available only on annual frequency, we used volume of imports as proxy of the economic activity.

4.2. Unit Root Tests

We applied both standard Augmented Dickey-Fuller (ADF) unit root test and panel unit root test. Both test revealed that the series are non-stationary. The ADF unit root test for individual country series indicated non-stationary but stationary at first difference $I(1)$. The results of the panel indicate the presence of unit root as LLC, IPS and both fisher test fail to reject the null of unit root for money supply, consumer price index, exchange rate and import. However, all the series are stationary at $I(1)$. Appendix A, Table A1 and Table A2 contain the ADF unit root and panel unit tests results respectively.

⁸ The data is sourced from International Monetary Fund's International Financial Statistics.

4.3 Empirical results and analysis

Summary Statistics

We begin our empirical analysis by presenting summary statistics of inflation, Islamic banking growth and other independent variables. Table 1 presents mean values, maximum, minimum and standard deviation of the variables use in the study. These statistics provide preliminary information regarding the distribution of the variables.

All variables have positive means ranging from 0.310 to 17.210. The mean value of Islamic banking growth is 0.31 while the standard deviation is 4.363. The maximum and the minimum values of Islamic banking growth are -52.93 and 137.818 respectively, which is fairly distributed. The minimum and the maximum values of inflation are -5.619 and 49.452 respectively. The maximum value indicates that some countries are experiencing hyperinflation. The value of the standard deviation reveals that exchange rate is more volatile compared to other variables. The mean value of money supply growth suggests that on average the monetary authorities have been implementing expansionary monetary policy.

Table 1: Descriptive Statistics

	CPI	MS	ER	IB	WCPI	WFOOD	WOIL
Mean	6.426	17.210	5.896	0.310	3.736	5.535	11.788
Median	3.217	14.955	0.000	0.135	3.618	3.564	6.294
Maximum	49.452	60.976	356.812	137.818	6.939	48.384	92.873
Minimum	-5.619	-7.110	-22.625	-52.934	1.363	-28.156	-55.455
Std. Dev.	8.899	11.157	36.322	4.363	0.862	14.616	31.502
Skewness	2.034	0.811	8.554	23.440	0.983	0.636	0.186
Kurtosis	7.954	3.343	80.197	803.769	5.743	3.544	2.774
Observations	1260	1260	1260	1260	1260	1260	1260

Single Equation results

From equation (6) inflation depends on money supply growth, real GDP growth, nominal exchange rate, world prices, oil price, Islamic banking growth. We included three dummies for period of the financial crisis, periods of oil prices hitting low and high respectively. The estimated result of equation (6) is summarized in Table 2. The coefficients represent elasticities and the standard deviation are in parenthesis. We perform regressions of inflation on a set of variables including Islamic banking growth, domestic and external factors. We checked the correlation among the explanatory variables and conclude that the hypothesis of multicollinearity can be accepted. Only the external variables, which is international food and oil prices and world consumer price index, have correlation above 0.5, which makes us comfortable introduce them simultaneously and in some instances one at time in the models (see appendix F).

The regression result from the single equation reveal the following: (i) Islamic banking growth significantly decrease inflation in Oman, Qatar and Iran, (ii) money supply significantly increases inflation in Oman, (iii) exchange depreciation tends to increase inflation in Iran and Sudan, (iv) high international food prices on the one hand raise domestic prices in Oman and Saudi Arabia⁹ and on the other hand it dampen inflation in Bahrain and Qatar, (v) higher world consumer price index increase inflation in Kuwait and Iran but dampen inflation in Oman, and (vi) higher oil prices increase inflation in Qatar but decrease inflation in Bahrain, Kuwait, Saudi Arabia, Iran and Sudan. While the period of the financial crisis reflects increase inflation in Bahrain, Kuwait and Saudi Arabia, it dampen domestic prices in Oman, Qatar, Iran and Sudan. Furthermore, period of low oil prices reflects increases in inflation in Saudi Arabia and Sudan which is a reflection of subsidizes due to low oil revenues. Period of high oil prices increases in inflation in Bahrain and Oman¹⁰ but dampen inflation in Qatar. It is also interesting to note past inflation increases inflation in Bahrain, Oman, Qatar and Sudan.

⁹ Our results agree with that of Kandil and Morsy (2009)

¹⁰ Our findings is in line with that of Kandil and Morsy (2009)

Table 2: Single Equation Model Regressions

	Dependent Variable: DCPI						
Variable	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	Iran	Sudan
INTERCEPT	1.848 (0.455)	-4.033 (0.705)	0.556 (0.263)	1.183 (1.316)	-2.657*** (0.711)	5.074 (3.301)	9.837 (4.524)
D(CPI(-1))	0.258** (0.120)	0.189 (0.188)	0.165** (0.083)	0.838*** (0.247)	-0.502 (0.331)	0.301 (0.433)	0.888*** (0.264)
D(MS)	-0.002 (0.028)	0.033 (0.050)	0.065*** (0.019)	-0.001 (0.043)	-0.008 (0.061)	-0.001 (0.340)	-0.101 (0.253)
D(ER)						0.001** (0.001)	10.305** (5.006)
D(IMP)	0.233 (0.535)	0.188 (0.450)	-0.031 (0.172)	-1.149 (6.009)	0.336 (0.666)	0.467 (3.037)	0.300 (2.496)
D(IB)	-0.002 (0.005)	-4.975 (6.200)	-4.885** (2.00)	-11.267** (5.106)	-0.132 (0.600)	-7.823* (4.380)	2.213 (5.318)
D(WCPI)	-0.076 (0.124)	1.882*** (0.191)	-0.174** (0.071)	0.234 (0.356)	1.209*** (0.192)	4.050*** (0.893)	1.831 (1.225)
D(WFOOD)	-3.36*** (0.787)	0.609 (1.278)	1.398*** (0.434)	-6.600*** (2.274)	5.956*** (1.341)	-3.467 (5.868)	-4.104 (8.216)
D(OIL)	-1.048*** (0.396)	-2.082*** (0.630)	0.182 (0.239)	4.096** (1.151)	-2.606*** (0.643)	-9.879*** (2.840)	-8.472** (4.143)
DUMFC	0.836*** (0.246)	3.103*** (0.382)	-0.225* (0.134)	-6.173*** (0.711)	4.295*** (10.990)	-3.629** (1.771)	-5.690** (2.502)
DUMOILL	0.250 (0.282)	0.839 (0.654)	-0.099 (0.227)	1.342 (1.204)	1.453** (0.662)	-4.066 (2.988)	20.751*** (4.284)
DUMOILH	0.909** (0.450)	0.024 (0.693)	0.466* (0.239)	-2.857** (1.271)	0.352 (0.721)	3.594 (3.205)	6.143 (4.541)
Adjusted R^2	0.40	0.64	0.38	0.56	0.69	0.24	0.27
F- Stats	11.03	25.37	7.85	19.52	31.92	4.45	5.31
DW	0.56	0.29	2.19	0.39	0.23	0.17	0.23
SE	1.05	1.61	0.54	2.98	1.65	7.45	10.58
AIC	3.00	3.86	1.66	5.08	3.91	6.92	7.63
SC	3.19	4.08	1.90	5.29	4.13	7.15	7.85

The coefficients of the variables are listed, and standard errors are in parentheses.

*** 1% significance level, ** 5% significance level, and * 10% significance level.

The main drivers of inflation in Bahrain is past inflation representing an indication of inflation inertia, period of financial crisis and period of high oil prices. However, increase in international food prices and high oil prices tends to dampen domestic prices. This could be an indication of presence of subsidies because of oil revenue receipts. In addition, the non-pass through of international prices on domestic prices could be as a result artificial control on domestic and hence international price developments are not transmitted to domestic prices. Our findings to a larger extent agree with the work of Kandila and Morsy (2009).

In Kuwait, in the short run, higher world consumer prices is transmitted to domestic prices. In addition, period of financial crisis resulted to increase in domestic prices. However, increase in world oil prices tends to dampen inflation which is could be a reflection of subsidies. Oman domestic prices is positively influence by fast inflation, increase in money growth, increase in international food prices, and periods of high oil price. However, growth in Islamic banking, increase in world consumer prices, and periods of financial crisis decreases inflation. In Qatar, the presence of increase in Islamic banking growth, increase in international world price, periods of financial crisis and high oil prices eases inflationary pressure. This could be a reflection of subsidies and to some extent evidence of price control. However, there is evidence of inflation inertia. In addition, increase in the international price increases inflation, which could be due to demand pressure because of increase in oil revenue. In Saudi Arabia domestic prices is driven mainly by world consumer price and world food prices. Periods of the financial crisis and period of low oil prices have shown increased in domestic prices. However, increase in oil prices decreases domestic prices. This could be also be a reflection of subsidies because of increase in oil revenues as Saudi Arabia is major oil exporter.

In Iran, a pure Islamic banking country has its domestic prices dampen as result of increase in Islamic banking growth and increase in oil prices. In addition, periods of financial crisis tend to dampen inflation in Iran. This could be due to the economic sanction the country face as it disconnected financially from the rest of the world. However, the depreciation of the local currency visa-a-visa to the US dollar increases inflation. Similarly,

increases in the world consumer prices lead to increase in domestic prices as well.

Inflation in Sudan is positively influenced by past inflation, exchange rate depreciation, and period of low oil prices. However, increase in world oil prices decreases inflation in Sudan, which could be a reflection of subsidies receipts from oil revenue. Similarly, period of the recent, financial crisis tends to dampen domestic prices. This could be due to the sanction, which makes the country less connected to the world. Our empirical result shows no indication that growth in Islamic banking increases inflation. In fact, our empirical results indicated that it dampens domestic prices. In the short-run, increase in Islamic banking growth significantly decrease domestic prices in Oman, Qatar and Iran.

Given that the unit root tests revealed that the variables are nonstationary, we perform a cointegration test. The results of Johansen tests suggest the existence of cointegrating vectors. Appendix B, Table B1 and Table B2 summaries the cointegration and panel cointegration tests. Since there is existence of cointegrating vectors, we perform a vector error correction estimates to determine the short and long-run dynamics of inflation across the countries under consideration.

In Bahrain, in the long run, the main drivers of inflation are money supply and world consumer prices. However, Islamic banking growth dampen inflation in Bahrain in the long run. In the short-run, inflation is drive by inflation inertia and international food prices. From the impulse response functions, persistent inflationary effect is attributed to certain extent by world consumer prices and growth in economic activity. However, money supply growth, changes in exchange rate and Islamic banking growth show no persistent effects overtime. In Kuwait, the main drivers of inflation in the long run are money supply growth and exchange rate depreciation. The impulse response functions show persistent inflationary effect is due to the pass-through channels of changes in exchange rate and world consumer prices. The inflationary effect of money supply and Islamic banking growth appear to have the least persistent effect. In Oman, the main driver of inflation in the long-run is money supply. In the short-run, the main causes of inflation are money supply, international oil and food prices. The impulse response functions revealed persistent inflationary effects mainly due to growth in money supply. However, there is no persistent inflation overtime with the other determinants. In

Qatar, money supply and world consumer price index are the main drivers of inflation in the long run. The impulse response shows persistent inflationary effects attributed to growth in money supply and real economic growth. However, world consumer price index and Islamic banking growth do not have long pronounced effect. In Saudi Arabia, world consumer price is the main driver of inflation in the long run, in the short run, money supply, past inflation and world consumer price are the main causes of inflation. The impulse response shows persistent inflationary effects attributed to growth in Islamic banking growth and money supply growth. However, world consumer prices and real economic activity do not have long pronounced effect.

While in the long-run, inflation in Sudan is mainly determined by money supply and world consumer price index, in the short-run, however, past inflation is the main driver of inflation. The impulse response functions illustrate persistent inflationary effect due to Islamic banking growth, money supply growth and change in exchange rate to some extent. However, changes in world consumer prices appears less persistent overtime. In Iran, money supply, world consumer prices and exchange rate depreciation are the main drivers of inflation in the long-run, in the short run, past inflation and international food prices are some of the causes of inflation. The impulse response illustrates persistent inflationary effects attributed to change in exchange rate and growth in Islamic banking. The pass-through channels of money supply growth and world consumer price do not appear to last long. In Iran, Islamic banking growth significantly decreases domestic prices in the short and long run. In Sudan, to certain extent, Islamic banking growth decreases inflation in the short run.

From the Vector error correction model, we conclude that Islamic banking growth does not impose any inflationary pressure on domestic prices for the countries under study. In fact, it rather dampens domestic prices in certain countries namely Iran, Bahrain and to some extent Oman.

For robustness checks to strengthen our assessment, we perform a panel regression with fixed effect with different specifications. The outcome of the panel regression results reveals that the coefficient of the variable of interest, Islamic banking growth is negative and insignificant in all specifications indicating that growth in Islamic bank does not exert any inflationary pressure in the selected countries. However, the regression

results indicated that in the GCC countries, Iran and Sudan inflation is determined mainly by money supply growth and exchange rate depreciation of the individual country currency vis-à-vis the US dollar affect inflation in all specifications suggesting the existence of the pass-through on inflation. In addition, lag (previous period) inflation positively affect current inflation suggesting that inflation exhibits inflation inertia. Furthermore, world consumer price index and world food prices positively affect inflation in all specifications. While the coefficient for world food prices significantly affect prices in these economies, world consumer price index and world oil price are significant in only one specification. The possible explanation is that these countries are mainly oil exporting economies. Three dummies DUMFC, DUMOILL and DUMOILH were introduced representing periods of financial crisis, low oil prices and high oil prices respectively. While the coefficient for DUMFC remained insignificant in all specifications, the coefficients for DUMOILH is positive and significant in two out the four specifications. The intuition is that periods of high prices represent increase in oil revenue, which exerts demand pressure. Likewise, periods of low oil prices represent low oil revenue, which slow down demand.

The elasticities of inflation to money supply, exchange rate, and world food prices based on the panel regression revealed, a percent increase in money supply, depreciation of the currency against US dollar, and world food prices inflation would raise inflation by 0.024, 0.005, and 0.01 percent respectively. In addition, a percentage point increase in world consumer price and high oil price will increase inflation in by 0.11 and 0.486 percent respectively. However, a one percent decrease in the period of low oil prices will dampen inflation by 0.230 percent.

Table 3: Panel Least Squares

	Dependent Variable: D(CPI)			
Variable	Model 1	Model 2	Model 3	Model 4
INTERCEPT	-0.143 (0.330)	-0.373 (0.013)	-0.001 (0.054)	-0.028 (0.053)
D(MS)	0.024* (0.013)	0.026** (0.013)	0.022* (0.013)	0.024* (0.013)
D(ER)	0.005* (0.003)	0.005* (0.003)	0.001* (0.003)	0.005* (0.003)
D(IMP)	-0.001 (0.001)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
D(IB)	-0.001 (0.004)	-0.001 (0.001)	0.000 (0.001)	-0.000 (0.006)
WCPI	0.031 (0.062)	0.111** (0.057)		
WOIL	0.001 (0.002)		0.004** (0.002)	
WFOOD	0.010*** (0.004)			0.012*** (0.003)
DUMFC	-0.142 (0.125)	-0.186 (0.121)	-0.145 (0.125)	-0.163 (0.120)
DUMOILL	-0.137 (0.144)	-0.230* (0.139)	-0.194 (0.142)	-0.162 (0.139)
DUMOILH	0.297 (0.227)	0.486** (0.204)	0.380* (0.219)	0.369 (0.196)
Adjusted R^2	0.034	0.026	0.027	0.033
F- Stats	4.30	2.34	2.47	3.05
DW	1.63	1.61	1.62	1.63
SE	1.42	1.43	1.43	1.42
AIC	3.55	3.56	3.56	3.55
SC	3.59	3.62	3.62	3.62

The coefficients of the variables are listed, and standard errors are in parentheses. *** 1% significance level, ** 5% significance level, and * 10% significance level.

We ran panel regression with fixed effect with four specifications. The regression results are presented in Table 3. In the first model, we included all the variables together with three dummies DUMMFC, DUMOILH and DUMOILL namely periods of financial crisis, periods of low oil prices and periods of high oil prices respectively.

The outcome of the panel regression reveals that, money supply growth, exchange rate depreciation and increase in world food prices mainly determined inflation in Iran, Sudan and GCC countries. We introduce world Consumer price index, world oil price index and world food price index in the regression equation one at time. When world CPI is introduced in the regression, money supply growth, exchange rate depreciation, and increase in world CPI positively increase domestic prices in these economies. In addition, while period of high oil price positively influence inflation, low oil prices dampen inflation. This could be attributed to the fact that in periods of high oil price, these economies get over heated due to the increased in demand.

Similarly, when world oil price index is introduced, oil price, money supply and exchange rate depreciation will result to increase in domestic price. Similarly, periods of high oil price positively influence inflation. Given that these countries are oil rich countries and are major exporters of oil, increase in oil price enhances revenue and give more room for fiscal spending.

Furthermore, when world food index is introduced in the regression, its coefficient is positive and statistically significant. Since the region is a major food imported, an increased in world food price index will results to increase in domestic prices.

However, in all specifications, the coefficient of the variable of interest, Islamic banking growth remain negative and indicating Islamic banking growth in these countries does not increase domestic prices. Hence, the empirical findings offer us a conclusion that growth in Islamic does not lead to increase in domestic prices. Similarly, the coefficient for financial crisis, DUMFC is insignificant in all the specification of the model indicating that the financial crisis does have any impact on prices in these economies. Hence, the argument that Islamic banking and Islamic finance target the real sector and is noninflationary holds some ground. From the

analysis, the main drivers of inflation in these economies are money supply, exchange depreciation, surge in international oil and food prices.

The variance decomposition indicates that the variance of inflation in the GCC countries, Iran and Sudan is dominated by its own lag, followed by international food and oil prices and monetary growth. Islamic banking growth and exchange rate contributed the least in the variance of inflation in the region. The least variance by exchange rate could be due to fixed exchange rate regime in the GCC countries and economic sanction on Iran and Sudan.

The impulse response shows persistent inflationary effect attributed to international food and oil prices and growth in money supply. However, the pass-through channels of Islamic banking growth and real economic activity does not last long. This reinforces the argument that growth in Islamic banking is not inflationary.

5. Conclusions

We examined the impact of Islamic banking growth on inflation dynamics in the GCC, Iran and Sudan using monthly time series and panel data from 2001 to 2015. These countries are among countries with larger presence of Islamic banking. Our empirical analysis revealed that Islamic banking growth does not have any inflationary pressure in the GCC, Iran and Sudan. In fact, the results show Islamic banking growth dampen inflation in the short run and long run. From the single regression results, Islamic banking growth significantly decreases domestic prices in Oman, Qatar and Iran. From the error correction model, Islamic banking dampen inflation in Bahrain, Iran and Sudan. The findings revealed Islamic banking growth dampen domestic prices in five out of seven countries under consideration. The results of panel regression with fixed effect revealed no indication that Islamic banking growth increases domestic prices. Our findings support the hypothesis that Islamic banking and finance enhances price stability.

There is strong impact of inflation inertia on inflation. Similarly, money supply and exchange rate depreciation do have significant impact on domestic prices. The variance decomposition revealed that inflation is dominated by its own lag, international food and oil prices and monetary growth. Furthermore, the findings revealed that persistent inflationary

effect attributed to international food and oil prices and monetary growth. However, Islamic banking growth is the least dominant to inflation. Given the above phenomena, it is recommended that central banks reiterate their assurance to maintain low and stable inflation. Hence, the monetary authorities should continue with tight monetary policies couple with proper fiscal management in order to have a conducive macroeconomic environment. Although most of the GCC countries under pegged their currencies to US dollar, for Iran and Sudan, the depreciation of the local currency against the US dollar is passed on to domestic prices. The results revealed that revenues generated during periods of high oil prices need to be use wisely rather than engaging in extra-spending activities. Hence, there is a need to accumulate foreign exchange reserves in order to minimize external shock particularly during the period of low oil prices. The foreign exchange buffer could help some countries when confronted with economic sanction; a case in point is Iran and Sudan. The empirical results call for certain policy measures. Given that most of these countries are food importers, increase in international food prices are transmitted to domestic prices. Hence, there is a need for these countries to diversify their economies and not to solely depend on oil. One possible option is to scale up financing in the non-oil sectors particularly in agriculture sector which minimize food imports particularly in the GCC countries. While our results is in line with notion that Islamic finance is directed more towards supporting the real sector and non-inflationary, more work is needed to investigate the extent to which our estimates are robust. For instance, it would be of interest to disaggregate Islamic finance into different Islamic mode of finance rather than using Islamic banking growth as a proxy for Islamic finance. However, the empirical research in this area is subject to the availability of data. These findings is first empirical work to sight light on the impact of Islamic banking on domestic prices.

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APPENDIX A: TABLES

Table A1: Augmented Dicky-Fuller Unit Root Test 1/2/3/4/

Bahrain Dependent Variable: DCPI			
Variable	Level	1st difference	2nd difference
CPI	0.009	0.000	Not needed
MS	0.430	0.000	Not needed
ER	0.992	0.98	0.000
LIMP	0.081	0.000	Not needed
IB	0.000	Not needed	Not needed
WCPI	0.006	0.000	Not needed
WFOOD	0.003	0.000	Not needed
WOIL	0.003	0.000	Not needed

Kuwait Dependent Variable: DCPI			
Variable	Level	1st difference	2nd difference
CPI	0.322	0.000	Not needed
MS	0.474	0.000	Not needed
ER	0.289	0.000	Not needed
LIMP	0.047	0.000	Not needed
IB	0.639	0.024	0.000

Oman Dependent Variable: DCPI			
Variable	Level	1st difference	2nd difference
CPI	0.603	0.000	Not needed
MS	0.212	0.004	Not needed
ER			
LIMP	0.052	0.000	Not needed
IB	0.159	0.000	Not needed

Qatar Dependent Variable: DCPI			
Variable	Level	1st difference	2nd difference
CPI	0.501	0.000	Not needed
MS	0.139	0.000	Not needed
ER			
LIMP			
IB	0.717	0.000	Not needed

APPENDIX A: Cont.**Table A1: Augmented Dicky-Fuller Unit Root Test**

Saudi Arabia Dependent Variable: DCPI			
Variable	Level	1st difference	2nd difference
CPI	0.745	0.000	Not needed
MS	0.135	0.000	Not needed
ER	0.091	0.000	Not needed
LIMP	0.000	Not needed	Not needed
IB	0.086	0.000	Not needed

Iran Dependent Variable: DCPI			
Variable	Level	1st difference	2nd difference
CPI	0.195	0.001	Not needed
MS	0.145	0.000	Not needed
ER	0.038	0.000	Not needed
LIMP	0.340	0.000	Not needed
IB	0.003	0.015	Not needed

Sudan Dependent Variable: DCPI			
Variable	Level	1st difference	2nd difference
CPI	0.745	0.000	Not needed
MS	0.023	0.000	Not needed
ER	0.624	0.000	Not needed
LIMP	0.009	0.000	Not needed
IB	0.086	0.000	Not needed

1/ P- values are reported for null hypothesis: Ho: series have unit root.

2/ All tests include intercept and number of lags is based on Schwartz Information Criterion.

3/ Statistically significant levels of 1%, 5% and 10% is used.

4/ All variables are almost stationary I (1); Bahrain exchange rate is stationary I(2).

Table A2: Panel Unit Root Test 1/2/3/4/

Panel Unit root test				
Variable	Level	(Prob)	I(1)	(Prob)
MS	Levin, Lin & Chu t*LC	0.5895	0.000	
	Im, Peasaran and Shin W-stat	0.013		
	ADF- Fisher Chi-square	0.0269		
	PP – Fisher Chi-square	0.0078		
CPI	Levin, Lin & Chu t*LC	0.9238	0.000	
	Im, Peasaran and Shin W-stat	0.091		
	ADF- Fisher Chi-square	0.099		
	PP – Fisher Chi-square	0.0167		
ER	Levin, Lin & Chu t*LC	0.999	0.000	
	Im, Peasaran and Shin W-stat	0.336		
	ADF- Fisher Chi-square	0.141		
	PP – Fisher Chi-square	0.003		
IB	Levin, Lin & Chu t*LC	0.927	0.000	
	Im, Peasaran and Shin W-stat	0.000		
	ADF- Fisher Chi-square	0.000		
	PP – Fisher Chi-square	0.000		
WCPI	Levin, Lin & Chu t*LC	0.1273	0.000	
	Im, Peasaran and Shin W-stat	0.000		
	ADF- Fisher Chi-square	0.000		
	PP – Fisher Chi-square	0.000		
WOIL	Levin, Lin & Chu t*LC	0.2066	0.000	
	Im, Peasaran and Shin W-stat	0.000		
	ADF- Fisher Chi-square	0.000		
	PP – Fisher Chi-square	0.000		
WFOOD	Levin, Lin & Chu t*LC	0.0725	0.000	
	Im, Peasaran and Shin W-stat	0.000		
	ADF- Fisher Chi-square	0.000		
	PP – Fisher Chi-square	0.000		
IMP	Levin, Lin & Chu t*LC	0.4701	0.000	
	Im, Peasaran and Shin W-stat	0.000		
	ADF- Fisher Chi-square	0.000		
	PP – Fisher Chi-square	0.000		

1/ P- values are reported for null hypothesis: Ho: series have unit root.

2/ All tests include intercept and number of lags is based on Schwartz Information Criterion.

3/ Statistically significant levels of 1%, 5% and 10% is used.

4/ All variables are stationary at I(1).

APPENDIX B: TABLES

Table B1: Cointegration Test for Inflation equation 1/2/

	Null Hypothesis					
	r=0		r≤1		r≤2	
	Trace Stat. (95% C.V.)	Max Stat. (95% C.V.)	Trace Stat. (95% C.V.)	Max Stat. (95% C.V.)	Trace Stat. (95% C.V.)	Max Stat. (95% C.V.)
Bahrain	190.06* (125.61)	53.50* (46.23)	136.55* (95.75)	47.23* (40.08)	89.32* (69.82)	32.59 (33.89)
Kuwait	208.33* (125.62)	59.90* (46.23)	148.44* (95.75)	46.18* (40.08)	102.26* (69.82)	41.36* (33.88)
Oman	194.83* (125.62)	51.20* (46.23)	143.63* (95.75)	46.54* (40.08)	97.08* (69.82)	40.98* (33.88)
Qatar	178.14* (125.62)	69.31* (46.23)	108.83* (95.75)	46.79* (40.08)	62.04* (69.82)	22.68* (33.88)
Saudi Arabia	185.81* (125.62)	54.42* (46.23)	108.83* (95.75)	46.79* (40.08)	62.04* (69.82)	22.68 (33.88)
Iran	169.38* (125.62)	55.24* (46.23)	114.15* (95.75)	43.12* (40.08)	71.03* (69.82)	32.03 (33.88)
Sudan	168.48* (125.62)	60.36* (46.23)	108.11* (95.75)	47.47* (40.08)	60.64 (69.82)	25.74 (33.88)

1/r is the number of cointegrating vectors

2/ Asterisks *indicate rejection of the hypothesis at 95% C.V. Critical values in ().

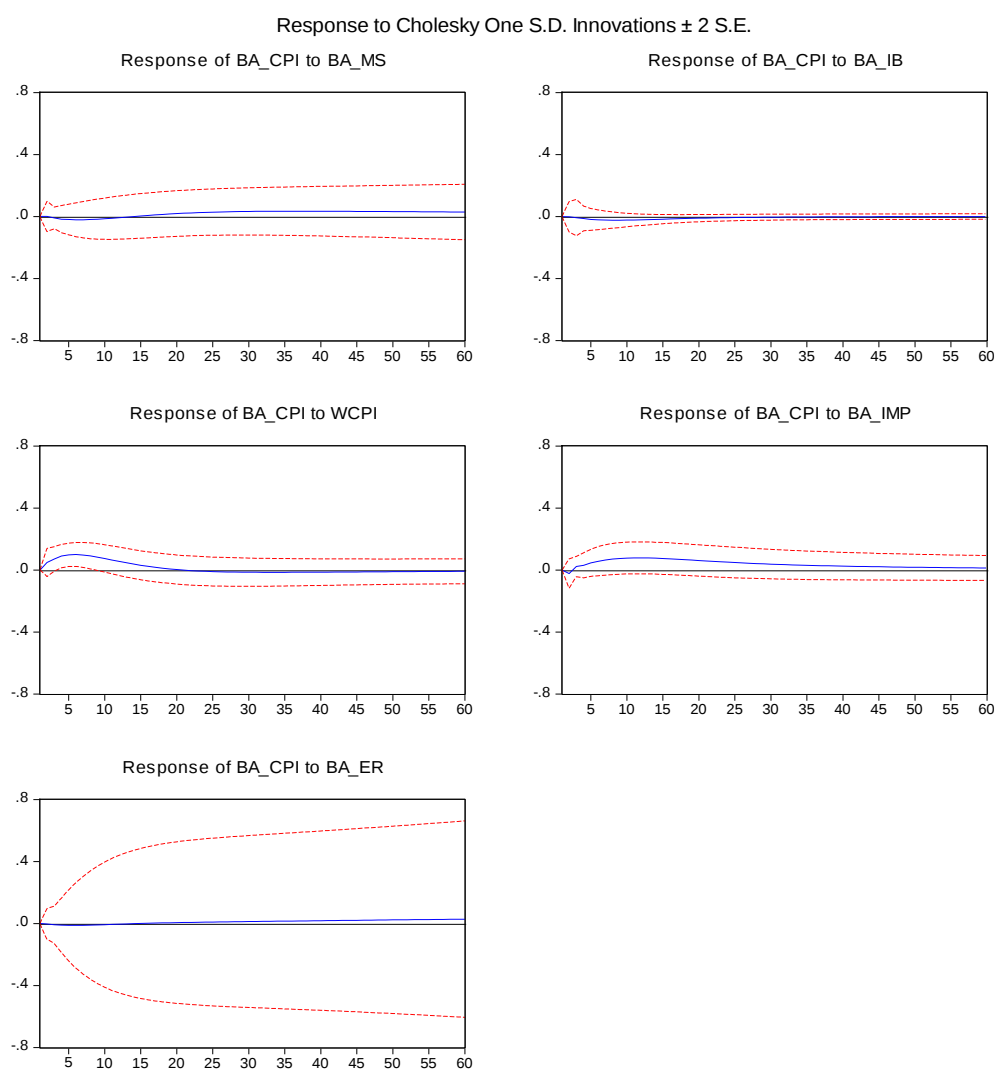
Table B2: Panel Co-integration Test 1/

Pedroni Residual Cointegration Test

Null Hypothesis: No cointegration

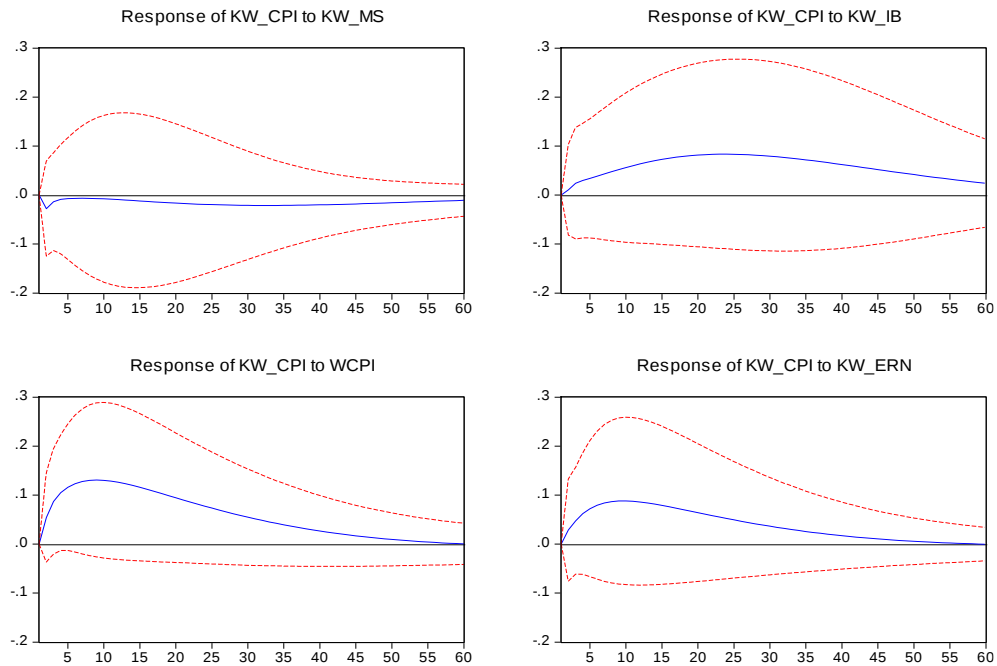
Variables CPI, MS, ER, IB, WCPI and WOIL				
Alternative hypothesis: common AR coefs. (within-dimension)				
	Statistic	Prob	Weighted Statistic	Prob
Panel v-Statistic	0.564806	0.2861	-0.517246	0.6975
Panel rho-Statistic	0.425277	0.6647	1.306111	0.9042
Panel PP-Statistic	0.003645	0.5015	0.646971	0.7412
Panel ADF- Statistic	0.263121	0.6038	0.553739	0.7101
Alternative hypothesis: common AR coefs. (between-dimension)				
	Statistic	Prob		
Panel rho-Statistic	1.486293	0.9314		
Panel PP-Statistic	0.789255	0.7850		
Panel ADF- Statistic	0.743135	0.7713		

1/* The panel cointegration test, all the eleven statistics do not reject the null hypothesis of no cointegration at the conventional level of 0.05.

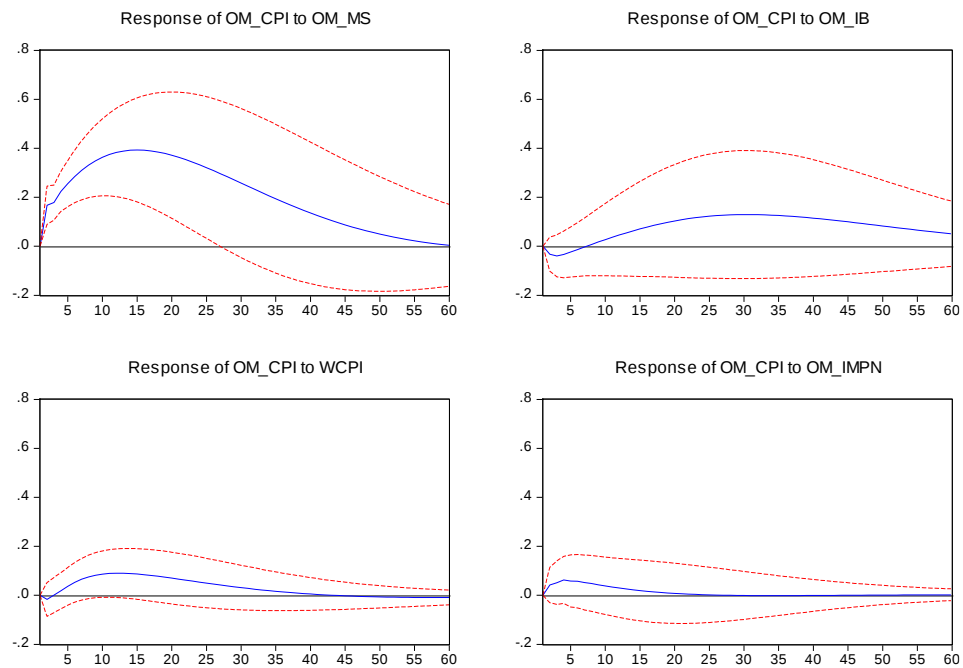
APPENDIX C**Figure C1. Impulse Response of Inflation****Appendix Figure 1: Impulse Response**

Does Islamic Banking Favors Price Stability? An Empirical evidence from the GCC, Iran and Sudan

Response to Cholesky One S.D. Innovations ± 2 S.E.

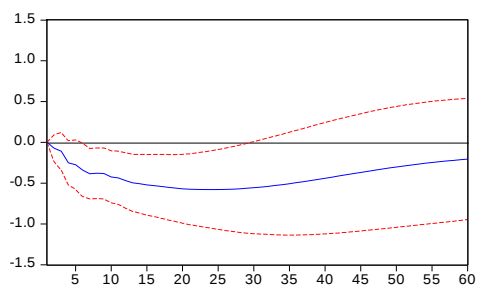


Response to Cholesky One S.D. Innovations ± 2 S.E.

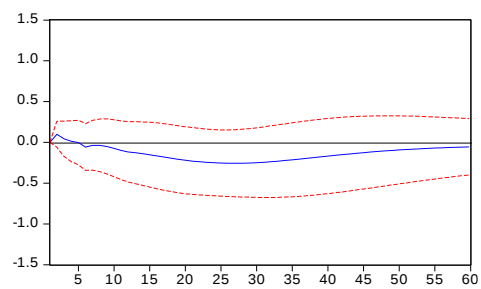


Response to Cholesky One S.D. Innovations ± 2 S.E.

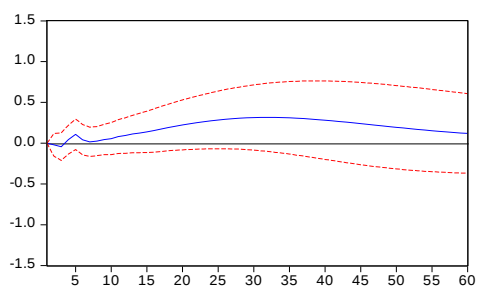
Response of QT_CPI to QT_MS



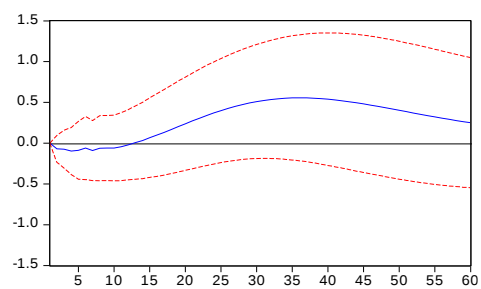
Response of QT_CPI to QT_IB



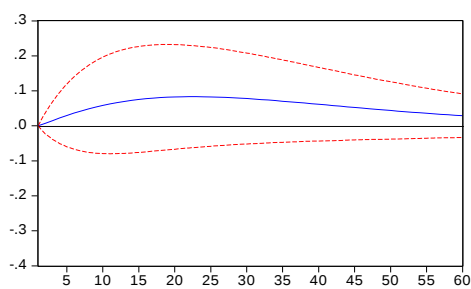
Response of QT_CPI to WCPI



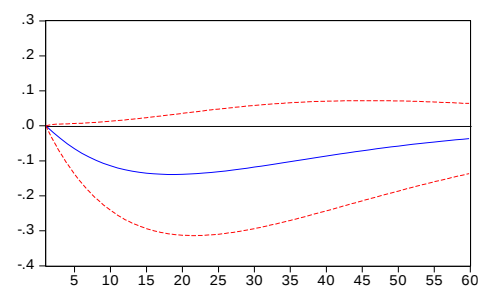
Response of QT_CPI to QT_IMPN

Response to Cholesky One S.D. Innovations ± 2 S.E.

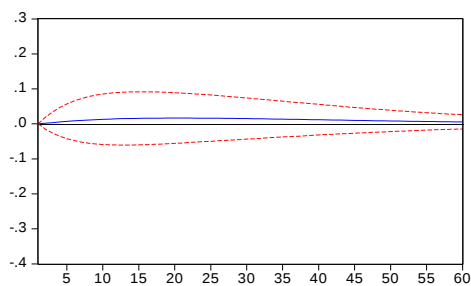
Response of SA_CPI to SA_MS



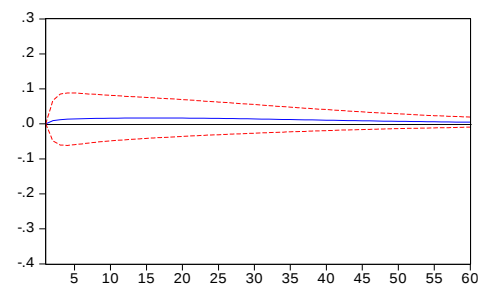
Response of SA_CPI to SA_IB



Response of SA_CPI to WCPI

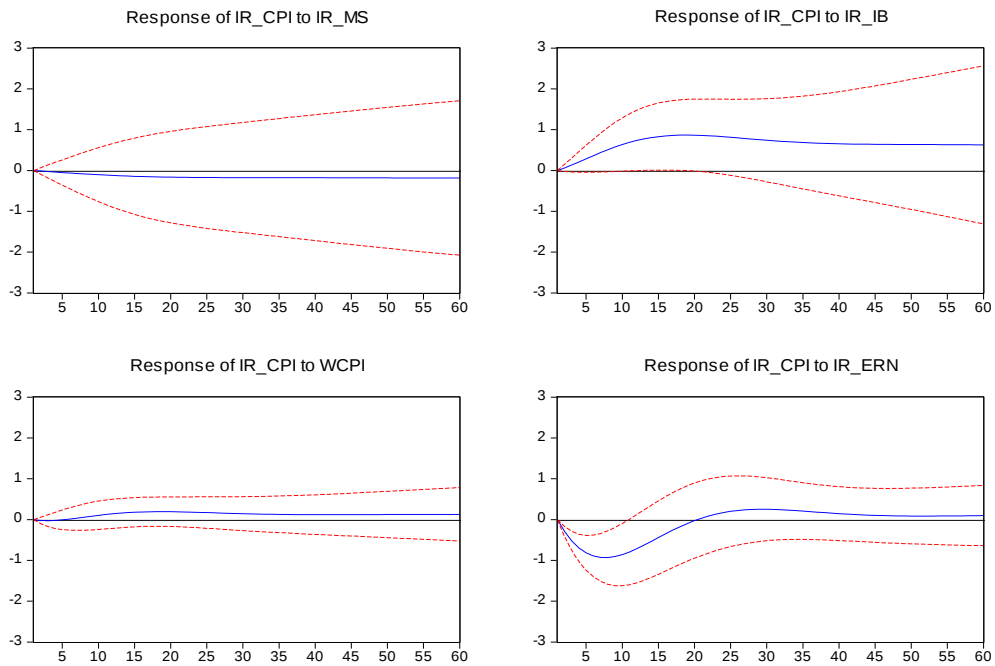


Response of SA_CPI to SA_IMPN

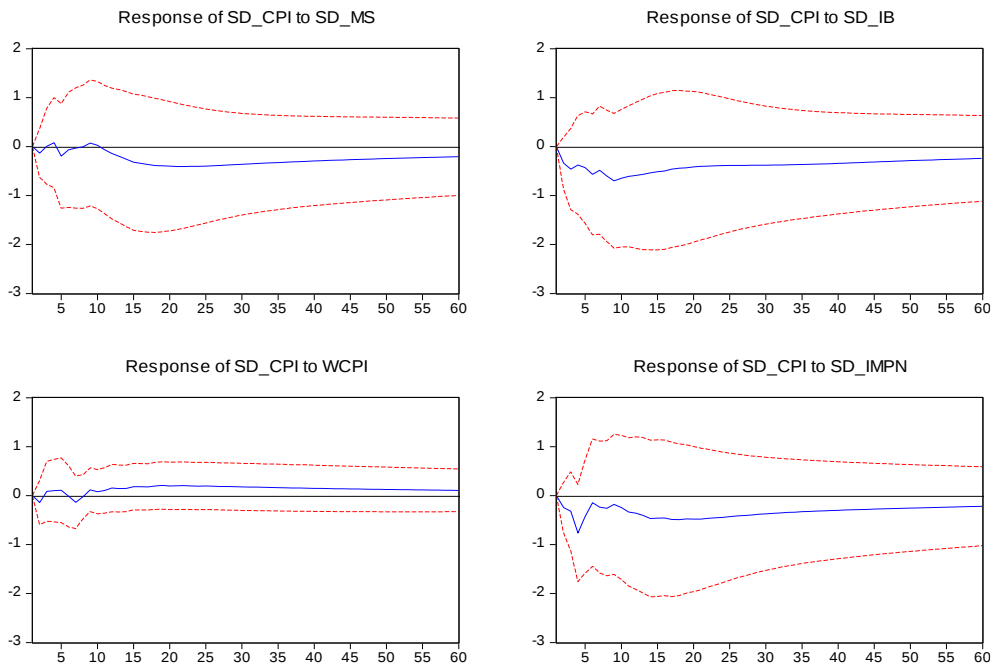


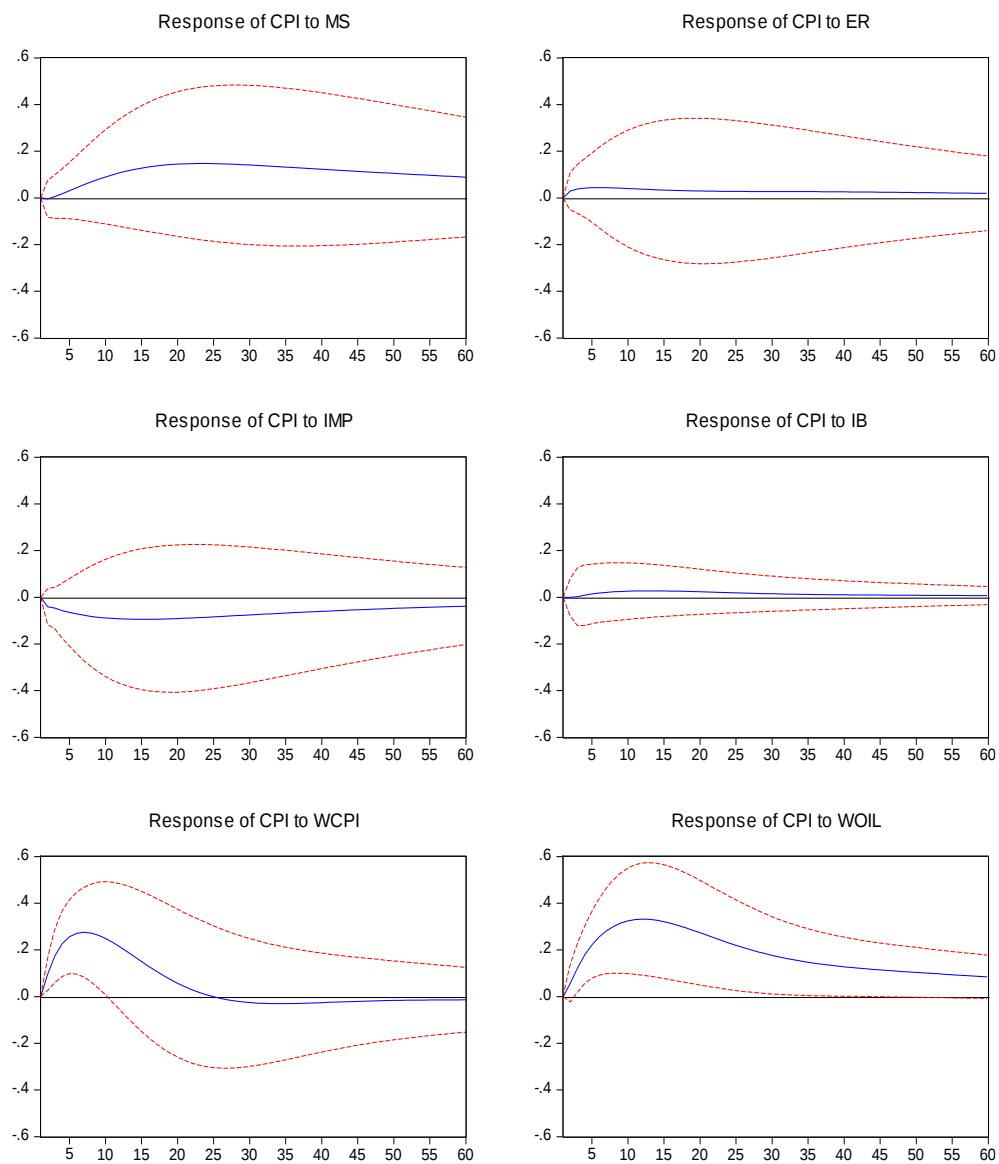
Does Islamic Banking Favors Price Stability? An Empirical evidence from the GCC, Iran and Sudan

Response to Cholesky One S.D. Innovations ± 2 S.E.



Response to Cholesky One S.D. Innovations ± 2 S.E.



APPENDIX C**Panel- Impulse Response of Inflation**Response to Cholesky One S.D. Innovations ± 2 S.E.

Appendix C. Detailed ECM Results

Table 1. Bahrain: Vector Error Correction Estimates 1/				
Long Run Dynamics				
CPI(-1)	1			
MS(-1)	-0.152534 (0.06523)			
	[-2.33835]			
IB(-1)	8.225035 (3.79897)			
	[2.16507]			
WCPI(-1)	-3.352971 (0.54766)			
	[-6.12240]			
C	2.972139			
	D(CPI)	D(MS)	D(IB)	D(WCPI)
Adjusted Coefficient	-0.093458 (0.02232)	0.239931 (0.08240)	-2.34E-05 (0.00086)	0.035623 (0.00506)
	[-4.18660]	[2.91183]	[-0.02730]	[7.04524]
Short run Dynamics				
	D(BA_CPI)	D(BA_MS)	D(BA_IB)	D(WCPI)
D(CPI(-1))	-0.241269 (0.09163)	0.098955 (0.33823)	0.001474 (0.00351)	0.000756 (0.02075)
	[-2.63304]	[0.29257]	[0.41960]	[0.03641]
D(CPI(-2))	-0.101511 (0.09235)	0.867495 (0.34089)	-0.001184 (0.00354)	-0.031686 (0.02092)
	[-1.09918]	[2.54482]	[-0.33448]	[-1.51477]
D(MS(-1))	0.007692 (0.02317)	-0.262687 (0.08552)	-0.001737 (0.00089)	0.002206 (0.00525)
	[0.33203]	[-3.07173]	[-1.95523]	[0.42038]
D(MS(-2))	-0.000924 (0.02318)	-0.385072 (0.08557)	-0.001032 (0.00089)	-0.000179 (0.00525)
	[-0.03987]	[-4.49986]	[-1.16147]	[-0.03415]
D(IB(-1))	1.158560 (2.55083)	-12.36815 (9.41551)	0.191049 (0.09779)	1.142943 (0.57777)
	[0.45419]	[-1.31359]	[1.95364]	[1.97819]
D(IB(-2))	2.814484 (2.47187)	2.679509 (9.12407)	0.123602 (0.09476)	-0.295218 (0.55989)
	[1.13860]	[0.29367]	[1.30431]	[-0.52728]
D(WCPI(-1))	0.223034 (0.36142)	2.492921 (1.33406)	0.033339 (0.01386)	0.240759 (0.08186)
	[0.61710]	[1.86867]	[2.40615]	[2.94099]
D(WCPI(-2))	-0.124611 (0.35016)	1.620586 (1.29248)	0.025014 (0.01342)	-0.298645 (0.07931)
	[-0.35587]	[1.25385]	[1.86341]	[-3.76545]
C	0.119348 (0.08283)	-0.329053 (0.30573)	0.002720 (0.00318)	-0.098156 (0.01876)
	[1.44093]	[-1.07629]	[0.85652]	[-5.23198]
WOILN	0.375454 (0.41664)	2.462708 (1.53787)	-0.042357 (0.01597)	0.458543 (0.09437)
	[0.90116]	[1.60138]	[-2.65186]	[4.85901]
WFOODN	-2.251224 (0.76607)	-1.580029 (2.82767)	0.000157 (0.02937)	0.851099 (0.17352)
	[-2.93868]	[-0.55877]	[0.00536]	[4.90499]
R-squared	0.197962	0.307043	0.243373	0.666231
Adj. R-squared	0.116272	0.236464	0.166309	0.632236
Sum sq. resids	63.14112	860.2761	0.092801	3.239402
S.E. equation	0.764618	2.822325	0.029313	0.173189
F-statistic	2.423354	4.350340	3.158066	19.59792
Log likelihood	-131.7454	-288.4583	259.6146	46.45356
Akaike AIC	2.395757	5.007639	-4.12691	-0.574226
Schwarz SC	2.674507	5.286388	-3.848161	-0.295477
Mean dependent	0.005364	-0.138489	-0.002174	-0.005768
S.D. dependent	0.813364	3.229923	0.032104	0.285585
1/ Standard errors in () and t-statistics in []				

Table 2. Kuwait: Vector Error Correction Estimates 1/					
Long Run Equation					
KW_CPI(-1)	1				
KW_MS(-1)	-0.804456				
	(0.35083)				
	[-2.29302]				
KW_IB(-1)	18.49681				
	(14.9320)				
	[1.23874]				
WCPI(-1)	14.37683				
	(3.18961)				
	[4.50739]				
KW_ERN(-1)	-393.8492				
	(105.827)				
	[-3.72162]				
C	-70.82386				
Adjusted Coefficient	-7.89E-05	0.012519	-2.01E-05	-0.005284	0.000233
	(0.00272)	(0.00995)	(7.7E-05)	(0.00073)	(3.3E-05)
	[-0.02895]	[1.25777]	[-0.26180]	[-7.25878]	[6.98346]
Short Run Dynamics					
	D(CPI)	D(MS)	D(IB)	D(WCPI)	D(ER)
D(CPI(-1))	-0.033976	0.276867	-0.002754	0.005690	-0.000969
	(0.07676)	(0.28044)	(0.00216)	(0.02051)	(0.00094)
	[-0.44265]	[0.98727]	[-1.27463]	[0.27741]	[-1.03101]
D(MS(-1))	-0.005666	-0.21418	0.002936	-0.004216	-0.000532
	(0.02034)	(0.07431)	(0.00057)	(0.00543)	(0.00025)
	[-0.27858]	[-2.88242]	[5.12844]	[-0.77578]	[-2.13325]
D(IB(-1))	2.466169	-16.01951	0.377636	0.892717	-0.041701
	(2.57854)	(9.42091)	(0.07259)	(0.68900)	(0.03159)
	[0.95642]	[-1.70042]	[5.20262]	[1.29568]	[-1.32011]
D(WCPI(-1))	0.293764	-1.425441	0.015107	0.159961	-0.006235
	(0.25246)	(0.92240)	(0.00711)	(0.06746)	(0.00309)
	[1.16359]	[-1.54536]	[2.12576]	[2.37121]	[-2.01581]
D(ERN(-1))	0.767391	10.23958	0.044863	-0.429418	-0.038653
	(5.98775)	(21.8768)	(0.16855)	(1.59995)	(0.07335)
	[0.12816]	[0.46806]	[0.26616]	[-0.26839]	[-0.52694]
C	-0.044672	0.080773	0.000675	-0.089413	0.002455
	(0.06152)	(0.22478)	(0.00173)	(0.01644)	(0.00075)
	[-0.72610]	[0.35934]	[0.38967]	[-5.43901]	[3.25737]
WOIL	0.226590	-0.834127	0.007570	0.304601	-0.006227
	(0.24803)	(0.90620)	(0.00698)	(0.06627)	(0.00304)
	[0.91356]	[-0.92047]	[1.08423]	[4.59604]	[-2.04919]
WFOOD	0.508343	-0.550273	-0.027825	0.836462	-0.027649
	(0.56219)	(2.05400)	(0.01583)	(0.15022)	(0.00689)
	[0.90423]	[-0.26790]	[-1.75825]	[5.56830]	[-4.01457]
R-squared	0.076509	0.098018	0.262444	0.545741	0.348520
Adj. R-squared	0.032793	0.055321	0.227530	0.524237	0.317681
Sum sq. resids	73.19100	977.0041	0.057998	5.225699	0.010985
S.E. equation	0.658090	2.404390	0.018525	0.175845	0.008062
F-statistic	1.750147	2.295652	7.516901	25.37929	11.30119
Log likelihood	-173.4758	-404.112	462.0216	61.43829	610.1101
Akaike AIC	2.050290	4.641708	-5.09013	-0.589194	-6.754046
Schwarz SC	2.211166	4.802585	-4.929253	-0.428318	-6.593169
Mean dependent	0.007497	-0.027356	-0.000231	-0.007676	0.000198
S.D. dependent	0.669154	2.473789	0.021078	0.254937	0.009760
1/ Standard errors in () and t-statistics in []					

Table 3. Oman: Vector Error Correction Estimates 1/				
Long Run Equation				
OM_CPI(-1)	1			
OM_MS(-1)	-0.338861			
	(0.06341)			
	[-5.34365]			
OM_IB(-1)	-2.980255			
	(4.79603)			
	[-0.62140]			
WCPI(-1)	4.696839			
	(0.71673)			
	[6.55313]			
C	-12.53945			
Adjusted Coefficient	-0.025939	-0.014845	0.000213	-0.022832
	(0.00843)	(0.03963)	(0.00035)	(0.00291)
	[-3.07697]	[-0.37457]	[0.61324]	[-7.85207]
Short Run Dynamics				
	D(CPI)	D(MS)	D(IB)	D(WCPI)
D(CPI(-1))	-0.105455	0.289920	0.003457	-0.032424
	(0.07415)	(0.34862)	(0.00305)	(0.02558)
	[-1.42213]	[0.83163]	[1.13370]	[-1.26770]
D(MS(-1))	0.060207	-0.073813	0.000138	-0.004778
	(0.01681)	(0.07902)	(0.00069)	(0.00580)
	[3.58208]	[-0.93411]	[0.19968]	[-0.82422]
D(IB(-1))	-2.507402	-8.211463	0.412045	0.395242
	(1.73848)	(8.17318)	(0.07148)	(0.59964)
	[-1.44230]	[-1.00468]	[5.76430]	[0.65913]
D(WCPI(-1))	-0.032367	0.771704	0.011298	0.156307
	(0.19202)	(0.90274)	(0.00790)	(0.06623)
	[-0.16856]	[0.85485]	[1.43100]	[2.36001]
C	-0.137662	-0.021057	0.000822	-0.081254
	(0.04613)	(0.21689)	(0.00190)	(0.01591)
	[-2.98396]	[-0.09709]	[0.43341]	[-5.10621]
WOIL	0.405827	0.827796	-0.012388	0.328262
	(0.18679)	(0.87817)	(0.00768)	(0.06443)
	[2.17262]	[0.94264]	[-1.61294]	[5.09494]
WFOOD	1.578461	-0.916333	0.007237	0.642968
	(0.40169)	(1.88847)	(0.01652)	(0.13855)
	[3.92958]	[-0.48523]	[0.43814]	[4.64063]
R-squared	0.310865	0.037512	0.185783	0.544887
Adj. R-squared	0.282489	-0.00212	0.152257	0.526147
Sum sq. resids	44.00578	972.6431	0.074399	5.235519
S.E. equation	0.508780	2.391951	0.020920	0.175491
F-statistic	10.95514	0.946501	5.541376	29.07626
Log likelihood	-128.1969	-403.7139	439.8573	61.27121
Akaike AIC	1.530302	4.625998	-4.852329	-0.598553
Schwarz SC	1.673304	4.769000	-4.709328	-0.455551
Mean dependent	0.001756	0.021594	-0.000505	-0.007676
S.D. dependent	0.600642	2.389419	0.022721	0.254937
1/ Standard errors in () and t-statistics in []				

Table 4. Qatar: Vector Error Correction Estimates 1/

Table 4. Qatar: Vector Error Correction Estimates 1/				
Long Run Equation				
QT_CPI(-1)	1			
QT_MS(-1)	-1.347996			
	(0.44400)			
	[-3.03601]			
QT_IB(-1)	10.14228			
	(14.4200)			
	[0.70335]			
WCPI(-1)	-43.75795			
	(5.84915)			
	[-7.48108]			
C	184.1224			
Adjusted Coefficient	0.002504	0.047900	-0.000181	0.003139
	(0.00229)	(0.01101)	(0.00011)	(0.00037)
	[1.09104]	[4.34918]	[-1.66444]	[8.44219]
Short Run Dynamics				
	D(CPI)	D(MS)	D(IB)	D(WCPI)
D(QT_CPI(-1))	0.007751	0.646557	-0.002528	-0.000779
	(0.09030)	(0.43337)	(0.00427)	(0.01463)
	[0.08583]	[1.49193]	[-0.59238]	[-0.05327]
D(QT_MS(-1))	-0.008824	-0.141403	-0.000705	0.002067
	(0.01736)	(0.08330)	(0.00082)	(0.00281)
	[-0.50833]	[-1.69742]	[-0.85924]	[0.73503]
D(QT_IB(-1))	0.012350	-15.84453	0.234114	-0.096723
	(1.83963)	(8.82886)	(0.08695)	(0.29806)
	[0.00671]	[-1.79463]	[2.69263]	[-0.32451]
D(WCPI(-1))	-0.373076	-0.801975	0.020695	0.087229
	(0.45066)	(2.16285)	(0.02130)	(0.07302)
	[-0.82784]	[-0.37080]	[0.97163]	[1.19464]
C	-0.096385	-1.272598	0.003097	-0.100641
	(0.11411)	(0.54763)	(0.00539)	(0.01849)
	[-0.84469]	[-2.32384]	[0.57420]	[-5.44368]
WOILN	-0.114991	5.566911	-0.052526	0.348774
	(0.46571)	(2.23505)	(0.02201)	(0.07545)
	[-0.24692]	[2.49073]	[-2.38639]	[4.62231]
WFOODN	1.430513	7.433177	0.017006	0.963691
	(0.95796)	(4.59748)	(0.04528)	(0.15521)
	[1.49330]	[1.61680]	[0.37561]	[6.20898]
R-squared	0.022870	0.218323	0.140242	0.619641
Adj. R-squared	-0.03229	0.174196	0.091707	0.598169
Sum sq. resids	146.3373	3370.561	0.326885	3.841476
S.E. equation	1.086342	5.213631	0.051344	0.176010
F-statistic	0.414612	4.947625	2.889523	28.85823
Log likelihood	-194.1053	-401.142	208.7627	46.13849
Akaike AIC	3.062201	6.199122	-3.041859	-0.577856
Schwarz SC	3.236917	6.373837	-2.867144	-0.403141
Mean dependent	-0.029547	-0.138007	-0.003189	-0.00593
S.D. dependent	1.069217	5.737225	0.053873	0.277662
1/ Standard errors in () and t-statistics in []				

Table 5.Saudi Arabia: Vector Error Correction Estimates 1/				
Long Run Equation				
CPI(-1)	1			
MS(-1)	0.380307			
	(1.50189)			
	[0.25322]			
IB(-1)	5.038977			
	(10.5439)			
	[0.47791]			
WCPI(-1)	62.88321			
	(9.18523)			
	[6.84612]			
C	-249.5293			
Adjusted Coefficient	-0.000411	7.48E-05	-4.45E-05	-0.001971
	(0.00059)	(0.00319)	(0.00035)	(0.00027)
	[-0.69245]	[0.02342]	[-0.12842]	[-7.20183]
Short Run Dynamics				
	D(CPI)	D(MS)	D(IB)	D(WCPI)
D(CPI(-1))	0.126765	-0.26031	0.028864	0.016478
	(0.07393)	(0.39752)	(0.04315)	(0.03409)
	[1.71456]	[-0.65484]	[0.66893]	[0.48335]
D(MS(-1))	0.024131	-0.210884	0.002555	-0.006112
	(0.01394)	(0.07495)	(0.00814)	(0.00643)
	[1.73103]	[-2.81361]	[0.31407]	[-0.95082]
D(IB(-1))	0.136017	0.280136	0.162992	-0.044168
	(0.13105)	(0.70460)	(0.07648)	(0.06043)
	[1.03790]	[0.39758]	[2.13106]	[-0.73096]
D(WCPI(-1))	0.466268	1.092900	0.058927	0.245009
	(0.14383)	(0.77330)	(0.08394)	(0.06632)
	[3.24187]	[1.41330]	[0.70201]	[3.69456]
C	0.100073	0.224072	0.026133	-0.209524
	(0.11936)	(0.64175)	(0.06966)	(0.05504)
	[0.83841]	[0.34916]	[0.37515]	[-3.80709]
WOILN	0.138591	-0.04378	-0.097668	0.448863
	(0.12830)	(0.68981)	(0.07488)	(0.05916)
	[1.08023]	[-0.06347]	[-1.30437]	[7.58775]
WFOOD	-0.001062	-0.002291	-0.000164	0.001690
	(0.00126)	(0.00679)	(0.00074)	(0.00058)
	[-0.84111]	[-0.33757]	[-0.22303]	[2.90307]
R-squared	0.182510	0.059995	0.048905	0.512053
Adj. R-squared	0.148849	0.021289	0.009742	0.491961
Sum sq. resids	26.40292	763.2478	8.993229	5.613233
S.E. equation	0.394096	2.118889	0.230003	0.181711
F-statistic	5.421942	1.550023	1.248759	25.48554
Log likelihood	-82.73157	-382.1372	13.12167	55.07140
Akaike AIC	1.019456	4.383564	-0.057547	-0.528892
Schw arz SC	1.162457	4.526565	0.085455	-0.385891
Mean dependent	0.021345	-0.002373	0.000139	-0.007676
S.D. dependent	0.427167	2.141811	0.231132	0.254937
1/ Standard errors in () and t-statistics in []				

Table 6. Iran: Vector Error Correction Estimates 1/					
Long Run Equation					
CPI(-1)	1				
MS(-1)	-0.482766				
	(0.23585)				
	[-2.04690]				
IB(-1)	9.225710				
	(2.01575)				
	[4.57682]				
WCPI(-1)	-19.40955				
	(1.83424)				
	[-10.5818]				
ER(-1)	-23.95112				
	(5.87677)				
	[-4.07556]				
C	57.33508				
Adjusted Coefficient	0.009172	0.026026	-0.003629	0.010061	0.000315
	(0.00900)	(0.00959)	(0.00118)	(0.00110)	(0.00087)
	[1.01957]	[2.71322]	[-3.06746]	[9.11940]	[0.36287]
Short Run Dynamics					
	D(CPI)	D(MS)	D(IB)	D(WCPI)	D(ER)
D(CPI(-1))	0.329547	0.016199	-0.028133	-0.040395	0.014788
	(0.07763)	(0.08278)	(0.01021)	(0.00952)	(0.00749)
	[4.24487]	[0.19568]	[-2.75525]	[-4.24257]	[1.97570]
D(MS(-1))	0.005956	-0.142077	0.005824	0.015095	-0.00153
	(0.08320)	(0.08871)	(0.01094)	(0.01020)	(0.00802)
	[0.07159]	[-1.60150]	[0.53229]	[1.47940]	[-0.19076]
D(IB(-1))	-1.933211	0.333254	0.317716	-0.061619	-0.063769
	(0.60331)	(0.64332)	(0.07935)	(0.07399)	(0.05817)
	[-3.20432]	[0.51802]	[4.00407]	[-0.83278]	[-1.09629]
D(WCPI(-1))	-0.179158	-0.075448	0.068975	0.130007	0.033409
	(0.54578)	(0.58197)	(0.07178)	(0.06694)	(0.05262)
	[-0.32826]	[-0.12964]	[0.96091]	[1.94225]	[0.63490]
D(ER(-1))	-0.530632	0.219447	-0.149643	0.071306	-0.01065
	(0.93482)	(0.99681)	(0.12295)	(0.11465)	(0.09013)
	[-0.56763]	[0.22015]	[-1.21711]	[0.62195]	[-0.11816]
C	-0.247514	0.000624	0.013988	-0.11428	0.003509
	(0.14083)	(0.15017)	(0.01852)	(0.01727)	(0.01358)
	[-1.75754]	[0.00416]	[0.75521]	[-6.61657]	[0.25844]
WOIL	0.319608	0.331812	-0.037653	0.465840	0.033024
	(0.60490)	(0.64501)	(0.07956)	(0.07419)	(0.05832)
	[0.52836]	[0.51443]	[-0.47328]	[6.27925]	[0.56625]
WFOOD	3.579362	-2.17576	-0.166592	0.952761	-0.121674
	(1.18814)	(1.26693)	(0.15627)	(0.14572)	(0.11455)
	[3.01257]	[-1.71736]	[-1.06609]	[6.53842]	[-1.06215]
R-squared	0.395808	0.166096	0.279709	0.671310	0.056402
Adj. R-squared	0.356511	0.111858	0.232861	0.649932	-0.00497
Sum sq. resids	220.7013	250.9399	3.817630	3.319635	2.051575
S.E. equation	1.339522	1.428342	0.176175	0.164283	0.129149
F-statistic	10.07219	3.062371	5.970544	31.40165	0.919017
Log likelihood	-221.2244	-229.699	46.54948	55.77463	87.53694
Akaike AIC	3.488249	3.616652	-0.568932	-0.708707	-1.189954
Schwarz SC	3.684804	3.813207	-0.372377	-0.512152	-0.993399
Mean dependent	-0.024396	-0.068071	0.000442	-0.00593	0.000279
S.D. dependent	1.669857	1.515623	0.201144	0.277662	0.128829
1/ Standard errors in () and t-statistics in []					

Table 7. Sudan: Vector Error Correction Estimates 1/				
Long Run Equation				
CPI(-1)	1			
MS(-1)	-1.654545			
	(0.75369)			
	[-2.19527]			
IB(-1)	-12.9262			
	(14.3895)			
	[-0.89831]			
WCPI(-1)	-84.30856			
	(9.49291)			
	[-8.88122]			
C	356.6207			
Adjusted Coefficient	-0.003133	0.002546	9.60E-06	0.001748
	(0.00361)	(0.00389)	(0.00017)	(0.00020)
	[-0.86684]	[0.65499]	[0.05546]	[8.95168]
Short Run Dynamics				
	D(CPI)	D(MS)	D(IB)	D(WCPI)
D(CPI(-1))	0.199017	0.150087	0.000489	-0.007247
	(0.07570)	(0.08140)	(0.00363)	(0.00409)
	[2.62912]	[1.84381]	[0.13495]	[-1.77225]
D(MS(-1))	-0.011603	0.043585	-0.005488	-0.001188
	(0.07115)	(0.07651)	(0.00341)	(0.00384)
	[-0.16309]	[0.56968]	[-1.61064]	[-0.30924]
D(IB(-1))	-2.323328	-0.338142	0.249106	0.160609
	(1.55864)	(1.67607)	(0.07464)	(0.08419)
	[-1.49062]	[-0.20175]	[3.33728]	[1.90758]
D(WCPI(-1))	0.689523	-0.037077	-0.011313	0.160376
	(1.15452)	(1.24150)	(0.05529)	(0.06237)
	[0.59724]	[-0.02986]	[-0.20462]	[2.57157]
C	0.021008	-0.127661	0.002517	-0.085009
	(0.27458)	(0.29526)	(0.01315)	(0.01483)
	[0.07651]	[-0.43236]	[0.19138]	[-5.73144]
WOIL	0.930234	2.602848	0.113528	0.320073
	(1.15279)	(1.23965)	(0.05521)	(0.06227)
	[0.80694]	[2.09966]	[2.05638]	[5.13992]
WFOOD	-1.239237	-4.638968	-0.244516	0.717455
	(2.38221)	(2.56170)	(0.11408)	(0.12868)
	[-0.52021]	[-1.81090]	[-2.14328]	[5.57537]
R-squared	0.074194	0.060490	0.121609	0.584787
Adj. R-squared	0.036072	0.021804	0.085440	0.567690
Sum sq. resids	1636.926	1892.890	3.754256	4.776519
S.E. equation	3.103059	3.336862	0.148606	0.167622
F-statistic	1.946242	1.563617	3.362253	34.20407
Log likelihood	-450.0435	-462.9739	90.87045	69.43730
Akaike AIC	5.146557	5.291841	-0.931129	-0.690307
Schw arz SC	5.289558	5.434843	-0.788127	-0.547305
Mean dependent	0.059193	-0.074588	0.003660	-0.007676
S.D. dependent	3.160588	3.373847	0.155393	0.254937
1/ Standard errors in () and t-statistics in []				

APPENDIX D: TABLES**Table D1:** Variance Decomposition of CPI/

Panel								
Period	CPI	MS	ER	IMP	IB	WCPI	WOIL	WFOOD
Panel								
1	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	96.48	0.04	0.05	0.10	0.00	0.53	0.46	2.34
12	93.12	0.20	0.06	0.17	0.01	0.50	1.06	4.88
18	91.89	0.39	0.08	0.21	0.01	0.38	1.39	5.65
24	91.80	0.53	0.10	0.23	0.01	0.39	1.53	5.40
30	92.00	0.63	0.11	0.25	0.01	0.42	1.59	4.99
36	92.19	0.69	0.12	0.27	0.01	0.41	1.62	4.69
42	92.30	0.74	0.13	0.28	0.01	0.40	1.65	4.50
48	92.34	0.78	0.13	0.29	0.01	0.38	1.67	4.39
54	92.36	0.81	0.13	0.30	0.01	0.38	1.69	4.32
60	92.37	0.84	0.13	0.31	0.00	0.37	1.71	4.26

APPENDIX D: TABLES

TABLE D2: Variance Decomposition

Variance Decomposition of CPI						
Period	CPI	MS	ER	IMP	WCPI	IB
Bahrain						
1	100.00	0.00	0.00	0.00	0.00	0.00
6	97.97	0.07	0.01	0.17	1.35	0.42
12	88.90	0.09	0.04	0.24	8.55	2.19
18	84.77	0.28	0.06	0.68	10.31	3.90
24	83.18	0.51	0.07	1.26	10.25	4.74
30	81.56	0.62	0.07	1.68	11.00	5.07
36	80.66	0.65	0.07	1.91	11.45	5.27
Kuwait						
1	100.00	0.00	0.00	0.00	0.00	0.00
6	74.25	5.10	4.14	1.08	12.21	3.21
12	51.49	10.28	8.79	0.82	19.70	8.92
18	43.23	11.75	12.86	1.05	19.45	11.66
24	39.94	12.29	15.25	1.47	18.18	12.87
30	38.47	12.63	16.13	1.88	17.39	13.50
36	37.73	12.90	16.27	2.21	17.02	13.88
Oman						
1	100.00	0.00		0.00	0.00	0.00
6	70.78	14.77		0.28	14.11	0.06
12	54.43	27.29		0.30	17.92	0.06
18	44.98	37.36		0.24	17.38	0.05
24	38.94	44.48		0.20	16.25	0.13
30	35.19	49.04		0.18	15.21	0.37
36	32.98	51.67		0.17	14.41	0.77
Qatar						
1	100.00	0.00		0.00	0.00	0.00
6	71.27	6.22		0.07	0.64	21.80
12	60.66	14.63		0.30	1.76	22.64
18	54.31	20.17		0.54	3.67	21.31
24	50.43	23.09		0.76	5.69	20.03
30	48.12	24.47		0.96	7.31	19.15
36	46.77	25.05		1.16	8.42	18.61
Saudi Arabia						
1	100.00	0.00	0.00	0.00	0.00	0.00
6	86.93	1.10	1.29	0.60	9.62	0.46
12	87.72	2.61	1.56	0.36	6.92	0.83
18	88.21	3.79	1.33	0.36	5.18	1.13
24	88.35	4.59	1.12	0.38	4.32	1.23
30	88.39	5.17	1.01	0.38	3.83	1.23
36	88.35	5.59	0.97	0.36	3.53	1.20
Iran						
1	100.00	0.00	0.00	0.00	0.00	0.00
6	90.62	1.38	0.57	2.28	2.27	2.88
12	87.54	1.94	0.63	5.20	1.40	3.29
18	74.86	2.07	2.82	5.43	0.98	13.84
24	62.27	2.27	6.94	4.61	0.88	23.03
30	58.75	2.23	8.09	4.74	1.45	24.73
36	57.90	2.15	7.84	5.39	2.97	23.74
Sudan						
1	100.00	0.00	0.00	0.00	0.00	0.00
6	92.43	0.01	3.62	0.09	2.80	1.06
12	89.06	0.03	4.31	0.87	4.81	0.92
18	86.15	0.09	4.71	2.13	5.23	1.69
24	83.30	0.19	5.02	3.45	5.17	2.87
30	80.64	0.30	5.31	4.63	5.01	4.11
36	78.28	0.42	5.61	5.61	4.84	5.25

APPENDIX F: Correlation Matrix

			Correlation Matrix						
Bahrain									
	WOIL	WFOOD	IB	ER	IMP	WCPI	MS	CPI	
WOIL	1.00	0.69	-0.07	0.03	0.52	0.55	0.31	-0.41	
WFOOD	0.69	1.00	0.02	0.05	0.34	0.57	0.47	-0.46	
IB	-0.07	0.02	1.00	0.01	-0.06	-0.03	-0.04	-0.03	
ER	0.03	0.05	0.01	1.00	0.05	0.13	0.10	-0.01	
IMP	0.52	0.34	-0.06	0.05	1.00	0.14	0.18	-0.37	
WCPI	0.55	0.57	-0.03	0.13	0.14	1.00	0.50	-0.27	
MS	0.31	0.47	-0.04	0.10	0.18	0.50	1.00	-0.04	
CPI	-0.41	-0.46	-0.03	-0.01	-0.37	-0.27	-0.04	1.00	
Kuwait									
	WOIL	WFOOD	IB	ER	IMP	WCPI	MS	CPI	
WOIL	1.00	0.69	0.28	-0.69	0.35	0.55	0.03	0.16	
WFOOD	0.69	1.00	0.15	-0.77	0.08	0.57	0.10	0.30	
IB	0.28	0.15	1.00	-0.33	0.58	0.09	0.45	0.06	
ER	-0.69	-0.77	-0.33	1.00	-0.22	-0.72	-0.13	-0.26	
IMP	0.35	0.08	0.58	-0.22	1.00	0.17	0.25	0.17	
WCPI	0.55	0.57	0.09	-0.72	0.17	1.00	0.10	0.57	
MS	0.03	0.10	0.45	-0.13	0.25	0.10	1.00	0.42	
CPI	0.16	0.30	0.06	-0.26	0.17	0.57	0.42	1.00	
Oman									
	WOIL	WFOOD	IB	ER	IMP	WCPI	MS	CPI	
WOIL	1.00	0.69	-0.07		0.25	0.55	0.10	0.25	
WFOOD	0.69	1.00	-0.05		0.48	0.57	0.28	0.41	
IB	-0.07	-0.05	1.00		-0.29	-0.17	-0.16	-0.20	
ER									
IMP	0.25	0.48	-0.29		1.00	0.49	0.43	0.43	
WCPI	0.55	0.57	-0.17		0.49	1.00	0.43	0.61	
MS	0.10	0.28	-0.16		0.43	0.43	1.00	0.75	
CPI	0.25	0.41	-0.20		0.43	0.61	0.75	1.00	
Qatar									
	WOIL	WFOOD	IB	ER	IMP	WCPI	MS	CPI	
WOIL	1.00	0.69	0.10		-0.32	0.55	0.56	0.01	
WFOOD	0.69	1.00	0.28		-0.30	0.57	0.57	-0.16	
IB	0.10	0.28	1.00		-0.31	0.08	0.43	-0.75	
ER									
IMP	-0.32	-0.30	-0.31		1.00	-0.26	-0.25	0.14	
WCPI	0.55	0.57	0.08		-0.26	1.00	0.52	-0.09	
MS	0.56	0.57	0.43		-0.25	0.52	1.00	-0.39	
CPI	0.01	-0.16	-0.75		0.14	-0.09	-0.39	1.00	
Saudi Arabia									
	WOIL	WFOOD	IB	ER	IMP	WCPI	MS	CPI	
WOIL	1.00	0.69	0.18	0.06	0.26	0.55	0.28	0.17	
WFOOD	0.69	1.00	0.23	0.32	0.34	0.57	0.24	0.37	
IB	0.18	0.23	1.00	0.03	0.28	0.00	0.03	-0.16	
ER	0.06	0.32	0.03	1.00	0.06	0.28	0.23	0.40	
IMP	0.26	0.34	0.28	0.06	1.00	0.37	0.26	0.10	
WCPI	0.55	0.57	0.00	0.28	0.37	1.00	0.32	0.44	
MS	0.28	0.24	0.03	0.23	0.26	0.32	1.00	0.40	
CPI	0.17	0.37	-0.16	0.40	0.10	0.44	0.40	1.00	
Iran									
	WOIL	WFOOD	IB	ER	IMP	WCPI	MS	CPI	
WOIL	1.00	0.69	-0.06	0.04	-0.10	0.55	0.29	-0.07	
WFOOD	0.69	1.00	-0.09	-0.07	0.00	0.57	0.32	0.03	
IB	-0.06	-0.09	1.00	0.24	0.01	-0.26	-0.07	-0.35	
ER	0.04	-0.07	0.24	1.00	0.21	-0.15	0.02	0.02	
IMP	-0.10	0.00	0.01	0.21	1.00	-0.06	0.14	-0.16	
WCPI	0.55	0.57	-0.26	-0.15	-0.06	1.00	-0.01	0.29	
MS	0.29	0.32	-0.07	0.02	0.14	-0.01	1.00	-0.48	
CPI	-0.07	0.03	-0.35	0.02	-0.16	0.29	-0.48	1.00	
Sudan									
	WOIL	WFOOD	IB	ER	IMP	WCPI	MS	CPI	
WOIL	1.00	0.69	0.08	-0.23	0.05	0.55	0.15	-0.18	
WFOOD	0.69	1.00	-0.03	-0.10	-0.02	0.57	0.04	-0.15	
IB	0.08	-0.03	1.00	-0.33	0.08	-0.09	0.28	-0.25	
ER	-0.23	-0.10	-0.33	1.00	-0.07	-0.04	0.03	0.78	
IMP	0.05	-0.02	0.08	-0.07	1.00	-0.14	0.01	-0.16	
WCPI	0.55	0.57	-0.09	-0.04	-0.14	1.00	-0.04	-0.02	
MS	0.15	0.04	0.28	0.03	0.01	-0.04	1.00	-0.11	
CPI	-0.18	-0.15	-0.25	0.78	-0.16	-0.02	-0.11	1.00	

Information and Communication Technologies and Economic Growth: Evidence from EU and Turkey

Ali Sen¹ and M. Ozan Saray²

More and more information technology is considered as an indispensable dimension of the process of economic growth. The main aim of this paper is to explore the impact of ICT on economic growth in the European Union (EU) countries and Turkey, covering the 1997-2014 periods. The study contributes to the empirical literature by providing some evidence obtained by a cross-country panel data analysis. The results show that ICT investment appears to be quite important for explaining economic growth in the EU countries and Turkey.

ICT which we use growth rate of fixed telephone, internet and mobile telephones subscriptions as proxy variables has a positive effect on economic growth. Through static and dynamic panel data analyses, we found that fixed telephone subscriptions and internet variables have a positive effect on economic growth, while we could not observe a statistically significant correlation with mobile telephone. As expected, there is a positive relationship of economic growth with physical capital growth but negative association with population growth. The effects of trade growth variable are controversial.

Keywords: Information technology, economic growth, panel data

JEL Classification: O33, O40, C23.

1. Introduction

There is no doubt that while growth performances differentiate across countries in the world, the determinants of growth can also be dissimilar for all countries. The growth pattern of the countries may be attributed to a group of factors, namely economic infrastructure, population growth,

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unemployment rate, inflow of foreign capital, industrial growth, inflation, investment in physical and human capital and development of financial institutions. Information Technology (IT) or Information Communication Technologies (hereafter written as ICT) is today indispensable part of economic growth. ICT plays a significant role in promoting competitiveness in international economy as well as rising domestic productivity in all fields of the economy. In making progress in ICT area also means to increasing examples of technological inventions and innovations. Countries in general and developing countries in particular in a rapidly changing environment of international economy have to pay a great attention to greater access and use of information infrastructure in order to achieve a sustainable growth and competitive economy.

In recent years, a growing number of academicians in the field of economics have become interested in the relationship between ICT and economic growth. The focus of attention on the role of ICT in economic performance has not only been on the advanced industrialised countries but it has also been on the developing countries. For dealing with such a relationship, it is better to investigate that how far ICT investment contributes to economic growth.

Indeed, the main purpose of this article is to examine the impact of ICT on economic growth in the European Union (EU) countries and Turkey in the period of 1997-2014. The group of the countries chosen in the analysis of this paper, the EU (28) plus Turkey involves both advanced industrialised countries and developing countries in Europe³ Turkey is now an accession country, which means the last phase in the way of the EU full membership. Thus, the period of 1997-2014 for Turkey is important, because it includes both the dates of Custom Union membership (1996 and onwards) and post-accession process.

The study contributes to the empirical literature by providing some evidence obtained by a cross-country panel data analysis. In doing so, the study investigates to measure the effects of population, trade, total investments and ICT in the EU and Turkey for the years 1997-2014. The results indicate that ICT investment appears to be quite important for explaining economic growth in the EU and Turkey.

³ Malta is excluded for the lack of data.

The rest of this paper is divided into five sections. A brief of the literature on the relationship between IT/ICT and economic growth introduced in Section 2. Section 3 details the data employed and outlines the main features of the econometric model. Section 4 sets out and discusses the results of empirical analysis obtained in this study. The final section summarizes the findings and conclusions of the study.

2. Brief Literature Review

A number of economists have made significant contributions to the understanding of how IT/ICT investments affect economic growth. The answer of this question extends from Solow's growth theory to its successors. Solow's theory was based on two external factors, namely population (labour) growth and technology. When an increase is realised in these factors, economic growth will occur (Solow, 1956). Solow, in a study related to USA economy, reached to a conclusion that the economic growth in the period of 1909-1949 can be explained by technology rather than labour and capital which classical theory stressed much (Solow, 1988).

Mankiw et al. (1992) developed Solow's model by incorporating human accumulation as well as physical capital, and arrived at a conclusion that the model (the augmented Solow model) clarifies per capita income level variations across countries (Mankiw et al. 1992: 407-408). Romer (1994) also emphasized that Research and Development (R&D) expenditure is the main factor of economic growth in a model that involves total production function, knowledge accumulation and R&D expenditures. Yoo (2003) extended the augmented Solow model a step further by explicitly including the IT investment in an analysis of 56 countries, and suggested that the contribution of information technologies on economic growth is significant.

There are studies, however, like Pohjola (2000), who reach mix results. He examined the link between growth and IT using Solow model for 39 OECD countries in the period of 1980-1995 (Pohjola, 2000: 1-17). His main conclusion is that physical capital is the main factor both in developed and in developing countries. In this model there is no any significant relationship among human capital, knowledge capital and growth. But when he limited the scope of his study to 23 OECD countries, he reached a conclusion that IT investment has an powerful impact on

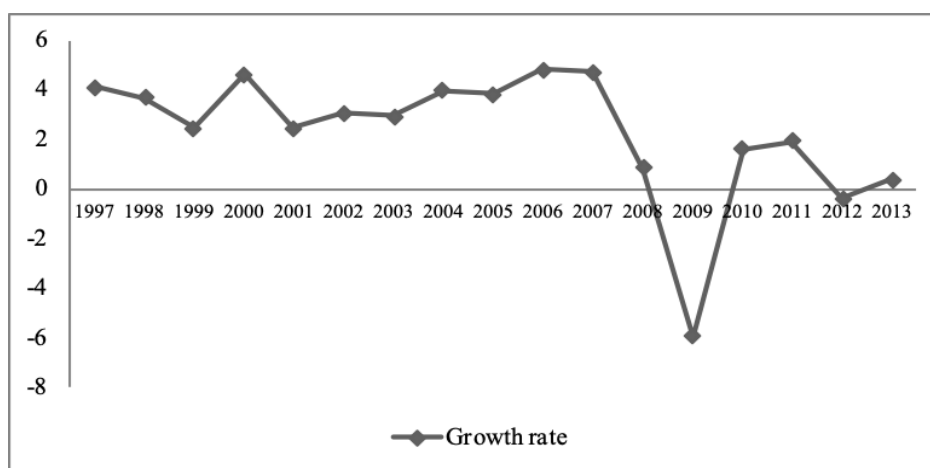
growth (Pohjola, 2000). Dewan and Kraemer (2000) also reaches varied results for both country groups. They reached a conclusion that the effect of IT on economic growth is significant in developed countries. It is not however significant in the developing countries. They imply that developing countries have lacked sufficient stock of physical infrastructure and human capital which multiply the impact of investments in IT. Kraemer and Dedrick (2001) also reach similar results. However, there are studies which support that IT/ICT significantly contributes to developing countries. For instance, Vu (2011) used a panel data analysis and examined the linkage between ICT and economic growth in a sample of 102 countries for the years of 1996-2005. He found a robust causal link of ICT on growth (Vu, 2011: 372). Even Becchetti and Adriani (2005) showed that ICT factors also contribute to convergence as well as supporting growth rate of output per worker (Becchetti and Adriani, 2005: 451).

Empirical research on productivity improvements related to ICT also found evidence since the second part of 1990s. Many studies were shown in this context. Among these studies are, inter alia, those made by Brynjolfsson and Hitt (2000), Jorgenson and Stiroh (1999), Lehr and Lichtenberg (1999). Becchetti et al. (2003) examined the correlation of investment and firm efficiency with ICT and found evidence that ICT is relevant to improvements in productivity at firm level data when, in particular, breaking the data into software and telecommunications. They also note that more positive results are seen easily when new data are to inserted into a data structure and new methodologies were introduced (Becchetti et al. 2003: 143-144). Indeed, Papaioannou and Dimelis (2007) had similar research findings for 42 countries which are both developed and developing in 1993-2001 time span. They found a robust and positive impact of ICT on growth of both country groups, though the highest impact was observed in developed countries. Shahiduzzaman and Alam (2014) examined the multiple impact of IT in Australia for the period of nearly forty years. They made clear that capital of information technologies showed a notable effect on output, productivity of labour and technical progress in 1990s, in spite of the fact that there is a signs of deceleration of IT capital in output and labour productivity in recent times (Shahiduzzaman and Alam, 2014: 125).

3. Empirical analyse: The effect of ICT growth on GDP growth

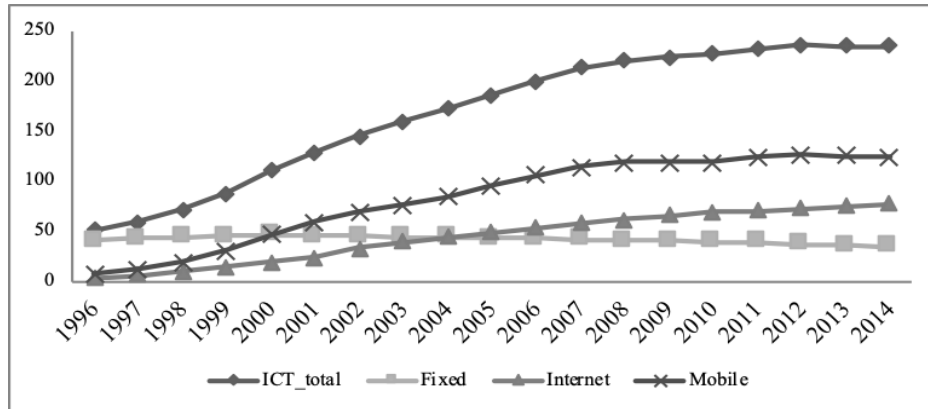
Figure 1 shows the average growth rate of 29 European countries in the period of 1997-2014. By 2007, the average growth rate was above two percent and even more in the period of 2006-2007 reached nearly four percent. This trend of the growth rate of the EU countries was disrupted in 2008-2009 and could not be considered fully recovered afterwards.

Figure 1: Average per capita GDP growth rates



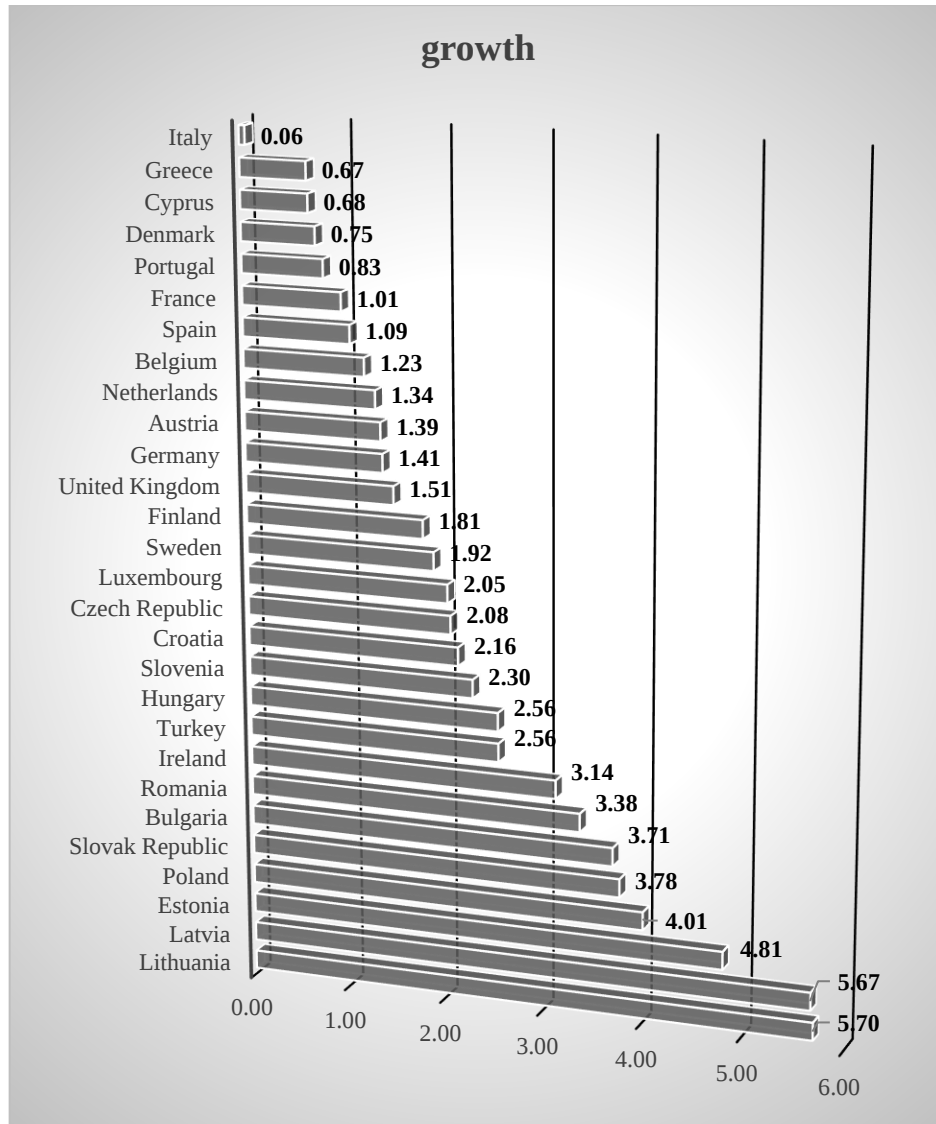
Source: WDI Online DataBank (2018).

As shown in Figure 2, first salient point is that mobile telephone subscriptions (per 100 people) are in the steady increase while fixed line subscriptions (per 100 people) are steadily declining. A similar pattern of increase can also be seen in the use of the internet (per 100 people). Another important point is that all other variables except the fixed line whose growth rate falls moderately have started to decrease fast as a result of the crisis of 2008.

Figure 2: Average of ICT variables for all sample

Source: WDI Online DataBank (2018).

Figure 3 shows the average growth rates of 29 countries between 1997-2014 periods. All countries which take place in the figure differ in terms of per capita growth performance. It is observed that the countries apart from Ireland that shows higher performance are Middle and East European countries in general, and Baltic countries in particular. Turkey represents the average level while West European countries display relatively lower per capita growth by performance measure in Figure 3.

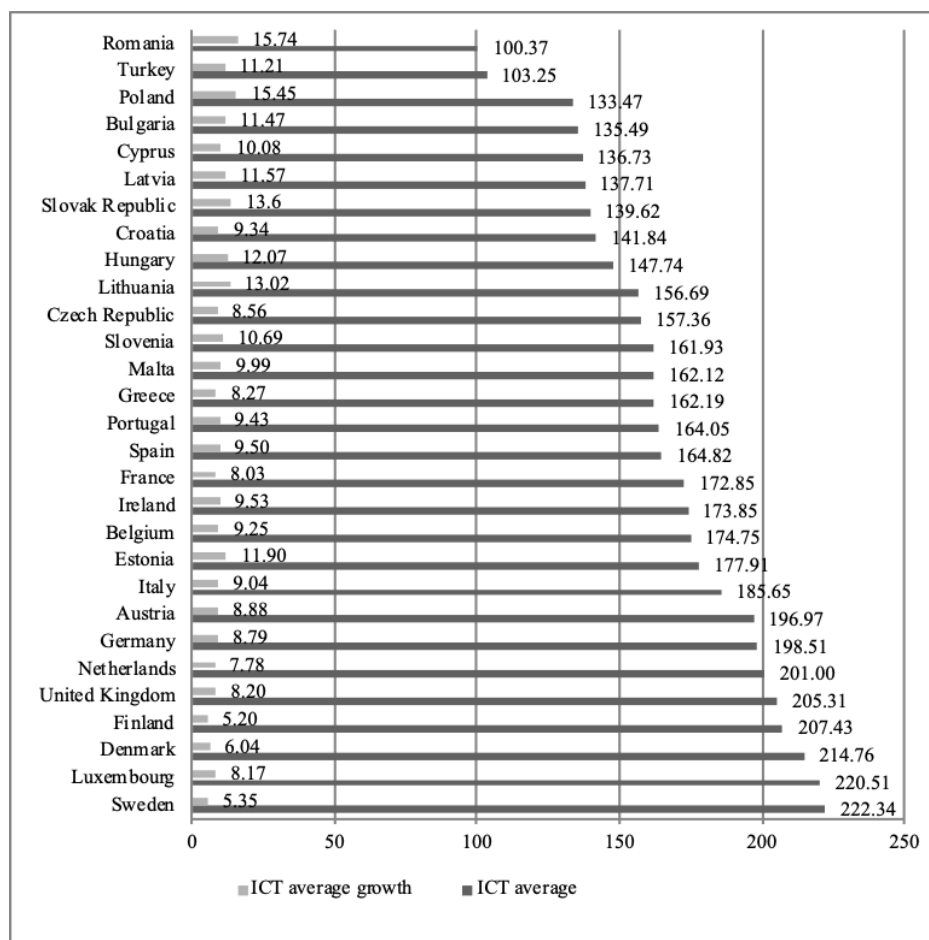
Figure 3: Average per capita GDP growth rates for countries (1997-2014)

Source: WDI Online DataBank (2018).

The variables of average ICT ratio and growth rate of ICT have been shown in Figure 4. While Romania with 100.37 has the lowest ICT stock (per 100 people) nearly same as Turkey with 103.25 for the period of 1997-2014, the highest ICT stock figure of 222.34 was observed in Sweden. The relationship between ICT growth and ICT stock is also clearly visible. Romania, which ranks first in terms of growth with 15.74,

is the last country in terms of ICT stocks with 100.37. Poland is the second in terms of growth rate with 15.45 while it is the third country (133.47) with the lowest ICT capacity. The two countries that have disrupted this general tendency are Estonia and Cyprus. Estonia's relatively high ICT stock with 177.91 also has a high growth rate with 11.9 per 100 persons. In the case of Cyprus, both the ICT growth rate (10.08) and the stock (136.73) are low.

Figure 4: Average of ICT variables growth rate for all sample (1996-2014)

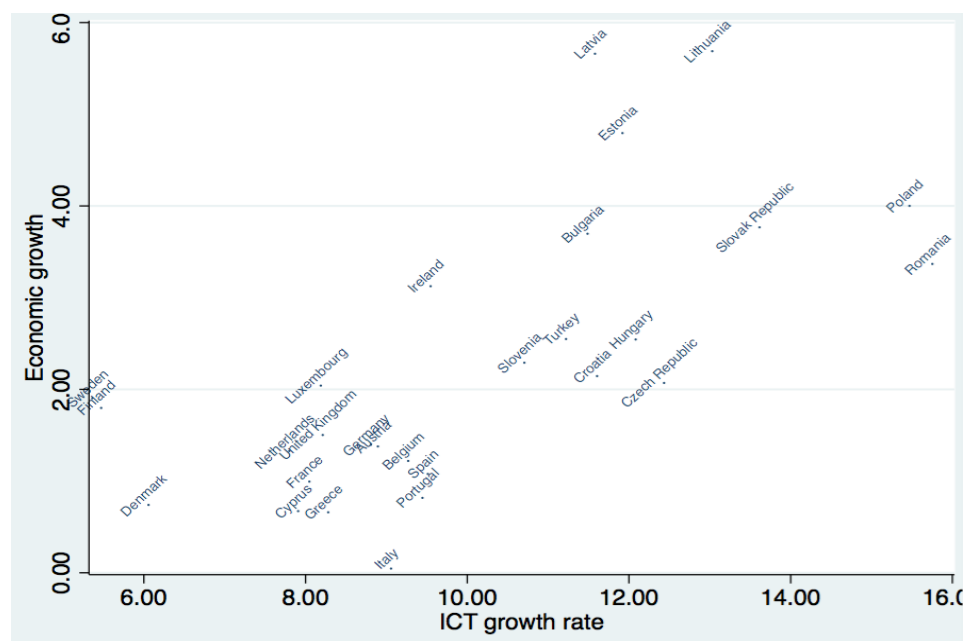


Source: WDI Online DataBank (2018).

Figure 5 examines the effect of ICT growth rate on GDP growth. There is a discernible relationship between ICT growth and GDP growth, which

are shown in particular countries such as Poland, Slovak Republic, Bulgaria, Hungary, Turkey and Slovenia. As seen from the Figure 5, Portugal, Spain, Greece, Cyprus, Austria and Germany nearly match with the pattern. This pattern is, to a large extent, consistent with the view of Dewan and Kraemer's (2000), that is, *ICT has been beneficial only for developing countries*. Indeed, the first group countries lining up in the Figure 5 are relatively new member countries of the EU and Turkey. The effects of these increases on the GDP growth may be observed much more due to the fact that these countries have a relatively weaker ICT structure.

Figure 5: The relationship between ICT and growth between 1997-2014 periods.



3.1. Data & Model

In this study the contribution of ICT on economic growth is examined within the framework of Solow model and the seminal paper of Barro (1991). To determine some several policy variables like the effect of government, financial intermediaries, and social inequality and trade are one of the advantages of this model (Vu, 2011: 364). The impact of ICT on economic growth is measured for EU-28 countries and Turkey for 1997-2014 periods. The model given below:

$$YGROWTH_{it} = \alpha + \beta X_{it} + \varepsilon_{it} \quad (E.1)$$

In (E.1), $YGROWTH_{it}$ symbolys GDP per capita growth rate, X_{it} is a vector for all explanatory variables. ε_{it} , is the error term of the model. There are six major variables used in this study in place of X_{it} which affect economic growth. These variables are shown in Table 1 below:

Table 1: Description of Variables in Model

Variables	Definition	Unit
$YGROWTH_{it}$	GDP per capita growth (annual %)	%
$ICTfixphone_{it}$	The growth rate of Fixed telephone subscriptions (per 100 people) ^a	%
$ICTInternet_{it}$	The growth rate of Individuals using the Internet (per 100 people)	%
$ICTmobile_{it}$	The growth rate of Mobile telephone subscriptions (per 100 people) ^a	%
$GFCF_{it}$	The growth rate of gross fixed capital formation (% of GDP)	%
$trade_{it}$	The growth rate of trade (% of GDP)	%
$population_{it}$	Population growth rate (annual %)	%

Source: WDI Online DataBank (2018).

The model in the light of these considerations is then established as shown below:

$$YGROWTH_{it} = \alpha_0 + \beta_1 ICTfixphone_{it} + \beta_2 GFCF_{it} + \beta_3 trade_{it} + \beta_4 population_{it} + \varepsilon_{it} \quad (E.2)$$

$$YGROWTH_{it} = \alpha_0 + \delta_1 ICTInternet_{it} + \delta_2 GFCF_{it} + \delta_3 trade_{it} + \delta_4 population_{it} + \xi_{it} \quad (E.3)$$

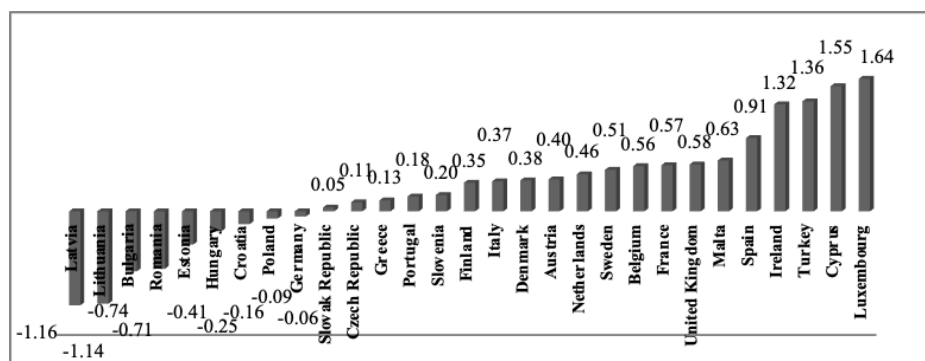
$$YGROWTH_{it} = \alpha_0 + \gamma_1 ICTmobile_{it} + \gamma_2 GFCF_{it} + \gamma_3 trade_{it} + \gamma_4 population_{it} + \zeta_{it} \quad (E.4)$$

In these equations; $YGROWTH_{it}$ is the GDP per capita growth (annual %); $GFCF_{it}$ is the growth rate of gross fixed capital formation (% of GDP); $population_{it}$ is population growth (annual %). $trade_{it}$ is the growth rate of trade (% of GDP). In the estimation procedure, we adopted

the same methodology with Becchetti and Adriani (2005) and Vu (2011) tried to analyze the effect of ICT on growth with three different variables respectively. In this study $ICTfixphone_{it}$ symbolises the growth rate of fixed telephone subscriptions (per 100 people); $ICTInternet_{it}$ is substitute for the growth rate of individuals using the Internet (per 100 people) and $ICTmobile_{it}$ is the growth rate of mobile telephone subscription (per 100 people). Expected signs for all variables are positive except population. But the difference between Vu (2011) and our analysis is that we did not take the penetration rates, rather we take ICT penetration growth rates as given in Table 1. However, another deficiency of our study is the absence of the education data.

According to the growth theory of Solow, population growth has a positive impact on economic growth. As seen from Figure 6, the average of growth rates in this study are barely negative (e.g. for Latvia -1.16; Lithuania -1.14; Bulgaria -0.74; Romania -0.71; Estonia -0.41; Hungary -0.25; Croatia -0.16; Poland -0.09; Germany -0.06) and almost all population rates are not increasing.⁴ Indeed, it is generally expected that the studies on the relationship between population growth rate and economic growth show negative results.

Figure 6: Annual Average Population Growth Rate (1997-2014)



Source: WDI Online DataBank (2018)

⁴Austria, Czech Republic, France, Finland, Ireland, Luxembourg, Sweden and UK may serve extensions for this argument. The decreasing tendency in this context is valid for these countries even if there is a rise in the population of them (WDI Online DataBank, 2018).

3.2. Econometric specification and estimation results

In this paper panel data estimation method is employed in the empirical analysis. Panel data consists of time-series and cross-sectional observations. Panel data analysis has many advantages over time-series and cross-section. Some of these advantages are identified as follows: a better choice for controlling the heterogeneity effects among groups; enabling the decrease of a multiple linkage among explanatory variables; enhancing the sensitivity and effectiveness of the estimation procedures in econometrics (Hsiao, 2003; Baltagi, 2008).

In general, three methods are followed to combine the (static) data. (1) Unconditional pooled model (ordinary least squares); (2) The fixed effects model (FEM); and (3) The random effects model (REM). There are various views about the choice of the fixed or the random effects model. Hsiao, leaves the choice to researchers in determining the fixed or the random model regarding to the effects in the sample (Hsiao, 2003: 43). However, if the sample is not taken from a special field, the random effects model is preferred. According to Greene, if there is a comparative analysis and the analysis covers all the countries, or the sample is selected from a big population, the fixed effects model is, in this case, the most appropriate choice. As a result, the content of the data in this process and the methods in obtaining them is important (Greene, 1997: 623). Indeed, in this study the results of fixed effects are considered more reassuring because of the results of Hausman test and the fact that a specified fixed group as a sample is incorporated into the analysis.

In some cases, auto-regressive models are required to apply in panel data analyses. Moreover, a dynamic panel data model is even one of the best alternatives in this particular analysis. There are many problems concerned with the data in the field of economics such as serial correlation, heteroscedasticity and endogeneity of some of the explanatory variables. One of best solutions in addressing these problems can be found in the methods of Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond's (1998, 2000), GMM first-differenced (GMM-FD) estimator and the GMM system (GMM-SYS) estimators. These estimators have been applied to different economic data by a group of economists such as Papaioannou and Dimelis (2007); Faustino and Leita0 (2007a; 2007b); Thorpe and Leita0 (2012). As a result of that, unbiased and consistent results have been obtained.

Dynamic panel data may be estimated in different ways GMM and also with Bias Corrected Least Squared Dummy Variables (LSDV-BC). In this analysis two GMM procedures are applied. After that, we run the LSDV-BC estimation which is used by Bruno (2005). Monte-Carlo experiments show that this approach can be used by small data samples or even for micro panels Kiviet (1995) and Bun and Kiviet (2001). Therefore, the results of the empirical analysis have been based on static and dynamic panel data estimators.

Table 2: Link between ICT-fixphone growth & GDP growth

Dependent variable: $YGROWTH_{it}$						
	$YGROWTH_{it-1}$	C	$ICTfixphone_{it}$	$GFCF_{it}$	$trade_{it}$	$population_{it}$
OLS	-	1.730*** (.294)	.066** (.026)	.224*** (.015)	.008*** (.003)	-1.030*** (.170)
RE	-	1.929*** (.429)	.072*** (.033)	.229*** (.066)	.006* (.004)	-.950*** (.248)
FE	-	3.293** (1.539)	.061** (.028)	.234** (.080)	-.007 (.014)	-.829* (.422)
GMM-FD^a	.132 *** (.039)	-	.064* (.034)	.284*** (.034)	-.0179*** (.007)	-.829* (.497)
GMM-SYS^b	.060 (.042)	-	.090 (.077)	.363*** (.043)	-.018 (.012)	.043 (.450)
LSDV-BC	.250*** (.044)	-	.036 (.030)	.250*** (.017)	-.005 (.009)	-.869*** (.312)

Notes: Standard errors are reported in brackets. For FEM Driscoll/Kraay standard errors. For REM, GMM-FD & GMM-SYS robust standard errors and for LSDV-BC bootstrapped standard errors estimated. ***, ** and * are significance at 1%, 5% and 10%. ^aArellano-Bond test result for second order correlation is -1.16 and p-value is 0.2461. ^bGMM-SYS estimated by robust estimator. Arellano-Bond test result for second order correlation is -0.78 and p-value is 0.435.

The results obtained from Equation (2) are shown in Table 2. First of all; we presented the results of OLS estimation. OLS estimation was used only for a comparison as usual. When we test our variables with specification tests, we can see that the problems such as heteroskedasticity, autocorrelation and cross-sectional dependence are present.

Then we gave the random effect estimator Arellano, Froot& Rogers. For GLS, we use Arellano, Froot& Rogers estimators for GLS estimation. We found a X^2 coefficient, which is 10.96 with 0.0271 $prob > X^2$ for Hausman type-test, which implies a fixed effect estimator. Similarly, we expect same results since we collect our data from a well-known sample, EU countries. According to the theoretical approaches of Hsiao (2003) and Greene (1997), if a certain example is selected within a special cluster, it can be evaluated through a fixed effect model. But from a comparative perspective we prefer within estimator with random effect GLS estimator. The results of GLS estimator show a positive correlation between ICT fixed telephone growth variable and economic growth. GFCF and trade growth variables also affect growth positively, as seen from Table 2, and all of these results are significant. As expected, only the population growth variable affects growth significantly, though negatively. The reason may be interpreted as the declining ratio of growth for most of the countries in our sample.

We run Driskool-Kraay estimator for the fixed effect model. This estimator also provides robust results for this kind of data (Hoechle, 2007). The results of Driskool-Kraay within estimator show that ICT fixed telephone, GFCF and trade growth affect economic growth positively, as expected. Population variable also affects growth negatively here. All variables are significant at least at 10% level, except trade.

In addition, we run dynamic panel data regressions. First, we run GMM-FD of Arellano and Bond (1991) and GMM-SYS estimators of Arellano and Bover (1995) and Blundell and Bond's (1998, 2000). However, our Arellano-Bond first difference estimator (GMM-FD) suffers from too many instrumental variable problems. As Roodman (2007) stated, the quotient of number of cross-section units by number of instrumental variables cannot be lesser than one. In our case, it is much lesser than one. So, we try to run LSDV-BC estimator to avoid this problem. Although LSDV-BC reaches prosperous results for our model but as far as we know that there is no any robust estimator for LSDV-BC. So, the robust GMM-FD estimation results show that ICT fixed telephone variable affects growth positively, as expected. And also, lagged economic growth and GFCF growth have a positive effect on growth as expected. Population variable also has a negative effect in here. However, trade variable shows a negative effect in this estimation. Finally, all variables are statistically

significant at least 10 % level. In robust GMM-SYS estimation GFCF is the only variable, which is statistically significant. GFCF growth affects economic growth positively, as expected. As is seen from Table 2, 3 and 4 the results of both GMM estimators are quite contradictory. This is because “weak” instrument problems affecting GMM-FD, and GMM-SYS estimators suffer from “too many” instruments (Hayakawa, 2007).

In this regard, we gave place to a different type of dynamic estimator, LSDV-BC, which may lead to prosperous results in small sample case. The last line shows LSDV-BC results. This estimation procedure shows that lagged growth, ICT fixed telephone and GFCF variables affect economic growth variable positively. However, in this model, ICT fixed telephone is not statistically significant. Population growth rate shows a negative effect on growth, which is the same with previous results. Trade growth rate is not significant in this analysis.

Table 3: Link between ICT-internet growth & GDP growth

Dependent variable: $YGROWTH_{it}$						
	$YGROWTH_{it-1}$	C	$ICTInternet_t$	$GFCF_{it}$	$trade_{it}$	$population_{it}$
OLS	----	1.272*** (.312)	.011*** (.003)	.224** * (.015)	.009*** (.003)	-1.055*** (.169)
RE	-	1.451*** (.424)	.010*** (.004)	.229** * (.067)	.008*** (.003)	-1.005*** (.249)
FE	-	2.942* (1.684)	.008 (.005)	.234** * (.078)	-.006 (.015)	-.896* (.433)
GMM-FD^a	.133*** (.039)	-	.012*** (.004)	.284** * (.034)	-.014* (.008)	-.869* (.470)
GMM-SYS^b	.054 (.044)	-	.030** (.013)	.356** * (.042)	.002 (.013)	.082 (.453)
LSDV-BC	.248*** (.044)	-	.010** (.004)	.249** (.016)	.002 (.009)	-.927*** (.308)

Notes: Standard errors are reported in brackets. For FEM Driscoll/Kraay standard errors. For REM, GMM-FD & GMM-SYS robust standard errors and for LSDV-BC bootstrapped standard errors estimated. ***, ** and * are significance at 1%, 5% and 10%. ^aArellano-Bond test result for second order correlation is -1.26 and p-value is 0.2070. ^bGMM-SYS estimated by robust estimator. Arellano-Bond test result for second order correlation is -0.73 and p-value is 0.466.

Table 3 displays the effect of internet usage on growth, and they show the results from estimating Equation (3). Therefore, ICT internet growth variable is the explanatory ICT variable here. In this model specification tests show also heteroskedasticity, autocorrelation and cross-sectional dependence. In this case we analyzed fixed effect model with Driskoll&Kraay and random effects model with Arellano, Froot& Rogers. Hausman test still points out fixed effect model (X^2 is 15.82 with $0.0033 \text{ prob} > X^2$). Within estimator shows that GFCF and population growth are the only significant variables, which means that physical capital affects growth positively as expected. When we return to evaluations above, we see that population variable affects growth negatively as expected. Driskoll&Kraay estimation results show that there is no correlation between internet usage and growth. In random effect model (Arellano, Froot& Rogers) all variables are significant and all of them show the expected signs. The GLS estimator verifies the positive effect of ICT internet variable on growth.

The last three rows of Table 3 include dynamic panel data estimators. GMM-FD results show that all variables are significant at least 10 % level and all of them are in expected signs, except trade growth. Here, internet usage growth rate has a positive effect on growth as expected and also lagged growth variable, and physical capital growth (GFCF) has a positive effect. According to (robust) GMM-FD estimation results, trade variable which is a proxy for country's openness affects growth negatively and unexpectedly. And population growth rate once again has a negative sign here too. After GMM-FD, we runned (robust) GMM-SYS estimators. Therefore, internet usage growth rate ($ICTInternet_{it}$) has a positive and significant effect on growth. GFCF and is the other significant variables which affect economic growth positively. In GMM-SYS lagged growth, trade and population growth did not show any significant effect on growth.

Table 4: Link between ICT-mobile growth & GDP growth

Dependent variable: $YGROWTH_{it}$						
	$YGROWTH_{it-1}$	C	$ICTmobile_{it}$	$GFCF_{it}$	$trade_{it}$	$population_{it}$
OLS	-	1.616*** (.308)	.003 (.002)	.226*** (.016)	.008*** (.003)	-1.02*** (.172)
RE		1.881** (.438)	.002 (.004)	.231*** (.066)	.006* (.003)	-.952*** (.261)
FE	-	3.878*** (1.58)	-.0002 (.003)	.237*** (.078)	-.014 (-.014)	-.836* (.427)
GMM-FD^a	.126*** (.038)	-	.013* (.007)	.279*** (.035)	-.012 (.008)	-.676* (.404)
GMM-SYS^b	.054 (.043)	-	.018 (.013)	.355*** (.045)	-.011 (.014)	.141 (.465)
LSDV-BC	.249*** (.044)	-	.008 (.005)	.244*** (.017)	-.0002 (.009)	-.826*** (.313)

Notes: Standard errors are reported in brackets. For FEM Driscoll/Kraay Standard errors. For REM, GMM-FD & GMM-SYS robust standard errors and for LSDV-BC bootstrapped. Standard errors estimated. ***, ** and * are significance at 1%, 5% and 10%. ^a Arellano-Bond test result for second order correlation is -1.2177 and p-value is 0.2233. ^b GMM-SYS estimated by robust estimator. Arellano-Bond test result for second order correlation is -0.90 and p-value is 0.366.

The effect of mobile telephone usage growth rate on economic growth has been analysed by means of Equation 4. Here, once again, the results of Hausman test point out FEM (X^2 is 20.03 with $0.0005 \text{ prob} > X^2$). When Table 4 is examined, it can be said that ICT mobile variable has a negligible effect on growth. This variable is only significant for Arellano-Bond's (robust) GMM-FD estimation. For the rest of the analysis, it is totally insignificant. Physical capital growth rate (GFCF) is the only variable which is significant in all of the six estimation procedures. This variable has a positive effect on growth as expected. While population variable is significant in all estimations except (robust) GMM-SYS, it has a negative effect on growth, and this is not surprising. Except OLS and Arellano, Froot & Rogers's GLS estimations, trade does not have a significant effect on growth.

As mentioned above, we had to overcome the autocorrelation, heteroskedasticity and cross-sectional dependence problems at first.

According to preliminary test results, the problems of heteroskedasticity, serial correlation and cross-sectional dependence were detected in the series. Thus, we used Driscoll-Kraay for FEM and Arellano-Froot & Rogers for REM. However, Hausman test results show FEM for all equations. After that, we applied dynamic panel data estimators which are Arellano and Bover's (1995) GMM first-differenced (GMM-FD) estimator, Blundell and Bond's (1998, 2000), GMM system (GMM-SYS) and LSDV-BC estimation which is recently demonstrated by Bruno (2005).

The effect of three different variables ($ICTfixphone_{it}$, $ICTInternet_{it}$, $ICTmobile_{it}$) concerned with ICT (growth rate) on economic growth were observed in three different equations. The effect of fixed telephone variable ($ICTfixphone_{it}$) on economic growth for static panel data estimators is, as expected, statistically positive and important. For dynamic panel data analysis, the Arellano-Bond (1991) GMM-FD and Arellano and Bover (1995) with Blundell and Bond (1998; 2000) GMM-SYS estimators were taken place. In addition, LSDV-BC was applied because the number of panel data observation ($28 \times 18 = 504$) was relatively small. As a result of the dynamic panel data, it is determined that there is positive and significant relationship between fixed telephone variable and economic growth for only GMM-FD. In equation 3, the effect of internet variable ($ICTInternet_{it}$) on economic growth is analysed. The effect is positive and statistically significant for all estimators whether it is static or dynamic, apart from Driscoll-Kraay. However, the effect of growth rate of mobile telephone use on economic growth is significant for only one (GMM-FD) of six estimators.

GFCF growth rate is significant for all model and estimators, and, as expected, its effect on economic growth is positive. Population growth rate for all estimators (except GMM-SYS) significant and its effect on economic growth is, as expected, negative. The results related to trade growth rate is controversial. Although this variable is not generally significant, its results varies between positive (REM) and negative (GMM-FD) for different estimators. The reason of these differences observed between static and dynamic panel data analysis, as indicated in the analysis section of this paper, might be that the number of instrumental

variables seen in the dynamic estimators is far more than the number of cross-section units.

To sum up, the main outcome of this study is that the effect of ICT variables on economic growth is positive. These results cannot only be confirmed with the variable of $ICT_{mobile_{it}}$. As Jacobsen (2003) puts it, the most important reason for this result is that the use of mobile telephone or its growth rate does not have an impact on economic growth after a certain stage.

4. Conclusion

The sources of economic growth have always been an important discussion subject in the literature of economics. Over the time the indicators like foreign trade, openness degree of economy and human capital have become relevant in explaining economic growth. In recent years ICT as a trendy subject have, in particular, come to fore for an investigation of whether knowledge technologies and the investments made to this area affect economic growth.

This paper is related with the inquiry of whether ICT affects economic growth for the EU 28 (Malta excluded) countries and Turkey in the period of 1997 and 2014. The contribution of ICT growth rate on economic growth is examined within the framework of Solow model. To investigate this relationship, static and dynamic panel data analysis are applied. The results of two different models which are fixed telephone subscriptions and internet variables show that ICT penetration growth rate that has a positive effect on growth, needs to be taken into account. Our analysis could not reveal any robust relationship between ICT_{mobile} variable and growth. These results except the variable of mobile telephone are, to large extent, consistent with the relevant literature. However, many researchers like Jacobsen (2003), Waverman et al. (2005), Gruber and Koutroumpis (2011), Vu (2011) and Farhadi et al. (2012) found a positive correlation between mobile telephone and economic growth. The difference of our analysis is that we took mobile telephone penetration growth rate like Becchetti and Adriani (2005) rather than taking the mobile telephone penetration rate. Besides, for almost all countries, mobile telephone penetration does not increase after a threshold, rather decreases, and even it is negative for most countries mostly since 2009. In the research of

Jacobsen (2003) it is highlighted that the benefit of countries from telecommunication declines when the initial level of mobile telephones rises.

It can briefly be said that ICT is one of the important drivers of economic growth. It is also observed that physical capital growth has an important positive impact on economic growth while population growth has a negative effect due to decreasing rates. The effect of trade growth on economic growth is one of the heterotaxic issues of our analysis. It is not significant for the most of our regressions, and where it is significant its impact differentiates between positive and negative.

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Leadership Concept and Constructs in Arabic Philosophy

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This article, “Leadership Concept and Constructs in Arabic Philosophy,” sheds light to the differences in preferences and domain values amongst Arab countries; they are often considered globally as one society with one culture. The Arab countries experienced different types of colonialism, economic activities, geographical variables, tribal ethnic makeup, and ecological variables. And these differences influenced the preferred leadership style of each country. The study’s findings indicated how the concept of leadership in Arabic nations can be rooted in Arabic perspective and heritage to maintain effective leadership. In addition, this study extended a scholarly understanding of the measurement and examination of various leadership viewpoints by introducing established constructs for evaluating

1. Introduction

Given its necessity, leadership has long since been a greatly attractive and commonly discussed topic among scholars worldwide. Undoubtedly, effective leadership is the key to success in organizations. Scholars are, thus, interested in studying the significant role of leaders in organizations, and they continually raise further questions about the validity of certain leadership styles as universal and effective in all situations (Avolio and Bass, 1995; Bass, 1999).

In the two recent decades, the specific traits of leadership have arisen, with the Arabic world observing successful practice of leadership in GCC countries. However, most developing countries suffer from lack of effective and efficient leaders that enable organizations to sustain development.

Considerable research is needed in bridging this lack of knowledge and identifying constructs attributing to the specific aspects of Arabic

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leadership. Apparently, a great gap exists in the body of knowledge regarding the components of leadership orientation in the Arabic arena. Admittedly, the Arabic world has recently witnessed a wide leap in economic advancement, particularly in the successful practice of leadership in GCC countries. Certain scholars attribute this achievement to the favour of oil revenue alongside Western consultancy and Western leadership practice. However, the features of Arabic theory of leadership should also be acknowledged. Practically, adopting a completely Western mode of leadership in Arabic nations is impossible. In addition, disregarding the exclusive features of Arabic culture that contribute to the design of leadership practice in this experience is difficult.

Leadership is an old concept in philosophy of management which exists in all nations. Leadership is 'essential to the functioning of organizations within societies, but what does appear to differ from country to country is the type of leadership that is most effective' (Den-Hartog et al., 1999). Over the past decades, different approaches to leadership have been proposed to improve the effectiveness of leaders (Dubrin, 2012).

Basically, 'leadership is the art of mobilizing others to want to struggle for shared aspirations' (Kouzes and Pozner 1987, p. 30). From this perspective, leadership entails motivating followers by creating a vision of a long-term, challenging, desirable, compelling and different future. Leadership in this regard includes all activities contributing to finding direction (vision), professionalism (mission) and objectives. The interpretation of all behaviours and activities leading to identifying, adhering to and achieving those objectives is also included.

The majority of organizations in the Arabic world adopt the Western models and practices of management with little adjustment to integrate such concepts into Arabic culture. Although the universal perspective suggests that certain concepts are generalizable across cultures, culture-specific perspective suggests that many leadership theories developed in North American culture may not be generalisable for use by leaders with different cultural orientations. This limitation is due to such theories being bound by their roots in Western cultures (Hofstede, 1993; Dorfman and House, 2004). However, sources focusing on Islamic perspectives in the functional areas of management such as leadership, motivation, planning and organization and quality management, marketing and selling or the performance appraisal of employees are lacking. Scholars contend that

the Arab society has its own unique social and cultural environments. Barakat (2008) and Attiyeh (1993) corroborated that the driving forces of the study of management in the Arab world are language, history, religion, traditional values and external forces. Muna (1980), Ali (2009) and Weir (2001) also emphasized the influence of tribal and familial systems on the local perceptions of leadership in Arab organizations.

Many international corporations operate in Arabic countries. Consequently, an excessive number of leaders with Western-based cultures direct businesses in local organizations. However, such leaders find difficulties in establishing an effective leadership style for Arabic culture. Presently, studies or case studies linked with the principles of successful leadership practices within Arabic culture are scarce. Generally, research on Arabic management orientations are relatively new and undergoing development. Therefore, building a leadership model has been a vital topic attracting the interests of academics and practitioners alike. House (1995, p. 443) asserted that 'there is a growing awareness of the need for a better understanding of the way the leadership is enacted in various cultures'. Numerous emphases have been given to various issues in management from the Arabic perspective. However, studies concentrating on Arabic understanding still have not received adequate attention from conventional research literature.

Several studies have attempted to demonstrate the leadership model from the Islamic perspective such as Adnan (2006) and Lukman (1995). Although Arabic countries are arguably Islam-based communities, all these models are virtue-centric and moral approaches in leadership. In other words, they do not include the specifications of Arabic culture that depend heavily on tribal and clan social systems. These conventional dimensions of leadership also do not represent the modern aspects of leadership such as competitiveness, change and innovation.

This study attempts to contribute to the body of knowledge on leadership by identifying the main characteristics of effective leadership in Arabic culture, that is, what makes leaders in Arabic regions able to lead, direct and execute successfully. Leadership is a key success factor for organizations. Generally, leadership adopts the 'We' developing theory of leadership from the Arabic perspective to reach a conceived understanding of behaviour of leaders and identify and explain laws that control Arab leaders. The main constructs of this leadership model are

then conceptualized. Existing knowledge related to this vein is then traced, and significant existing literature is summarized to explain or investigate the components which contribute to the Arabic leadership model. Thus, the objective of the current conceptual study is to contribute to existing literature by defining Arabic leadership theory (ALT). This study aims to answer the following question: What is the effective leadership style in Arabic culture? In other words, how can leaders guide people effectively? Therefore, the study explains the attributes and dynamics of leadership in the Arabic world. The study also attempts to evaluate Arab leadership from the management perspective in hopes of creating a useful model to help those in leadership and academic positions.

To achieve this objective, this study attempts to propose a description of Arab leadership through the framework of analysing the historical development of the Arab leadership perspective as shaped by Arab–Islamic social–economic factors and forces. With the use of the methodologies of literature review and historical analysis, the descriptions of Arabic leadership theory will be demonstrated.

This study will illustrate and identify the Arabic features of leadership into two pathways: (1) the specific characteristics of leadership derived from Islamic thoughts and (2) the specific characteristics of leadership derived from Arabic culture. Figure 1 summarizes the variables of the proposed model.

2. Leadership in Islamic Perspective

Essentially, religion in Western societies is a private matter that should not invade the public arena (Gillian, 1999). By contrast, Islam is a holistic socio-economic system. Therefore, faith, ethics and morals arise and commonly regulate the spiritual and materialistic issues of Muslims. Leadership in Islam is a great responsibility in that Allah asks every leader about his duty in the next life. As stated in the Quran, ‘those Muslim rulers who, if we give them power in the land, they enjoin to perform the five compulsory, congregational prayers, enjoin Al-Ma’ruf and forbidden Al-Munkar’ [22: 41]. Furthermore, Prophet Muhammad accentuates the importance of leadership by saying, ‘if three Muslim travel together, they should choose one to be leader’ [Abo Daod: 2708].

Fundamentally, Islam confirms the importance of Imam or leader because the goodness of life and religion depends on the existence of good leaders. However, the role of leader in Islam is not similar to that in Western management theory. According to Weber, authority appears in a 'hierarchical development order'. By contrast, authority in Islam compels leaders to take the front seat instead of a high position. The Imam in prayer strives to guide people to perform well. Similarly, leaders in enterprises also strive to guide people to perform well. This front position enables the leader to be a guide, a role model and a motivator.

Certain notable reviews about the role of Islam on leadership have been contributed by Ahmad (2009), Samir (2006), Beekun (2012), Sabri (2012) and Marbun (2013). Most of the studies were directed towards understanding durable leadership approaches in descriptive Islamic terms (e.g. Ahmad, 2009; Marbun, 2013; Garah, 2012). Certain studies also focused on Islamic leadership from a religious point of view (e.g. Beekun, 2012; Ouarda Dsouli et al., 2012; Al Arkoubi, 2013).

Leadership in Islam is a trust (amanah). In this perspective, leadership is a psychological contract between a leader and his followers in which the former will try his best to guide, protect and treat the latter with justice. Alkawardi mentioned in his book *Alahkam Alsultaneyah* that Amanah is the most important trait for leaders and people chairing public positions. He explained the meaning of Amanah as complying with what the leader has been trusted and not betraying them (Alkawardi, 1989.p57). Fatalism in Arab culture emanates from the interpretation of religious principles that require total submission to the power and will of God. Although such principles do exist, their implications are in fact taken out of context. These principles should be understood and interpreted in balance with other principles that urge Muslims to make choices and to expect such choices to influence their destinies. Islamic scholars have long engaged in philosophical debates regarding the question of choice versus submission, and schools of thought have argued for one or the other.

Muslims believe that Islam is a comprehensive approach to life and that Islam is a valid way of living for all human beings in every time and every place (Aldulaimi, 2016). Similarly, the capabilities approach of Samir (2006) and the notion of business flourishing of Naqvi (1981) indicate that Islam offers an entire socio-economic system in which ethics dominates economics. Importantly, Islam goes beyond THE

maximisation of profit for shareholders and stakeholders to that of serving God (Asad, 1993; Kasri, 2009; Qur'an, 23-60; Azami, 2005; Al-Bukhari[4], No. 853). Islamic thoughts set the main preferable traits and characteristics for leaders, which can be used as dimensions in the following.

2.1 Role Model (Qodwah Hasanah)

Beekun (2012) suggested a virtue-centric and moral approach to leadership, explicating Qur'anic emphasis on the role-modelling aspects of the character Muhammad (khuluqin azeem). Thus, Beekun promoted a useful alternative to the transactional, self-centred model and the value-neutral transformational approach. Conceptual discussion of Beekun provides the nature of practical wisdom and virtues to ensure behavioural ethicality based on the 'qualities' of truthfulness and integrity, trustworthiness, justice, benevolence, humility, kindness and patience (sabr). On account of increasing attention placed on the performance and instrumentality of Islamic leadership, the exertion of religious beliefs has been acknowledged as a significant effect (Ali, 2005; D'Iribarne, 2007; Weir, 2008). According to them, 'the real focus of leadership is doing good deeds and working towards the establishment of Allah's ordained order, which is an ethical one'.

Muslim scholars Beekun and Badawi (1999) sketched and highlighted some of the salient principles of leadership from the organization point of view, explaining that 'leadership is the ability to see beyond assumed boundaries and come up with solutions or paths that few can visualize. This vision must then be projected for Muhammad's (p) character was virtue centric, and is consistent with the Qur'an' (Beekun, 2012). According to Stone et al. (2004), leaders who demonstrate integrity in ethical conduct become role models that followers admire, respect and emulate. The Qur'an emphasizes the modelling dimension of Muhammad's character-centric exemplar. In two verses, the Qur'an (68:4) stresses this aspect of the character of Muhammad when it explicitly states (33:21) that he is the "ouswatoun hasana" (excellent model) that mankind is to follow, and then reaffirms that mankind is to learn wisdom (hikmah) from him. People simulate the behaviour of the leader if they love him; thus, simulating parents, leaders and other figures of authority is natural.

2.2 Consultation (Shura)

Consultation (Shura) is the style of decision-making used in Arab society. Consultations are usually informal and non-binding. Nonetheless, in social organizational settings such as families and tribes, the authority of those in charge is subject to limitations imposed by the consensus of the collective under rule. As for business organizations, consultations seem to be superficial in the sense that the manager seeks to obtain the agreement of organizational members on decisions that have already been made. Such an action would still be done in the context of projecting an image of true consultation and participation.

Aldulaimi (2016) affirmed that consultation (shura) means ‘conducting affairs through mutual consultation. Allah ordered His Prophet and the rulers after him to consult the people of opinion and experience; they should not make a decision in any given matter without consulting’. Allah further says, ‘And those who established prayer and whose affair is [determined by] consultation among themselves ...’ [42:38]. Shura is a quality term used in the Quran, “And their matters are attained by consultation between them” [42:88]. In addition, the Prophet Muhammad has a habit of seeking and accepting advice, and the limits on the exercise of power have been set by the Qur’an and the Sunnah (Beekun and Badawi, 2005). As Al Buraey asserted, shura plays a critical role in administration and management, specifically with respect to decision making, in that it provides a restraint on administrative power and authority. Unlike elitist (majority/minority) approaches to decision making, the concept of shura stresses consensus building—a key ingredient in practical wisdom. In Islam, those who are consulted must be competent (ahl-ar-raie) and trustworthy—one of the virtues underlying Muhammad’s (p) character. Wise leaders, thus, seek advice from competent and/or experienced people. As Hadith wisdom says, ‘no regret after consultation’.

2.3 Spiritual Leadership

From this realization comes a call for a holistic leadership that integrates the four fundamental arenas that define the essence of human existence—the body (physical), mind (logical/rational thought), heart (emotions, feelings) and spirit (Moxley, 2000). Spiritual leadership in Islam is effective because considerable evidence stimulates subordinates to obey

leaders (Imam). The Quran states, ‘O you who believe! Obey Allah and obey the Messenger, and those of you (Muslims) who are in authority’ [4:59]. Moreover, Muhammad states that every Muslim has his own responsibilities. Prophet Muhammad says, ‘everyone is a guardian and each guardian responsible for those under his guardianship’ [Bukhari: 2419]. This passage indicates that everyone has responsibilities in achieving the goals of life and after life.

Fry (2003) defined spiritual leadership as comprising values, attitudes, and behaviours necessary for intrinsically motivating oneself and others to have a sense of spiritual survival through calling and membership. Pfeffer (2003), in his work on workplace spirituality and management practices that sustain values, defined the four fundamental dimensions of what people seek: (1) interesting and meaningful work that permits them to learn, develop and have a sense of competence and mastery, (2) meaningful work that provides some feeling of purpose, (3) a sense of connection and positive social relations with their co-workers and (4) the ability to live an integrated life such that one’s work role and other roles are in harmony with his or her essential nature and with who the person is as a human being. Spirituality is broader than any single formal or organized religion with its prescribed tenets, dogma and doctrines (Zellers & Perrewe, 2003). Instead, spirituality (e.g. prayer, yoga and meditation) is the source of one’s search for spiritual survival—for meaning in life and a sense of interconnectedness with other beings (Zinnbauer, Pargament & Scott, 1999). The spiritual quest is one that emphasizes a dynamic process where people purposefully seek to discover their potential, an ultimate purpose and a personal relationship with a higher power or being that may or may not be called God (Tart, 1975; Wulff, 1996).

2.4 Conceptual and Powerful Leadership

Power is the important factor influencing the preference of being a leader than a follower. The Quran recites the story of king Talot when he was chosen by Allah: ‘Allah hath chosen him above you, and hath gifted him abundantly with knowledge and bodily prowess: Allah granteth His authority to whom He pleaseth’ [2:247]. Therefore, being knowledgeable and having necessary information is important for leaders. Furthermore, the leader should have the ability of thinking, analysing and interpreting all the aspects of the decision-making process. The Quran also recites the

story of the prophet Yusuf asking the king to grant him a leadership position, with his justification for seeking the position as follows: ‘(Yusuf) said: "Set me over the store-houses of the land: I will indeed guardian and knowledgably”” [12:55]. Moreover, in the story of Musa, the Quran states, ‘O my father: engage him on wages: truly the best of men for thee to employ is the (man) who is strong and trusty’ [28:22]. These passages illustrate the collection of traits stated by the Quran for leadership. These passages also emphasize that, for goodness of life, leaders should possess these characteristics.

3. Leadership Perception in Arabic Culture

Hofstede (1993) argued that organizations are culture-bound and that managers are not separable from their indigenous cultures. Accordingly, research on Arab organizations (Ali, 1996; Al-Hegelan and Palmer, 1985; Sabri, 2004) implied that Arab managers are reluctant to delegate authority, avoid responsibility and risk-taking, prefer a stable lifestyle over rewarding but challenging work and give priority to friendships and personal considerations over organizational goals and performance. Face-saving and status-consciousness are also commonly said to be important values in traditional Arab culture, especially within tribal cultures (Gregg, 2005).

The GLOBE study conducted by House et al. (2004), for instance, found that effective Arab managers were reported to score significantly higher on ‘self-protective’ traits than managers from elsewhere.

GLOBE researchers asked their respondents to rate the extent to which each of the 112 traits would characterize an outstandingly effective leader to test their hypothesis that outstanding leaders would show the same charismatic qualities in all cultural contexts. Consequently, studies proved that Arabic leaders have their own attitudes and behaviours. Furthermore, the main basis for leadership in Arabic culture is visualized as follows.

3.1 Face-Saving

Arab cluster was found to score significantly lower than those from elsewhere on charismatic, team-oriented or participative qualities. However, as mentioned, effective Arab managers were reported to score significantly high on ‘self-protective’ traits, namely, self-centeredness,

status-consciousness, face-saving, conflict induction and reliance on procedure. Face-saving and status-consciousness are commonly regarded as important values in traditional Arab culture, especially within tribal cultures (Gregg, 2005). Thus, this result appears plausible. These qualities were reported as particularly characteristic of leader effectiveness by respondents in Egypt, Kuwait and Qatar, but less so by those in Morocco (Kabaskal and Bodur, 2002). In Arabic culture, people share a strong preference for preserving group harmony, which is a desire to continually maintain positive relations across all the members of a group or organization. In such cultures, causing individual embarrassment means disturbing the coherence of the individual with others. Therefore, leaders in this culture care strongly about saving face and how they maintain their image within society.

3.2 Tribal Association

In spite of living in the 21st century, many Bedouin traditions and values are still part of modern Arabic society. Men of tribes are in control of situations, and individualism has no place among them. Tribal affiliation affects the sense of identity and loyalty of the individual. However, certain scholars assert that education is becoming the prime force in this process and that extended family and clan are replacing the tribe as the primary reference group.

Clearly, managers in organizations are significantly influenced by their family structure that they behave like fathers and protectors of the business. In addition, in public organizations, family and friendship obligations take precedence over all others. Being extremely title oriented, Arabic managers have a high tendency to lean towards prestigious positions. Hofstede's (1984, 2001, 2010) analysis of the 'Arab world,' affirms that large power distance (80) and uncertainty avoidance (68) are the predominant characteristics of these Arab countries. Thus, Arab societies are likely to follow a caste system that does not allow the significant upward mobility of its citizens. Arab societies are also highly rule-oriented, with laws, rules, regulations and considerable control to reduce the amount of uncertainty. However, the inequalities of power and wealth have been allowed to grow within society.

Arab societies have strong social networking connections due to kinship relationship and family connections (Joseph, 2000). Social networks also

play a significant role in administering organizations. Social networks, in the form of *wasta* (middle man), provide insights into understanding how decisions are made and how people operate within public organizations in the Arab region. Consequently, such networks influence career advancement to top positions (Tlaiss and Kauser, 2011). In addition, social networks are burdensome to leaders because they find ignoring commitment to social connections difficult, which affect their decisions when relatives interfere. The tribe distinguishes itself from others as a collective pursuing common good and the interests of its members as a group, not as individuals. At the level of this collective, one individual distinguished on the basis of age, wisdom or bravery, or a combination thereof, assumes the position of chief or sheikh of the tribe. Ultimately, the chief makes decisions and choices concerning not only the pursuit of common goals of the tribe but commonly the pursuit of interests of individual tribe members. The family remains the strongest and fundamental unit of social and business organizations in the Arab world. Typical collectives include the family, the tribe, the neighbourhood, the town, the sect, the party, the club and the company. In summary, tribal systems as social commitment affect leadership practice and effectiveness.

3.3 Rules-Oriented

Alfaouri (1996) verified that Arabs are characterized by a low level of institutionalism, especially on statements related to others. Therefore, institutional laws and regulations must be implemented in all Arab organizations. Arabs were also affirmed to have a high degree of expectation and acceptance of a great man as a leader. Hofstede (2010) asserted that the two dimensions of power distance and uncertainty avoidance combined creates a situation where leaders have virtually ultimate power and authority. In the same situation, rules, laws and regulations developed by those in power reinforce their own leadership and control. On the masculinity index (MAS), the Arab group scored (52), which is only slightly higher than the (50.2) average of all countries included in Hofstede's MAS dimension. In masculine cultures being important is equated to having an opportunity for higher earnings and to attaining recognition by doing a good job with a chance for advancement. The lowest of Hofstede's dimensions for the Arab world is individualism (IDV), ranking at (38), compared with a world average ranking of (64). This result translates into Arabs being a collectivist society, manifested in

a close long-term commitment to the member 'group', that is a family, extended family or relationships.

Great heroes and men with remarkable accomplishments in the great history of Arabs led to many negative consequences in modern Arab history due to various changes in political and social environments that they caused. Such changes also resulted in the encouragement of personalism, individualism and lack of institutionalism.

3.4 Age and Gender Rationality

In Arabic culture, elders are venerated. Consequently, leadership positions are usually given to elders, and young individuals are unlikely to undertake high positions. Arabic traditions assert giving respect and reverence to elders, which manifests in human behaviour. Elders are given priority in social meetings, invitations and other social activities. Thus, respecting elders is a value, and Arab employees respect elder leaders. Social relationship norms are traditions and values that regulate daily social interactions. Arabs are trained in their early childhood socialization process to observe the specific norms of behaviour and to play their social roles. Children are taught to listen when adults talk, take part in social ceremonies, respect old people and obey authority. Social relationship norms are strong in Arab culture. In certain instances and situations, social relationship norms are extremely important that emphasis shifts away from the content of behaviour to its context. People in organizations expect leaders to be relatively old and have gone through several positions for experience.

Women in the West and the East struggle to climb up to high positions in organizations. In the Arab world, most people think that the place for women is primarily the home. Arabic culture gives men a higher position over women because they believe that men are more capable than women and are, thus, accepted to command and make decisions. Predominantly, most Arab researchers and social scientists agree that traditional values and beliefs are the main roadblocks to the development of equal rights for Arab women (Ablah, 2004). Therefore, women work mostly in education, health and other jobs at the low end of organizational hierarchies, and leadership positions are typically reserved for men (Mostafa, 2003; Zahi, 2010). If professionally inclined, the participation of women is expected to be in the areas of education, health (mainly as nurses) and other support

or clerical jobs primarily at the low end of organizational hierarchies; leadership positions are typically reserved for men (Mostafa, 2003; Haddad and Esposito, 1998; Abdalla, 1996).

4. Discussion and Conclusion

The search for the features or characters of leaders has continued for centuries; existing literature have debated various viewpoints of contrasting Eastern and Western approaches to leadership. Previous studies on leadership have introduced theories involving traits, situational interactions, functions, behaviours, power, vision and values, charisma and intelligence, among others. Niccolo Machiavelli, the pioneer of Realism in the 16th century, provided a manual for rulers to gain and maintain power which is essential for leaders. Kurt Lewin (1939), developed seminal work on the influence of leadership styles and performance. According to Lewin, although leadership is certainly a form of power, it is not defined by power over people. Rather, leadership is a power with people, existing as an exchange relationship between a leader and his or her followers (Forsyth, 2009). Carlyle 1840, the founder of Great Man theory which emphasized the role of leading individuals, met opposition in the 20th and 21st centuries. In contrast to Lewin's definition of leadership, leadership according to Carlyle is influencing others by gaining power. This power that induces influence may come from values, professionalism, knowledge and mission. Cuddy et al. (2013) in their article, 'Connect, Then Lead,' also validated that 'warmth is the conduit of influence. It facilitates trust and the communication and absorption of ideas. Warmth helps a leader connect immediately with the people around'. According to leader-member exchange theory (LMX), effective leaders should build a strong bridge with followers. The theory also suggests that leaders develop an exchange with each of their subordinates and that the quality of these leader-member exchange relationships influences the responsibility, decisions, access to resources and performance of subordinates (Deluga, 1998). The bridge between leaders and subordinates depends on trust, communication, warmth, competence and strengths in building a sturdy relationship and efficient interaction.

This study aimed to contribute to and establish a conceptual foundation for the Arabic leadership perspective. Thus, this study raised the big question, 'What is the effective leadership style in Arabic culture?' In other words, how can Arabic leaders lead people effectively?

To achieve this objective, this study proposed a model of leadership which is expected to effectively apply to Arabic culture in the framework of analysing the historical development of the Arab business organization as shaped by Arab–Islamic cultural factors and forces. Using methodologies of literature review and historical analysis, the study demonstrates that the strongly patriarchal and collectivist Arab–Islamic culture has historically produced the descriptions of Arabic leadership theory. To clearly understand leadership in the Arabic perspective, leadership is classified into two pathways: (1) the specific characteristics of leadership derived from Islamic thoughts and (2) the specific characteristics of leadership derived from Arabic culture.

Islamic thoughts set main preferable traits and characteristics for leaders, which may be used as dimensions as follows: Role Model (Qodwah Hasanah), Consultative Authority (Shora), Spiritual Leadership and Conceptual and Powerful Leadership.

Arabic culture influences leadership development in Arabic organizations. On the basis of literature studies, substantial proof that Arabic leaders have their own attitudes and behaviours exists. Likewise, the main basis for leadership from Arabic culture is visualized as the following: Face-Saving, Tribal Association, Rules-Oriented and Age and Gender Rationality.

For the achievement of development and growth in Arabic countries, given the mentality, norms and social systems, or in clear vision, the collective programming, shared by this people is essential. Importing leadership styles that have proven validity in Western countries and assuming that they have similar consequences in Arabic countries are inappropriate. Separating social life from professional life is difficult; people employ various means of maintaining their living. Therefore, logic requires the extension of norms from the society to organizations. Leading people from values and norms they believe in and replacing such norms with those they are not familiar with will merely end in failure.

Despite Arabic countries being considered as one society with one culture, they actually differ in preferences and domain values. In addition, such countries experienced different types of colonialism, different economic activities and different geographical and ecological variables. These differences influence the preferred leadership style of each country.

In recent decades, Arab spring movements have spread across the Middle East. Events in early 2011 were also generally inspired by Islam. In certain countries, this effort led to political transitions, with certain Islamists being highly concerned with enforcing strict religious norms. The effort to instil the values of Islamic ethics is important in improving efficiency and quality of an organization (Aldulaimi, 2016). Consequently, preferred leadership style may be that which represents the Islamic view. However, Arab Gulf countries have a strong tribal system. Thus, preferred leadership style is that which represents Arabic values.

Findings from this study provide an indication of how the concept of leadership in Arabic nations can be rooted in Arabic perspective and heritage to maintain effective leadership. In addition, this study extends a scholarly understanding of the measurement and examination of various leadership viewpoints by introducing established constructs for evaluating leadership.

Two implications can be drawn from the current study. First, minimal information is known about the Arabic perspective of leadership. Thus, this study deals with main pillars of leadership which construct theoretical foundation for effective leadership practice. The Arab leadership perspective can contribute to contemporary management literature by defining the characteristics of leadership in this culture.

Second, the practitioners of leadership can explore the outcomes of the Arab leadership perspective and compare them with that of the Western concept to inspire them to lead followers and facilitate effectiveness. Eventually, the proposed leadership construct is expected to contribute to effective leadership practice. The construct is also expected to help managers and policy-makers in organizations develop an improved understanding of effective leadership style and their influence on employee satisfaction, commitment and motivation.

Finally, this study provides researchers a sense of the potential to encourage further research in resolving leadership issues, specifically in building an applicable model of Arabic leadership to contribute to establishing the Arabic aspects of management. Further work is needed to establish a scale to measure and test suggested dimensions in an Arabic leadership model for application in Arab societies. Empirical tests are important for evaluating the applicability of this leadership model; use of

such tests may open doors for additional contributions from scholars interested in leadership, particularly in the Arab world. This model may also help those in leadership positions and in the academe. Moreover, studies investigating the influence of factors such as history and social and personal factors on leadership in the Arab world are greatly needed.

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