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Policies and Variables affecting FDI: A Panel Data Analysis of North African Countries

Ahmed MUSABEH¹ , Mehdi ZOUAOU² 

ABSTRACT

North Africa region is one of the wealthiest areas due to its natural resources and strategic location. But, it is still fragile according to economic indicators, especially investment environment and foreign direct investment, "FDI", which represents a considerable challenge for governments and policymakers in these countries. This study investigates the main variables and policies that affect FDI inflows and evaluates the effectiveness of these policies on attracting FDI inflows in five North African countries, namely Algeria, Egypt, Libya, Morocco, and Tunisia. To achieve that aim, a panel data of North Africa countries is used within the timeframe of 1996 to 2013, the study has adopted three types of FDI related variables that may affect host country attractiveness: economic variables, institutional variables, and political variables. Also, we have investigated the influence of two kinds of investment policies on FDI: domestic FDI policies, and international FDI policies. The results indicate that the trade liberalization policies and integration into global business have a positive and significant correlation with FDI inflows growth. Additionally, the study also found that increasing domestic investment in host countries attracts more FDI. and adopting more efficient investment policies (investment freedom policies) are statistically significant and have a positive impact on FDI inflows growth in the North Africa region.

Keywords: Inward FDI, North Africa, investment policies, trade openness, panel data analysis

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1. Introduction

In the last three centuries, several changes had occurred in the structure of the global economy, especially with the appearance of globalization and financial liberalization. These changes have made the flows of foreign investments between countries a vital element in economic development through supporting productivity, disseminating technology between countries, creating job opportunities, improving trade and accelerating growth and development (Asiedu,2006; Pradhan et al.2017). In this regard, FDI flows are considered one of the primary sources of capital flows that have played a crucial role in increasing development and economic growth through its role to enhance the resource transfer effects, which include capital transfer, technology transfer, and management transfer. Thus, and as a result of spillovers of FDI, governments in developing countries motivated to look for best-practice policies towards FDI, and they strived to be more liberalized to gain the confidence of investors (Te Velde, 2001). According to Dunning (2002) developing countries need to attract FDI from more developed industrialized nations which seek complementary knowledge, intensive resource, and capabilities. As a result of this, the developing countries need to build supportive transparent commercial and legal communication infrastructure in addition to favorable government policies to streamline globalization and innovation.

Consequently, governments in developing countries started to implement a wide range of policies that can achieve a stable environment for investors to support them in carrying out their businesses without incurring avoidable risks. But even though the importance of FDI and its role in economic growth, it remains a controversial point among economists especially with regard to its impact on host country. Within that, an extensive number of empirical studies in the last two decades investigated the relationship between FDI and economic growth. For example, many studies including Koojaroenprasit (2012), Pradhan et al. (2017) were concerned with the examination of the relationship between FDI and economic growth. The findings showed that there is strong and positive relationship between FDI and economic growth. Conversely, the number of studies including Mah (2010), Marc (2011) have found that FDI does not necessarily lead to higher economic growth. And, regarding FDI studies in MENA countries and the Arab world, there are limited studies that touched on policies and variables affecting FDI in this region, and the empirical evidence about their impact on FDI has not been fully fathomed yet. For instance, Onyeiwu (2004), Laabas & Abdalmoulah (2009) studied the FDI determinants on MENA and they found that a weak infrastructure hurts FDI. Furthermore, some studies including Mina (2007) found that institutional quality and infrastructure development have a significant influence on FDI inflows but, contrary to expectations, stable macroeconomic policies are not sufficient conditions to attract FDI in MENA countries. Other studies done by Mohamed & Sidiropoulos (2010) examined the determinants of FDI inflows in the MENA region,

revealed that the existence of a strong financial system and remove trade barriers tare important elements for attracting FDI.

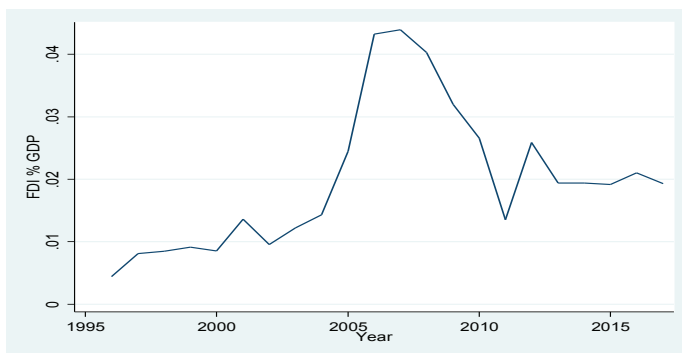
However, few studies dealt with the evaluation of governmental investment policies and its role to attract FDI as well as determinants of FDI inflows in North Africa countries separately and deeply. Thus, this paper intends to have a closer look and stand on the mechanism of attracting foreign investment and examines the determinants of FDI inflows to this region.

In this context, the present research is designed to investigate the main policies and variables that have an effect on FDI inflows in the North Africa region using panel data regression covering the period 1996-2013. The second section of this paper presents an overview of the North African economy and FDI trend during the last 20 years, and the third section presents a brief review of literature of policies and variables related to attracting FDI. The third section sheds lights on the main literature on FDI policies and variables. The fourth section investigates the main policies and variables affecting FDI using panel data regression, and finally the fifth section provides results and a conclusion of the study.

2. FDI Inflows Trend in North Africa in the last twenty years

The trend of FDI inflows in this region shows a significant fluctuation in the last twenty years where the amount of FDI flows into North Africa countries have raised from an annual average of US \$ 2.2 billion during the 1990s to US\$ 12.5 billion during the 2000s and reached its peak in 2007 at US \$ 23.1 billion. As shown in figure 1, FDI flows into North Africa reached its peak in 2007 with 4.5 % of the region's GDP. However, the level of FDI inflows notably decreased in 2011 by 1.5 % of GDP due to political disturbances (the Arab Spring) to reach an annual average of 2% from 2011 to 2015.

Figure 1. Trend of FDI inflow as % of GDP in North Africa region 1996-2017



Source: World Investment Report, UNCTAD, (2018)

Despite the previous indicators, an increasing rate is still emerging compared to what North Africa countries have had from natural resource and geographic location. Interestingly, it is still meager in respect to FDI inward stock as a percentage of GDP. For example, the average of FDI inflow stock over GDP (1996-2013) in the North Africa region was 25.7 % compared 47.3 % in the Southern Africa region, and 49.7 % in South-East Asia.

3. Literature Review for Determinants of FDI Inflows

In order to attract FDI, it became imperative for policymakers in host countries to identify the policies and variables that influence the FDI. Consequently, a lot of studies have been conducted in this regard which have the potential of helping policymakers understand the scale and direction of FDI flows. According to Dunning (2002), developing countries need to attract FDI from developed industrialized nations which seek complementary knowledge, intensive resource, and capabilities. As a result, developing countries need to build supportive transparent commercial and legal communication infrastructures along with favorable government policies to streamline globalization and innovation. This brings us to the three main types of variables that can affect FDI flows into host country (economic variables, institutional variables, and political variables) with two kinds of investment policies that may have effects directly on FDI (Domestic FDI policies, and International FDI policies).

3.1. Economic variables

In terms of economic variables, the governments in the host countries must effectively manage the policies related to economic variables to increase locational advantage by improving the economic fundamentals (Young et al,2017). According to Wang et al (2012), the location theory provided explanations for the reasons behind the choice of the host country for overseas investment and explained why globally successful industries emerge in specific countries. These explanations depended on the variances among nations concerning access to local markets, availability of comparatively cheap factors of production such as natural resource, and labor force. According to Buettner and Ruf (2007), the location theory of FDI is also concerned with the behavior of the government in the host country towards improving the investment environment through offering investment incentives and strengthening the legal framework.

An extensive range of studies including Mottaleb and Kalirajan (2010), and Abbott et al. (2012) mentioned that the host country's government must pay attention to the overall economic policies. This include specific measurements like market size, natural resources, quality of human capital, infrastructure quality, exchange rate stability, and inflation rate. In terms of variables selection, the study employs the following variables and policies which are classified as a main factor effect on FDI inflows.

Market size: is seen as one of the vital factors that affect the flows of FDI, where a large current market or increasing expected market size creates more investment opportunities and profits. An extensive number of studies including Asiedu (2006), Boateng et al. (2015) concluded that foreign firms move to countries with broader markets and with higher purchasing powers. This study will use the natural logarithm of real GDP as proxy for market size. The expected sign of the estimated coefficient of market size is positive.

Trade liberalization: The relationship between the host country's openness to trade and FDI inflows is heavily influenced by the goals of these firms from a trade perspective. For example, if the investment aims mainly to be an export-oriented policy, this encourages businesses (vertical FDI flows) to expand in countries with high degree of openness. On the other hand, according to the tariff-jumping hypothesis, foreign firms (horizontal FDI) that aim to serve the local market prefer less openness to enhance their marketplace and to be protected from imports of competitors. While, the resource-seeking FDI, which is the main aim of expansion in the host country, is to reduce production costs.

Therefore, this type of FDI is more concerned about trade cost, and consequently; countries that pursue an open trade policy are more attracted to this kind of investment (Dunning,1993).

Based on empirical studies, many studies such as Bilel & Mouldi (2011), and Guris & Gozgor (2015) concluded that the countries with more trade liberalization could attract more FDI inflows. This study uses the ratio of export plus import over GDP as a proxy for trade openness. The expected result is a positive or negative sign of coefficient concerning FDI.

Natural resources: is considered as an essential locational advantage, many studies including Mina (2007), Poelhekke & Van der (2013) pointed out that the countries with fewer resources might be more successful in attracting FDI than those nations with a wealth of resources. The idea behind this adverse effect is "resource curse" where the abundant natural resources may create opportunities for rent-seeking behavior and reduce the transparency in resource sales and revenue spending. Regarding the literature review concerned with the effect of the natural resource on FDI, several studies including Asiedu (2004), Yimer (2017) and Yang et al.,(2017) concluded that attracting FDI to the host countries is improved by the availability of natural resources. In contrast, the study of Poelhekke and Ploeg (2013) indicated that the availability of natural resources discourages foreign investment to expand theirs. Our study employs a dummy variable for the countries that have natural resource rent more than 10 % of GDP. The expected effect of the natural resource on FDI is to be negative/ positive.

Infrastructure development: which is seen as a fundamental element in encouraging FDI as it can contribute to reduce the entering cost (such as transportation costs, and electricity costs) and increase the rate of return on private investment and attract more FDI (Bellak et al.,2009). A series of studies, asghar et al (2011),Choi and Shoham (2016), Kaur et al., (2016) indicated that FDI inflows is positively associated with infrastructure development. This study will use electric power transmission and distribution losses (% of output) to measure the infrastructure quality. And the result is expected to be a negative sign of coefficient concerning FDI (Asiedu, 2004; Banerjee et al. ,2006).

Stability of Macroeconomic indicators: also plays an essential role in FDI attractiveness, especially when a foreign firm decides to invest abroad. These indicators involve exchange rate stability index and inflation ratio where the stability of these indicators reflects a high degree of certainty. A high rate of inflation is taken to be a sign of internal economic instability in the host country, whereas price instability indicates that the government has shortcomings to conduct appropriate monetary policy. Many studies including Asiedu (2006), Hailu (2010) and Boateng et al. (2015) showed that the inflation negatively affects FDI and a low volume of inflation is likely to attract more inward FDI in developing countries. This study employs the annual percentage change in Consumer Price Index (CPI) as the proxy for the inflation rate. The expected sign of the estimated coefficient of inflation is negative. Many studies including Abbott et al. (2012) mentioned the desire of foreign firms to invest abroad increase when the exchange rate in the host country is stable. Thus, to attract FDI inflows the government in the host country should reduce the fluctuations in exchange rates. This paper also employs the exchange rate stability index as a proxy of exchange rate stability, with the expectation of positive sign of coefficient concerning FDI.

Gross fixed capital formation: several studies including Adhikary (2010), Dash and Sahoo (2010), Feeny et al (2014) confirmed that enhancing the domestic investment plays a vital role in achieving economic growth. Gross fixed capital formation GFCF (% of GDP) is employed to measure the development of domestic investment (and some studies used it as infrastructure development proxy). The expected effect of the domestic investment on FDI is to be positive.

3.2. Institutional Quality Variables

As mentioned above, economic reforms and FDI policies are essential in terms of encouraging FDI, but these policies and reforms will not be enough without the existence of a healthy institutional environment to facilitate the exchange and increase confidence between economic players and reduce transactional cost. The presence of good institutional quality depends on the quality of its rules and providing a clear legal framework to govern

the activities of direct investment, which is an important factor for the success of the foreign investment (Bevan & Estrin 2004). In this context, corruption control is seen as one of the prominent institutional factors that reflect the quality of the country's institutional environment. Several studies including Wei (2000), Kwok and Tadesse (2006), Sayan (2009) concluded that there is a negative relationship between corruption level in the host country and FDI inflows. Also, foreign investors, generally try to avoid investing in corrupt countries. However, some empirical studies including Egger and Winner (2005), Biesenbender and Tosun (2014), to cite a few, argue that corruption is a stimulus for FDI, and corruption can have a positive impact on investment by facilitating transactions in countries with excessive regulation. This study employs the Corruption Perception Index (CPI) to measure the institutional quality.

3.3. Political Instability Variables

Political instability is considered as one of the bugbears that hinders the attraction of FDI in developing countries. Certainly, increases in political risk would reduce the certainty of the investment environment in the host country and make the investment climate and economic outcome very unpredictable. Studies by Dupasquier and Osakwe (2006), and Kim (2010) concluded that political instability is a prominent reason that has been responsible for the low inward FDI. However, some studies including Asiedu (2002) Kandiero and Chitiga (2006) concluded that political instability and absence of political rights in a country are not significant in influencing FDI. This study uses the Political Constraints Index (POLCON) which measures the extent of change in political actors and its influence on government policies and reforms. The expected sign of political instability's effect on FDI inflows is negative.

3.4. FDI Policies

These types of policies can directly affect a foreign firm's decision, where these policies aim to reduce the transaction cost of foreign companies entering the economy, regulate the flow of FDI. In addition to the creation of incentives and restrictions on operations work at the domestic and international level.

International FDI Policies: this type of policy targets the enhancement FDI through signing agreements and treaties with other regions or countries, and these agreements include improving the main terms and condition that control the investment activities between countries. The first type of these agreements is Bilateral Investment Treaties (BIT) that target the regulation of investment operations by means of laying down specific standards of investment protection and transfer of funds. The second type of these agreements is Regional Investment Agreements (RIA). According to OECD (2010), regional investment

agreements (RIAs) help attract more foreign investment through participation in ensuring a stable, predictable and transparent regulatory framework for international investment. Furthermore, they enhance the deployment framework for FDI, strengthen and facilitate cooperation between the host country and international investors in the investment fields, and reduce the gaps between national and international investment policies. Finally, Double Taxation Agreements (DTAs), which are defined as an agreement between two countries that reduce the tax bill for a foreign investor. These agreements seek to prevent the taxpayer from paying tax to both countries. Several studies including Buss et al. (2010), Berger et al (2013), Buthe and Milner (2014) found that these kinds of agreements can be considered as one of the elements of institutional reforms that foster the FDI inflow. This study uses the accumulated number of the countries that have in-force international investment agreements including (Bilateral Investment Treaties, Treaties with Investment Provisions, and Double Taxation Agreement) with the host country to measure the international FDI – Policies. The expected sign of the estimated coefficient of investment international agreements with FDI inflows is positive.

Domestic Investment Policies: these policies mainly aim to eliminate admission and establishment restrictions such as closing specific sectors or activities to foreign firms and minimize the ownership and control restrictions and remove any obstacles that hinder investments after entry such as constraints on employment of foreign labor and skilled manpower (Duarte et al,2017).

Many studies including Banga (2003) Zhao (2013) concluded that these policies had caused a rapid and steep increase in FDI and therefore, wage increase, and job opportunities decrease. The study will use the Business Freedom Index which measures the host country's investment openness, and this index refers to ease of starting, operating, and closing a business.

4. Empirical Strategy

North Africa region is considered one of the wealthiest areas regarding natural resources and geographic location, but the performance of FDI attractiveness is still weak and needs more effort. Thus, this paper employs a panel data estimation on a sample of Five North Africa countries (Algeria, Egypt, Libya, Morocco, and Tunisia) over the period 1996-2013. To examine the determinants of FDI inflows and impact of FDI-policies that are adopted by the host countries (North African countries) to encourage the inward foreign direct investment.

The choice of these years is attributed to data availability due to a shortage of this latter especially the one related to Algeria and Libya. In terms of selection of variables, it based on

the empirical work of most researchers, which is also appropriate for this study. The variables have been categorized into different classifications according to their effect on FDI inflows as follows: economic variables, institutional variables, and political variables, with two kinds of investment policies that may have direct effects on FDI (Domestic FDI policies, and International FDI policies). The specification of the regression model used in this study can be outlined as follows:

$$\begin{aligned} \text{LnFDIstock} = & \alpha + \beta_1 \text{Investment agreement} + \beta_2 \text{investment freedom} + \beta_3 \text{LnMarket size} \\ & + \beta_4 \text{Trade openness} + \beta_5 \text{Natl} + \beta_6 \text{GFCF} + \beta_7 \text{Infrastructure} + \beta_8 \text{Inflation} + \beta_9 \text{FX} \\ & + \beta_{10} \text{Corruption} + \beta_{11} \text{Regulation} + \beta_{12} \text{Political} + \gamma_i + \epsilon_{it} \end{aligned}$$

4.1. Data definition and Sources.

Empirically, there are several methods used to measure the FDI inflows, and there is no consensus on a particular way. For example, many studies such as Adhikary (2010), Bhavan and Zhong (2011) Boubakri et al (2013) used net FDI inflows as a percentage of GDP. While Balakrishnan et al (2013) mentioned that using net FDI inflows as a percentage of GDP is not desirable in transition economies because of its high sensitivity to changes in a location's characteristics. Furthermore, they concluded that using the FDI relative GDP creates a problem with dependency and accuracy, where small states dominate the top ten FDI recipients and it is hard to distinguish the effect of explanatory variables on FDI.

On the other hand, many studies including Busse et al. (2010), Goodspeed et al. (2011), Barassi and Zhou (2012), Estrin and Uvalic (2014) used the total FDI stock as a measurement of FDI within a country. This measurement refers to the value of the share of affiliates' capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of subsidiaries to the parent enterprises. According to Estrin and Uvalic (2014) using the FDI stock is desirable because it is always positive, and hence natural log transformation does not usher into a loss of information in this variable. Moreover, it is mentioned that using the FDI stock is more appropriate for the transition and unstable economies. Thus, this study utilizes the natural logarithm value of total inward FDI stock.

Table1: Data definition and Sources.

Variable	Description	Source
LnFDIstock	The natural logarithm of total inward FDI stocks.	UNCTAD
Ln Market size	Real Gross domestic product in US\$ (Natural Log)	UNCTAD
Trade openness	The ratio of export plus import over GDP	UNCTAD
Natural resources	=1 if the natural resource rents are more than 10% of GDP. “Total natural resources rents are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents.”	World Bank
Investment agreements	Accumulated number of the countries that have in force international investment agreements including (Bilateral Investment Treaties, Treaties with Investment Provisions, and Double Taxation Agreement) with host country.	UNCTAD
Investment freedom	Average index of business freedom, finance freedom, tax freedom,	Heritage Foundation
Infrastructure	Electric power transmission and distribution losses (% of output) “its include losses in transmission between sources of supply and points of distribution and in the distribution to consumers, including pilferage”.	World Bank
GFCF	Gross fixed capital formation GFCF (% of GDP), this measurement reflects the government investments in terms of infrastructure improvements such as constructing roads and railways, building hospitals and schools as well as houses and industrial buildings.	IMF
FX	Exchange Rate Stability Index ¹ .	The Trilemma Indexes
Inflation	The annual percentage change in consumer price index (CPI)	IMF
Regulation	Regulatory quality index, reflects the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	World Governance indicators
Corruption	Corruption Perception Index	Transparency International Dataset
Political	Political Constraints Index (POLCON)	Henisz, Witold J. 2002 Based on Polity IV,

4.2. Pre- Estimation Tests Results

As a first step in any econometric analysis, we examined the stationarity of the variables that are used in the model. This test aims to ensure that the variables are integrated, where non-stationary series could generate spurious regression results. In that context, there are numerous unit root tests for panel data and this study used the Levin-Lin-Chu test (LLC), Breitung test, Hadri Lm test, and Pearsan test that assumes homogeneity in the dynamics of the autoregressive coefficients for all cross-section data (series) (Aziz, 2016). Table 2 shows that the series are stationary at first differences.

¹ It indicates an annual standard deviation of the monthly exchange rate between the home country and the base country. The study used this proxy instead of real exchange rates due to the data limitation in these countries.

Table 2 : Panel Unit Root Tests (1st differences).

Variable	LLC Test	Breitung Test	Hadri LM test	Pearsan test (xtcips)	
	H ₀ : Panels contain unit roots	H ₀ : Panels contain unit roots	H ₀ : All panels are stationary	H ₀ : non-stationary (T _{cips} > T _{critical})	
				T cips	T critical 1%
LnFDIstock	(0.0319)	(0.0468)	(0.1047)	-4.248	-3.46
Investment agreements	(0.0000)	(0.0000)	(0.4328)	-4.346	-3.20
Investment free	(0.0000)	(0.0000)	(0.8649)	-5.046	-3.46
LnMarket	(0.5065)	(0.0284)	(0.9541)	-4.663	-3.20
Trade openness	(0.0030)	(0.0434)	(0.5799)	-4.305	-3.46
GFCF	(0.0000)	(0.0001)	(0.4110)	-4.398	-3.46
infrastructure	(0.0154)	(0.0000)	(0.9109)	-5.506	-3.20
Inflation	(0.0000)	(0.0027)	(0.9764)	-4.893	-3.20
Fx	(0.0000)	(0.0000)	(0.9348)	-4.362	-3.20
Corruption	(0.0000)	(0.0000)	(0.7282)	-4.725	-3.20
Regulation	(0.0000)	(0.0000)	(0.4644)	-4.640	-3.20
Poltical	(0.0001)	(0.0551)	(0.7306)	-3.027	-3.20

Notes : -

- all tests in constant with the time trend

- In LLC test (demean is used) to control the effect of cross-sectional means.

- For Breitung and Hadri LM test (controlled the effect of cross-sectional means and allowed cross-sectional dependence).

- For Parson (xtcips) test (controlled the effect of cross-sectional dependence)

Before employing estimations, we also conducted specific pre-estimation tests: we made sure that there was no multicollinearity among the variables included in the models, where the mean Variance Inflation Factor (VIF) of 1.24 and based of correlation matrix between the variables, the correlation among variables was less than 0.5. (See tables 3 and 4)

The Breusch-Pagan test displays that the p-value is 0.240 which indicates that there is no heteroscedasticity, and Hausman tests revealed that 'Random effects' specification was the appropriate model for estimations. Based on the result of the Wooldridge test (Wooldridge, 2002; Drukker, 2003) for autocorrelation, which indicated that the Prob > F = 0.1165. Hence, our model is not affected by the first-order autocorrelation.

Moreover, according to the Freidman test of cross-sectional independence, the p-value was 0.0020, and this amount is smaller than 0.05. Therefore, we reject a null hypothesis, which means that there is cross-sectional dependence

Hence, ignoring cross-sectional correlation would lead to severely biased results (Hoechle, 2007). Thus, we employ Driscoll and Kraay (1998)'s standard error correction method (labeled as 'scc', as in spatial correlation consistent) in our estimations, in order to simultaneously deal with cross-sectional dependence (which also deal with serial correlation and heteroskedasticity).

Table 3: Partial correlation VIF test.

Variable	VIF	1/VIF
Δ Trade openness	1.50	0.668615
Inflation(Δ CPI)	1.44	0.692557
Δ LnMarket	1.41	0.706782
Natural resource.D	1.31	0.760468
Δ Regulation	1.29	0.774447
Δ Infrastructure	1.21	0.829762
Δ Political	1.19	0.842960
Δ Corruption	1.16	0.861560
Δ Investment agreements	1.15	0.722000
Δ GCF	1.12	0.889518
Δ investment freedom	1.08	0.922233
Δ Fx	1.07	0.935123
Mean VIF	1.24	

5. Results and Conclusion

Several previous studies dealt with three main driving factors of FDI in host countries which are market factors, resource factors and efficiency seeking factors (Dunning,1988). This study attempted to investigate the impact of macroeconomic and role of domestic and international FDI policies in attracting FDI. Thus, the findings of this paper are instrumental for policymakers in North African countries in a way that helps governments make a well justified and more informed decision about how they can encourage and attract foreign direct investment and determine which investment policies are suitable according to current and future predictions (see tables 5 and 6).

This study found a positive and significant relationship between investment freedom variable and growth FDI in host countries at the 1 % level, which implies that foreign firms prefer to expand their activities within less restrictive business environments and, enhancement of investment conditions may attract more foreign investors to the North African region. The coefficient of trade openness is positive and significant at the 5 % level with change of FDI inflows.

Therefore, promoting integration into global trade, and country liberalization toward international trade leads to more polarization of FDI to that region, and foreign investors prefer investing in countries with sizeable trade volume. With regard to the natural resources effect, the results showed that the natural resources dummy has a negative and insignificant relationship with change of FDI inflows. This could be the result of state strong hold over of the oil sector especially in Algeria and Libya. Moreover, the insignificant relationship of natural resources might be a result of considerable variation in North African countries concerning natural resources reserves. However, this should not be necessarily interpreted as evidence of the absence of a relationship between this and other measures and economic outcomes.

Table 4: Correlation matrix between variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Δ LnFDIstock	1												
2 Δ Investment agreements	0.258	1											
3 Δ investment freedom	0.2424	-0.1594	1										
4 Δ LnMarket	0.1553	0.0462	0.0216	1									
5 Δ Trade openness	0.2959	0.0569	0.0082	0.5002	1								
6 Δ GFCF	0.4648	-0.0128	0.1115	0.0230	0.1311	1							
7 Δ Infrastructure	0.0555	-0.0640	-0.0508	0.0013	-0.1175	0.0068	1						
8 Inflation(Δ CPI)	0.2571	-0.0777	0.1341	0.1147	0.2122	-0.0954	-0.271	1					
9 Δ Fx	0.0234	0.0389	-0.0629	-0.0053	-0.0158	0.0013	0.0361	-0.0622	1				
10 Δ Corruption	0.0011	0.0513	0.0249	0.1203	0.1978	0.0569	0.0453	0.0574	0.0285	1			
11 Δ Regulation	0.1798	0.2440	0.1181	0.2341	0.2120	0.1348	-0.0853	0.0955	-0.2085	0.2009	1		
12 Δ Political	0.0776	-0.0108	0.0066	-0.0043	0.1135	0.0831	0.2605	-0.0523	-0.0052	0.2574	-0.0038	1	
13 NaturalID	0.2192	-0.1510	0.0980	-0.0807	0.0216	0.1369	-0.0932	0.4003	0.0095	-0.0883	-0.0009	-0.0898	1

Table 5: Random Effects Estimate with Driscoll and Kraay Standard Errors (time trend)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Δ Investment agreements	0.00316 (0.00206)	0.00329* (0.00166)	0.00341* (0.00167)	0.00335* (0.00175)	0.00342* (0.00157)	0.00336 (0.00164)	0.00391 (0.00193)	0.00388 (0.00201)	0.00339 (0.00197)	0.00394 (0.00197)	0.00394 (0.00211)
Δ investment free	0.0120** (0.00420)	0.00958*** (0.00325)	0.00987*** (0.00322)	0.00994*** (0.00332)	0.00984** (0.00296)	0.00992** (0.00304)	0.00949** (0.00279)	0.00962** (0.00274)	0.00902** (0.00290)	0.00947** (0.00277)	0.00960** (0.00272)
Δ LnMarket	0.00581 (0.0888)	0.0326 (0.0879)	0.0246 (0.0917)	0.0244 (0.0932)	0.0239 (0.0845)	0.0236 (0.0851)	0.0405 (0.0939)	0.0412 (0.0947)	0.0267 (0.0895)	0.0428 (0.0945)	0.0455 (0.0957)
Δ Trade openness	0.00513** (0.00188)	0.00404** (0.00148)	0.00425** (0.00168)	0.00426** (0.00171)	0.00421* (0.00159)	0.00421* (0.00161)	0.00401* (0.00153)	0.00420* (0.00168)	0.00393* (0.00152)	0.00395* (0.00160)	0.00412* (0.00175)
Δ GFCF	0.0323** (0.0112)	0.0321** (0.0114)	0.0321** (0.0114)	0.0321** (0.0113)	0.0323** (0.0103)	0.0323** (0.0102)	0.0308** (0.0101)	0.0310** (0.0103)	0.0302** (0.0100)	0.0307** (0.0102)	0.0308** (0.0103)
Δ Infrastructure		0.00529 (0.00384)	0.00529 (0.00384)	0.00524 (0.00393)	0.00550 (0.00385)	0.00549 (0.00392)	0.00656 (0.00359)	0.00686 (0.00412)	0.00668 (0.00373)	0.00622 (0.00336)	0.00627 (0.00371)
Δ Fx				0.0233 (0.0503)		0.0248 (0.0473)	0.0233 (0.0506)	0.0256 (0.0517)	0.0362 (0.0475)	0.0233 (0.0503)	0.0258 (0.0516)
Inflation(Δ CPI)					0.000232 (0.000778)	0.000282 (0.000793)	0.000367 (0.000748)	0.000378 (0.000787)	0.000348 (0.000679)	0.000360 (0.000737)	0.000367 (0.000769)
NaturalLD							0.0545 (0.0277)	0.0528 (0.0290)	0.0534 (0.0282)	0.0549 (0.0279)	0.0535 (0.0288)
Δ Corruption								-0.0263 (0.0250)			-0.0292 (0.0272)
Δ Regulation									0.138 (0.0844)		
Δ Political										0.0286 (0.0690)	0.0526 (0.0724)
trend	0.00427 (0.00547)	0.00464 (0.00429)	0.00439 (0.00427)	0.00432 (0.00437)	0.00439 (0.00397)	0.00431 (0.00404)	0.00364 (0.00422)	0.00333 (0.00393)	0.00410 (0.00430)	0.00373 (0.00420)	0.00346 (0.00398)
Constant	-8.449 (10.96)	-9.200 (8.610)	-8.706 (8.578)	-8.560 (8.767)	-8.699 (7.976)	-8.543 (8.104)	-7.218 (8.463)	-6.603 (7.870)	-8.148 (8.625)	-7.400 (8.431)	-6.869 (7.976)
R-squared	0.160	0.326	0.333	0.334	0.335	0.339	0.356	0.360	0.361	0.356	0.362
Observations	85	85	85	85	85	85	85	85	85	85	85
Number of groups	5	5	5	5	5	5	5	5	5	5	5

Table 6: Panel model with lagged variables (Robustness test)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(10)
Δ Investment agreements	0.00325 (0.00197)	0.00329* (0.00151)	0.00345* (0.00151)	0.00342* (0.00157)	0.00348* (0.00155)	0.00344 (0.00162)	0.00405 (0.00192)	0.00403 (0.00196)	0.00343 (0.00204)	0.00404 (0.00193)	0.00404 (0.00199)
Δ investment free	0.0117** (0.00378)	0.00921** (0.00298)	0.00957** (0.00291)	0.00964** (0.00298)	0.00955** (0.00288)	0.00963** (0.00295)	0.00957** (0.00279)	0.00971** (0.00273)	0.00892** (0.00288)	0.00959** (0.00276)	0.00967** (0.00269)
Δ LnMarket	0.0544 (0.100)	0.0688 (0.0944)	0.0639 (0.0963)	0.0637 (0.0967)	0.0642 (0.0956)	0.0639 (0.0961)	0.0721 (0.101)	0.0727 (0.100)	0.0550 (0.0975)	0.0716 (0.102)	0.0736 (0.101)
Δ trade openness	0.00722** (0.00205)	0.00536** (0.00180)	0.00579** (0.00208)	0.00579** (0.00211)	0.00579** (0.00204)	0.00578** (0.00207)	0.00547* (0.00212)	0.00564* (0.00236)	0.00531* (0.00210)	0.00550* (0.00226)	0.00559* (0.00247)
Δ GFCF	0.0327** (0.0107)	0.0321** (0.0110)	0.0321** (0.0110)	0.0321** (0.0109)	0.0325** (0.0107)	0.0325** (0.0106)	0.0316** (0.0104)	0.0317** (0.0105)	0.0309** (0.0102)	0.0316** (0.0106)	0.0316** (0.0105)
Δ Infrastructure	0.00557 (0.00353)	0.00553 (0.00360)	0.00557 (0.00353)	0.00553 (0.00360)	0.00607 (0.00386)	0.00609 (0.00393)	0.00722 (0.00351)	0.00752 (0.00388)	0.00726 (0.00362)	0.00736 (0.00353)	0.00728 (0.00364)
Δ Fx				0.0184 (0.0469)		0.0216 (0.0480)	0.0225 (0.0479)	0.0248 (0.0474)	0.0373 (0.0449)	0.0228 (0.0464)	0.0242 (0.0462)
Inflation(Δ CPI)					0.000481 (0.000799)	0.000532 (0.000817)	0.000436 (0.000834)	0.000461 (0.000867)	0.000379 (0.000750)	0.000449 (0.000865)	0.000437 (0.000895)
NaturalID							0.0535 (0.0318)	0.0521 (0.0330)	0.0523 (0.0325)	0.0534 (0.0319)	0.0521 (0.0328)
Δ Corruption								-0.0233 (0.0236)			-0.0242 (0.0266)
Δ Regulation									0.165 (0.0934)		
Δ Political										-0.00895 (0.0904)	0.0174 (0.0997)
trend	0.00519 (0.00532)	0.00525 (0.00398)	0.00495 (0.00391)	0.00487 (0.00398)	0.00488 (0.00393)	0.00478 (0.00401)	0.00404 (0.00421)	0.00372 (0.00382)	0.00478 (0.00426)	0.00398 (0.00414)	0.00382 (0.00388)
Constant	-10.30 (10.67)	-10.44 (7.978)	-9.836 (7.852)	-9.677 (7.995)	-9.698 (7.890)	-9.496 (8.054)	-8.043 (8.441)	-7.389 (7.658)	-9.509 (8.540)	-7.925 (8.310)	-7.593 (7.786)
R-squared	0.174	0.355	0.343	0.345	0.344	0.346	0.356	0.361	0.365	0.365	0.369
Observations	80	80	80	80	80	80	80	80	80	80	80
Number of groups	5	5	5	5	5	5	5	5	5	5	5

The domestic investment variables relation is positive and significant, which indicates that enhancing the volume of local investment including constructing roads and railways, building hospitals and schools as well as houses and industrial buildings reflected putatively on the FDI in North African countries. Regarding institutional quality, the investment profile variable is positive and significant, and this finding proves that the investment conditions attract more foreign firms in this region. However, market size was found to have an insignificant relationship with the growth of FDI. This is likely due to the region's fragility in terms of market size, or it might be the result of insufficient variation in the data to detect a statistical relationship. In terms of institutional quality, the findings illustrate that corruption in North African countries has a negative but insignificant coefficient.

In sum FDI inwards to the North Africa region has notably increased in the last twenty years but it still looks weak compared to other developing countries. The current paper examined the role of investment policies and determinant of FDI flows to North African countries. The results of our model showed that the ease of doing investment and business and establishment procedures have a positive impact on FDI attractiveness. Therefore, the enhancement of investment conditions may attract more foreign investors to the North Africa region. Furthermore, the country liberalization toward international trade leads to more polarization of FDI in that region. As for examining the effect of corruption on the growth of FDI inflow, the findings also illustrate that corruption in North Africa countries have a negative but insignificant coefficient. This might be attributed to insufficient variation in data used to detect a statistical relationship. Regarding the effect of market size, the findings show that the growth of real GDP doesn't have a strong statistical relationship with the growth of FDI. The results also revealed that the enhancement of the domestic investments could make the investment conditions in North Africa countries more attractive to foreign firms, and therefore, policymakers in this region should focus on infrastructure investments and allocate more resources for projects that may promote it.

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References

- Abbott, A., Cushman, D. O., & De Vita, G. (2012). Exchange rate regimes and foreign direct investment flows to developing countries. *Review of international economics*, 20(1), 95–107.
- Adhikary, B. K. (2010). FDI, trade openness, capital formation, and economic growth in Bangladesh: a linkage analysis. *International Journal of Business and Management*, 6(1), 16.
- Aizenman, J., Chinn, M. D., and Ito, Hiro (2013). "The 'impossible trinity' hypothesis in an era of global imbalances: Measurement and testing. *Review of International Economics*, 21(3), 447–458.

- Arab Investment & Export Credit Guarantee Corporation (DHAMAN). (2014). *FDI in Arab countries according to geographical distribution and enterprises*, Quarterly Bulletin. Kuwait. Retrieved from <http://dhaman.net/ar/research-studies/investment-climate-report-latest/>
- Asghar, N., Nasreen, S., & Rehman, H. (2011). Relationship between FDI and economic growth in selected Asian countries: A panel data analysis. *Review of Economics & Finance*, 2, 84–96.
- Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: is Africa different? *World development*, 30(1), 107–119.
- Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions and political instability. *The World Economy*, 29(1), 63–77.
- Asiedu. (2004). Policy Reform and Foreign Direct Investment in Africa: Absolute Progress but Relative Decline. *Development Policy Review*, 41–48.
- Aziz, O. G., & Mishra, A. V. (2016). Determinants of FDI inflows to Arab economies. *The Journal of International Trade & Economic Development*, 25(3), 325–356.
- Balakrishnan, M. S., Muhammad, N., Sikdar, A., Rogmans, T., & Ebbers, H. (2013). The determinants of foreign direct investment in the Middle East North Africa region. *International Journal of Emerging Markets*.
- Banerjee, S. G., Oetzel, J. M., & Ranganathan, R. (2006). Private provision of infrastructure in emerging markets: do institutions matter? *Development Policy Review*, 24(2), 175–202.
- Banga, R. (2003). Impact of government policies and investment agreements on FDI inflows. *Indian Council for Research on International Economic Relations*, 1–43.
- Barassi, M. R., & Zhou, Y. (2012). The effect of corruption on FDI: a parametric and non-parametric analysis. *European Journal of Political Economy*, 28(3), 302–312.
- Biesenbender, S., & Tosun, J. (2014). Domestic politics and the diffusion of international policy innovations: How does accommodation happen? *Global Environmental Change*, 29, 424–433.
- Bellak, C., Leibrecht, M., & Damijan, J. P. (2009). Infrastructure endowment and corporate income taxes as determinants of foreign direct investment in Central and Eastern European countries. *The World Economy*, 32(2), 267–290.
- Berger, A., Busse, M., Nunnenkamp, P., & Roy, M. (2013). Do trade and investment agreements lead to more FDI? Accounting for key provisions inside the black box. *International Economics and Economic Policy*, 10(2), 247–275.
- Bevan, A. A., & Estrin, S. (2004). The determinants of foreign direct investment into European transition economies. *Journal of Comparative Economics*, 32(4), 775–787.
- Bhavan, T., Xu, C., & Zhong, C. (2011). Determinants and growth effect of FDI in South Asian economies: Evidence from a panel data analysis. *International Business Research*, 4(1), 43.
- Bilel, K., & Mouldi, D. (2011). The relationship between financial liberalization, FDI and economic growth: An empirical test for MENA countries. *Economics and Finance Review*, 1, 20–26.
- Boateng, A., Hua, X., Nisar, S., & Wu, J. (2015). Examining the determinants of inward FDI: Evidence from Norway. *Economic Modelling*, 47, 118–127.
- Boubakri, N., Cosset, J. C., Debab, N., & Valéry, P. (2013). Privatization and globalization: An empirical analysis. *Journal of Banking & Finance*, 37(6), 1898–1914.
- Buettner, T., & Ruf, M. (2007). Tax incentives and the location of FDI: Evidence from a panel of German multinationals. *International Tax and Public Finance*, 14(2), 151–164.
- Busse, M., Königer, J., & Nunnenkamp, P. (2010). FDI promotion through bilateral investment treaties: more than a bit? *Review of World Economics*, 146(1), 147–177.
- Buthe, T., & Milner, H. V. (2014). The politics of foreign direct investment into developing countries: increasing FDI through international trade agreements? *American Journal of Political Science*, 52(4), 741–762.

- Choi, J. J., Lee, S. M., & Shoham, A. (2016). The effects of institutional distance on FDI inflow: General environmental institutions (GEI) versus minority investor protection institutions (MIP). *International Business Review*, 25(1), 114–123.
- Dash, R. K., & Sahoo, P. (2010). Economic growth in India: the role of physical and social infrastructure. *Journal of Economic Policy Reform*, 13(4), 373–385.
- Drukker, D. M. (2003). Testing for serial correlation in linear panel-data models. *The Stata journal*, 3(2), 168–177.
- Duarte, L. D. R. V., Kedong, Y., & Xuemei, L. (2017). The Relationship between FDI, Economic Growth and Financial Development in Cabo Verde. *International Journal of Economics and Finance*, 9(5), 132.
- Dunning, J. H. (1988). The theory of international production. *The International Trade Journal*, 3(1), 21–66.
- Dunning, J. H. (1993). Internationalizing Porter's diamond. *Management International Review*, 33(2),
- Dunning, J. H. (2002). *Global Capitalism, FDI and competitiveness* (Vol. 2). Edward Elgar Publishing.
- Dupasquier, C., & Osakwe, P. N. (2006). Foreign direct investment in Africa: Performance, challenges, and responsibilities. *Journal of Asian Economics*, 17(2), 241–260.
- Egger, P., & Winner, H. (2005). Evidence on corruption as an incentive for foreign direct investment. *European Journal of Political Economy*, 21(4), 932–952.
- Estrin, S., & Uvalic, M. (2014). FDI into transition economies: are the Balkans different? *Economics of Transition*, 22(2), 281–312.
- Feeny, S., Iamsiraroj, S., & McGillivray, M. (2014). Growth and foreign direct investment in the Pacific Island countries. *Economic Modelling*, 37, 332–339.
- Goodspeed, T., Martinez-Vazquez, J., & Zhang, L. (2011). Public policies and FDI location: Differences between developing and developed countries. *FinanzArchiv: Public Finance Analysis*, 67(2), 171–191.
- Guris, S., & Gozgor, K. (2015). Trade Openness and FDI Inflows in Turkey. *Applied Econometrics and International Development*, 15(2), 53–62.
- Hailu, Z. A. (2010). Demand side factors affecting the inflow of foreign direct investment to African countries: does capital market matter? *International Journal of Business and Management*, 5(5), 104.
- Henisz, W. J. (2002). *The political constraint index (POLCON) dataset*. University of Pennsylvania, Wharton School. Retrieved from <https://mgmt.wharton.upenn.edu/faculty/heniszpolcon/polcondataset/>
- Heritage Foundation (2019). *The index of economic freedom*. Washington, D.C: Heritage Foundation. Retrieved from <https://www.heritage.org/index/explore>
- Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *The stata journal*, 7(3), 281–312.
- IMF, (2019) “Consumer price index, and gross fixed capital formation data” Washington, D. C. International Monetary Fund. Retrieved from <https://www.imf.org/external/datamapper/PCPIPCH@WEO/OEMDC/>
- Kandiero, T., & Chitiga, M. (2006). Trade openness and foreign direct investment in Africa: economics. *South African Journal of Economic and Management Sciences*, 9(3), 355–370.
- Kaur, M., Khatua, A., & Yadav, S. S. (2016). Infrastructure development and FDI inflow to developing economies: Evidence from India. *International Business Review*, 58(6), 555–563.
- Kim, H. (2010). Political stability and foreign direct investment. *International Journal of Economics and Finance*, 2(3), 59–71.
- Kwok, C. C., & Tadesse, S. (2006). The MNC as an agent of change for host-country institutions: FDI and corruption. *Journal of International Business Studies*, 37(6), 767–785.
- Laabas, B., & Abdmoulah, W. (2009). Determinants of Arab intraregional foreign direct investments. *Journal of Business & Policy Research*, 4(2), 138–169.

- Mah, J. S. (2010). Foreign direct investment inflows and economic growth of China. *Journal of Policy Modeling*, 32(1), 155–158.
- Marc, A. (2011). Is foreign direct investment a cure for economic growth in developing countries? Structural model estimation applied to the case of the south shore Mediterranean countries. *Journal of International Business and Economics*, 11(4), 32–51.
- Mina, W. (2007). The location determinants of FDI in the GCC countries. *Journal of Multinational Financial Management*, 17(4), 336–348.
- Mohamed, S. E., & Sidiropoulos, M. G. (2010). Another look at the determinants of foreign direct investment in MENA countries: an empirical investigation. *Journal of economic development*, 35(2), 75.
- Mottaleb, K. A., & Kalirajan, K. (2010). Determinants of foreign direct investment in developing countries: A comparative analysis. *Margin: The Journal of Applied Economic Research*, 4(4), 369–404.
- Factbook, O. E. C. D. (2010). Economic, Environmental and Social Statistics/Organization for Economic Cooperation and Development.
- Onyeiwu, S., & Shrestha, H. (2004). Determinants of foreign direct investment in Africa. *Journal of Developing Societies*, 20(1-2), 89–106.
- Poelhekke, S., & van der Ploeg, F. (2013). Do natural resources attract non-resource FDI? *Review of Economics and Statistics*, 95(3), 1047–1065.
- Pradhan, R. P., Arvin, M. B., Hall, J. H., & Nair, M. (2017). Trade openness, foreign direct investment, and finance-growth nexus in the Eurozone countries. *The Journal of International Trade & Economic Development*, 26(3), 336–360.
- Sayan, S. (Ed.). (2009). *Economic performance in the Middle East and North Africa: institutions, corruption and reform*. Routledge.
- Te Velde, D. W. (2001). Policies towards foreign direct investment in developing countries: emerging best-practices and outstanding issues. London: Overseas Development Institute, 1–34.
- The World Bank, (2012). “World Development Indicators.” Microdata Library. Retrieved from <https://data.worldbank.org/>
- Transparency International (1996–2014). The Corruption Perception Index. Retrieved from <http://www.transparency.org>
- UNCTAD, G. (2012). World investment report: Towards a new generation of investment policies. United Nations. New York and Geneva.
- UNCTAD,2018, United Nations Conference on Trade and Development (UNCTAD) Handbook of Statistics. Retrieved from <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=96>
- UNCTAD, 2019, World Investment Report. Promoting Linkages, (FDI stock data) United Nations, Geneva and New York. Retrieved from <https://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx>
- Wang, C., Hong, J., Kafouros, M., & Wright, M. (2012). Exploring the role of government involvement in outward FDI from emerging economies. *Journal of International Business Studies*, 43(7), 655–676.
- Wei, S. J. (2000). How taxing is corruption on international investors? *Review of economics and statistics*, 82(1), 1–11.
- Wooldridge, J. M. (2003). Further results on instrumental variables estimation of average treatment effects in the correlated random coefficient model. *Economics letters*, 79(2), 185–191.
- World Bank. (2011). *Facing challenges and opportunities (Middle East and North Africa regional economic update)*. Washington DC, USA.
- Worldwide Governance Indicators, (2018) *The Worldwide Governance Indicators (WGI) project*. Retrieved from <https://info.worldbank.org/governance/wgi/Home/Reports>

- United Nations Conference on Trade and Development. (2001). *World investment report 2001: Promoting linkages*. UN.
- United Nations Conference on Trade and Development. (2013). *World investment report 2013: Global value chains: Investment and trade for development*. UN.
- Yang, J. H., Wang, W., Wang, K. L., & Yeh, C. Y. (2018). Capital intensity, natural resources, and institutional risk preferences in Chinese outward foreign direct investment. *International Review of Economics & Finance*, 55, 259–272.
- Yimer, A. (2017). Macroeconomic, political, and institutional determinants of FDI inflows to Ethiopia: An ARDL Approach. in *studies on economic development and growth in selected African countries* (pp. 123–151). Springer, Singapore.
- Young, S., Hood, N., & Hamill, J. (2017). *Foreign multinationals and the British economy: Impact and policy*. Routledge.
- Zhao, S. (2013). Privatization, FDI inflow and economic growth: evidence from China's provinces, 1978–2008. *Applied Economics*, 45(15), 2127–2139.

A Perspective on Productivity Growth and Challenges for the UK Economy

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ABSTRACT

The UK's low levels of output per hour of labour and their productivity relative to other advanced economies is a matter for concern. The UK's productivity is a little over three-quarters that of Germany, the US, and France, and the about same as Italy. Furthermore, according to the OECD, it has been stagnant since 2007. Productivity is an important macroeconomic indicator as it demonstrates the output that an economy can generate using existing resources. It is generally acknowledged that technological progress, new research and technology can lead to higher investment and growth rates. Productivity refers to the quantity of goods and services that can be produced by a worker in a given period of time. For any economy, it is important to ensure rapid growth and a long-term trend of increased productivity. Indeed, this is particularly important for advanced economies where it is crucial to increase productivity in order to remain globally competitive. The study concludes that the UK's growth in productivity has been very slow relative to other major economies, and as a result the UK, which was already behind many other G7 countries, has fallen even further behind. This study suggests that a stronger and more viable manufacturing sector would help to build structural balance in the economy and to move it away from an over-reliance on the financial sector. To achieve this would require active state policies to increase investment in R&D, innovation and skills.

Keywords: Labour productivity, growth, UK economy, Verdoorn's law, public investment

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1. Introduction

Productivity is an important macroeconomic indicator as it demonstrates the output that an economy can generate using existing resources. It is generally accepted that technological progress, new research and technology can lead to higher investment and growth rates. Labour productivity refers to the quantity of goods and services that can be produced by a worker in a given period of time.

The study intends to examine the factors behind the slow growth in productivity in the UK compared to the other G7 economies since the 1990s. This is important because growth in productivity has an impact on areas such as export competitiveness, balance of payments, and employment levels. The UK's low levels of output per hour of labour and its productivity relative to other advanced economies is, of course, a matter of some considerable concern. The UK's productivity is a little over three-quarters that of Germany, the US, and France, and is currently at about same level as that of Italy. Furthermore, according to the OECD, it has been stagnant since 2007.

This article analyses the UK manufacturing sector of the 1980s. The aim of this study is to stress the role of public spending in R&D, thereby not only encouraging private investment in new technologies but also positively contributing to productivity and output. In recent years, the increased emphasis on austerity and cuts in public spending, especially since the 2008 crisis, seems to have adversely impacted growth in productivity. This study will be important for industry in terms of understanding such issues as employment, national income and international trade.

Manufacturing played a crucial role in the post-war economic boom, and contributed to securing employment opportunities and higher living standards. Since the 1980s in particular, manufacturing has witnessed a relative decline, both compared to earlier periods in the UK and also to other major economies such as Germany, Japan and the US. This is reflected in the UK's structural imbalance and is linked to its deep-rooted structural problems, with a rising national deficit, a reliance on finance which is largely unproductive and ongoing underinvestment in the UK's manufacturing sector. On this basis, one might anticipate that increased investment in manufacturing would lead to increased productivity. Of course, modern manufacturing in the 21st century must make increased use of environmentally friendly technologies.

As Paul Krugman argues, "Productivity isn't everything, but in the long run it is almost everything". (Cited in Wolf, 2018) Improvements in standards of living depend almost entirely on rising output levels per worker. The productivity slowdown is one of the major reasons for the stagnation in workers' real incomes and the pressure to enact policies of

fiscal austerity in advanced economies. The marked slowdown in the growth of incomes per head also explains the decline in labour's share of national income in advanced economies (Wolf, 2018).

For any economy, ensuring both rapid growth and long-term trends that show increased productivity are extremely important. Indeed, it is particularly important for advanced economies as it is crucial to increase productivity in order for them to remain globally competitive. In these economies, future income depends on raising output per hour. According to the OECD (2017), 73% of the UK's population aged between 15 and 64 were in employment in 2015, as compared to 74% in Germany, 73% in Japan, 69% in the US, 64% in France and 57% in Italy. These high levels of employment should nominally imply that Britain is in a strong position. However, in terms of productivity, the UK's output per hour was only 16th in the world. According to 2015 statistics, the UK's output per hour was only 79% that of Germany, 78% that of the French, 77% that of the Netherlands, and 76% that of the US. However, even worse was the increase in output per hour between 2007 and 2015, at only 0.7%, with the UK 17th in the list of the high-income countries (Oulton, 2017).

The study explores the growth in productivity and the challenges faced by the UK's manufacturing sector since the 2008 crisis. Previous studies have not investigated these aspects extensively. This paper will evaluate the relationship between productivity and growth in output, known commonly as Verdoorn's law. The emphasis of this study is upon the growth in productivity depends on improvements in human skills. Capacity is defined as the ability to assemble resources and collectively generate output. Increased capacity means a greater potential flow of acts drawing upon that capacity. In fact, capacity is a stock, which can be expanded or reduced on the basis of a firm's acts and decisions with regards to policy. Increases in material productivity can also be a function of growth in the capacities of workers. If the capacity of such producers decreases, then productivity in terms of output will fall, even if all other factors remain constant. Workers have an interest in productivity increases insofar as they contribute to the satisfaction of their own needs for personal development.

This study has followed doctrinaire methodology, which includes analytical, descriptive and comparative methods. The methodology has been carefully chosen in order to enable us to answer the research questions posed herein. We have carefully identified appropriate categories and units of analysis, both of which reflect the nature of the data being analysed and the purpose of the research. In the process of performing comparative research, it should be understood that there exists a certain potential for theoretical development. This requires an awareness of both its strengths and limitations to ensure good practice. This also means having an understanding of different social contexts and the various issues which form parts of the actual processes of comparative research.

The poor productivity of the UK economy seems to be associated with its structural crisis. In fact, unlike previous recessions, unemployment was not as extensive as in the past, but nonetheless real wages fell by an average of 1.7%. The productivity shortfall between resource input and output growth in the UK has been very slow relative to other major economies, which is known as the ‘productivity puzzle’ (Pessoa et al., 2013). As a result, the UK, which was already lacking compared with many of the G7 countries, has fallen even further behind. Various factors have been proposed to be contributing to this lag. Some researchers believe that firms maintained their labour on relatively low wages rather than investing in human capital (investing in the workforce with the aim of raising skills and to boost morale and, ultimately, output and productivity), which resulted in stagnation in the output per worker (Green et al., 2016). Other critics stress that the risk aversion amongst the financial institutions has reduced access to bank loans for the purposes of investment, which has accordingly resulted in the inefficient allocation of resources across the economy (Oulton, 2017).

Certainly, there are differences in productivity from sector to sector. There has been relatively high productivity growth within the transport equipment sector, but a fall within the financial and insurance sectors. It has been well established that manufacturing contributes positively to overall economic growth. For the UK, the manufacturing sector is very important and there is a need to maintain a competitive advantage, not only for the sake of the export sector but indeed for the entire economy. Labour productivity is higher in manufacturing than in other sectors in the UK, and the productivity growth in this sector has been accompanied by a general fall in employment, which declined steadily between 1990 and 2015. However, productivity has fallen sharply since the 2008 recession. For the last two decades or so, production has become the centre of a very complex manufacturing value chain, characterised by different employment structures in low, medium and high technology industries. In the UK, manufacturing output peaked prior to the 2008 recession and since then has remained below 2007 levels. This sector has not only witnessed a decline in employment but also a marked shift in its employment profile, with a sharp increase in favour of highly qualified workers. Furthermore, current globalisation and increased international trade has opened new markets, especially in emerging economies.

2. Theoretical Arguments

For neoclassical economists technological progress and productivity depends upon an aggregate production function in which companies choose profit maximisation on the basis of price factors, and existing, capital-intensive techniques become more profitable to adopt as the economy moves along a stationary production function. There is an assumption of marginal productivity pricing and constant return to scale. Eventually, a shortfall between resource input and output growth can be interpreted as a shift in the production function as a

result of technical progress (Mohun, 2009). Innovation achieves a temporary competitive advantage, but is undermined by successive technological advances resulting in labour saving and capital usage. As wages rise, this leads to the further application of labour-saving technology in order to maintain profits.

Sanjaya Lall (2001) emphasised the idea that technological skills and capabilities are important determinants of labour productivity increases. According to him, better technological skills and capabilities are highly pertinent to inducing economic growth by increasing the value added to outputs and exports. The achievement of this requires skilled workers. Skills, and human capital, are vital to achieving competitiveness in a globalised world. Previously, skills had often been treated as a generic factor and were generally measured by the number of years spent in education. However, this ignored the role of technology and associated skills in the creation of comparative advantages. According to the neoclassical economists' static model, in order to exploit their comparative advantages, countries should rely on their factor endowments and their effort to change via state promotion would be deemed inefficient. Lall (2001) distinguishes between two types of skills and capabilities, as acquired through formal education and/or formal or informal training. For the latter, he emphasised on-the-job-training. Finally, if more money is allocated to education and training, this creates the preconditions required for successful firm-level training and for facilitating the required capabilities to increase overall productivity.

Productivity can grow due to changes with existing firms, mainly through the introduction of new technology and through organisational change, which may also be referred to as internal change. The other factor contributing to productivity growth is that of new entrants to the market. These new entrants have higher productivities and an ability to expand their market share, leading to market exit for those who fail to maintain their competitive edge. The successful entrants are able to create competitive pressures within industry (Disney, Haskel & Heden, 2003).

It is important to analyse the relationship between labour productivity and output growth, known as Verdoorn's law. Verdoorn proposed (1949) that increasing returns will occur due to the positive relationship between manufacturing output and labour productivity growth. His earlier empirical study was based on the UK's industrial output, from which he argued that industrial output was constrained by the growth of labour supply and, as a result, industrial productivity grew at a slower rate. Later, Kaldor (1975) presented an alternative to Verdoorn's law which could determine the growth rate of the economy as a whole, i.e., on a macro level. Verdoorn's effect, and Kaldor's model of technological progress, both emphasise the positive relationship between GDP and productivity growth.

In the mid-1970s, the UK has been experiencing a slowdown in its GDP and productivity growths that only started to recover in the 1980s, but which have now once again declined to the rates seen in the early 1970s. This observation clearly indicates a positive relationship between GDP growth and productivity growth. Kaldor (1972) assumed endogenous technical change technical progress in his model; GDP growth and productivity growth are positively affected by the growth of capital intensity due to the assumption that technical progress is embodied by capital investment. In Verdoorn's law, the growth rate of labour productivity in industries is positively correlated with GDP growth rates, as explained by dynamic economies of scale, and the assertion that rationalisation and mechanisation will favourably affect overall productivity. Hein and Tarassow (2010:750) concluded: "Our estimations of the productivity regime for the six [OECD] countries in the period from 1960 to 2007 have confirmed the prevalence of a Verdoorn effect, i.e., a positive impact of GDP growth on productivity growth".

It is assumed by mainstream economists that recessions are the best time for cleansing and rooting out low productivity contributors to the economy. However, the empirical evidence for this is unclear; for example, in a recession many productive firms face closure due to a sharp downturn in demand in combination with credit constraints (Kitson & Michie, 2014; Disney et al, 2003).

3. Productivity Trends in the UK

In the 1970s, after slow growth in manufacturing productivity, the UK's industry witnessed an increase in the 1980s. Analysing the productivity changes in UK manufacturing since the 1980s indicates a sharp decline in the industrial contributions to GDP and exports in the 1970s, which has been referred to by some economists as deindustrialisation. Deindustrialisation has been widely defined in terms of both output and employment due to low productivity growth. If the relative decline in manufacturing has no adverse impact on employment or overall levels of economic activity, then it is not seen as problem. On the phenomenon of the deindustrialisation of the UK economy, the then Secretary for Industry, Tony Benn, observed in 1975: "The trend to contraction of British manufacturing industry which we are now suffering has gathered force in the last four years. If this trend is allowed to continue, we will have closed down 15% of our entire manufacturing capacity and nearly 2 million industrial workers will have been made redundant between 1970 and 1980. During the five years 1970-74 there was a 7% fall in employment in manufacturing in Britain, while it was still rising in most of our competitor countries. In this period the total number of manufacturing jobs lost through redundancy averaged about 180,000 a year and the net contraction of manufacturing employment averaged 120,000 a year. Only about one in three of the jobs lost through redundancy were effectively replaced by the creation of a new job in the manufacturing sector" (cited in Singh, 1977: 13-14).

On this issue, Ajit Singh's study (1997) concluded: "The deindustrialisation of the UK economy which has occurred in recent years has been only in the sense of loss of employment from the manufacturing sector. This loss has been greater than in other industrial countries, and also as compared with the trend rate of decline in the UK itself during the last two decades. Between the recession years of 1968 and 1976, employment in manufacturing fell by nearly 1 million workers; the proportion employed in manufacturing decreased from 36% to 32%. There has, however, been no reduction in manufacturing output, although there was a slowdown in its rate of growth. It is in this important sense that, in spite of the growth in productivity, there is evidence that the UK manufacturing sector is becoming increasingly inefficient. The evidence suggests a structural disequilibrium, whereby the trading position of the manufacturing sector in the world economy continues to deteriorate, in spite of increasing cost and price competitiveness" (Singh, 1997:133-34).

During the Thatcher government in the 1980s, despite policy supporting the revival of the industrial sector, there was no increase in manufacturing. Such an increase did, in fact, occur in Germany and Japan during the same period (Siddiqui, 2015a). In the UK, high interest rates throttled manufacturing and facilitated a shift towards the service sector. During the same period, the UK government lifted the ban on anti-speculative restrictions and national saving funds, and insurance and mortgage providers benefitted from huge shifts in capital towards the financial services. At the same time, the privatisation of public housing and the major utilities, such as water, electricity, gas, railways, public transportation, and telecommunications attracted significant capital from private investors as they envisaged high returns with hardly any commitments to long-term infrastructure (van Ark, 1990).

Historically in the UK, particularly during the post-war boom, the manufacturing sector played an important role in the sense of driving productivity growth in the economy. To achieve this, the state made a leading contribution through investment in R&D and human skills (Siddiqui, 1995). However, the neoliberal policy introduced to the UK in the 1980s led to a decrease in the role of the state and encouraged the greater role of market forces including deregulation, cuts in public expenditure, privatisation and a weakening of the role of trade unions (Siddiqui, 2015b). Some have argued that this policy shift led to improvements in competitive environments and as a result halted a relative decline (Craft, 2012). However, others have emphasised that the associated changes exacerbated the decline of manufacturing, which resulted in adverse long-term implications for both employment and trade. As Kitson and Michie (2014:17) note: "This decline of manufacturing was made worse during some parts of the period by demand shocks and constraints caused by shifts in macroeconomic policies. During the early 1980s, the focus on controlling inflation led to periodic overvaluation of exchange rate, which was particularly harmful during the monetarists in 1979-80 and during the UK's membership of the Exchange Rate Mechanism (ERM). When Britain was forced out of the ERM in September 1992 ..."

With the further opening of the markets in the 1990s, manufacturing shrank to 17% of UK gross value added by 1997, compared to 26% in Germany. This certainly contributed to the long-term decline of industries in Northern England and also to a chronic current account deficit, with the UK importing manufactured goods which were not made domestically. The New Labour government of 1997 continued previous policies and only slightly mitigated the effects through cosmetic measures such as taxing the credit system for ‘hard-working families’. The Conservative government followed a policy of high interest rates and overvalued the pound, which hit the UK’s manufacturing sector the worst. By contrast, the Labour government promised to lower unemployment and to help industries. However, with the increased globalisation of the 1990s and increased global capital mobility, the country’s sectoral imbalances were exacerbated. The service sector ballooned to about 80% of output, compared to 69% in Germany, with profits disproportionately generated by the financial sector based in London and the South East regions. The Labour government did not adopt any clear initiative towards industrial policy (Kitson and Michie, 2014). Both Tony Blair and Gordon Brown’s governments failed to make any real improvements in terms of reviving the manufacturing sector, and there were no real improvements in the living conditions of the average people in the UK. The economic growth that did occur, based heavily in the financial sector, was achieved by giving greater freedom to bankers and the super-rich (Hein and Tarassow, 2010).

The coalition government came to power in 2010, but was more preoccupied with the credit crunch, the global recession and public debts. Mainstream economists argue that the fact of ‘too few producers’, as a result of the rapid growth of the public sector during the post-war boom, was the main reason for deindustrialisation. According to them, this rapid expansion crowded resources which could otherwise have been used in the manufacturing sector. They presumed that the private sector was, relatively, more productive than the public sector (Bacon & Eltis, 1976). However, whilst critics acknowledge that competition, availability of resources and market forces cannot be ignored, other factors demand that side conditions must be taken into account. Such views stress that these demands could impact the growth of manufacturing to a greater extent than a lack of resources (Kaldor, 1971). Kitson and Michie presented a more comprehensive explanation, according to which, “[F]our interlinked problems that have hampered UK manufacturing. First, underinvestment in manufacturing which resulted in British workers lacking the volume and quality of capital equipment compared to its main competitors. Second, much of this underinvestment was the result of short-termism in the financial sector which privileged short-term financial returns over long-term investment in capacity and technology. Third, there was a lack of a coherent industrial policy – in contrast to the strategy adopted in many other advanced industrial economies. Fourth, shifts in UK macroeconomic policy created an uncertain economic environment which has been particularly damaging for much of manufacturing, which is capital intensive and export-dependent”. (Kitson and Michie, 1996:21)

In the UK, productivity fell sharply during the 2008 financial crisis. Some commentators have pointed out that it may have been structural, rather than simply cyclical, problems which led to the subsequent slowdown in productivity growth since the crisis. According to these commentators, it is far from just the global financial crisis causing the slump and it has been proposed that there are actually a number of causes, such as weak technical progress, falling aggregate demand and slow growth in factor productivity because of insufficient investment, particularly in education, training and infrastructure (Summers, 2014; Eichengreen, 2014). It seems that all these factors are, however, related to the 2008 financial crisis and are likely to be having a persistent impact on productivity.

Productivity estimates demonstrate an economy's ability to grow without generating any excessive inflationary pressure. It is also important to analyse the extent to which any slowdown in productivity is due to cyclical expiations related to demand conditions. This means during periods of recession, firms lower their resource utilisation due to a slowdown in the economy and weak demand. The other factor which seems to be contributing to the slowdown in productivity is the 2008 financial crisis seems to be a reduction in investment in both physical and intangible capital, e.g., innovation and slow transfer of resources from low to highly productive uses.

Labour productivity growth in the UK has been particularly weak since the 2008 financial crisis. Despite a modest increase in 2013, the whole economy output per hour remains at around 16% below pre-crisis productivity levels. In some sectors, this slow growth or near stagnation is referred to as the 'productivity puzzle'.

The UK's weak productivity needs to be compared with other advanced economies, particularly with regards to the events of the last decade. During this period, the UK's productivity performance appears to have grown weaker, i.e., the UK has underperformed compared to other advanced economies. In contrast to the UK, the US, despite a fall in GDP during the recession, saw its average output grow by 1.9% between 2007 and 2012 and its labour productivity was 8% higher than the pre-2007 levels. The post-recession UK productivity performance seems to have been worse than in the majority of EU countries (Oulton and Sebastia-Barriel, 2013). One possible explanation for this is the lower levels of investment since the crisis of 2008. The estimates of TFP made by the Office for National Statistics indicate that the contribution of the growth of capital services per hour worked to increase the whole economy's GDP by %1.2 in 2008, %1.64 in 2009 and %0.59 in 2010, i.e. positive for these three years (ONS, 2017). Though investment has fallen, the fall was not sufficiently large to result in a significant decline in per capita services per worker. Hence, the fall in investment cannot explain the fall in labour productivity.

As Martin Wolf (2018) argues, “[W]eak investment and, above all, declining growth of “total factor productivity”, a measure of output per input of capital and (quality-adjusted) labour. TFP is a measure of innovation, of the ability to produce more valuable output with given quantities of inputs. Without innovation, the rising prosperity of the past two centuries would have been impossible.” In another study, Nicholas Crafts showed a decline in trend growth of TFP in the US from just above 1.5% a year in the early 1970s to 0.9% most recently (cited in Wolf, 2018).

The UK is an important country for foreign investors, and the inward flow of foreign capital in Britain’s assets and shares is larger than anywhere else in the world except the US and Hong Kong. In the last ten years, foreign investments totalled about £600 bn, equivalent to a third of the country’s GDP. Figures indicate that inflows of capital are very important to British businesses and, indeed, the overall economy. In 2015, the UK’s financial services accounted for nearly 95% of net inflows. (Siddiqui, 2019) However, overall, the UK’s productivity has not improved greatly. Official statistics suggest that foreign investors are doing less to improve the economy than had been initially presumed. Many factors are to blame, including poor infrastructure.

Since the 2016 Brexit vote, devaluation in sterling has helped manufacturing exports to some extent, as has quantitative easing and banks agreeing to provide increased credit to firms. However, all these efforts seem to have had limited success. Quantitative easing did not lead to any significant increase in investment in manufacturing. The performance of the manufacturing sector can be examined in terms of the conditions of supply and demand. Supply includes the cost of capital and technology, and also quality and cost of labour and innovation, in addition to competition. Demand includes domestic and overseas demands, exchange rates and tariffs and the degree of openness of markets. Kitson and Michie (2014:2) argue that supply conditions in manufacturing are, “[A]n uncompetitive environment which has led to low productivity growth and inadequate structural change ... such a focus ignores many of other constraints on manufacturing – in particular lack of investment leading to a low levels of capital (a supply constraint) and inadequate demand often due to an overvalued exchange rate (a demand constraint)”.

Weak productivity growth may be due to firms retaining workers in the attempt to avoid the costs of recruiting skilled workers during the recovery phase or during the stagnation or decline in capital investment. This was due to a cautious approach to investing in new technologies, in addition to banks’ general reluctance to lend money to businesses during a recession. The UK’s manufacturing sector was slow to introduce economic reforms such as reward and profit-sharing incentives, minimal separation between management and workers, and there was relatively low investment in vocational education and skills improvements.

Then the UK government policy was too late and relied more on ad hoc industrial policy with tax concessions, subsidies and short term polices rather than long-term initiatives.

Despite higher employment levels in 2017 in the UK, and indeed modest growth, the biggest risk to the country's future growth prospects is slow growth in "productivity". GDP per hour worked is lower at present than in 2007, i.e., prior to the financial crisis. Productivity improvements are an important source of GDP growth and increased living standards. US workers' output per hour is 9% higher than in 2007 and in France it has increased by more than 2%, but in the UK it has stalled. Compared to average G7 industrialised countries, the UK's productivity performance has been remarkably poor. Of course, this varies dramatically by sector. Ultimately, employing the same number of workers, while producing less, means that output per hour fell.

The UK has seen hardly any growth in terms of output per hour of work across the entire UK economy (see Table 1). Dismal performance in the UK's productivity is the biggest economic problem. Since 2016, productivity growth has seen a slight increase and by 2017, for which the latest figures are available, output per hour had risen by 1.7%, which indicates the country's strongest performance since 2007 (Economist, 2018). The explanation seems to be the result of the lowest unemployment rates for several decades and a tighter labour market. Despite some slight gains in productivity, UK workers are some 15% less productive than other major economies, i.e., the G7.

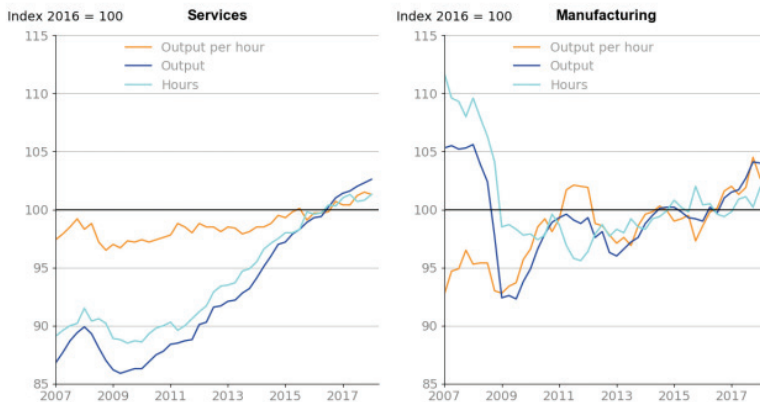
Table 1: Output per hour worked in the UK

Year	Index 2013=100	Annual change %		Index 2013=100	Annual change %
1996	80.5	1.5	2012 Q2	100.4	-1.4
1997	81.4	1.1	2012 Q3	100.5	-0.9
1998	83.5	2.6	2012 Q4	100.0	-1.2
1999	85.6	2.5	2013 Q1	100.2	-0.7
2000	88.7	3.6	2013 Q2	100.2	-0.2
2001	89.9	1.4	2013 Q3	99.6	-1.0
2002	92.0	2.3	2013 Q4	100.0	0.0
2003	94.9	3.1	2014Q1	100.1	-0.1
2004	96.2	1.4	2014 Q2	100.3	0.0
2005	98.0	1.9	2014 Q3	100.8	1.3
2006	99.8	1.8	2014 Q4	101.2	1.3
2007	101.4	1.6	2015 Q1	101.2	1.1
2008	100.4	-0.9	2015 Q2	101.8	1.5
2009	98.8	-1.6	2015 Q3	102.0	1.2
2010	100.4	1.6	2015 Q4	101.0	-0.3
2011	101.3	0.9	2016 Q1	101.5	0.3
2012	100.4	-0.9	2016 Q2	101.8	0.0
2013	100.0	-0.4	2016 Q3	101.9	-0.1
2014	100.6	0.6	2016 Q4	102.4	1.4
2015	101.5	0.9	2017 Q1	101.8	0.3
2016	101.9	0.4	2017 Q2	101.8	0.0

Source: <http://researchbriefings.files.parliament.uk/documents/SN06492/SN06492.pdf>

The ONS (Office for National Statistics, 2017) data breaks down into 17 sectors. If we divide the share in GDP by the share in aggregate hours, then we obtain the relative labour productivity of each sector. This is the value added per hour in each sector divided by the aggregate value added (GDP) per hour. The level of productivity varies widely across sectors, from a low of 0.39 in agriculture and fishing to a high of 10.65 in oil and gas (ONS, 2017).

Figure 1: shows productivity changes in two sectors, i.e., services in manufacturing from 2007 to 2018



Notes: Components of Services and Manufacturing Productivity Measures in the UK, seasonally adjusted quarter 1 (January to March 2007 to quarter 1 2018). (Accessed on 10 November 2018)

Source: Office of National Statistics, July 2018. (Accessed on 5 March, 2019)

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/bulletins/labourproductivity/januarytomarch2018#labour-productivity-up-for-the-sixth-consecutive-quarter-compared-with-a-year-ago>

The car industry in the UK, which includes giants such as Jaguar, Land Rover, Mini, and Nissan, has witnessed an increase in productivity. For example, the car industry produced 11.5 vehicles per worker between 2011 and 2015, compared to 9.3 vehicles between 2005 and 2009. This was possible due to an increase in investment in new technologies, improved supply chain and better management, which all combine to make this sector more efficient.

In 2013, the labour productivity in manufacturing was 34% higher than in other sectors in the UK. The output per hour in pharmaceuticals saw lower productivity growth rates since 2007, but began to rise slowly after 2014.

The chemical and pharmaceuticals sector is hugely productive, but has stalled with hourly output dropping by 11% since 2008. Real wages are down by 4% and employment levels have fallen by 5%. The common cause in this sector seems to be their failure to invest

in new technologies. In the pharmaceutical industry, the total expenditure was £24.53 bn in 2013, which rose to £24.67 bn in 2014, an increase of 0.59% (OECD, 2017). The UK's pharmaceutical market is one of the ten largest markets in the world.

In contrast to this, the worst-performing industries such as the financial and insurance sectors, currently have productivities which are 10% lower than in 2009. The UK's textile industries had sharply declined from their World War I peak, with their export accounting for about 58% of the world textile trade (Siddiqui and Dahle, 1989). However, further sharp decline took place during World War II and as Japan, Germany and South Korea increased their exports; more recently, China and India have joined the global trade in textiles.

4. The Role of Public Investment and Human Capital in Raising Productivity Levels

In this section of the paper, the focus will be on gaining an understanding of the impact human development can have on productivity improvements. It is widely thought that the quality of human capital can have a significant impact on productivity. Therefore, an important question is how employers can be both persuaded and subsequently facilitated to increase their investment in training, skills and in overall human development.

The size of capital stock available to each unit of labour is an important determinant of labour productivity. After the financial crisis, increased economic uncertainty made firms more cautious about investment decisions, despite the fact that labour costs fell, while initially capital cost increased.

One possible explanation for this could be that persistent weakness in productivity growth could be due to reduced investments in physical and intangible capital. Pessoa and van Reenan (2013:3) noted: “[C]apital-labour ratios fell in response to changing factor prices, labour productivity has also fallen, but not necessarily the Total Factor Productivity (TFP). Since it is TFP that determines long-run economic growth, our view is that this is more important measure of productivity has been more resilient than usually imagined. Although there are many difficulties in accurately measuring the capital stock, our estimates suggest that most of the fall of labour productivity can be mainly accounted for by the fall in effective capital per worker (with some contribution from the fall in hour per worker). TFP trends over the recession look much more like in the 1970s and 1980s and are not so surprising given the magnitude of the global shock”.

In the long run, productivity growth is important because it plays a crucial role in determining the material wellbeing of the associated populace. Labour productivity has fallen in the UK since the onset of the global crisis in 2008, and GDP per worker was nearly 10% lower at the beginning of 2014 than it would have been had productivity continued to

grow on trend at a rate of 2% per annum. There are many possible reasons behind the fall in labour productivity. One view is that of the so-called ‘supply-side pessimists’ who argue that the fall in productivity is due to infrastructure, and is linked with the financial crisis (King, 2013; Bagaria et al., 2012). According to these pessimists, any attempt to stimulate the economy via monetary policy, as was attempted after the 2008 crisis through quantitative easing (QE), will lead to inflation. They argue against any relaxation of fiscal consolidation programmes and they are in favour of fiscal austerity.

Gross fixed capital formation (GFCF) is a measure of investment. In the UK as a whole, GFCF was low in the early 1990s but grew slowly until 2007; it thereafter fell sharply, and only began to rise again in 2014. Figure 2 shows that gross fixed capital formation is lowest in the UK in comparison to other advanced economies - see Table 2. Although it has declined since 1990, since the 2008 crisis the gross capital formation levels have themselves been low.

It is often assumed that labour productivity includes the amount of capital available per hour worked, the degree of technical efficiency of inputs of both labour and capital, which is called total factor productivity (TFP), and finally the intensity of the utilisation of both labour and capital within firms. The size of capital stock available to each unit of labour is an important determinant of labour productivity. After the financial crisis, increased economic uncertainty made firms more cautious about investment decisions, despite the fact that labour costs fell while capital cost initially increased (Siddiqui, 2019).

Broadbent (2013) studied the role of capital allocation across firms and sectors for productivity growth. He concluded that despite significant changes in sectoral rates of return on capital investment after the 2008 crisis, these have not been accompanied by the subsequent movement of capital stocks across sectors. This is in contrast to the expectation that in a dynamic and efficient economy, capital should respond by moving towards sectors with more profitable and higher returns.

Table 2: Investment (GFCF) Total, Annual growth rate (%) of Major OECD Countries, 1990 - 2017

Country	1995	2000	2005	2010	2012	2014	2016	2017
Germany	-0.0	2.3	0.7	5.4	-0.7	3.9	3.5	2.9
Japan	3.5	0.5	3.1	-1.6	3.5	3.1	1.1	2.5
UK	4.7	3.4	5.1	4.1	2.1	7.2	2.3	3.5
US	5.2	6.4	6.1	2.2	6.9	4.9	1.7	4.0
OECD Total	-	5.0	5.2	2.3	2.3	3.5	2.3	3.8

Source: <https://data.oecd.org/gdp/investment-gfcf.htm>. (Accessed on 17 January 2019). Note: e – estimated.

Figure 2: Gross Fixed capital formation levels of major OECD countries (% of GDP), 1980-2016

Source: <https://data.worldbank.org/indicator/NE.GDI.FTOT.ZS?end=2017&locations=OE-DE-JP-GB-US&start=1980>. (Accessed 20 August 2018). Germany is in green colour. (Accessed on 6 December 2018)

Notes: Gross fixed capital formation as defined by the European System of Accounts (ESA) consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units.

5. International Productivity Trends

In order to understand the full perspective with regards to productivity trends, we need to approach our analysis from an international, as well as a domestic perspective. We have analysed the former in an earlier section, and the latter will be discussed here. In the UK, labour productivity growth remains weak. The number of young adults enrolled in vocational education and training has risen to 43%, but is still lower than other EU countries. Apprenticeships are also less popular, pursued by only 24% of A-level students compared to 59% in Switzerland and 41% in Germany in 2017. Germany's own performance over the last two decades, especially with respect to macroeconomic variables such as large trade surplus, seems to be the result of a production system and policies which include an agreement between government, businesses and trade unions to keep wages and domestic demands down. As a result of this, the country has achieved a competitive advantage in export markets.

In the UK, manufacturing accounts for a higher share of R&D expenditure compared to other sectors. Productivity in manufacturing is also influenced by technical, social and economic and environmental changes both at the national and international levels. In the UK, R&D is low, which is hindering innovation and its diffusion across regions, in particular in the least productive sectors.

Haskel & Wallis (2010) tried to answer the question of whether the productivity spillovers to the market gained any positive effect from the changes in public spending on R&D, and whether the government should provide support for market sector investment in innovation using public funds. Haskel & Wallis (2010) found no evidence of spillover effects from intangible investment at the market sector level, including investments in R&D. However, they found strong evidence of market sector spillovers from public R&D spends by research councils. They used datasets which included information about publicly funded expenditures in science, engineering and technology from 1986-87 to 2005-06. In the context of new technology, it is often argued that investment in certain types of capital could be beneficial in scope beyond those firms who make the initial investments, and these most likely could be production spillovers and network effects in relation to the public funds invested in R&D.

The reasons cited are the following: low R&D investment, which in 2017 was 1.7% of the GDP and well below OECD average, a relatively unskilled population and, finally, poor infrastructure. Other causes could include the fact that UK firms have, since colonial times, invested and focussed on overseas markets and capital investments rather than domestic investments, whereas Germany, Japan Sweden and South Korea have focussed on domestic markets. Also, the UK has undergone dramatic structural changes since the 1980s. These have been dominated by the rise of the financial sector, and investors have increasingly focussed on short-term profits, dividends and shares. As a result, a disproportional amount of investable funds have been transferred to finances, and indeed government policies have even encouraged such changes.

We need to analyse the reasons behind this poor productivity performance. According to Martin Wolf (2017), “International comparisons would suggest two fundamental weaknesses of the UK economy that must be addressed. First, physical investment is very low, including in research and development. Since the financial crisis, gross investment has averaged only 16.5 per cent of the gross domestic product. As the government paper, “Building our Industrial Strategy”, notes, UK manufacturer is rated second worst among G7 members. Moreover, “the UK invests in total 1.7 per cent of GDP in private and public R&D”. This is well behind the average in the OECD, let alone the leaders, which spends over 3 per cent of GDP. Second, skills remain highly deficient, particularly in the poorer regions. The overwhelming emphasis in tertiary education, in particular, has been on the expanding access to universities... an unskilled population cannot drive productivity forward... Yet so long as the UK underinvests in physical and human capital, it seems sure to remain a laggard.”

As Figure 3 shows, labour productivity in the UK is low compared to other advanced economies. In 2015, GDP per hour worked was between 20 to 25% lower than in Germany, France and the US. However, the UK’s low productivity performance is not recent, it has

merely worsened since the 2008 financial crisis. Productivity performance in the UK in the 2000s, prior to 2008 crisis, was higher than the majority of other major economies. However, labour productivity fell sharply after the recession and, four years later, i.e., by 2012, it was still below the 2007 pre-crisis trend. It seems that crisis, leading to recession, adversely effects long-term productivity growth.

The study by Oulton and Sebastia-Barriel (2013) empirically tested a panel of 61 countries over the period between 1955 and 2010. They found the short-term growth of labour productivity was reduced by between 0.6% and 0.7% annually for each year the crisis lasted, and in the long term by between 0.84% and 1.1% (depending on the method of estimation). Their study combined advanced, emerging and developing economies. In some sectors, the measurement of output is problematic, for instance in such areas as energy and the financial services.

Labour productivity is an important concept because labour produces output and, in the context of labour theory of value, the means of production is considered to be fixed but circulating capital is not; and, whilst means of production are supposed to assist production, the output is produced by labour. Here, productivity is defined as an increase in output of use-values per unit and hence lowering the cost of output per unit is attributed to labour and not to the means of production. “[Brenner] proposed that the decline in US profitability was caused by an intensification of international competition in manufacturing, leading to systematic overcapacity and overproduction, whose resolution for capital requires more exit from manufacturing than has so far occurred” (Mohun, 2009:1025).

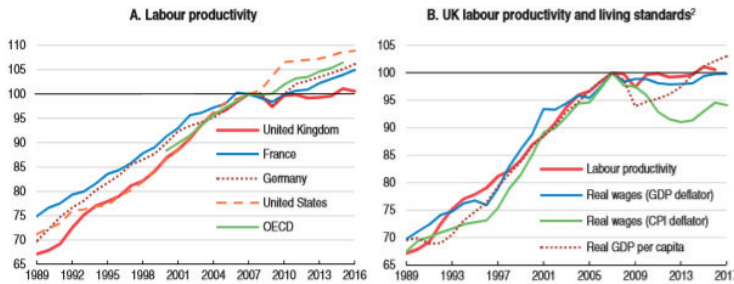
It was also said that, in the main, the differences between countries were due to differences in levels of both physical and human capital (O’Mahony, 1992). During the late 1980s, Germany’s productivity levels were concentrated in sectors such as transportation, engineering and metals; however, the UK performed better in textiles, tobacco, food, and drinks. “The greatest improvements in relative British performance occurred in metals, non-metallic mineral products, chemicals, vehicles and textiles. All showed substantial reduction in employment in the UK in the 1980s. The correlation between the change in relative productivity between 1968 and 1987 and change in UK employment between 1979 and 1982 ... was negative at significant at -0.6.3 so that sectors with the greatest reduction in UK employment in the eighties appeared to experience the highest relative productivity improvement” (O’Mahony, 1992:49-50). The paper concludes, “[T]hat differences across the two countries in stocks of physical and human capital could explain much of the 1987 gap in levels of output per worker-hour between Germany and United Kingdom. Reducing this disparity in levels of capital would, therefore, appear to be important if the productivity gap is to be narrowed further”. (O’Mahony, 1992:57)

Table 3: GDP per hour worked, International Comparisons, UK = 100 in each year.

Year	France	Germany	Italy	Japan	UK	US	G7
1996	122	130	123	90	100	123	114
1997	123	129	123	89	100	123	113
1998	126	129	124	89	100	125	115
1999	126	132	122	90	100	127	116
2000	126	128	118	87	100	122	113
2001	127	129	116	87	100	123	113
2002	127	127	111	86	100	120	111
2003	123	128	110	86	100	122	111
2004	118	128	105	86	100	122	111
2005	123	127	106	88	100	126	114
2006	124	124	106	86	100	123	112
2007	126	126	109	88	100	124	113
2008	125	126	110	87	100	124	113
2009	129	129	113	88	100	129	116
2010	128	128	111	88	100	128	116
2011	129	132	112	88	100	128	116
2012	128	134	113	89	100	129	117
2013	132	135	113	90	100	128	117
2014	129	137	112	89	100	129	117
2015	129	136	112	90	100	129	117

Source: <http://researchbriefings.files.parliament.uk/documents/SN06492/SN06492.pdf>

Figure 3: Labour Productivity in the major economies, 1989-2016. Index 2007=100*



Source: OECD, 2017, October. National Account Statistics (database), pp.19. (Accessed on 10 January 2019)

Note: *. Labour productivity refers to real GDP in US dollars constant prices and constant purchasing power parities per total hours worked.

Relative levels of labour productivity were estimated to be nearly 22% higher in Germany than in British manufacturing in 1989, the gap was narrowed, but again since 2010 has widened again (see Table 3). Some scholars consider that the differences in the amount of fixed capital available to manufacturing in both countries may indicate something about the gap in labour productivity in these two countries (van Ark, 1990). Perhaps the differences in the structure of manufacturing could provide an explanation for the productivity gap

between the UK and Germany. This will depend not only on relative sectoral growth rates, but also on capital-intense high productivity level sectors such as vehicles, engineering and chemicals (van Ark, 1990).

Global labour productivity has grown between 1990 and 2007, including in both emerging and developing markets. However, in the post-financial crisis period, there was relatively weak growth in multi-factor productivity (MFP), which reflects the efficiency with which inputs are used, i.e., through improvements in R&D, organisational change or production management.

6. Conclusion

This study has found that the UK's productivity growth has been very slow relative to other major economies, which is known as the 'productivity puzzle'. As a result, the UK, which was already behind many other G7 countries, has fallen further behind. The overall level of productivity in the US economy is now 31% higher than that of the UK, while Germany's is 28% higher. It seems that a number of factors have contributed to this, such as financial institutions reducing access to bank loans for investment resulting in inefficiency in the allocation of resources within the economy. There was an absence of 'creative destruction', which could have helped productivity growth. Low public investment in R&D in the UK, compared to other major economies, has resulted in slow innovation. This seems to be a failure in government policy in terms of taking the lead in helping and promoting a viable modern industrial sector, which could have played a positive role in increasing overall productivity growth.

Despite this, the UK has become, in some areas, highly competitive in manufacturing sectors such as aerospace and pharmaceuticals. However, productivity growth has been stagnant in other areas, and there is a clear productivity differential across sectors and regions in the UK. Therefore, government policy packaging is needed to economically strengthen lagging regions and should foster local and regional infrastructure and research and development and, as a result, enhance local economies. Generally, supportive government policies can help to foster innovation, and this can increase productivity.

This study suggests that a stronger and more viable manufacturing sector would help to build structural balance within the economy and, further, help to move it away from an over-reliance on the financial sector. Reviving labour productivity growth is important in order to ensure higher living standards. Achieving this requires active state policies to raise investment in R&D, innovation and skills and an active macroeconomic policy is necessary to strengthen and foster links between sectors. This will require the UK government to develop and enact a viable long-term policy of structural change within the economy.

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References

- Acemoglu, D., & Robinson, J. A. (2012). *Why nations fail: The origin of power, prosperity and poverty*, London: Profile Book.
- Bacon, R., & Eltis, W. (1976). *Britain's economic problems: Too few producers*, London: Macmillan.
- Bagaria, N., Holland, D., & Van Reenen, J. (2012). Fiscal consolidation during a depression, *National Institute Economic Review*, 221: 38–50, July.
- Baumol, W. J. (1986). Productivity growth, convergence and welfare: What the long run data shows, *American Economic Review*, 76(5), 1072–85.
- Broadbent, B. (2013). Conditional guidance as a response to supply uncertainty. Retrieved from www.bankofengland.co.uk/publications/Documents/speeches/2013/speech678.pdf.
- Craft, N. (2012). British relative economic decline revisited: The role of competition, *Explorations in Economic History*, 49, 17–29.
- Disney, R., Haskel, J., & Heden, Y. (2003). Restructuring and productivity growth in UK manufacturing, *Economic Journal*, 113, 666–694, July.
- Economist, (2018, April 14). Productivity: fix up, look sharp”, pp.21, London.
- Eichengreen, B. (2014). Secular stagnation: A review of the issues, Centre of Economic Policy Research, London.
- Green, A., Hogarth, T., Kispeter, E., & Owen, D. (2016). *The future of productivity in manufacturing*, University of Warwick. Retrieved from https://warwick.ac.uk/fac/.../ier_2016_manufacturing_sector_productivity_report.pdf.
- Haskel, J. & Wallis, G. (2010). Public support for innovation, intangible investment and productivity growth in the UK market sector, *IZA Discussion Paper No.4772*, February. Retrieved from <https://spiral.imperial.ac.uk/bitstream/10044/1/5280/1/Haskel%202010-01.pdf>
- Hein, E., & Tarassow, A. (2010). Distribution, aggregate demand and productivity growth: theory and empirical results for six OECD countries based on Post-Kaleckian model, *Cambridge Journal of Economics*, 34:727–754. DOI:10.1093/cje/bep066.
- IMF (2018). *United Kingdom-Selected Issues*, IMF Country Report No. 18/43, February, Washington DC: IMF. Retrieved from <https://www.imf.org/~media/Files/Publications/CR/2018/cr1843.aspx>
- Kaldor, N. (1975). Economic growth and Verdoorn's law: A comment on Mr. Rowthorn's article, *Economic Journal*, 85 (340), 891–96.
- Kaldor, N. (1972). The irrelevance of equilibrium economics, *Economic Journal*, 82:1237–55.
- Kaldor, N. (1971). The conflict in policy objectives, *Economic Journal*, 81, 1–18.
- Katz, J. (2000). Structural change and labor productivity growth in Latin American manufacturing industries 1970–96, *World Development*, 28(9), 1583–1596.

- King, S. (2013). Putting lower unemployment ahead of higher productivity risks long-term economic damage, *The Times*, 19 March, London
- Kitson, M., & Michie, J. (2014). The deindustrial revolution: The rise and fall of UK manufacturing, 1870-2010, *Centre for Business Research*, University of Cambridge, Working paper No. 459, June.
- Lall, S. (2001). *Competitiveness technology and skills*, Cheltenham: Edward Elgar Publishing.
- Mohun, S. (2009). Aggregate capital productivity in the US economy, 1964-2001, *Cambridge Journal of Economics* 33, 1023-1046. doi:10.1093/cje/ben045.
- OECD Report (2015). *The future of productivity*, Paris: OECD. Retrieved from <https://www.oecd.org/eco/OECD-2015-The-future-of-productivity-book.pdf>
- O' Mahony, M. (1992). Productivity levels in British and German manufacturing industry, *National Institute for Economic Review*, 46-63, February, London
- OECD (2017). *Economic Survey - United Kingdom*, October, Paris: OECD. Retrieved from <https://www.oecd.org/eco/surveys/United-Kingdom-2017-OECD-economic-survey-overview.pdf>
- ONS (2017). UK productivity, September. Retrieved from <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/bulletins/labourproductivity/julytoseptember2017>
- Oulton, N. (2017, February 7). Productivity puzzle meets delusions of adequacy, *Financial Times*, London.
- Oulton, N., & Sebastia-Barriel, M. (2013). Long and short-term effects of the financial crisis on labour productivity, capital and output, Working Paper No.470, London: Bank of England. ISSN 2042-2695. Retrieved from <http://cep.lse.ac.uk/pubs/download/dp1185.pdf>
- Pessoa, J.P., & Van Reenan, J. (2013). The UK productivity and job puzzle: does the answer lie in labour market flexibility, Centre for Economic Performance, LSE, Special Paper No. 31, June. Retrieved from <http://cep.lse.ac.uk/pubs/download/special/cepsp31.pdf>
- Siddiqui, K. (2019). Government debts and fiscal deficits in the UK: A Critical Review, *World Review of Political Economy*, 10(1), 40-68, Pluto Journals.
- Siddiqui, K. (2017). Austerity as a tool of fiscal consolidation: theoretical and empirical perspective, in (Ed.) S. Owsiak *Public Finance and the New Economic Governance in the European Union*, 116-66, Warsaw: Wydawnictwo Naukowe WN SA. ISBN 978-83-01-19812-1.
- Siddiqui, K. (2015a). Political economy of Japan's decades long economic stagnation, *Equilibrium Quarterly Journal of Economics and Economic Policy*, 10(4), 9-39. Retrieved from <http://dx.doi.org/10.12775/EQUIL.2015.033>.
- Siddiqui, K. (2015b). Economic policy: state versus market controversy, in edited by Adam P. Balcerzak *Contemporary Issues in Economy: Market or Government*, 39-63, European Regional Science Association, Poland. ISBN 978-83-937843-6-3.
- Siddiqui, K. (1995). Role of the state in South-East Asia, *The Nation*, 27 May.
- Siddiqui, K., & Dahle, T. (1989). World economy heading towards recession, *Bergens Tidende*, (in Norwegian) 3 July, Bergen.
- Singh, A. (1977). UK industry and the World economy: a case of de-industrialisation?, *Cambridge Journal of Economics*, 1(2), 113-136. Retrieved from <https://doi.org/10.1093/oxfordjournals.cje.a035354>.
- Summers, L. (2014). US economic prospects: Secular stagnation, hysteresis, and the zero lower bound, *Business Economics*, 49(2).
- Thirlwall, A. (1983). A plain-man's guide to Kaldor's growth law, *Journal of Post-Keynesian Economics*, 5(3), 345-58.

- Van Ark, B. (1990). Comparative levels of manufacturing labour productivity in post-war Europe, *Oxford Bulletin of Economics and Statistics*, 52, 343–374, November.
- Wolf, M. (2018). The long wait for productivity resurgence, *Financial Times*, 12 June, London. Retrieved from <http://www.Wolf,Martin.FT.com>
- Wolf, M. (2017). The productivity challenge to British economy, *Financial Times*, 26 January, London.

Twin Deficits Hypothesis as an Indication of Government Failure in Sierra Leone: An Empirical Investigation (1980-2018)

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ABSTRACT

This paper examines the assertion of twin deficit hypothesis as an indication of government (policy) failure in Sierra Leone through the utilisation of relevant variables from 1980 – 2018. The paper is considered very important, with its application to the economy of Sierra Leone, which seems to have battled with structural problems, particularly policy failures, as manifested through over-burdened current account and fiscal deficit, which is presently overshadowing efforts of changed regime to make headway with planned developmental goals. Theoretical and empirical literature was reviewed in relation to the twin deficit hypothesis. Empirical outcome using the Fully Modified Ordinary Least Squares (FMOLS) failed to reject the twin deficit hypothesis; an indication that fiscal deficit is partly responsible for the negative current account position in Sierra Leone. Evidence from the outcome is consistent with expectation for a small open economy [Sierra Leone], burdened with failed institutional governance policies in areas connected with unproductive real sector and high lending rates, considered as disincentive to private sector investments. To address the problem, policy recommendations have been proposed, pointing to a boost in real sector activities – this will help facilitate growth and mobilisation drive to improve domestic revenue collection, also channelled through the Treasury Single Account (TSA) for effective monitoring. Conscious efforts should be made to step-up operations that deter corruption, while firming up efforts to to boost exports through competitive business operations.

Keywords: Twin deficit hypothesis, government failure, current account balance, fiscal deficit, policy shocks

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1. Introduction

Fiscal discipline and the maintenance of a current account balance are very essential in supporting a well-managed economic system, given their importance for macroeconomic stability and sustained economic growth (Sakyi and Opoku, 2016). Against this background, the ‘*twin deficit hypothesis*’ has evolved as a topical concern, underpinned by the implications of fiscal and current account deficits for a healthy economic management. The IMF and many international agencies like the World Bank have been very active in advancing policy prescriptions to minimise the impact of twin deficit at a national scale, which also have pass-through effects on a country’s financial well-being, with possible spillages across the global economy (Kılınç, Tunç and Yörükoğlu, 2014; Vyshnyak, 2000). The continued state of imbalances in the current account and fiscal deficit of a country can also result in serious threat to foreign investments, given the doubt it brings to investors and coupled with the risk of repressed growth.

A country’s state of economic well-being is closely linked with its fiscal and current account positions. Hence, a deficit in either or both the fiscal and current account can spark serious macroeconomic concerns, simply on account of structural imbalances it creates in meeting basic fiscal obligations to citizens. In this case, a highly indebted country, with huge budget and current account deficits normally faces high risk of not being able to meet its commitments in settling both internal and external debt arrears, in which case, the latter can place the country in a difficult situation of attracting international investors. In many cases, continued fiscal and current account deficits can also result in high risk of capital flight by investors, whose primary intention is to protect their investments (Epaphra, 2017).

The concept of twin deficit, which started in the 1980s is attracting great interest from policy makers, particularly in institutions like central banks and also those in the academia and Think-Tank institutions (see International Growth Centre’s commissioned research produced by Sakyi and Opoku, 2016). Twin deficit hypothesis can come about as a result of structural problems inherent in what is referred to as a failed ‘*governance system*’, also akin to market failure (Jackson and Jabbie, 2019). Poor real sector activities (connected with a country’s real growth) and trade imbalances (that is, excess of import bills over earnings received from export trade) are some of the root causes of the twin deficit curse or syndrome ascribe to a country.

Plethora of theoretical viewpoints have been strongly advanced by policy researchers and those in academia, particularly in relation to differences in fiscal policy stance(s) and that of trade balances – a concept akin to Keynesian doctrine and the Ricardian equivalence hypothesis (Epaphra, 2017). On this note, the Keynesian position asserts that budget deficit

has a high statistical significance with the current account deficit, through the ‘*interest and exchange rate*’ channels (Kearney and Monadjemi, 1990; Haug, 1996), while the Ricardian Equivalence hypothesis proposes a contrast view, based on the notion that there is no evidence of causal effects between fiscal and current account deficits (Chowdhury and Sareh, 2007; Olanipekun, 2012; Epaphra, 2017). In short, the position of the Ricardian equivalence hypothesis imply that deficit in the current account is the result of economic agents’ reaction on consumption from numerous shocks experienced in an economy.

1.1. Rationale, Emerging Knowledge Exploration and Structure of the Paper

The need for further empirical investigation in this area of study has emerged out of the researchers’ quest for interrogating concerns around successive regime failures in effectively managing the country’s fiscal and current account positions. Most importantly, there is a connection between government failure and market failure (Jackson and Jabbie, 2019; Cunningham, 2011; Winston, 2006), which the authors have contributed towards (See published title: “*Understanding market failure in the developing country context*”, in Springer’s Encyclopedia of Sustainable Development: Decent Work and Economic Growth) - in this, the concept of market failure was the focal point of critical discourse, with specific case analysis applied to the Sierra Leone economy. Economic theory asserts that the market fails because of inefficient governance structures and policies that deter a system from working cohesively (see Warburton, 2013). In this regard, the government as the centre piece of developmental agenda normally fails in its duty of care to allocate scarce resources to address basic welfare needs of citizens (Jackson and Jabbie, 2019). This analysis is quite typical of the Sierra Leone economy, battered by both natural and man-made disasters as witnessed in recent times, from the late 1980s and through to the early 2000 millennium – specific to this, is a typical situation of government failure in which, successive leaders have injudiciously utilised resources meant to improve welfare condition of citizens.

Studies around the concept of twin deficit are not new in the area of economic research. The emerging priority for knowledge exploration in this study is to utilise variables of interest to explore issues around twin deficit concept, which in this case is seen to be an attribute of poor management and governance resources – this normally translates into market failure on account of the inefficient utilisation of resources. The model estimation for this study would provide an assessment of empirical results, which is hoped will unravel the assertion of twin deficit within the scoping period. It is hoped the proposed recommendations will help tailor policies geared towards efficient utilisation of the country’s resources, while at the same time, ensuring investment is spread out to accommodate prospects for economic diversification in a bid to mitigate adverse impacts from shocks as witnessed during crisis periods like Civil War, Ebola epidemic, Global commodity price crash and Mudslide.

1.2. Objectives and Hypothesis

1.2.1. Objectives of the study

In view of the focus of this study, the undermentioned objectives are listed below:

- (i) Examine trends in fiscal and current account positions of the Sierra Leone economy as a pointers for government failure or not.
- (ii) Examine the existence of causal relationship between Fiscal Deficit (FD) and (Current Account Balance CAB) in a bid to advancing policy recommendations for effective governance.
- (iii) Empirically examine the implications of the current account balance in view of its association with relevant macroeconomic variables.

1.2.2. Hypothetical statements

- (i) That unplanned spending by successive regimes is responsible for the country's state of twin deficits crisis
- (ii) That causal relationship exists between FD and CAB
- (iii) That deficit in both the current account and fiscal positions are responsible for the continued state of sluggish growth in the country.

1.2.3. Structure of the Paper

In view of the above introductory discourse in section one, the remaining sections of the paper are divided as follows: (i) Section two provides an Overview of the Government's role in Market Failure and Trends in current account and fiscal deficit positions in Sierra Leone, while section three addresses the literature review, sub-sectioned into '*Theoretical framework and Empirical reviews*'. Section four describes variables / data utilised for the study, methodology, and the empirical findings. Section five presents the empirical results and discussion of findings, incorporating highlights on outcomes from Granger Causality, other relevant tests and the FMOLS regression in addressing the objectives and research questions. Finally, section six concludes with a wrap-up of the research and recommendations for policy implementation.

2. Overview of Market Failure and Failed Governance Trends in Sierra Leone

2.3. Role of the Government and Market Failure

The government is conventionally considered the engine of economic growth and development in a country through efficient allocation of scarce resources. However, this

speaks to the fact that governments, particularly in developing economies, are mostly seen to engage in manipulating institutions, for example, the legislative arm, perceived as the eyeball for enforcing the efficient allocation of resources (Winston, 2006; Jackson, 2017). Such situations normally pave the way towards a failed market system; this then makes it very difficult for economies to achieve economic efficiency by distorting price mechanism and the allocative distribution of goods and services, which eventually results in huge welfare loss to society (Jackson and Jabbie, 2019; Jackson et al, forthcoming).

With reference to the Sierra Leone economy, it can be said that the lack of efficient allocation of resources went unchecked for decades, due to the regime's manipulation of the political landscape into becoming a unilateral system, capable of masterminding key institutions like the legislative arm in promoting policies geared towards selfish enrichment at an unsustainable rate. The existence of a corrupt system of governance witnessed in Sierra Leone since the 1980s gave way to public officials in key ministries and parastatals to become patronisers of failed government policies, despite curative interventions (e.g. structural adjustment programs) devised by international institutions like the World Bank and IMF to reverse the country to a steady-state¹ governance, modelled on the doctrine of competitive market economics (Jackson and Jabbie, 2019). The existence of failed governance plagued the country with potential signs for market failure, as highlighted in world economic outlook results (World Bank, 2018; United Nations, 2011) – epitomized by high levels of corruption, deep-seated fiscal indiscipline and systemic current account deficit – also, attributable to lack of efficient structures in managing resources, particularly natural wealth for the good of present and future generations in the economy (Tarawallie, 2014).

In view of Messner and Meyer-Stamer's (1992) research output, an efficient market system requires strong government and transparent institutions to allow economic agents to act in the best interest of a nation. Over the years, Sierra Leone has been plagued by the ills of all of the identified forms of market failures as highlighted here – *'Externalities, Asymmetric information, Public goods, Natural monopoly, Imperfect competition and Business cycle'* (see Jackson et al, forthcoming; Jackson and Jabbie, 2019; Thomas, 2018; Cunningham, 2011; Winston, 2006). There is a need to ensure the curse of twin deficit hypothesis is blighted from the country's face; this can be achieved through the dedication and the enabling of the political-will of leaders, whose focus is to institute systems that eradicate leakages, while also ensuring resources are mobilized to minimise excessive fiscal and current account deficits. In view of this, one would acknowledge a regime change

¹ Steady state concept in Economics is epitomized by a constant stock of physical wealth and population size. Despite issues around stagnant growth potential in a steady-state economy, it is characterised by equilibria, with great potential for growth in the event of wealth being utilised efficiently by those in authority.

approach that instituted full operation of the Treasury Single Account (TSA) in a bid to ensure expenditures are centralised through a well-managed system, while also pursuing conscious efforts to improve the drive towards raising revenues in addressing planned fiscal operations and the promotion of economic diversification.

2.4. Trends in Current Account and Fiscal Position in Sierra Leone

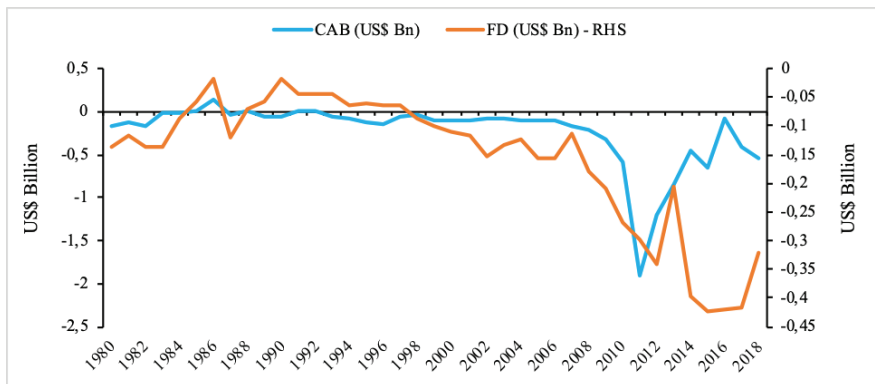
Sierra Leone, a naturally endowed country with a plethora of renewable and non-renewable wealth continues to be in the spotlight, particularly in relation to its resource curse syndrome, which is attributable to poor governance and mismanagement of her resources (Jackson and Jabbie, 2019; Jackson, 2016; Jones, 2014). In addition to this, the continued state of weak real sector activities, coupled with trade imbalances have made it such that the current account position is continually placed in the spotlight of deficit (Tarawalie, 2014). In view of the destructive legacy of civil crisis experienced in the country during the late 1980s, and coupled with the blatant level of corruption demonstrated by some public servants (Jackson, 2017), the economy is now left to thrive on a weak pathway of recovery as manifested in the regime-change drive to address fiscal indiscipline, which is still a challenge in attracting potential investors. The lack of foresight of state actors in key institutions to diversify the economy during the boom time of Iron Ore exploration resulted in a situation whereby the emergence of twin shocks (Ebola epidemic and commodity price slump) placed the economy in a plummeted state of decline; a situation that is still being battled with as witnessed in the sluggish recovery of both the fiscal and current accounts.

The continued over-reliance of (successive) governments' appetite to borrowing in a bid to finance fiscal operations, can to a greater extent, be blamed for the weak state of the current account position, and hence its ability to support investment operations to diversify the economy. This is exacerbated by the failure to efficiently manage resources, which results in accumulated debt burden, distortion of market equilibrium and ultimately, welfare loss to society. Figure 1 below, which captures the trend in fiscal and current account reflects that for the most part, the two variables moved in the same direction, indicating a strong degree of correlation. Periods of high current account deficit are accompanied by fiscal deficit, which became more glaring from the year 2000, with notable periods around 2010, 2011, 2013 and 2015. It can be discerned from Figure 1 that in the periods 1990 – 1995, fiscal deficit was very low, largely on account of fiscal discipline, modelled on the implementation of Structural Adjustment Programme (SAP) in the 1990s – this era witnessed a reduction in unidentified ghost and daily-waged workers' pay-roll vouchers of up to 50% (Korsu, 2014). These periods were followed by low current account deficits. The story changed from 1996 – 2002 on account of the civil war, which induced curtailment in revenue and an overburdened government expenditure. This was also reflected in the current account

position, albeit modestly, since the civil war impaired the productive capacity of the economy, thus reducing exports and the resulting revenue it generated for managing the economy.

Outturns in fiscal operations after the war continued to result in deficit as the reigning regime was presumably engaged in rehabilitation and reconstruction of the defunct state. However, there were also inherent fiscal slippages, resulting from gross fiscal indiscipline, which partly explains the case of failed government policies. The current state of twin deficits in the economy could be attributed to the inherited legacy of fiscal indiscipline, with the government's appetite towards high interest borrowing from external sources – the lack of diversification efforts in the real sector is also to be blamed for the high import bills – this also has implications, given the risks of not adhering to international requirements on 3-months of import cover. There was a notable improvement in the fiscal and current account deficit in 2012 and 2013, driven mainly by iron-ore related export receipts, which bolstered government revenue, thereby solidifying the country's external position and a record economic growth rate of 15.2 percent and 20.7 percent in 2012 and 2013 respectively. However, due to the '*mono-sector economy*'² tendency of governance, gains obtained in 2012 and 2013 were short-lived, as the country was hard-hit by the twin shocks of the Ebola Epidemic and the Iron Ore price slump in 2015, which worsened the fiscal and current account, and also a contraction of the economy by 20.5 percent.

Figure 1: Trends in Fiscal and Current Account Deficits



Source: WEO, MEFP and authors

² This is epitomized by a system that lacks vision in addressing diversification of the economy from gained obtained through resource boom. There seems to have been a lack of vision between the period 2012-13 to judiciously invest proceeds from Iron Ore sales in diversifying the economy - while gallivanting on wasteful spending, there emerged the twin shock (Ebola and commodity price slump) around 2014-15 and later followed by the Mudslide in 2017, which eventually battered the economy into depression.

3. Literature Review

3.1. Theoretical Review and Framework

The original idea of twin deficit hypothesis emerged around 1980-90, in explanation of current account deficit experienced in the United States of America (Darrat, 1988; Abell, 1990; Sakyi and Opoku, 2016; Epaphra, 2017). This was a period characterised by excessive fiscal deficit, which resulted in the depreciation of the United States dollar, with an ultimate expansion in the current account deficit during the reign of President Ronald Reagan.

The twin deficit hypothesis is derived from the National Income Identity (NII), which for an open economy is stated below in equation 1:

$$Y = C + I + G + (X - M) \quad (1)$$

Where: Y is gross domestic product, C is private / household consumption expenditure, I is real investment expenditure in the economy, G is government expenditure, X is export goods and services and M is import goods and services.

The current account balance (CAB) is defined as:

$$CAB = NX + NI \quad (2)$$

Where NI is net income, which is a composite of both net primary income (net factor income – compensations of employees, investment income, etc.) and net secondary income (current transfers from nonresidents minus transfers remitted abroad from residents). NX is net export, which is the difference between exports of goods and services and imports of goods and services, which is $(X - M)$.

The current account deficit is an indicator of external imbalance, which depicts the magnitude and direction of international borrowing and lending. If a country's current account is in surplus, it means exports outweigh imports, implying it is a net lender to foreigners. On the contrary, if the current account is in deficit, then imports outweigh exports, reflecting that it is a net borrower to foreigners. Such borrowing may be done by the government or the private sector. A country with a current account deficit has its residents giving out liabilities that are bought by non-residents.

In line with the national income identity, national saving (S) in the open economy equals:

$$S = Y - C - G + CAB \quad (3)$$

Where $Y - C - G = I$ and I is investment.

Therefore, in an open economy the national saving identity is expressed as:

$$S = I + CAB \quad (4)$$

However, savings in the economy are done by both private individuals and the government, therefore national saving is decomposed as:

$$S = S^p + S^g \quad (5)$$

Where S^p is the portion of an individual's income that is saved after deducting taxes and consumption expenditure, expressed as:

$$S^p = Y - T - C \quad (6)$$

Where, T is taxes paid to the government.

Government saving on the other hand is the difference between government tax revenue (T) and expenditures on goods and services (G), and government transfers (Tr). This is expressed mathematically as follows:

$$S^g = T - G - Tr \quad (7)$$

In line with the definition of national saving, equation 6 & 7 are substituted into equation 4, which gives:

$$S = S^p + S^g = (Y - T - C) + (T - G - Tr) = I + CAB \quad (8)$$

Equation (8) is expressed in the form below to capture the effects of government saving decisions.

$$S^p = I + CAB - S^g = I + CAB - (T - G - Tr) \quad (9)$$

Rearranging (9) and expressing it in terms of the current account yields:

$$CAB = S^p - I - (G + Tr - T) \quad (10)$$

Equation (10) shows that the current account balance is a function of the savings deficit ($S^p - I$) and the fiscal deficit ($-G - Tr + T$).

Theoretically, two possible scenarios can be deduced from equation (10); firstly, with the assumption that private savings (S^p) and investment (I) are constant over time, variations in the fiscal position ($-G - Tr + T$) have the tendency of triggering fluctuations in the current account, which means the existence of a twin deficit hypothesis (see Kim and Roubini, 2008 and Galvallo, 2005) – as the fiscal deficit and current account deficit are correlated. The second theoretical inference is rooted in the Ricardian Equivalence Hypothesis, which assumes that changes in fiscal operations will be perfectly balanced by changes in the

difference between savings and investment. When this happens, the twin deficit hypothesis will not hold, implying that fluctuations in the fiscal balance are uncorrelated with the current account deficit (Suresh and Tiwari, 2014; Barro, 1989)

The concept of twin deficit hypothesis as proposed by the Keynesians indicates that the incidence of fiscal deficit resulting from the increase government spending over its revenue generated, normally results in a current account deficit (Sakyi and Opoku, 2016). This can occur via three channels: (i) the increase in interest rate, which crowds out private sector investment; (ii) the exchange rate; and (iii) the extent of capital inflows, resulting from the increase in domestic interest rate (see Flemming, 1962; Mundell, 1963; Dudley and Mckelvey, 2004).

3.2. Empirical Literature

This section of the paper addresses empirical research undertakings in the topical area of twin deficit hypothesis. In view of the early development of the twin deficit hypothesis, which started revealing itself around the 1980s to 1990s on account of structural issues in the USA, Abell (1990) eventually made use of quarterly data for the period 1979 to 1985 by utilising the vector autoregressive (VAR) model. In this, he proved that fiscal deficits influenced current account deficits in the United States.

Vyshnyak (2000), empirically investigated a study on twin deficit hypothesis using Ukrainian data. The outcome from the study shows that transmission mechanism between the two deficits is due to exchange rate concerns. Results based on statistical tests proved that government budget deficit and current account deficit are cointegrated, while the Granger causality test indicates that the past value of government budget deficit is a contributing factor in explaining the current account deficit. In view of the equation: $CA = S^{pr} - I - BD$, the result shows that the relationship between private savings and investment is more or less stable over time, which meant that changes in the budget deficit are transmitted to the current account – a result which is compatible with studies conducted for most developing economies. In summary, the study proved that the twin deficit relationship may cease to exist through implementation of government's market-led reforms that is geared towards improving the business environment and investment activities.

Lau and Baharumshah (2006) made use of panel data for the period 1980 to 2001 from nine South East Asian Central Banks (SEACEN) countries; using dynamic OLS (DOLS) panel VAR methodology, the authors were able to explore the assertion of twin deficit hypothesis. In this, they found out that an increase in fiscal deficits causes current account deficits to increase, thereby proving the claim of the twin deficit hypothesis.

To explore the assertion of twin deficit hypothesis further, Uz (2010) carried out a study to address the major determinants of the current account in Turkey, which examined the long-run and short-run impact of the exchange rate, private and public savings on the current account balance. The use of bounds testing using the Autoregressive Distributed Lag (ARDL) approach to cointegration indicate a strong support for cointegration between current account balance and the selected variables. The exchange rate revealed the strongest impact on the current account, but with signs of varying differences in the short and long-run period. Finally, the outcome of the study supports the presence of twin deficit assertion in Turkey, but with a rather weak relationship than expected.

The closest study on twin deficit in Sierra Leone was investigated by Tarawalie (2014). In his study, he examined short and long run relationships between budget and current account deficits in Sierra Leone by applying the bounds test approach and Toda Yamamoto (1995) causality analysis using annual data for the period 1980-2012. Results from the study revealed budget deficit, real GDP and political instability (proxy by war dummy) to have a positive impact on current account deficit in the long run. Short run estimates show that budget deficit and war dummy were the most significant influence on the current account deficit in Sierra Leone. In furtherance, Granger Causality tests reveal that uni-directional causality exists from budget deficit to current account balance and from current account balance to real GDP, with no feedback effect. However, there was no causality existing between current account balance and the other explanatory variables. Key take home from the study indicates that policy measures to reduce budget deficit by authorities should be targeted in a bid to reduce trade deficit, which is thought to be achieved through sound and prudent fiscal policies aimed at providing incentives to increase revenue mobilization and rationalization of government expenditures.

Bangura et al. (2016) investigated key macroeconomic determinants of the budget deficit in Sierra Leone by utilising empirical analysis from Vector error correction model (VECM) and variance decomposition techniques, with annualized time series data spanning 1980 to 2014. In this, the impact of real GDP growth, inflation, interest rate, exchange rate and government investment on budget deficit were determined. Long run results from the study show that, real GDP, interest rate and exchange rate have a negative impact on budget deficit, while on the other hand, inflation and government investment produced a positive effect. Analysis from the short run results also attest that real GDP, interest rates and investment are the key determinants of budget deficit during the periods under investigation. Own shock (using Variance Decomposition Analysis) with respect to budget deficit exhibits the largest component variation, followed by government investment, inflation and real GDP. The policy implications attest to the fact that budget deficit in Sierra Leone is basically a macroeconomic problem and is due to imbalances – these include high inflation, low levels

of economic activities, high interest rate and high government investment. There is a caveat here about the use of the phrase '*high government investment*', which in this case is perceived as ambiguous. Drawing on pluralist economics thinking, it seems very obvious for a critical thinker to deconstruct the semantics of '*high government investment*' expression by way of hermeneutic examination or otherwise, empirically to be more precise (Jackson, forthcoming) – this is considered a grey area for cross examination in relation to disinterring tangible measurement of *value-for-money* to tax-payers, particularly in the area of economic diversification and sustained growth in the domestic economy.

There is a contention at play here, more so in terms of addressing the dynamics between fiscal deficit and current account balance as key determinants of twin deficits in the Sierra Leone economy, which to a greater extent can be attributed to government failure. As addressed by Tarawalie (2014), the influence of dummy variable speaks to the fact that weaknesses in government policies to judiciously utilise resources is an attributable factor for the decade of civil crisis which the country experienced in the late 1980s to the early part of the year 2000. As emphasised by Jackson and Jabbie (2019), government failure is considered an engine for market failure, and the lack of diversification effort as witnessed over the years, exposed the country's vulnerability to shocks as evidenced in the wake of the twin-shock (Iron Ore price slump and Ebola) that erupted in mid-2014 to the latter part of 2015. As noted by Zayid (2018) in the economic outlook for Africa, Sierra Leone's prospect for growth is still challenged, owing to its high current account deficit, despite debt consolidation efforts set in place by the incumbent regime in 2018 to offset debt arrears and return the country to long-run stability. Similarly, findings from Bangura et al (2016) also attest to the fact that weaknesses in macroeconomic indicators are part of government jurisdiction, which seem to have lapsed for a long period of time, hence making it very apparent about failure on the part of the government to utilize available resources to champion national development efforts. Failure to diversify the economy (through productive investment in real sector activities), particularly during the boom time of Iron Ore exploration is a typical case of government failure, which ultimately feeds into market failure, in a broader sense of the word.

To digress further into the (empirical) literature on Fiscal deficit and current account balance as elements of twin deficit, Conteh (2016) also outlined in his thesis weaknesses in budget credibility in Sierra Leone, which has made it very difficult for government budget to be utilised as a means for planning and efficiently allocating the nation's resources. The study utilizes a methodological mix approach; this includes secondary and qualitative data sought around the period 2010-2014 from staff in key ministries. The findings acknowledged a lack of credibility in the government budget on account of significant variances between the budget and actual outcomes, and also the inefficient role of the legislature, which is

attributable to ‘*government failure* - also akin to *market failure*’. The findings emphasise a complete re-write of the budget law, with recruitment of highly qualified and experienced staff to strengthen the legislative budgetary function, considered very important in promoting positive social and economic development drive for the ‘economy as a whole.

Sakyi and Opoku (2016) carried out an empirical investigation to explore the issue of whether long-run relationship exists between fiscal and current account deficits, which follows the tenets of the twin deficits hypothesis. In order to prove their case on the asserted debate, the study was restricted to the case of Ghana over the period 1960-2012, by utilising the cointegration techniques with allowance for structural break. The outcome reveals that fiscal deficit improves the current account deficit, which is a proof of the assertion of twin divergence hypothesis, adding to the fact that the twin deficit hypothesis should not necessarily gain universal acceptability over the twin divergence counterpart.

Epaphra (2017) examines the relationship between current account and government budget deficits in Tanzania. In this, he tested the validity of the twin deficit hypothesis using annual time series data for the period 1966-2015. The empirical tests from the study fail to reject the twin deficit hypothesis, indicating that rising budget deficits put more strain on the current account deficits in Tanzania. The use of a Vector Error Correction Model supports the conventional theory of a positive relationship between fiscal and external balances, with a relatively high speed of adjustment toward the equilibrium position. The outcome seems quite consistent with a small open economy like Tanzania and to address the anomaly, it was suggested that some measures like a ‘*reduction in non-development expenditure, enhancement of domestic revenue collection and actively fight corruption and tax evasion*’ should be adopted. In his final conclusion, the author also suggested that the government should target export oriented firms and encourage an import substitution industry through the establishment of favorable business environment.

In view of the above highlights (from the theoretical framework as well as from the empirical literature) of pursued venture by researchers from different regions in the world, the authors are very keen to utilise relevant time series data to explore the assertion of twin deficit in the context of Sierra Leone, which seems to have been battered by successive failures attributable to poor governance, as revealed in both the fiscal and current account positions.

4. Description of Data and Methodology

4.1. Description of Data and Sources

Annual time series data at use for this study ranged from 1980 to 2018, and include the following variables:

Current Account Balance: This variable was sourced from the world economic outlook (WEO) database; it is treated as part of the Balance of Payment computation and it addresses three key areas like ‘Merchandise, Services and Income and Investment position of the country’, and each of these are computed on the basis of balances emanating from debit and credit activities within a year. When the import bill exceeds earnings from export proceeds, the overall balance is said to be a deficit to the country, which is normally financed through government debt sourced from domestic and international positions. This gives a real attestation of government’s efforts in ensuring that resources are judiciously used so as to reduce the burden on deficit financing, normally manifested on the central bank’s balance sheet.

Fiscal Deficit: This variable was sourced from various IMF memorandums of economic and financial policies (MEFP) and it deals with debt obligations of the government and its efforts to appropriate resources in the best way for utilisation in a country. This provides an outlook of shortfall in government income in comparison with its expenditure. In short, fiscal deficit implies higher spending by government authorities over revenues received during the financial year. Receipt based on GDP includes taxes and other forms of revenue, but excludes borrowed money utilised to cover up shortfall in revenue.

Interest Rate [Bank Lending Rate]: this was sourced from the BSL data-warehouse website. It is basically a form of rental or leasing charge, levied on customers intending to borrow for the purpose of withdrawing cash or indirectly, to settle transactions for the use of an asset like a car or construction of a building. In developed and other emerging economies, rates set by commercial banks or financial institutions are based around the Monetary Policy Rate [MPR] announced by the central bank. In this case, rates can vary depending on the risk classification of a borrower. In this vein, a low risk customer can be set a much lower or negotiable rate(s), which is publicly announced by lending institutions. In Sierra Leone, lending rates are mostly set above the MPR, which is a disincentive to investment opportunities for private investment, and a possible explanation for market failure. In most cases, because of the low level of real sector activities and structural problems inherent in the economy, there is a high tendency for non-repayment to occur, which is a root cause of financial instability.

Real Gross Domestic Product [RGDP]: This is a very important economic variable used to determine the health of a nation’s economic activities (data at use for this variable is sourced from the IMF world economic outlook database). In short, it is the totality of all goods and services produced over a specific period of time. In Sierra Leone, RGDP is computed annually. The Ebola epidemic and decline in the price of Iron Ore have contributed immensely to weaknesses in real sector activities and recovery has been rather weak or immediately sustained.

Dummy Shock Variable: This variable was created with the intention of accommodating the real impact of shocks to the Sierra Leone economy within the study period. Such shock includes the incidence of Civil Unrest, Commodity price disturbance during the year 2014-15 and the Ebola Epidemic that struck around 2014-16. The year 2014 was seen as a difficult time for the economy, given the occurrence of twin shocks (Ebola and Commodity Price fluctuation). Hence, to address its impact in view of the knowledge exploration, the inclusion of a dummy shock variable (indicated by the value of 1) serves as a means for ascertaining the degree of government failure in relation to disturbances that cropped up as a result of man-made occurrences as in the case with the civil crisis and natural disasters, attributable to the Ebola Epidemic and Mudslide crisis.

4.2. Methodology

4.2.3. Model Specification

With reference to the expression in equation 10, we hereby provide a simplified equation, which explains the relationship between CA and its determinants in order to confirm empirically the assertion of twin deficit in Sierra Leone, which on extension is attributed to structural problems inherent in failed regimes since the 1980s.

$$CA = f(FD, R, Y) \quad (11)$$

$$CA_t = \alpha_0 + \alpha_1 FD_t + \alpha_2 R_t + \alpha_3 Y_t + \alpha_t Dum_{sh} + \varepsilon_t \quad (12)$$

Where: CA_t is Current Account, Y_t is RGDP, R_t is interest rate, FD_t is budget or fiscal deficit and Dum_{sh} is shocks to the economy, which in this case include the Civil Crisis in the late 1980s, the Ebola Epidemic and Commodity Price slump in Iron Ore.

4.2.4. Estimation Technique

Given that Sierra Leone as a country has undergone several structural changes, this study focuses attention on assessing the assertion of the twin deficit hypothesis by firstly taking into account structural breaks that may have taken place during one or more periods. On this note, the paper commenced the empirical process with unit root test, and specifically the usual Augmented Dickey Fuller (ADF) test to determine variables' stationarity at either level or difference. However, according to Maddala & Kim (1998), the unit root test assumes implicitly that the deterministic trend is specified accurately, failing to consider that events like policy changes, war and commodity price shocks among others can affect the performance of models with constant coefficients. To control this, the Zivot-Andrews unit root tests were utilised in order to capture the impact of structural breaks in determining the order of integration of the variables. In consonant with this, the Gregory-Hansen structural

break cointegration test was employed to determine whether there is a long run relationship between the variables. Establishing a cointegrating relationship prompted the use of the cointegration regression approach, specifically utilising the Fully-Modified Ordinary Least Squares (FMOLS) model to confirm whether the twin deficit hypothesis holds for Sierra Leone.

5. Empirical Results and Discussion of Findings

This section presents the outcome from the estimation, which involves various tests as already mentioned (Unit Root, Granger Causality, Fully-Modified Ordinary Least Squares [FMOLS] Regression Analysis, etc.) and discussion of results. For this study, we have made use of both EViews and STATA applications to enable effective presentation of outcomes and also ensuring the conclusion is well in support of theoretical underpinnings, which also affirm actions for sound policy recommendations.

Unit Root Tests

In order to avoid the problem of spurious regression resulting from failing to ascertain stationarity, unit root tests were undertaken to determine the order of integration of the observed indicators. On this note, the Augmented Dickey Fuller test was used because of its capability to handle complex models, while at the same time controlling for serial correlation by approximating structure of the errors. In addition, the Zivot-Andrews unit root test was employed in order to capture the effect of structural breaks in the unit root tests.

Augmented Dickey Fuller Unit Root Test

The Augmented Dickey Fuller (ADF) unit root test as indicated in Table 1 was used to determine the level of stationarity of the variables without checking for structural breaks. The results indicated that all the variables were non-stationary at all levels. However, after differencing, stationarity was achieved at one percent conventional level of significance, reflecting that the null hypothesis of the variables having unit root was rejected.

Table 1: Augmented Dickey Fuller (ADF) Test: Schwarz Bayesian Criterion (SBC)

Variable	Levels (I(0))	First Difference (I(1))
CAB	-2.413438	-6.994782***
FD	-1.009521	-7.975730***
LR	-2.317225	-4.873453***
RGDP	-0.111395	-4.346163***

Note: *** = 1% significance

Zivot-Andrews Structural Break Unit Root Test

The Zivot-Andrews structural break unit root test (see Table 2) was used to ascertain the effect of breaks in checking for stationarity in the variables and also to complement the results from the Augmented Dickey Fuller unit root test – which may have produced spurious results in the presence of structural breaks. The break years were endogenously determined. The results as presented in the table below shows that, by allowing for break in trends, it was deduced that the variables were non-stationary at levels, but became stationary after first differencing. This implies that by allowing for structural breaks, the variables are all integrated of order one, which further confirms results from the ADF test.

Table 2: Zivot-Andrews Structural Break Unit Root Test – Allowing for break in trend

Variable	Levels (I(0))	Break Year	First Difference (I(1))	Break Year
CAB	-3.237	1999	-7.063***	2012
FD	-4.344	1997	-4.932***	2012
LR	-4.063	1991	-5.000***	1995
RGDP	-4.106	2001	-4.622**	2012

Source: EViews Output

Note: *** = 1% and ** = 5% significance

Correlation and Causality

The correlation matrix as shown in *Appendix 1A* reveals a strong positive relationship between fiscal deficit and current account deficit. However, correlation does not imply causation, hence the utilization of the Granger causality test (see *Appendix 1B*), which indicated a unidirectional causation. Running from fiscal deficit to current account deficit was an attestation of causation. This was attained at a ten percent level of significance, indicating a weak causation. Moreover, both the fiscal deficits showed a somewhat strong negative relationship with economic growth, as proxied by the real GDP. This was corroborated by the causality test that manifested a unidirectional causation from fiscal deficit and current account deficit to economic growth, which were significant at the five and one percent levels, respectively.

Cointegration Tests

Checking for cointegration is primarily to determine the existence of a long-run relationship between two or more variables. Ascertaining this relationship informs policy makers of long-run correlation and trajectory of two or more indicators, which helps in formulating appropriate policies. On this note, the Gregory-Hansen test was preferred over the other conventional cointegration tests, such as the Engel-Granger, Johansen and ARDL test, because it accounts for structural breaks in the cointegration equation.

1. Gregory-Hansen Cointegration

The Gregory-Hansen cointegration (see Table 3) is a modification of the residual based test by Engel and Granger (1987) and Phillips and Ouliaris (1990), which allows for structural breaks in the cointegration equation, particularly a regime shift that may have taken place in one or more periods in the determination of a long run relationship among a set of variables. It tests the null hypothesis of no cointegration against the alternative of a cointegration with the possibility of one time structural break; determined within the model.

The results shows that the modified ADF and Z_t test statistics rejected the null hypothesis of no cointegration in the models with change in regime, and regime shift and trend, with break dates of 2009 respectively. This was reflected in the statistical significance of both models, at the one percent level. However, the other models failed to reject the null hypothesis of no cointegration at all conventional levels. Furthermore, the Z_a test statistic failed to reject the null hypothesis of no cointegration for all models, and, as explained by Gregory-Hansen (1996), this is because the statistic is biased in the direction of the null when there is no serial correlation. Therefore, the results indicate that there is a cointegrating relationship between fiscal deficit, current account deficit, lending rate and the real GDP of Sierra Leone, with a change in regime as well as a change in regime and trend. This is captured in the table below:

2.1. Gregory-Hansen Test for Cointegration with Regime Shifts

Table 3: Gregory-Hansen Structural Break Cointegration Test - AIC

Model (Δ in Level)	Test Statistic	Break Date	Asymptotic Critical Values		
			1%	5%	10%
ADF	-5.02	2007	-5.77	-5.28	-5.02
Z_t	-4.97	2012	-5.77	-5.28	-5.02
Z_a	-30.93	2012	-63.64	-53.58	-48.65
Model (Δ in Level & Trend)	Test Statistic	Break Date	Asymptotic Critical Values		
			1%	5%	10%
ADF	-5.04	2007	-6.05	-5.57	-5.33
Z_t	-4.87	2012	-6.05	-5.57	-5.33
Z_a	-30.01	2012	-70.27	-59.76	-54.94
Model (Δ in Regime)	Test Statistic	Break Date	Asymptotic Critical Values		
			1%	5%	10%
ADF	-9.07	2009	-6.51	-6.00	-5.75
Z_t	-8.93	2009	-6.51	-6.00	-5.75
Z_a	-52.79	2009	-80.15	-68.94	-63.42
Model (Δ in Regime & Trend)	Test Statistic	Break Date	Asymptotic Critical Values		
			1%	5%	10%
ADF	-11.95	2009	-6.89	-6.32	-6.16
Z_t	-11.79	2009	-6.89	-6.32	-6.16
Z_a	-60.12	2009	-90.84	-78.87	-72.75

Source: EViews Output

Endorsing cointegration amongst the variables does not mean that the twin deficit hypothesis holds for Sierra Leone. Confirming the twin deficit is largely a function of the direction of the relation and the statistical significance of the results.

3.0. Cointegration Regression

The attainment of stationarity as well as cointegration among the variables, stimulated the estimation of the long run model to determine the twin deficit hypothesis. To achieve this, the Fully Modified Ordinary Least Squares (FMOLS) estimation technique as shown in Table 4 was used. The FMOLS estimator, as developed by Phillips and Hansen (1990), possesses parametric efficiency in small samples and controls for serial correlation and endogeneity in the explanatory variables (Sakyi and Opoku, 2016).

Table 4: Fully Modified Ordinary Least Square (FMOLS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FD	0.001698	0.000802	2.116115	0.0420
LR	-0.001976	0.006177	-0.319869	0.7511
RGDP	-1.23E-05	4.75E-05	-0.259678	0.7967
DUM	0.016231	0.139796	0.116104	0.9083
C	0.174814	0.248049	0.704758	0.4859
R-squared	0.377766	Mean dependent var		-0.238342
Adjusted R-squared	0.302344	S.D. dependent var		0.387294
S.E. of regression	0.323490	Sum squared resid		3.453318
Long-run variance	0.101654			

Source: EViews Ouptut

Results from the estimated model specify that the coefficients of real income and interest rate are inconsistent with a-priori expectations and insignificant at all conventional levels. However, the coefficient of fiscal deficit is consistent with the a-priori expectation and significant at the five percent level. This is an indication that the twin deficit hypothesis holds for Sierra Leone. Moreover, the confirmation of the hypothesis is in itself is an indication of market failure, underscored by the fact that when government policies fail to engender a well-functioning market system, the resultant effect is market failure (Jackson and Jabbie, 2019). This is because governments' interventions result in no positive outcome to economic recovery, particularly in areas relating to real sector growth as indicated in the country's slow growth rate, which in effect bring about inefficiencies in terms of the net benefits to society, thus leading to government failure (Winston, 2006). The government/fiscal sector is the fulcrum of the economy.

Hence, problems emanating from the fiscal sector can cause serious macroeconomic distortions, with likely spillages to other sectors (*WAMI Occasional Paper, 2013: 44*).

Successive governments in Sierra Leone have been running fiscal deficit for decades. This became very prominent in the latter part of 2016, with tighter budget control as part of the then regime's austerity measure. This attested weaknesses in the country's resource mobilization, which up till the present is incapable of financing current expenditure, despite efforts by the incumbent 2018 government to rationalise spending. This normally instigates the need to borrow from both domestic and external sources in order to finance its spending. However, government spending in entirety can be viewed as a necessary evil, where the ultimate goal is to stimulate growth – it can be considered problematic when resources are unproductively utilised, thereby resulting in negative growth, and to make matters worse, with the resultant effect of debt accumulation, which is normally sourced through financial market window like T-Bills for example, supposedly seen as a crowding-out route for private sector investment and growth in the real sector economy. The occurrence of this situation can be attributed to government failure, which in the strictest sense of the word is consistent with market failure, since the irresponsible action of government policies distort prices and market mechanism.

In the context of Sierra Leone, the cheapest means for government to borrow is through the domestic market by issuing securities (like T-Bills) to commercial banks at attractive interest rates – given that government securities are risk-free, commercial banks are more inclined to lend to the government than dealing with risky 'private entities'³, thus resulting in a crowding-out of the private sector – through lack of access to competitive open market financing in support of productive real sector activities. This then results in both internal (by disrupting production, exports, and fueling price pressures) and external imbalances (leading to trade and current account deficits). In addition, the incidence of persistent fiscal deficit is highly precipitated by a continued fiscal dominance of monetary policy (see Warburton and Jackson, forthcoming), wherein the Bank of Sierra Leone's financing of the deficit has taken centre stage in recent time, a situation that partly renders monetary policy ineffective. These developments all attest to the government's inefficiency in managing the economy, which is akin to government failure in terms of policy direction, and by extension market failure.

To confirm whether fiscal deficit is significant in influencing movement in the current account deficit, the coefficient of fiscal deficit (FD) was restricted to zero. This was done mainly to inform cogent inference of fiscal deficit impact on the current account position.

³ In the recent past, commercial banks in Sierra Leone diverted their attention away from dealing with private sector investors, particularly when it comes to meeting their requests for loans, which is partly due to their high risks of non-repayment. This in part can be explained by the high perpetration of political interference in meddling with bank intermediation processes and micro-management of state-owned banks in particularly, which resulted in the deteriorating of banks' portfolios and their reduced appetite in dealing with private and even politically exposed individuals.

The probability values of the t-statistic, F-statistic and Chi-square were all significant at the five percent level, reflecting that the null hypothesis of the cointegrating regressor coefficient of FD being zero, was rejected. The linear restriction type of Wald test (see Table 5), both t-test and Chi-square test statistics clearly depicted that fiscal deficit is significant in impacting current account deficit Sierra Leone.

Table 5: Wald Test (LREER) - DOLS

Test Statistic	Value	Df	Probability
t-statistic	2.116115	33	0.0420
F-statistic	4.477944	(1, 33)	0.0420
Chi-square	4.477944	1	0.0343

Source: EViews Output

6. Conclusion and Policy Recommendations

6.1. Concluding points

This study is focused on addressing the twin deficit hypothesis, which is a typical case of government failure in the Sierra Leone economy, through utilisation of relevant macroeconomic variables to empirically measure the assertion around the stated objectives and hypothetical statements. In connection with discourses spanning the notion of market failure and trends in government failed administration of public finances and structural problems inherent in the domestic economy (with reference to Figure 1), the story manifested a positive relationship between CAB and FD, which to some extent signaled successive government failure in effecting policies geared towards efficient management of the economy.

In addition, outcomes from both the correlation and granger causality tests show a strong relationship and a unidirectional causation between FD and CAB, which warranted further investigation through a co-integration regression. The rationale for this venture is to proffer ways and means by which relevant policy recommendations can be judiciously utilised in addressing the legacy of failed government policies, which present and future leaders can build upon in effectively managing resources geared towards improving the well-being of Sierra Leoneans.

Digressing further and also linked to the identified hypothetical statements and objectives, the real test of the assertion of twin deficits linked to successive government failure in Sierra Leone was further proved through the FMOLS regression model, which shows that the persistence of fiscal deficit is a deterrent to sustaining a current account balance position. This further clarifies that persistent fiscal deficit is akin to government failure and ultimately market failure, given its ripple effect into other sectors of the economy

– an attestation of the twin deficit hypothesis. As already highlighted in the findings, possible explanations can be attributed to poor governance of natural resources in consonant with persistent disequilibrium in the Balance of Payment [BoP] account. Equally, the fact that successive governments over the years have developed a strong appetite for borrowing (that does not necessary translate into improvement in productive capacity), particularly in recent times, domestic borrowing accessed through the 365 Treasury Bills [T-Bills] window has crowded-out potential for private sector growth. During this period, commercial banks are seen to be hedging their risks in high interests and risk-free T-Bills market, while at the same time manipulating lending rates on the high-end. The story speaks to the fact that proceeds from real sector activities and export earnings have not matched expenditure on import bills – such activities are perceived as the backbone of economic growth, which supports employment and real business activities, and upon which the government can also leverage, through different forms of revenues, for example, income taxes [PAYE], Goods and Services Tax [GST], etc.

6.2. Suggested Recommendations

In view of the summarized conclusion for this research paper, the researchers have considered it worthwhile to highlight some recommendations, which can be utilised by those in governance to address issues surrounding the twin deficits crisis that has been a curse story for decades in Sierra Leone:

- In view of the current regime's approach to implementing the Treasury Single Account [TSA], those assigned responsibility of its management should continue to utilise revenues for good causes. Through this, the government will also be better positioned to monitor revenue sources and expenditures, which also make it possible to engineer much needed austerity measures as a way of combatting the country's long history of fiscal indiscipline that went unchecked for nearly two decades. With effective auditing processes set in place, it is possible for resources to be scaled up or down, usually earmarked for utilisation by '*Ministries, Departments and Agencies [MDA]*', while also factoring claw-back in the event of resource under-utilization.

- The government must continue its drive to facilitate investment promotion geared towards boosting productive real sector operations, while also diversifying economic activities. The reward for such operational effort can be seen through improvement in the rate of employment, 'improvement in productivity'⁴, and higher tax returns to government (from

⁴ Improving the level of productivity also supports the central bank in building its foreign reserves, which can also be utilised in importers request for the payments of import bills. Continued mismatch in demand and supply for foreign currencies normally exacerbates the scope for higher level domestic prices and currency devaluation.

PAYE, self-employment and business taxes). This will also help to reduce pressure on the part of government to curb its borrowing appetite from the financial market window – for example T-Bill, which seem to have crowded-out private sector access to loans from commercial banks. Equally, efforts by the government to support investment and growth should also work in line with the BSL's effort to monitor price dynamics, normally channelled through its operational instruments like money supply and the Monetary Policy Rate.

- The government should also pursue varied avenues to establish links with its diaspora communities in developed economies and other parts of the world, in a bid to support the country's drive in boosting foreign reserves. On this note, institutions like the BSL can leverage on its revised 2019 Act, which gives power for the establishment of agents in and outside of the country - this approach can be modelled similarly to that of Ghana, which resulted in the creation of the '*Ghana International Bank*' as a way of monitoring the flow of foreign currency transactions. Sierra Leoneans residing outside the country would be very much inclined to deal with credible institution(s) – hence, easing the transaction bottleneck, rather than dealing with not so much credible individuals or institutions, given diaspora experiences connected with scammed transactions (Chunda, 2018). Such exploration can cultivate a myriad of benefits in curbing foreign exchange crisis – a perceived expectation by economic agents in the domestic economy. This will also pave the way for stabilising the deficit in both the fiscal and current accounts.

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References

- Abell, J. (1990), Twin deficits during the 1980s: An empirical investigation, *Journal of Macroeconomics*, Vol. 12, 81–96.
- Bangura, A., Tarawalie, A.B., Fofanah, L., & Macarthy, S. (2016). Macroeconomic determinants of budget deficit: Evidence from Sierra Leone. *International Journal of Economic Perspectives*, Vol. 10(1), 5–13
- Barro, R. (1989). The Ricardian approach to budget deficits", *Journal of Economic Perspectives*, 3(2), 37–52.
- Cavallo, M. (2005). Understanding the twin deficits: New approaches, new results. *Federal Reserve Bank of San Francisco Economic Letter*, No. 16.
- Chowdhary, K. and Saleh, A. S. (2007). Testing the Keynesian proposition of twin deficits in the presence of trade liberalization: Evidence from Sri Lanka. Economics Working Papers.

- Chunda, S.M. (2018). Diaspora businesses in Africa: Survival and sustainability. In, Hack-Polay, D., and Siwale, J. (Eds.) African Diaspora Direct Investment. Palgrave Macmillan, Cham. doi: 10.1007/978-3-319-72047-0_8.
- Conteh, P.S. (2016). The Credibility of Government Budget: The Case of Sierra Leone. PhD Thesis, University of Walden USA.
- Cunningham, S. (2011). Understanding market failures in an economic development context. Mesopartner Monograph 4: Pretoria, South Africa.
- Darrat, A. F. (1988). Have large budget deficits caused rising trade deficit? *Southern Economics Journal*, 54, 879-887.
- Dudley, William C. & McKelvey, E. F. (2004). The US budget outlook: a surplus of deficits. *Global Economic Paper 106*, Goldman Sachs, New York.
- Epaphra, M. (2017). The twin deficits hypothesis: an empirical analysis for Tanzania. *The Romanian Economic Journal*, Vol. 20(65), 2–34.
- Fleming, M. J. (1962). Domestic financial policies under fixed and floating exchange rates, *IMF Staff Papers* 9, 369-379.
- Haug, A. A. (1996). Blanchard's model of consumption: An empirical study. *Journal of Business & Economic Statistics*, 14(2), 169–177. doi: 0.2307/1392428.
- Jackson, E.A. (forthcoming). Hermeneutics of Ceteris Paribus in the African Context.
- Jackson, E.A. (2019). Systemic health care failure as a symptom of market failure in Sierra Leone. *South African Journal of Public Health*, 3(4), 72-78. doi: 10.7196/SHS.2019.v3.i4.100.
- Jackson, E.A. and Jabbie, M. (2019). Understanding market failure in the developing country context. In, Walter L. Filho (eds), Decent Work and Economic Growth: Encyclopedia of Sustainable Development Goals (Online First). Springer Nature, Cham. doi: 10.1007/978-3-319-71058-7_44-1.
- Jackson, E. A. (2017). Economic methodology: paradox of ceteris paribus (cp) law in the context of Sierra Leone. Method(e)s: *African Review of Social Sciences Methodology*, 2(1-2), 31–40. doi: 10.1080/23754745.2017.1354553.
- Jackson, E.A. (2016). Phronesis and resource curse hypothesis in post-independent Sierra Leone. *Ilorin Journal of Economic Policy*, 3(1), 1–10.
- Jackson, E.A., Jabbie, M. and Tamuke, E. (forthcoming). Dynamic effect of inflation shocks in Sierra Leone: An empirical analysis (2007M01 – 2019M03).
- Jones, Y.M. (2014). Debt overhand and natural resources: Revisiting the resource curse hypothesis. PhD Thesis, Birkbeck College, University of London.
- Kearney, C. and Monadjemi, M. (1990). Fiscal policy and current account performance: international evidence on the twin deficits. *Journal of Macroeconomics*, 12(2), 197–219. doi: 10.1016/0164-0704(90)90029-A.
- Kılınc, M., Tunç C. & Yörükoğlu, M. (2014). Twin stability problem: Joint issues of high current account deficit and high inflation. Central Bank of the Republic of Turkey, BIS Working Paper No. 89. Retrieved from: <https://www.bis.org/publ/bppdf/bispap89z.pdf>.
- Kim, S. and Roubini, N. (2008). Twin deficit or twin divergence? fiscal policy, current account and real exchange rate in the U.S. *Journal of International Economics*, 74, 362–383.
- Korsu, R.D. (2014). The inflationary effects of fiscal deficit in Sierra Leone: A simulation approach. African Economic Research Consortium (AERC), Research Paper No. 290.
- Lau, E. and Baharumshah, A. Z. (2006). Twin deficits hypothesis in SEACEN Countries: A panel data analysis of relationships between public budget and current account deficits. *Applied Econometrics and International Development*, 6(2), 213–226.
- Maddala G. S. & Kim I.M. (1998). *Unit Root, Cointegration and Structural Change*. 1st ed. New York: Cambridge University Press.

- Messner, D. & Meyer-Stamer, J. 1992. Recipe for success: strong state and strong enterprises. *Development and Cooperation*, 2.
- Mundell, R. A. (1963). Capital mobility and stabilization policy under fixed and flexible exchange rates. *Canadian Journal of Economics and Political Science*, 29, 475–85.
- Olanipekun, D. B. (2012). A bound testing analysis of budget deficits and current account balance in Nigeria 1960-2008. *International Business Management*, 6(4), 408–416.
- Sakyi, D. & Opoku, E.E.O. (2016). The twin deficits hypothesis in developing countries: Empirical evidence for Ghana. Working Paper, *International Growth Centre (IGC)*. Retrieved from: <https://www.theigc.org/wp-content/uploads/2016/09/Sakyi-Opoku-2016-working-paper.pdf>.
- Suresh, K.G. and Tiwari, A. K. (2014). A Structural VAR (SVAR) analysis of fiscal shocks on current accounts in India. *Macroeconomics and Finance in Emerging Market Economies*, 7(1), 140–153.
- Tarawalie, A.B. (2014). Fiscal deficits and current account imbalances: Evidence from Sierra Leone. *International of Business and Social Studies*, 5(8), 256–269.
- Thomas, R.A. (2018). IMF confirms suspension of funding as APC government fails to generate revenue. Retrieved from: <https://www.thesierraleonetelegraph.com/imf-confirms-suspension-of-funding-as-apc-government-fails-to-generate-revenue/>.
- Toda, H.Y. & T. Yamamoto, 1995. Statistical inference in vector auto-regressions with possibly integrated process. *Journal of Economics*, 66, 225–250.
- Uz, I. (2010). Determinants of Current Account: The relationship between internal and external balances in Turkey. *Applied Econometrics and International Development*, 10(2), 115–126.
- United Nations. (2011). About Sierra Leone. Retrieved from: <https://www.sl.undp.org/content/sierraleone/en/home/countryinfo/>.
- Vyshnyak, O. (2000). Twin deficit hypothesis: the case of Ukraine. Master's Thesis, National University of Kyiv – Mohyla Academy.
- WAMI Occasional Paper. (2013). Fiscal and monetary policy coordination in the WAMZ: implications for member states' performance on the convergence criteria, 1(4), 1–4.
- Warburton, C.E.S. and Jackson, E.A. (forthcoming). Monetary policy responses to exogenous perturbations: the case of a small open economy (2007-2018).
- Warburton, C.E.S., (2013). When markets fail: asset price, government expenditures, and the velocity of money. *Applied Econometrics and International Development*, Euro-American Association of Economic Development, 13(2), 73–92.
- Winston, C. (2006). Government failure versus market failure: macroeconomics policy research and government performance. *AEI-Brookings Joint Center for Regulatory Studies*, the American Enterprise Institute for Public Policy Research, Brookings Institution, Washington, D.C.
- World Bank. (2018). Reviving Urban Development: the importance of freetown for the national economy. *Sierra Leone Economic Update*, Edition No. 1. Retrieved from: <http://documents.worldbank.org/curated/en/304841528737912303/pdf/127049-WP-PUBLIC-SierraLeoneEconomicUpdatev.pdf>.
- Zayid, J. (2018). Sierra Leone – African Economic Outlook. Retrieved from: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/country_notes/Sierra_Leone_country_note.pdf.

Appendices

APPENDIX 1A: CORRELATION MATRIX RESULT

	CAB	FD	LR	RGDP
CAB	1.000000	0.614892	0.229691	-0.511559
FD	0.614892	1.000000	0.451304	-0.734817
LR	0.229691	0.451304	1.000000	-0.225738
RGDP	-0.511559	-0.734817	-0.225738	1.000000

Source: *EViews Output*

APPENDIX 1B: PAIRWISE GRANGER CAUSALITY TESTS

Sample: 1980 – 2018

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
FD does not Granger Cause CAB	38	3.14314	0.0850
CAB does not Granger Cause FD		1.76434	0.1927
LR does not Granger Cause CAB	38	0.21536	0.6455
CAB does not Granger Cause LR		0.76459	0.3879
RGDP does not Granger Cause CAB	38	0.86560	0.3585
CAB does not Granger Cause RGDP		11.1302	0.0020
LR does not Granger Cause FD	38	0.08157	0.7769
FD does not Granger Cause LR		2.00461	0.1657
RGDP does not Granger Cause FD	38	1.85977	0.1814
FD does not Granger Cause RGDP		4.84634	0.0344
RGDP does not Granger Cause LR	38	0.00920	0.9241
LR does not Granger Cause RGDP		1.65887	0.2062

Source: *EViews Output*

A Research on Consumer Behavior Towards Interest-free Financing with Special Reference to Planned Behavior Theory: An Empirical Analysis

Planlı Davranış Kuramına Özel Bir Atıfla Faizsiz Finansmana Yönelik Tüketici Davranışı Üzerine Bir Araştırma: Ampirik Analiz

Abdullah Mesut UÇAR¹ 

ABSTRACT

This study seeks to empirically analyze the validity of consumer tendency/behavior towards the interest-free financing models with reference to the planned behavior theory (PBT). Additionally, the research further tests the validity of the hypotheses on the consumer tendencies towards interest-free financing via PBT in Turkey and other predominantly Muslim countries. To this end, the main variables of the theory, attitude, subjective norm, and perceived behavioral control, have been redefined through certain factors spelled out in the literature. Subsequently, they have been analyzed through the Cronbach Alpha test in the relevant parts of the survey done with the participation of 235 persons. The study concludes that the attitude variable, redefined through the factors of desire for a fair financial system and cost advantage, determines the consumer behavior towards interest-free financial models. Additionally, it has also been observed that the avoidance from interest, one of the factors that define the subjective norm variable, underscores the consumer behavior towards these financial methods. However, the chi-square test results suggest that the subjective norm and perceived behavioral control variables do not provide consistent outcomes. Also, it can be said that the work is original due to a special reference to PBT in the sample of Turkey, even though it is similar to interest-free finance studies made with PBT.

Keywords: Consumer behavior, interest-free financing, planned behavior theory, fair financial system, cost advantage

Jel Code: F65, G21, G41



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ÖZ

Bu çalışma, tüketici eğilimi / davranışının faizsiz finansman modellerine yönelik planlı davranış teorisi (PDK) referans alınarak geçerliliğini ampirik olarak analiz etmeyi amaçlamaktadır. Ayrıca araştırma, Türkiye’de ve diğer ağırlıklı olarak Müslüman ülkelerde PDK yoluyla faizsiz finansmana yönelik tüketici eğilimlerine ilişkin hipotezlerin geçerliliğini test etmektedir. Bunun için teorinin ana değişkenleri olan tutum, öznel norm ve algılanan davranış kontrol değişkenleri literatürde dile getirilen ilgili faktörlerle yeniden tanımlanmıştır. Daha sonra, 235’in katılımıyla yapılan anketin ilgili bölümleri Cronbach Alpha testi ile analiz edilmiştir. Çalışma, adil finansal sistem ve maliyet avantajı arzusu faktörleri aracılığıyla yeniden tanımlanmış tutum değişkeninin, faizsiz finansal modellere yönelik tüketici davranışını belirlediğini saptamıştır. Ek olarak, öznel norm değişkenini tanımlayan faktörlerden biri olan faizden kaçınmanın tüketici davranışını bu finansal modellere yönelik olarak etkilediği de gözlenmiştir. Ancak ki-kare test sonuçları, öznel norm ve algılanan davranışsal kontrol değişkenlerinin tutarlı sonuçlar sağlamadığını göstermiştir. Ayrıca, PDK ile yapılan faizsiz finans çalışmalarına benzese de çalışmanın Türkiye örneğindeki PDK’ye yapılan özel bir referans nedeniyle orijinal olduğu söylenebilir.

Anahtar kelimeler: Tüketici davranışı, tüketici eğilimi, faizsiz finans, planlı davranış kuramı, adil finansal sistem, maliyet avantajı

Jel Code: F65, G21, G41

1. Introduction

Interest-free finance refers to a broad domain, from interest-free banking to financing activities performed and operated by Muslims. The common denominator in these varying definitions is the attempt to base the principles of this approach upon the religious sources, particularly the Qur’an and the Sunnah. Warde (2000) defines interest-free finance as a collection of corporate operations that are based on Islamic teachings and comply with the main Islamic tenets and rules including those relevant to moral issues. More generally, it could be regarded as a set of transactions that seek to maintain morality and fairness in monetary activities while observing the Islamic principles.

Interest-free finance is a huge financial industry operating on a global scale and involving different types of organizations in various markets. Particularly owing to institutions such as AAOIFI (**Accounting and Auditing Organization for Islamic Financial Institutions**), founded in 1991, and IFSB (**The Islamic Financial Services Board**), founded in 2002, interest-free finance has made visible progress in global markets. These institutions mainly perform duties and operations to maintain transparency in favor of interest-free finance and attract the confidence of religious people and customers so that the interest-free financial institutions enjoy greater profitability and recognition. In general, the interest-free financial institutions perform their operations alternatively to the conventional financial institutions. Particularly loan-providing financial institutions rely on different methods, even though the returns are almost identical. In the case of interest-free banking, the institution does not directly offer loans for the customers. Instead, it purchases the property and sells it to the customer, adding its own profit. This financial transaction is called *murabaha*, rather than provision of a loan.

Because they are considered main alternatives to the conventional institutions, the institutions of interest-free financing need to improve their profitability and enhance their public image. Inevitably, scholarly works are also needed to measure their effectiveness by focusing on their banking transactions and operations. This study seeks to offer such a measurement by relying on the planned behavior theory (PBT), developed by Ajzen (1991) within the discipline of psychology, as an extended version of the reasoned action theory (RAT), also by the same author with Fishbein. A perceived behavioral control variable has been added to the RAT, along with the attitude and subjective norm variables in later stages.

Proper measurement of the customer tendencies towards the methods of the interest-free financing will offer insights into the development of this industry. Scholars, aware of the need, have performed studies on the customer behaviors relevant to the activities of the interest-free finance. In general, these studies have relied on the premises of PBT (Alam, S. S., Janor, H., Zanariah, Wel, C. A. C., & Ahsan, M. N. 2012; Aziz, & Afaq, 2018; Bizri, Jardali, & Bizri, 2018; Bonne, K., Vermeir, I., Bergeaud-Blackler, F., & Verbeke, W. 2007; Echchabi, Abdelghani and Azouzi, 2015; Husin, & Rahman, 2016; Kashif, Zarkada, & Turasamy, 2017; (Alam et al., 2012; Aziz & Afaq, 2018; Bizri et al., 2018; Echchabi, Abdelghani and Azouzi, 2015; Husin, & Rahman, 2016; Kashif et al., 2017; Othman, N., Mohamad, A. M., Ismail, N., & Al Shami, A. M. 2018; Salehudin, & Luthfi, 2013; Zinser, 2015). Additionally, some other studies focusing on halal food also rely on this approach to test the customer behaviors (Bonne et al. 2007; Salehudin, & Luthfi, 2013).

Most of these researches rely on models using the variables of the PBT without any alteration or with slight revisions. These studies, seeking to measure the consumer behaviors towards interest-free finance, have been mostly focused on the financing costs of these institutions, their accessibility, the kindness of their employees and their performance in avoiding interest-based instruments and transactions. As a general observation, it could be argued that these studies have picked their samples from consumers in Malaysia, Indonesia and other Far East countries (Amin, 2013; Amin et al. 2017; Haque et al. 2009; Idris et al. 2011; Khoirunissa, 2003; Nugroho, Hidayat, & Kusuma, 2017; Thambiah, Santhapparaj, & Ismail, 2011; Usman vd. 2017; Wajdi Dusuki & Irwani Abdullah, 2007). There are also works focusing on the consumer behaviors towards interest-free activities in Pakistan, India, Bahrain and the United Arab Emirates (Almossawi, 2001; Asdullah & Yazdifar, 2016; Aziz & Afaq, 2018; Bley & Kuehn, 2004; Butt et al., 2011; Manzoor, Aqeel, & Sattar, 2010; Metawa & Almossawi, 1998). On the other hand, recent years have witnessed a rise in the number of works focusing on the case of Turkey as well (Gençtürk, & Çobankaya, 2015; Okumus, & Genc, 2013; Özen, Şenyıldız, & Akarbulut, 2016; Toroman, Ata, & Buğan, 2015). However, most of these studies have not used the PBT as part of their methodology.

2. Literature Review

Most studies on the consumer behaviors towards the activities of the interest-free financing have been performed in the period of 1989 - 2013. These works in general have dealt with customer satisfaction, financial service quality and whether the activities and services are truly interest-free in nature. The customer satisfaction and financial service quality are more relevant to the RAT and the attitude variable in the PBT models. In these cases, the subjects do not make any intention and instead, they act based on the mental experience they have accumulated before. As a result, they develop a certain behavioral belief and pattern which leads to a final decision in terms of consumer behavior.

Behavioral belief is based on predicting the substantial differences in the attitudes of the person. To better predict the possible behaviors of the subject, we are advised to identify the belief component. On a theoretical basis, this is called behavioral belief. For instance, adaptation of a person in need of financing to the payment methods of a financial institution may lead to constant preference for this institution, showing existence of a behavioral belief in that person. Another major component is whether the financial institution truly offers interest-free services as this complements the subjective norm variable.

The theory has gained its reputation with the development of models explaining the consistency between attitude and behavior. One such model is the Chinese Couple analysis done by LaPiere in 1934. In his study on the racist treatment of the Chinese immigrants in the United States, LaPiere (1934) analyzed the behaviors of the hotel and restaurant staff vis-à-vis a Chinese couple. He made phone calls to the hotels and restaurants and asked them whether they would host a Chinese customer at any time. Most respondents stated that they would not take a Chinese customer. However, when he, along with the Chinese couple, made actual visits, these hotels and restaurants actually welcomed these visitors. Some criticisms have been raised against the findings of this study. Fishbein and Ajzen (1975), for instance, criticize the consistency between the attitude and the behavior as this is not in support of the principles of the Equivalence Hypothesis.

The explanatory models on the consistency between attitude and behavior are often covered under the headings of multiple quality attitude models and expectation-value models. The first genre offers explanatory models for the belief-based attitudes and the decision making processes on consumption. The latter, on the other hand, suggests that the consumers do not pay much attention to objectivity in their decisions for consumption. In the first, the individuals are prone to make rational and logical decisions whereas the latter stresses that the consumers are not motivated by objective factors (Sığındı, 2010, p. 28).

Fishbein Model (FM), developed by Fishbein and Ajzen (1975), is a major example of

the first category. This model analyzes the views and opinions on products and services by the consumers. Additionally, the FM also includes different options into the analysis to better understand the consumer, to grasp the market strategies and measure the impacts of the products (Peter & Olson, 2009: 140). This model has been revised and further enhanced into the PBT. Subsequently, the PBT has also been expanded and replaced by additional advanced models which have been used in different disciplines including economics and statistics.

There are also theoretical studies measuring the consumer behaviors towards interest-free financing. These studies rely on empirical test and analyses via variables of the RAT and PBT (Alam et al., 2012; Aziz & Afaq, 2018; Bizri et al., 2018; Echchabi, Abdelghani and Azouzi, 2015; Husin & Rahman, 2016; Kashif et al., 2017; Othman et al., 2018; Zinser, 2015). In recent years, studies have also been done for the case of Turkey as well (Gençtürk & Çobankaya, 2015; Okumus & Genc, 2013; Özen et al., 2016; Toroman et al., 2015; Ustaoglu, 2018). A review of these studies suggests that the premises offered in these empirical analyses can be divided into four categories: financing costs, service quality, access to the financing, influence by relatives or acquaintance, religious sensitivity and the level of public awareness in terms of education level and financial preference. However, PBT has not been favored in the theoretical design of these studies.

For instance, Ustaoglu (2018) aims to measure public awareness to interest-free financing institutions that have Islamic principles. In doing so, he aims to empirically measure the level of community awareness determined by the level of education and financial preferences. Then, the study collects data by questionnaire considering the educational level, income level and religiosity of the Turkey sample. According to the study analyzed using Pearson's chi-square test; (i) it is determined that public awareness is based on religiosity, (ii) people with religious sensitivities do not find interest-free financial institutions religiously and (iii) also transactions of interest-free financial institutions are integrated with conventional financial institutions. However, in a religiosity-specific study focused on consumer behavior and aimed to measure public awareness; it is essential to be focused on concepts such as attitude, behavior, belief, intention. Therefore, the lack of these and similar studies that try to measure the religiosity variable can be theoretically re-conceptualized under the subjective norm independent variable - with a special reference to PBT. Such studies done for predominantly Muslim countries including Turkey also suggest that there are mainly three factors for the customers' choice of the institutions of interest-free finance: fast and effective services of mediation, practical alternative methods of payment and the image and brand value of the relevant institutions (Haron, Ahmad, & Planisek, 1994). In general, these studies also suggest that religion has not been a motivating factor for the customers (Åström, 2013). On the other hand, the accessibility of the bank branches has been a major contributing factor to the selection of the interest-free finance institutions by

clients (Amin, 2008; Okumus & Genc, 2013). Hossain and Leo (2009) have also reached similar conclusions with special reference to service quality and customer satisfaction.

On the other hand, Al-Tamimi et al. (2009), in their study focusing on the United Arab Emirates, underline that religion has played a significant role in the preference of the customers towards the interest-free banking institutions. According to their findings, the most important factors are efficiency of the financial products, the quality of financial service and religion respectively. Haque et al. (2009) also offer findings that concur with the findings of the previously mentioned study, noting that the most important factors are quality of financial services, the accessibility of the services and the reliability of these institutions in terms of compliance with religious precepts.

Studies on the qualities of the interest-free financing have mostly focused on the religious issues and disputes, and on the potential solutions and settlements. A particularly important study is one by Chaouch (2017), which reviews the importance of the religious sensitivity towards preferring the interest-free financing models, of the image of these institutions and on the criteria the clients consider when making a choice between interest-free financing and conventional banking. The study finds that religious sensitivity plays the greatest role in the decisions of the clients to pick the interest-free banking options and instruments. Lee and Ullah (2011), on the other hand, perform research on the risk of investment withdrawal from interest-free financing options in case of violation of religious principles and precepts. The findings of the study suggest that religious principles matter very much in the eyes of the customers and that in case these principles are violated, customers would withdraw their assets from these institutions. Research by Marimuthu et al. (2010) which relied on a sample of 450 participants in Malaysia attracts attention. The findings of the study suggest that the clients have picked interest-free financing options and methods mostly because they consider relatively cheaper financial products and services, they pay attention to the promotion of the financial services offered by the interest-free financing institutions and they take advice from their relatives and close friends when making a decision to pick interest-free financing. A study by Al Ajmi, Abo Hussain and Al Saleh (2009) underlines that 75 pct of the interest-free financing customers were previously customers of a bank. The study particularly stresses that the customers have picked interest-free banking mostly because of their religious beliefs and their piety. Research by Metawa and Almossawi (1998), relying on a sample of 300 participants in the case of Bahrain, underlines that religion is the number one factor in the customers' decision to work with the interest-free financing institutions. The findings of this study are in concurrence with the findings of other similar studies, mainly Khan et al. (2007), Marimuthu et al. (2010) and Naser et al. (1999). Marimuthu et al. (2010), on the other hand, also tested the validity of the hypotheses in terms of a theoretical approach as well.

It is also useful to discuss the indicators that govern the argument raised in this study. A review of the literature presents some insightful works, including those by Gençtürk and Çobankaya (2015) and Okumuş (2005). The findings of these studies suggest that religious beliefs and religious obligations play a huge role in the decisions of the clients to work with the interest-free financing institutions, adding that the quality and the reasonableness of the financial services are also important factors.

3. Planned Behavior Theory

This is a theory based on the expanded version of the reasoned action theory which contains variables of attitude and subjective norm. The PBT additionally includes the variable of perceived behavioral control. The theory which offers a narrative over attitude, intent, belief and behaviors has been first developed within the discipline of social psychology (Ajzen, 1991). Attitude is the first and the main variable within the theory. The term holds a number of definitions with respect to its original discipline (Allport, 1935; Bogardus, 1931; Eagly, & Chaiken, 1993; Fishbein, & Ajzen, 1975; LaPiere, 1934; Petty, Briñol, & DeMarree, 2007). The definition offered by Petty et al. (2007) holds the ability of identifying the attitudes of consumers towards interest-free financing methods. The definition suggests that attitude is a collection of inherent reviews and considerations on a variety of subjects and elements including the object, subject or the players as well as the self of the persons. Additionally, the attitude is also shaped by the memories and traces left from the experiences the persons had before (Eagly & Chaiken, 1993). Attitude is defined within the discipline in three dimensions (See Figure 1).

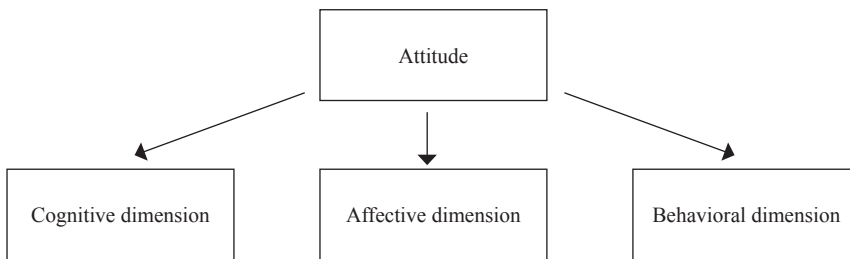


Figure 1. Components and dimensions of attitude

Cognitive component can be defined as a component referring to the thoughts and beliefs previously acquired in respect to a certain phenomenon. It is not possible to argue the accuracy or fallacy of the cognitive opinions. For this reason, for a person, drug abuse may refer to a proper behavior even if it is proven otherwise in scientific terms. Ajzen (1989) holds that this component identifies the perceptions and knowledge on the attitude object. The affective component, on the other hand, refers to the phenomena including interest-

disinterest, loving-unloving vis-à-vis a certain object. For instance, it is possible to identify the emotions and affection of a person towards a certain object of attitude through their gestures. In addition to some physical indicators, the cardiography schemes have also been used to identify this component (Sakallı-Uğurlu, 2018). The behavioral component refers to efforts of a person in trying to keep persons around them away from certain incidents out of reactive response due to negative opinions and feelings towards a certain object.

The PBT suggests that expression of intent is necessary for an act to be performed by an individual. The theory argues that there are two variables applicable to the intention component which is the direct component of the behavior itself: the attitude and the subjective norm variables. A positive and constructive opinion or view towards an object identifies the desired and projected behavior because a positive view is transformed into intent, which is in the end called behavioral intent. On the other hand, attitude is not the only variable that affects the behavior of the individual. Additionally, the subjective norm variable is a notion relevant to the society where the individual leads a life. According to the theory, people around the individual including family members or relatives have influence on the realization and definition of the behavior. In other words, the behavioral intent variable is shaped by the positive attitude of the individuals they develop through an internal reflection and is reflected in their inner worlds, their memories or behavioral patterns.

There are also works and studies on the consumer tendencies towards interest-free financing focused on the use of the reasoned action theory, the predecessor of the PBT (Amin, Rahim Abdul Rahman, Laison Sondoh, & Magdalene Chooi Hwa, 2011; Taib, Ramayah, & Razak, 2008). The objective of study by Amin et al. (2011), is to identify the impact of factors such as attitude, social impact, religious belief, public incentives and financial cost on the intent of providing individual financing through the interest-free financing models. The sample of the study involves 136 clients of interest-free financing institutions in Malaysia. The findings acquired based on the reasoned action theory suggest that attitude, social impact and financial cost have influence over the behavioral intent towards provision of individual financing via interest-free financing models. In addition, in the provision of financing via interest-free financing models, religious belief and public incentives hold insignificant influence. Taib et al. (2008), on the other hand, stress that the religious beliefs of the individuals and positive experiences over social impact have positive influence over the selection of the interest-free financing models. The study further suggests that the certification of these institutions by shariah boards is not sufficient to ensure reliability within the society in terms of compliance with religious precepts.

The final variable that identifies the PBT is the perceived behavioral control variable. In general, there are three variables that affect PBT: attitude, subjective norm and behavioral

control variable (see Figure 2). The perceived behavioral control variable refers to the control belief over the facilitating factors when performing a certain act. Facilitating factors mean facilitations on access to the act to be performed. Easy access to the objects that are subject to the projected behavior affects the control belief in later stages. In this way, the person develops behavioral intent without being affected by the social norm (in other words, the subjective norm variable).

The study by Ali, Raza, Puah and Karim (2017) relies on PBT as a theoretical model and suggests that the attitude variable holds a significant impact in the determination of the tendencies towards interest-free financing models. The study further notes that the provision of cost advantage by these institutions has a positive impact upon the behavioral intents of the consumers and that religion plays an important role in the decision of the customers to pick this type of financing model.

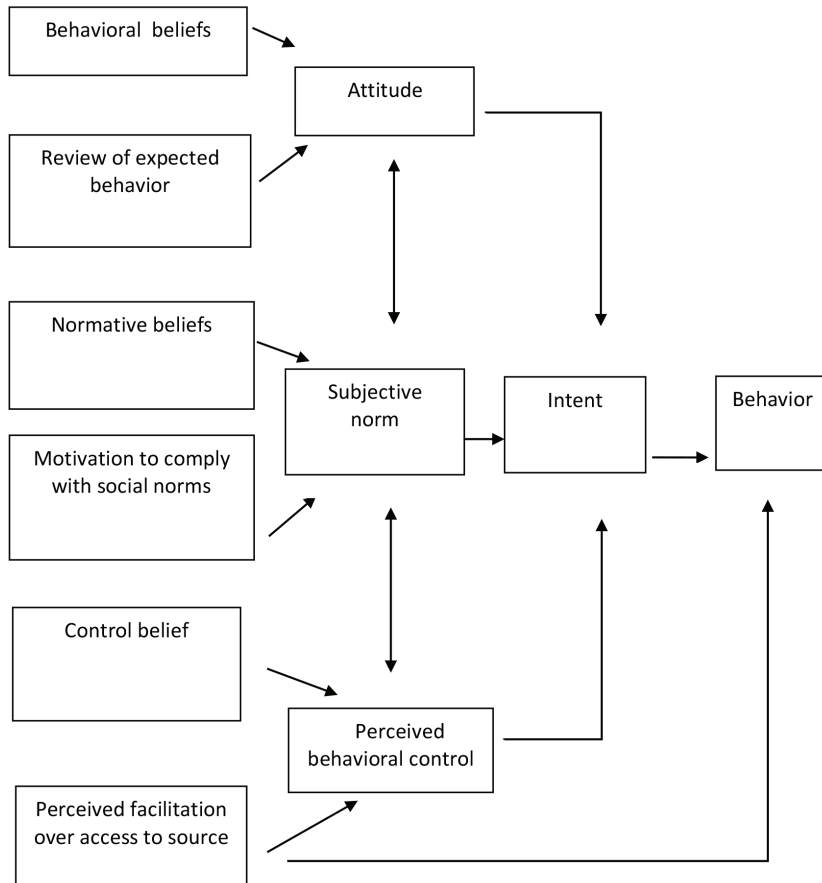


Figure 2. Planned behavior theory

4. Method

The research has more than one goal in terms of subject and content. Basically, the study seeks an answer to the question as to whether the planned behavior theory would be useful in identifying the consumer behavior towards interest-free financing in Turkey. To answer the question, the attitude, subjective norm and perceived behavioral control variables have been redefined to fit the inquiry in the study. Additionally, hypotheses in previous academic works in the same subject matter have also been included in the analysis. On the other hand, the study notes that most works done in this particular field lack solid theoretical basis. Therefore, this research ambitiously seeks to integrate the empirically tested hypotheses into relevant models.

5. Theoretical framework and hypotheses of the study

The PBT is basically built upon four major criteria: attitude, intent, belief and behavior. In identifying the variables of the PBT, these four criteria are used for modeling initiatives. For instance, behavioral belief is the corresponding element of the attitude variable whereas the normative belief refers to the subjective norm variable and control belief to the perceived behavioral control variable. On the other hand, it should be noted that the theoretical framework of the approach which has been remodeled through the hypotheses employed in previous academic works has been laid down.

6. Attitude

In a theoretical sense, the main argument of this study is focused on the exploration of the different factors that identify the consumer tendencies towards the interest-free financing models. The desire for a fair financial system might be a factor in the intents of the customers. Another factor that identifies the consumer behavior in the consideration of the attitude variable is the cost advantage factor which has been reevaluated within the scope of the attitude variable. A review of the relevant studies suggests that the argument on this factor takes note of the low cost of the services provided by the interest-free financing institutions (Almossawi, 2001; Haron et al., 1994; Wajdi Dusuki & Irwani Abdullah, 2007). For this reason, the hypothesis on the attitude variable has been offered as follows:

H1: The attitude variable may have influence over the behavioral intent of the consumers towards the interest-free financing models.

7. Subjective norm

The main argument of this study in respect to subjective norm variable is focused on whether or not this variable generates different factors over the consumer tendency and

behaviors. The factors that affect the subject norm variable are motivation to comply and normative belief. The theory notes that the individual will consider the realities of the community he lives in when seeking options to ensure provision of the finance he or she needs. This factor, referred to as compliance motivation, has been redefined as motivation to comply with religious principles.

On the other hand, the normative belief factor defining the subjective norm variable states that the individual behavior does not take place independently of the values associated with the society he or she lives in. Additionally, there might be other social factors contributing to the identification of the individual behavior. This study investigates whether or not there are other independent variables influential over the consumer tendencies towards the interest-free financing models. A review of the studies done on this subject reveals that avoidance from interest is the prime factor (Naqvi, 2016; Wajdi Dusuki & Irwani Abdullah, 2007). For this reason, the subjective norm variable has been redefined as avoidance from interest and motivation to comply with religious principles. As a result, the second hypothesis of the study has been offered as follows:

H2: The subjective norm variable might have influence over the behavioral intent of the consumer towards the interest-free financing models.

8. Perceived behavioral control

The perceived behavioral control variable distinguishes the PBT from RAT. When performing a certain act, an individual has access to the relevant source and position and in this way, he or she feels inadequate to perform that act. This generates certain control power independently of the dynamic variables including attitude and subjective norm. Additionally, it is possible to speak of two types of control power: instant and planned. The PBT upholds that there are certain incidents towards the behavior independently of instant control power. As such, planned control power is generated over the behavioral intents because the person feels inherently adequate.

The relationship between perceived behavioral control and consumer behavior towards the interest-free financing models is covered in the literature with reference to the easy access to these institutions and the service quality (Almossawi, 2001; Haron et al., 1994). The argument in this study pays attention to this point because the theory states that control power is one of the two factors which identify the perceived behavioral control, and this control power has been associated with the planned control power rather than the instant control power over the clients. The quality of financial services of the interest-free financing institutions will generate greater planned control power over its customers. The factor of easy access to the source has been associated with the hardships or facilitations the customers

experience in having access to these services. Similar studies in the literature consider the convenience of the branches and the efficiency of counseling services (Devlin, 2002; Haron et al., 1994; Wajdi Dusuki & Irwani Abdullah, 2007). The hypothesis this study offers:

H3: Subjective norm variable might have impact upon the behavioral intent of the consumer towards the interest-free financing models.

9. Research sample and findings

The snowball sampling method has been utilized when selecting the sample in this study. The cost associated with the research has been reduced by this method which also allowed the researchers to reach out to the sample mass. The quantitative data has been collected via survey. In collecting this data, the study largely relied on the survey questions by Ustaoglu (2018), which empirically evaluates the social awareness of the participation banks in Turkey. The study is based on the responses by real persons who hold religious sensitivities and are aware of the place of the interest-free banking or foundations working on this field.

The sample includes 265 persons and participants, most residing in Istanbul, Turkey. However, responses by 30 participants have been excluded because of missing answers or inconsistency. A review of the responses to the questions on demography reveals that 70 pct of the participants are male and that 50 pct of the participants are at the age interval of 26-40. 65.5 pct of the participants are married and 45.1 pct have a higher education degree. In sum, most of the participants are aged between 26 and 40, married, male and college graduates.

On the other hand, the respondents were asked questions about their sensitivities towards interest, what they mean by a fair financial system and their welfare level. The goal is to observe the impact of desire for a fair system upon the attitude variable. It seems that almost 90 pct of the participants hold some sensitivity towards interest and that 65 pct of the participants will not choose conventional methods even if they prove to be less expensive and costlier than the services offered by interest-free models. Additionally, 40 pct of the respondents uphold that a national economy should have a fair financial system through transparent and accountable private and public institutions and corporations. To this end, 35 pct of the participants also note that the presence of an advanced interest-free financial system plays a determinative role in achieving this goal. It is observed, based on the responses by the participants on the nature of an ideal financial system, that the desire for a fair financial system factor has been determinative.

The data collected via survey has been analyzed under chi-square test and reviewed empirically. IBM SPSS Statistic 22 software has been utilized for this purpose. The survey questions have been presented as closed open ended. Subsequently, questions have been

divided into six categories: demographic questions, questions on awareness of interest-free financing, attitude towards interest-free financing (evaluation of attitude independent variable), the social values vis-à-vis interest-free financing (evaluation of independent variable of subjective norm), hardships/facilitations in access to interest-free financing (evaluation of the independent variable of perceived behavioral control) and intention towards using services by interest-free financing (evaluation of dependent variable of behavioral intent). 34 questions have been presented in sum.

The participants were asked to pick on a Likert type 5-point scale one of the responses, “certainly do not agree,” “do not agree,” “not sure,” “agree,” “certainly agree.” The results have been subjected to an analysis of consistency through the Cronbach Alpha test. The Cronbach values for the questions on the independent variables of attitude, subjective norm and the perceived behavioral control are (0.8), (0.7) and (0.8) suggesting that these responses are consistent (See Table 1). It is also observed that 50 pct of the respondents express intention of acquiring funds through the interest-free financing institutions and that these customers hold that these institutions play an effective role in responding to the economic issues such as inflation and economic stagnation. This means that the cost advantage factor affects the independent variable of attitude and that the customer tendency towards the interest-free financing models on the basis of independent variable of attitude is positive.

Table 1. Cronbach (reliability) values

Cronbach's Alpha	Cronbach's Alpha value based on standardized components	Number of components
0,810	0,810	8
0,728	0,723	4
0,803	0,801	8

On the Chi-square test towards the cost advantage factor, “ $H(0,1)$: significant for chi-square test” and “ $H(1,1)$: not significant for chi-square test” have been developed. The coefficient of the relevant factor under the chi-square test is below 0.05 meaning that the $H(0,1)$ hypothesis is accepted (See. Table 2.).

Table 2. Cost advantage factor and behavioral intent chi-square values

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	51,863 ^a	36	,042
N of Valid Cases	235		

In addition, the 45.5 pct of the participants agree with the premise that the advanced interest-free financing models will create a positive impact upon the emergence of a fair financial system. To this end, it is also observed that the participants will tend to pick the interest-free financing models to meet the need for funds. A review of the cross-tabulation

values reveals that the fair financial system factor has a positive impact upon the consumer tendencies towards interest-free financing models.

In order to determine the level of significance of the fair financial system factor under the chi-square test, subhypotheses of (H0,1): significant under chi-square test and H(1,1): not significant under the chi-square test have been offered. The level of significance remains below 0.05, suggesting that it is significant under the chi-square test which leads to acceptance of the H(0,1) hypothesis. In this way, the H1 hypothesis has been accepted, stressing that the attitude variable has a positive impact upon the consumer behavior towards the interest-free financing models (See Table 3).

Table 3. Desire for a fair financial system factor and behavioral intent chi-square values

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	54,857 ^a	36	,023
N of Valid Cases	235		

On the other hand, in the identification of the hypothesis on the subjective norm variable, it has been noted that the desire for avoiding interest might influence the consumers. It is observed that nearly 50 pct of the participants agree with the premise that they would be convinced when it is proved that the financial methods employed by interest-free financing methods are compatible with the Islamic premises. 74 pct of these participants, however, have no visible intent of acquiring finance or funds through the interest-free financing institutions within a couple of months ahead. Based on these findings, it is possible to argue that the participating banks in Turkey have a negative image in the minds of the potential customers in terms of serving as providers of finance.

To identify the level of significance of the avoiding interest factor under chi-square test, (H0,2): significant under the chi-square test and H(1,2): not significant under the chi-square test have been offered as sub-hypotheses. The findings show that the coefficient of significant remains below 0.05 showing that the H(0,2) hypothesis is significant under chi-square test. Therefore, the avoiding interest factor has a positive impact upon the behaviors towards the interest-free financing models (See Table 4).

Table 4. Avoiding interest factor and behavioral intent chi-square values.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	97,659 ^a	36	,000
N of Valid Cases	234		

Another point that deserves attention on the avoiding interest factor is that 50 pct of the participants responded to the question on the compatibility of the interest-free financing

institutions with Islamic methods. It is interesting because they are not convinced that these institutions are in line with the principles of Islam. It is also observed that they will not pick these institutions to meet their need for financing over the couple of months ahead. Table 8 shows that those who are reluctant to choose interest-free financing institutions and are not convinced that these institutions comply with Islamic principles are distributed significantly. 34 pct of the participants agree with this premise whereas 38 pct do not.

To identify the level of significance of the compliance motivation and factor under the chi-square test, (H0,2): significant under chi-square test and H(1,2): not significant under chi-square test have been offered as sub-hypotheses. Because the coefficient of significance is above 0.05, the H(0,2) is not significant under chi-square test and is rejected whereas H(1,2) is accepted. This means that the compliance motivation factor is insignificant in the decisions of the customers to pick interest-free financing institutions as method of financing (See Table 5).

Table 5. Compliance motivation factor and behavioral intent chi-square values.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	46,992 ^a	36	,104
N of Valid Cases	234		

Finally, the avoiding interest factor that affects the subjective norm variable has partial influence over the consumer behavior. However, the compliance motivation factor has no impact upon the subjective norm variable. Only one of the sub-hypotheses offered under the chi-square test has been accepted; H2 hypothesis has been rejected. Therefore, the subjective norm independent variable has insignificant impact upon the interest-free financing models.

It should be recalled that control belief and easy access to sources affect the perceived behavioral control variable. The cross-tabulation and chi-square analyses fail to reach significant findings on the control belief factor. Additionally, to identify the level of significance under the chi-square test, H(0,3): significant under chi-square test and H(1,3): not significant under chi-square test have been offered as sub-hypotheses. The findings reveal that the coefficient is above 0.05 suggesting that the H(0,3) is not significant under chi-square test and thus this hypothesis has been rejected and H(1,3) has been accepted. Therefore, the control belief factor has insignificant impact upon the tendency of the consumers towards the interest-free financing institutions (See Table 6).

Table 6. Control belief factor and behavioral intent chi-square values.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37,833 ^a	36	,386
N of Valid Cases	235		

The cross-tabulation values and the chi-square analyses on the easy access to sources factor provide no significant findings. To identify the level of significance of the easy access to sources under the chi-square test, $H(0,3)$: significant under chi-square test and $H(1,3)$: not significant under chi-square test have been offered as sub hypotheses. The findings reveal that the coefficient of significance is over 0.05 suggesting that $H(0,3)$ is not significant and has been rejected whereas $H(1,3)$ has been accepted. It is therefore observed that the factor of easy access to sources has insignificant impact upon the tendencies of the customers to pick interest-free financing institutions (Table 7). In conclusion, the $H3$ hypothesis identifying the perceived behavioral control has been rejected.

Table 7. Chi-square values on the factor of accessing resources and behavioral intent

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42,751 ^a	36	,204
N of Valid Cases	235		

10. Conclusion

This research, done to uncover the attitudes towards services of interest-free finance in Turkey, presents outcomes that confirm the attitude variable of the PBT. However, it also becomes apparent that the two other independent variables, subjective norm and perceived behavioral control (PBC), fail to predict the consumer tendency or behavior towards the interest-free financing. To reach this conclusion, cross tabulation has been performed between factors identifying the independent variables of the PBT and the factor representing the dependent variable, the behavioral intent. The resulting values have been analyzed by the ki-square test. The results show that the desire for a fair financial system referring to the attitude variable and the cost advantage factor foresee the behavioral intent of the clients. The ki-square values of the factors identifying the independent PBT variables remain above 0.5, suggesting the validity of the null hypothesis. Therefore, only $H1$ hypothesis has been accepted whereas $H2$ and $H3$ hypotheses have been rejected. On the other hand, it has also been observed that the internal consistency tests of the surveys referring to the variables of the PBT are positive. According to the Cronbach Alfa test results, the numeric values of the survey parts are above 0.70.

A review of the results that define the sample of the research reveals that participants are educated, in the ages between 26 and 40 and married males. It is also observed that 64.5 pct of the participants have no account with an institution of interest-free finance, and that those who have, perform their individual and commercial activities through these institutions. 90 pct of the participants state that they are sensitive towards the interest-based transactions; 65 pct of these respondents further note that they will prefer the interest-free options even if they are costly compared to the conventional financing methods.

The study also evaluates whether people who care about the interest issue find the methods of the interest-free financing as compatible with Islam. It becomes evident that acquaintances or relatives have no significant impact or role for those who would prefer the interest-free financing methods. On the other hand, the desire for avoiding interest, a determinative factor over the independent variable of subjective norm, is partly influential over the customer behavior towards interest-free financing.

However, it is observed that the adaptation and compliance tendency, the second factor contributing to the subjective norm variable, has no impact upon the consumer behavior towards interest-free financing. All the results suggest that it is possible to provide useful information on the effective operation of the institutions of interest-free financing. Particularly certain findings and deductions that would enhance their competitiveness in the financial markets will offer great advantages for these institutions. This includes whether the institutions of interest-free financing present themselves as players of confidence in terms of fulfilling in the Islamic requirements in the eyes of the clients and consumers. The empirical findings of this research show that people who rely on the activities and transactions of the institutions of interest-free financing in their daily lives and commercial engagements hold religious sensitivities to the extent that they would still prefer the interest-free options even if they prove to be costly when compared to the conventional counterparts. However, the study results further show that they do not have confidence in these institutions despite that they employ partial interest-free financing models. In conclusion, it is possible to argue that these institutions should review their models and activities in a way to make them compatible with the Islamic precepts and to observe the religious sensitivities of the clients.

Another important point to underline in respect to the consumer tendencies and behaviors towards interest-free financing models is the consideration of the personal attitudes. The empirical findings of the study suggest that desire for a fair financial system and the cost advantage are contributing factors to the behaviors. Therefore, it is possible to argue that in case the institutions of interest-free financing would like to improve their corporate image and prestige in the eyes of the consumers and clients, they need to convince them that they would provide a fairer financial system and offer financial services at more reasonable terms.

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References

- Ajzen, I. (1989). Attitude structure and behavior. In *Attitude, Structure and Function*, Erlbaum.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Al Ajmi, J., Abo Hussain, H., & Al Saleh, N. (2009). Clients of conventional and Islamic banks in Bahrain. *International Journal of Social Economics*, 36(11), 1086–1112. <https://doi.org/10.1108/03068290910992642>
- Alam, S. S., Janor, H., Zanariah, Wel, C. A. C., & Ahsan, M. N. (2012). Is Religiosity an important factor in influencing the intention to undertake Islamic home financing in Klang Valley? *World Applied Sciences Journal*, 19(7), 1030–1041. <https://doi.org/10.5829/idosi.wasj.2012.19.07.392>
- Ali, M., Raza, S. A., Puah, C. H., & Karim, M. Z. A. (2017). Islamic home financing in Pakistan: a SEM-based approach using modified TPB model. *Housing Studies*, 32(8), 1156–1177. <https://doi.org/10.1080/02673037.2017.1302079>
- Allport, G. W. (1935). Attitudes. In C. M. Murchison (Ed.), *Handbook of Social Psychology*. Winchester, MA: Clark University Press.
- Almossawi, M. (2001). Bank selection criteria employed by college students in Bahrain: an empirical analysis. *International Journal of Bank Marketing*, 19(3), 115–125. <https://doi.org/10.1108/02652320110388540>
- Amin, H. (2008). Choice criteria for Islamic home financing. *International Journal of Housing Markets and Analysis*, 1(3), 256–274. <https://doi.org/10.1108/17538270810895105>
- Amin, H. (2013). Factors influencing Malaysian bank customers to choose Islamic credit cards. *Journal of Islamic Marketing*, 4(3), 245–263. <https://doi.org/10.1108/JIMA-02-2012-0013>
- Amin, H., Abdul Rahman, A. R., Abdul Razak, D., & Rizal, H. (2017). Consumer attitude and preference in the Islamic mortgage sector: a study of Malaysian consumers. *Management Research Review*. <https://doi.org/10.1108/MRR-07-2015-0159>
- Amin, H., Rahim Abdul Rahman, A., Laison Sondoh, S., & Magdalene Chooi Hwa, A. (2011). Determinants of customers' intention to use Islamic personal financing. *Journal of Islamic Accounting and Business Research*, 2(1), 22–42. <https://doi.org/10.1108/17590811111129490>
- Asdullah, M. A., & Yazdifar, H. (2016). Evaluation of factors influencing youth towards Islamic Banking in Pakistan. *ICTACT Journal on Management Studies*, 2(1), 217–223. <https://doi.org/10.21917/ijms.2016.0030>
- Åström, Z. H. O. (2013). Survey on customer related studies in Islamic banking. *Journal of Islamic Marketing*, 4(3), 294–305. <https://doi.org/10.1108/JIMA-07-2012-0040>
- Aziz, S., & Afaq, Z. (2018). Adoption of Islamic banking in Pakistan an empirical investigation. *Cogent Business and Management*, 5(1), 1–18. <https://doi.org/10.1080/23311975.2018.1548050>
- Bizri, R., Jardali, R., & Bizri, M. F. (2018). Financing family firms in the Middle East: the choice between Islamic and conventional finance. *International Journal of Entrepreneurial Behaviour and Research*, 24(4), 842–865. <https://doi.org/10.1108/IJEER-10-2016-0349>
- Bley, J., & Kuehn, K. (2004). Conventional versus Islamic Finance: Student Knowledge and Perception in the United Arab Emirates. *International Journal of Islamic Financial Services*, 5(4), 1–13.
- Bogardus, E. S. (1931). *Fundamentals of social psychology*. New York: Century.
- Bonne, K., Vermeir, I., Bergeaud-Blackler, F., & Verbeke, W. (2007). Determinants of halal meat consumption in France. *British Food Journal*, 109(5), 367–386. <https://doi.org/10.1108/00707000710746786>
- Butt, I., Saleem, N., Ahmed, H., Altaf, M., Jaffer, K., & Mahmood, J. (2011). Barriers to adoption of Islamic banking in Pakistan. *Journal of Islamic Marketing*, 2(3), 259–273. <https://doi.org/10.1108/17590831111164787>
- Devlin, J. F. (2002). An analysis of choice criteria in the home loans market. *International Journal of Bank Marketing*, 20(5), 212–226.

- Eagly, A. H., & Chaiken, S. (1993). Psychology of attitudes. In *Psychology of attitudes*.
- Echchabi, Abdelghani and Azouzi, D. (2015). Predicting customers ' adoption of Islamic banking services in Tunisia : A Decomposed Theory of Planned Behaviour approach. *Tazkia Islamic Finance and Business Review*, 9(1), 19–40.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. London: Addison-Wesley Publishing Company.
- Gençtürk, M., & Çobankaya, F. T. (2015). Katılım bankalarının Batı Akdeniz bölgesindeki farkındalık düzeyinin tespiti. *Bankacılar Dergisi*, 93, 82–105.
- Haque, A., Osman, J., & Hj Ismail, A. Z. (2009). Factor influences selection of Islamic Banking: a study on Malaysian customer preferences. *American Journal of Applied Sciences*, 6(5), 922–928. <https://doi.org/10.3844/ajas.2009.922.928>
- Haron, S., Ahmad, N., & Planisek, S. L. (1994). Bank patronage factors of Muslim and non-Muslim customers. *International Journal of Bank Marketing*, 12(1), 32–40.
- Husin, M. M., & Rahman, A. A. (2016). Predicting intention to participate in family takaful scheme using decomposed theory of planned behaviour. *International Journal of Social Economics*, 43(12), 1351–1366. <https://doi.org/10.1108/IJSE-03-2015-0074>
- Idris, A. R., Nik, K., Naziman, M., Januri, S. S., Abu Hassan Asari, F. F., Muhammad, N., Jusoff, K. (2011). Religious value as the main influencing factor to customers patronizing Islamic Bank. *World Applied Sciences Journal*, 12(1), 8–13.
- Kashif, M., Zarkada, A., & Thurasamy, R. (2017). The moderating effect of religiosity on ethical behavioural intentions: An application of the extended theory of planned behaviour to Pakistani bank employees. *Personnel Review*, 46(2), 429–448. <https://doi.org/10.1108/PR-10-2015-0256>
- Khan, M. S. N., Hassan, M. K., & Shahid, A. I. (2007). Banking behavior of Islamic Bank customers in Bangladesh. *Journal of Islamic Economics, Banking and Finance*, 3(2), 159–194.
- Khoirunissa, D. (2003). Consumers' Preference toward Islamic Banking (Case Study in Bank Muamalat Indonesia and Bank BNI Syariah). *IQTISAD Journal of Islamic Economics*, 4(2), 145–168. <https://doi.org/10.20885/iqtisad.vol4.iss2.art3>
- LaPiere, R. T. (1934). Attitudes vs. actions. *Social Forces*, 1(1), 230–237.
- Manzoor, M. M., Aqeel, M., & Sattar, A. (2010). Factors paving the way towards Islamic banking in Pakistan. *World Academy of Science, Engineering and Technology*.
- Marimuthu, M., Wai Jing, C., Phei Gie, L., Pey Mun, L., & Yew Ping, T. (2010). Islamic Banking: selection criteria and implications. *Global Journal of Human Social Science GJHSS Classification-C*, 10(4), 52–62.
- Metawa, S. A., & Almosawi, M. (1998). Banking behavior of Islamic bank customers: perspectives and implications. *International Journal of Bank Marketing*, 16(7), 299–313. <https://doi.org/10.1108/02652329810246028>
- Naqvi, S. N. H. (2016). *Perspectives on morality and human well-being: a contribution to Islamic Economics*. Kube Publishing Ltd.
- Naser, K., Jamal, A., & Al-Khatib, K. (1999). Islamic banking: A study of customer satisfaction and preferences in Jordan. *International Journal of Bank Marketing*, 17(3), 135–151. <https://doi.org/10.1108/02652329910269275>
- Nugroho, A. P., Hidayat, A., & Kusuma, H. (2017). The influence of religiosity and self-efficacy on the saving behavior of the Islamic Banks. *Banks and Bank Systems*. [https://doi.org/10.21511/bbs.12\(3\).2017.03](https://doi.org/10.21511/bbs.12(3).2017.03)
- Okumuş, Ş. (2005). Interest-Free Banking in Turkey: A study of customer satisfaction and bank selection criteria. *Journal of Economic Cooperation*, 26(4), 51–86.

- Okumus, S., & Genc, E. G. (2013). Interest free banking in Turkey: A study of customer satisfaction and bank selection criteria. *European Scientific Journal*, 9(16), 144–166.
- Othman, N., Mohamad, A. M., Ismail, N., & Al Shami, A. M. (2018). Predicting factors affecting Muslims ' Family Takaful Participation : Theory of planned behaviour. *Global Business and Management Research: An International Journal*, 10(3), 1054–1063.
- Özen, E., Şenyıldız, L., & Akarbulut, K. (2016). Faizsiz bankacılık algısı: Uşak ili örneği. *Journal of Accounting, Finance and Auditing Studies*, 2(4), 1–19.
- Peter, J. P., & Olson, J. C. (2009). *Consumer Behavior & Marketing Strategy* (Ninth). New York: McGraw-Hill Irwin.
- Petty, R. E., Briñol, P., & DeMarree, K. G. (2007). The Meta-Cognitive Model (MCM) of attitudes: implications for attitude measurement, change, and strength. *Social Cognition*, 25(5), 657–686. <https://doi.org/10.1521/soco.2007.25.5.657>
- Sakallı-Uğurlu, N. (2018). *Sosyal Psikolojide tutumlar ve tutum Değişimi* (1. Baskı). Ankara: İmge Kitapevi Yayınları.
- Salehudin, I., & Luthfi, B. A. (2013). Marketing impact of halal labeling toward Indonesian Muslim consumer's behavioral intention based on Ajzen's Planned Behavior Theory: policy capturing studies on five different product categories. *ASEAN Marketing Journal*, 3(1), 35–44. <https://doi.org/10.21002/amj.v3i1.2013>
- Sığındı, T. (2010). *Tutum, öznel norm ve algılanan davranışsal kontrol değişkenlerinin tüketicilerin satın alma niyetlerine olan etkisinin Copeland'ın Ürün Sınıflandırması için araştırılması*. Hacettepe Üniversitesi.
- Taib, F. M., Ramayah, T., & Razak, D. A. (2008). Factors influencing intention to use diminishing partnership home financing. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(3), 235–248. <https://doi.org/10.1108/17538390810901168>
- Thambiah, S., Santhapparaj, A. J., & Ismail, H. (2011). An empirical analysis on Islamic Retail Banking adoption in Malaysia. *Innovation and Knowledge Management: A Global Competitive Advantage, Vols 1-4*.
- Toroman, C., Ata, H. A., & Buğan, M. F. (2015). İslami bankacılık faaliyetlerine yönelik müşteri algısı üzerine bir araştırma. *Gaziantep University Journal of Social Sciences*, 14(4), 761–779.
- Usman, H., Tjiptoherijanto, P., Balqiah, T. E., & Agung, I. G. N. (2017). The role of religious norms, trust, importance of attributes and information sources in the relationship between religiosity and selection of the Islamic Bank. *Journal of Islamic Marketing*, 8(2), 158–186. <https://doi.org/10.1108/JIMA-01-2015-0004>
- Ustaoglu, M. (2018). Empirically analyzing public views on participation banks in Turkey. *International Journal of Ethics and Systems*, 34(4), 510–526. <https://doi.org/10.1108/ijoes-04-2018-0062>
- Wajdi Dusuki, A., & Irwani Abdullah, N. (2007). Why do Malaysian customers patronise Islamic Banks? *International Journal of Bank Marketing*, 25(3), 142–160. <https://doi.org/10.1108/02652320710739850>
- Warde, I. (2000). *Islamic finance in the global economy*. Edinburgh: Edinburgh University Press.
- Zinser, B. A. (2015). *Determinants of United States Muslims ' intentions to use retail Islamic banking and financial services: An application of the theory of planned behavior*. ProQuest Dissertations and Theses.

TANIM

İktisat Politikası Arařtırmaları Dergisi-Journal of Economic Policy Researches, İstanbul Üniversitesi Ekonomi Politikaları Uygulama ve Arařtırma Merkezi'nin yayınıdır. Açık erişimli, hakemli, uluslararası bilimsel bir dergi olarak yılda iki kere Ocak ve Temmuz aylarında yayınlanır. Dergiye yayınlanması için gönderilen bilimsel makaleler Türkçe ya da İngilizce olmalıdır.

AMAÇ VE KAPSAM

İktisat Politikası Arařtırmaları Dergisi-Journal of Economic Policy Researches, ulusal ve küresel düzeyde etkili olan iktisat politikaları üzerine yapılan kaliteli araştırma makaleleri yayınlamayı amaçlayan uluslararası hakemli bir dergidir. İktisat teorisi ve uygulamaları için uluslararası bir tartışma forumu niteliğindedir. Dergi, iktisat arařtırmaları üzerinde uzun dönemli etkileri olacak seçkin ve güncel konularda referans niteliği taşıyan makaleler yayınlamayı hedeflemektedir. İktisat Politikası Arařtırmaları Dergisi – Journal of Economic Policy Researches, politik iktisat, para teorisi ve politikası, maliye politikaları, finansal iktisat, kalkınma ekonomisi, çalışma ekonomisi, mikro ve makro teori, ulařtırma ekonomisi, uluslararası ticaret ve finans gibi birçok alanda analitik, yorumlayıcı ve ampirik çalışmalarını kapsar.

EDİTORYAL POLİTİKALAR VE HAKEM SÜRECİ

Yayın Politikası

Dergiye yayınlanmak üzere gönderilen makalelerin içeriği derginin amaç ve kapsamı ile uyumlu olmalıdır. Dergi, orijinal araştırma niteliğindeki yazıları yayınlamaya öncelik vermektedir.

Genel İlkeler

Daha önce yayınlanmamış ya da yayınlanmak üzere başka bir dergide halen değerlendirmede olmayan ve her bir yazar tarafından onaylanan makaleler değerlendirilmek üzere kabul edilir.

Ön değerlendirmeyi geçen yazılar iThenticate intihal tarama programından geçirilir. İntihal incelemesinden sonra, uygun makaleler Editör tarafından orijinaliteleri, metodolojileri, makalede ele alınan konunun önemi ve derginin kapsamına uygunluğu açısından değerlendirilir.

Bilimsel toplantılarda sunulan özet bildirimler, makalede belirtilmesi koşulu ile kaynak olarak kabul edilir. Editör, gönderilen makale biçimsel esaslara uygun ise, gelen yazıyı yurtiçinden ve /veya yurtdışından en az iki hakemin değerlendirmesine sunar, hakemler gerek gördüğü takdirde yazıda istenen değişiklikler yazarlar tarafından yapıldıktan sonra yayınlanmasına onay verir.

YAZARLARA BİLGİ

Makale yayınlanmak üzere Dergiye gönderildikten sonra yazarlardan hiçbirinin ismi, tüm yazarların yazılı izni olmadan yazar listesinden silinemez ve yeni bir isim yazar olarak eklenemez ve yazar sırası değiştirilemez. Yayına kabul edilmeyen makale, resim ve fotoğraflar yazarlara geri gönderilmez.

Yazarların Sorumluluęu

Makalelerin bilimsel ve etik kurallara uygunluęu yazarların sorumluluęundadır. Yazar makalenin orijinal olduęu, daha önce başka bir yerde yayınlanmadıęı ve başka bir yerde, başka bir dilde yayınlanmak üzere deęerlendirmede olmadıęı konusunda teminat saęlamalıdır. Uygulamadaki telif kanunları ve anlaşmaları gözetilmelidir. Telifle baęlı materyaller (örneęin tablolar, şekiller veya büyük alıntılar) gerekli izin ve teęekkürle kullanılmalıdır. Başka yazarların, katkıda bulunanların çalışmaları ya da yararlanılan kaynaklar uygun biçimde kullanılmalı ve referanslarda belirtilmelidir.

Gönderilen makalede tüm yazarların akademik ve bilimsel olarak doęrudan katkısı olmalıdır, bu bağlamda "yazar" yayınlanan bir araştırmmanın kavramsallaştırılmasına ve dizaynına, verilerin elde edilmesine, analizine ya da yorumlanmasına belirgin katkı yapan, yazının yazılması ya da bunun içerik açısından eleştirel biçimde gözden geçirilmesinde görev yapan birisi olarak görülür. Yazar olabilmenin dięer koşulları ise, makaledeki çalışmayı planlamak veya icra etmek ve / veya revize etmektir. Fon saęlanması, veri toplanması ya da araştırma grubunun genel süpervizyonu tek başına yazarlık hakkı kazandırmaz. Yazar olarak gösterilen tüm bireyler sayılan tüm ölçütleri karşılamalıdır ve yukarıdaki ölçütleri karşılayan her birey yazar olarak gösterilebilir. Yazarların isim sıralaması ortak verilen bir karar olmalıdır. Tüm yazarlar yazar sıralamasını Telif Hakkı Anlaşması Formunda imzalı olarak belirtmek zorundadırlar.

Yazarlık için yeterli ölçütleri karşılamayan ancak çalışmaya katkısı olan tüm bireyler "teęekkür / bilgiler" kısmında sıralanmalıdır. Bunlara örnek olarak ise sadece teknik destek saęlayan, yazıma yardımcı olan ya da sadece genel bir destek saęlayan, finansal ve materyal desteęi sunan kişiler verilebilir.

Bütün yazarlar, araştırmmanın sonuçlarını ya da bilimsel deęerlendirmeyi etkileyebilme potansiyeli olan finansal ilişkiler, çıkar çatışması ve çıkar rekabetini beyan etmelidirler. Bir yazar kendi yayınlanmış yazısında belirgin bir hata ya da yanlışlık tespit ederse, bu yanlışlıklara ilişkili düzeltme ya da geri çekme için editör ile hemen temasa geçme ve işbirlięi yapma sorumluluęunu taşır.

Hakem Süreci

Daha önce yayınlanmamış ya da yayınlanmak üzere başka bir dergide halen deęerlendirmede olmayan ve her bir yazar tarafından onaylanan makaleler deęerlendirilmek üzere kabul edilir. Gönderilen ve ön kontrolü geçen makaleler iThenticate yazılımı kullanılarak plagiarizm için

YAZARLARA BİLGİ

taranır. Plagiarizm kontrolünden sonra, uygun olan makaleler baş editör tarafından orijinallik, metodoloji, işlenen konunun önemi ve dergi kapsamı ile uyumluluğu açısından değerlendirilir. Editör, makaleleri, yazarların etnik kökeninden, cinsiyetinden, cinsel yöneliminden, uyruğundan, dini inancından ve siyasi felsefesinden bağımsız olarak değerlendirir. Yayına gönderilen makalelerin adil bir şekilde çift taraflı kör hakem değerlendirmesinden geçmelerini sağlar.

Seçilen makaleler en az iki ulusal/uluslararası hakeme değerlendirmeye gönderilir; yayın kararı, hakemlerin talepleri doğrultusunda yazarların gerçekleştirdiği düzenlemelerin ve hakem sürecinin sonrasında baş editör tarafından verilir.

Hakemlerin değerlendirmeleri objektif olmalıdır. Hakem süreci sırasında hakemlerin aşağıdaki hususları dikkate alarak değerlendirmelerini yapmaları beklenir.

- Makale yeni ve önemli bir bilgi içeriyor mu?
- Öz, makalenin içeriğini net ve düzgün bir şekilde tanımlıyor mu?
- Yöntem bütünlüklü ve anlaşılır şekilde tanımlanmış mı?
- Yapılan yorum ve varılan sonuçlar bulgularla kanıtlanıyor mu?
- Alandaki diğer çalışmalara yeterli referans verilmiş mi?
- Dil kalitesi yeterli mi?

Hakemler, gönderilen makalelere ilişkin tüm bilginin, makale yayınlanana kadar gizli kalmasını sağlamalı ve yazar tarafında herhangi bir telif hakkı ihlali ve intihal fark ederlerse editöre raporlamalıdır. Hakem, makale konusu hakkında kendini vasıflı hissetmiyor ya da zamanında geri dönüş sağlaması mümkün görünmüyorsa, editöre bu durumu bildirmeli ve hakem sürecine kendisini dahil etmemesini istemelidir.

Değerlendirme sürecinde editör hakemlere gözden geçirme için gönderilen makalelerin, yazarların özel mülkü olduğunu ve bunun imtiyazlı bir iletişim olduğunu açıkça belirtir. Hakemler ve yayın kurulu üyeleri başka kişilerle makaleleri tartışamazlar. Hakemlerin kimliğinin gizli kalmasına özen gösterilmelidir.

AÇIK ERIŞİM İLKESİ

İktisat Politikası Araştırmaları Dergisi -Journal of Economic Policy Researches içeriği okura ya da okurun dahil olduğu kuruma ücretsiz olarak sunulur. Okurlar, ticari amaç haricinde, yayıncı ya da yazardan izin almadan dergi makalelerinin tam metnini okuyabilir, indirebilir, kopyalayabilir, arayabilir ve link sağlayabilir.

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ETİK

Yayın Etiği İlke ve Standartları

İktisat Politikası Araştırmaları Dergisi-Journal of Economic Policy Researches, yayın etiğinde en yüksek standartlara bağlıdır ve Committee on Publication Ethics (COPE), Directory of Open Access Journals (DOAJ), Open Access Scholarly Publishers Association (OASPA) ve World Association of Medical Editors (WAME) tarafından yayınlanan etik yayıncılık ilkelerini benimser; Principles of Transparency and Best Practice in Scholarly Publishing başlığı altında ifade edilen ilkeler için adres: <https://publicationethics.org/resources/guidelines-new/principles-transparency-and-best-practice-scholarly-publishing>

Gönderilen tüm makaleler orijinal, yayınlanmamış ve başka bir dergide değerlendirme sürecinde olmamalıdır. Yazar makalenin orijinal olduğu, daha önce başka bir yerde yayınlanmadığı ve başka bir yerde, başka bir dilde yayınlanmak üzere değerlendirmede olmadığını beyan etmelidir. Uygulamadaki telif kanunları ve anlaşmaları gözetilmelidir. Telifle bağlı materyaller (örneğin tablolar, şekiller veya büyük alıntılar) gerekli izin ve teşekkürle kullanılmalıdır. Başka yazarların, katkıda bulunanların çalışmaları ya da yararlanılan kaynaklar uygun biçimde kullanılmalı ve referanslarda belirtilmelidir. Her bir makale editörlerden biri ve en az iki hakem tarafından çift kör değerlendirmeden geçirilir. İntihal, duplikasyon, sahte yazarlık/inkar edilen yazarlık, araştırma/veri fabrikasyonu, makale dilimleme, dilimleyerek yayın, telif hakları ihlali ve çıkar çatışmasının gizlenmesi, etik dışı davranışlar olarak kabul edilir.

Kabul edilen etik standartlara uygun olmayan tüm makaleler yayından çıkarılır. Buna yayından sonra tespit edilen olası kuraldışı, uygunsuzluklar içeren makaleler de dahildir.

Araştırma Etiği

İstanbul İktisat Dergisi araştırma etiğinde en yüksek standartları gözetir ve aşağıda tanımlanan uluslararası araştırma etiği ilkelerini benimser. Makalelerin etik kurallara uygunluğu yazarların sorumluluğundadır.

- Araştırmanın tasarlanması, tasarımın gözden geçirilmesi ve araştırmanın yürütülmesinde, bütünlük, kalite ve şeffaflık ilkeleri sağlanmalıdır.
 - Araştırma ekibi ve katılımcılar, araştırmanın amacı, yöntemleri ve öngörülen olası kullanımları; araştırmaya katılımın gerektirdikleri ve varsa riskleri hakkında tam olarak bilgilendirilmelidir.
 - Araştırma katılımcılarının sağladığı bilgilerin gizliliği ve yanıt verenlerin gizliliği sağlanmalıdır. Araştırma katılımcılarının özerkliğini ve saygınlığını koruyacak şekilde tasarlanmalıdır.
 - Araştırma katılımcıları gönüllü olarak araştırmada yer almalı, herhangi bir zorlama altında olmamalıdır.
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- Katılımcıların zarar görmesinden kaçınılmalıdır. Araştırma, katılımcıları riske sokmayacak şekilde planlanmalıdır.
- Araştırma bağımsızlığıyla ilgili açık ve net olunmalı; çıkar çatışması varsa belirtilmelidir.
- İnsan denekler ile yapılan deneysel çalışmalarda, araştırmaya katılmaya karar veren katılımcıların yazılı bilgilendirilmiş onayı alınmalıdır. Çocukların ve vesayet altındakilerin veya tasdiklenmiş akıl hastalığı bulunanların yasal vasisinin onayı alınmalıdır.
- Çalışma herhangi bir kurum ya da kuruluştta gerçekleştirilecekse bu kurum ya da kuruluştan çalışma yapılacağına dair onay alınmalıdır.
- İnsan ögesi bulunan çalışmalarda, "yöntem" bölümünde katılımcılardan "bilgilendirilmiş onam" alındığının ve çalışmanın yapıldığı kurumdan etik kurul onayı alındığı belirtilmesi gerekir.

DİL

Derginin yayın dili Türkçe ve Amerikan İngilizcesi'dir.

YAZILARIN HAZIRLANMASI VE YAZIM KURALLARI

Aksi belirtilmedikçe gönderilen yazılarla ilgili tüm yazışmalar ilk yazarla yapılacaktır. Makale gönderimi online olarak ve <http://jepr.istanbul.edu.tr> adresinden erişilen <http://dergipark.gov.tr/login> üzerinden yapılmalıdır. Gönderilen yazılar, makale türünü belirten ve makaleyle ilgili detayları içeren (bkz: Son Kontrol Listesi) kapak sayfası ve sunuş yazısı ile gönderilmelidir. Makaleler, Microsoft Word 2003 ve üzerindeki versiyonları ile yazılmalıdır. Ayrıca tüm yazarların imzaladığı Telif Hakkı Anlaşması Formu eklenerek gönderilmelidir.

1. Çalışmalar, A4 boyutundaki kağıdın bir yüzüne, üst, alt, sağ ve sol taraftan 2,5 cm. boşluk bırakılarak, 12 punto Times New Roman harf karakterleriyle, Türkçe font kullanılarak ve 1,5 satır aralık ölçüsü ile hazırlanmalıdır.
 2. Gönderilen makalelerin şekil, grafik ve tabloları derginin belirttiği formata uygun olması gereklidir. Dipnotlar, grafikler ve tablolar olabildiğince atıf yapılan sayfada veya hemen devamında yer almalıdır. Grafik ve tabloların altındaki notlar bu materyalleri ana metne bakmaksızın anlaşılabilir hale getirme amacını taşımalıdır. Metne konan tablolar yazılım programı çıktısı olarak konmamalı, sonuçları yazar/lar kendileri tablo haline getirmelidir, tablolar mümkün olduğunca A4 kağıt boyutuna uygun düzenlenmiş olmalıdır. Grafiklerin bilgisayar yazılım programı çıktısı olmamaları, çizim veya çizim resim halinde ve A4 kağıt boyutunu aşmayacak şekilde düzenlenmiş olmaları gerekmektedir.
 3. Giriş bölümünden önce 200-250 kelimelik Türkçe ve İngilizce öz ile 600-800 kelimelik İngilizce genişletilmiş özet yer almalıdır. Özetlerde; amaç, yöntem, bulgular ve sonuç bilgilerinin yer almasına özen gösterilmelidir. İngilizce ve Türkçe özerin altında çalışmanın içeriğini temsil eden, 5 adet Türkçe, 5 adet İngilizce anahtar kelime yer almalıdır. Özlerde kısaltma kullanılmamalıdır.
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4. Gönderilen makalelerde mutlaka, iki rakamlı düzeyde (örneğin; Q11) üç adet JEL (Journal of Economic Literature) sınıflaması yapılmalıdır. Makalenin konu başlığına göre seçilmesi gereken jel sınıflamaları için http://www.aeaweb.org/journal/jel_class_system.html adresinden yararlanılabilir.
5. Çalışmaların başlıca şu unsurları içermesi gerekmektedir: Türkçe başlık, öz ve anahtar kelimeler; İngilizce başlık öz ve anahtar kelimeler; İngilizce genişletilmiş özet, ana metin bölümleri, son notlar ve kaynaklar.
6. Araştırma makalesi bölümleri şu şekilde sıralanmalıdır: "Giriş", "Amaç ve Yöntem", "Bulgular", "Tartışma ve Sonuç", "Son Notlar", "Kaynaklar", "Tablolar ve Şekiller". Derleme ve yorum yazıları için ise, çalışmanın öneminin belirtildiği, sorunsal ve amacın somutlaştırıldığı "Giriş" bölümünün ardından diğer bölümler gelmeli ve çalışma "Tartışma ve Sonuç", "Son Notlar", "Kaynaklar" ve "Tablolar ve Şekiller" şeklinde bitirilmelidir.
7. "Online Makale Sistemine" Türkçe ve İngilizce öz, makale metni ve kaynakça bilgilerinin yer aldığı tek bir Word dosyasının yüklenmesi gerekmektedir. Yazar/ların özgeçmişlerini içeren dosya, ve yazar/ların detaylı iletişim bilgilerini içeren sunum yazısı ile makale kapak sayfası ek dosya olarak yüklenmelidir.
8. Kapak sayfasında, makalenin başlığı, yazar veya yazarların bağlı oldukları kurum ve unvanları, kendilerine ulaşılacak adresler, cep, iş ve faks numaraları, ORCID ve e-posta adresleri yer almalıdır (bkz. Son Kontrol Listesi).
9. Makalelerde dile getirilen düşüncelerden yazarları sorumludur.
10. Makalelerde Türk Dil Kurumu'nun (TDK yazım kılavuzu ve yazım kuralları örnek alınmalıdır. Detaylı bilgi için TDK'nın web sayfasına bakınız: www.tdk.gov.tr . Yabancı sözcükler yerine olabildiğince Türkçe sözlükler kullanılmalıdır. Türkçe'de alışılmamış sözcükler kullanılırken ilk geçtiği yerde yabancı dildeki karşılığı parantez içinde verilebilir.
11. İngilizce dilinde gönderilen makalelerin ve Türkçe gönderilen makalelerin İngilizce yazılmış bölümlerinin, gönderim öncesinde yetkin bir dil kontrolünden geçirilmiş olması gerekmektedir. İçerikten bağımsız olarak, dil yönüyle yetersiz olan makaleler iade/ret edilmektedir. Yazarların bu hususa azami dikkat göstermeleri önemlidir.
12. Makale sunum ve değerlendirme süreçlerine ilişkin tüm iletişim e-mail sistemi ile gerçekleştirilir. Telefonla bilgi verilmez.
13. Kaynaklara atıf ve referans formatı ilgili ayrıntılı bilgi Kaynaklar başlığı altında yer almaktadır.

Kaynaklar

Derleme yazıları okuyucular için bir konudaki kaynaklara ulaşmayı kolaylaştıran bir araç olsa da, her zaman orijinal çalışmayı doğru olarak yansıtmaz. Bu yüzden mümkün olduğunca yazarlar orijinal çalışmalarını kaynak göstermelidir.

Kabul edilmiş ancak henüz sayıya dahil edilmemiş makaleler Early View olarak yayınlanır ve bu makalelere atıflar "advance online publication" şeklinde verilmelidir. Genel bir kaynaktan elde edilemeyecek temel bir konu olmadıkça "kişisel iletişime" atıfta bulunulmamalıdır.

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Eğer atıfta bulunulursa parantez içinde iletişim kurulan kişinin adı ve iletişimin tarihi belirtilmelidir. Bilimsel makaleler için yazarlar bu kaynaktan yazılı izin ve iletişimin doğruluğunu gösterir belge almalıdır. Kaynakların doğruluğundan yazar(lar) sorumludur. Tüm kaynaklar metinde belirtilmelidir. Kaynaklar alfabetik olarak sıralanmalıdır.

Referans Stili ve Formatı

İktisat Politikası Araştırmaları Dergisi-Journal of Economic Policy Researches, metin içi alıntılama ve kaynak gösterme için APA (American Psychological Association) kaynak sitilinin 6. edisyonunu benimser. APA 6. Edisyon hakkında bilgi için:

- American Psychological Association. (2010). Publication manual of the American Psychological Association (6th ed.). Washington, DC: APA.
- <http://www.apastyle.org/>

Kaynakların doğruluğundan yazar(lar) sorumludur. Tüm kaynaklar metinde belirtilmelidir. Kaynaklar aşağıdaki örneklerdeki gibi gösterilmelidir.

Metin İçinde Kaynak Gösterme

Kaynaklar metinde parantez içinde yazarların soyadı ve yayın tarihi yazılarak belirtilmelidir. Birden fazla kaynak gösterilecekse kaynaklar arasında (;) işareti kullanılmalıdır. Kaynaklar alfabetik olarak sıralanmalıdır.

Örnekler:

Birden fazla kaynak;

(Esin ve ark., 2002; Karasar 1995)

Tek yazarlı kaynak;

(Akyolcu, 2007)

İki yazarlı kaynak;

(Sayiner ve Demirci 2007, s. 72)

Üç, dört ve beş yazarlı kaynak;

Metin içinde ilk kullanımda: (Ailen, Ciambune ve Welch 2000, s. 12–13) Metin içinde tekrarlayan kullanımlarda: (Ailen ve ark., 2000)

Altı ve daha çok yazarlı kaynak;

(Çavdar ve ark., 2003)

Kaynaklar Bölümünde Kaynak Gösterme

Kullanılan tüm kaynaklar metnin sonunda ayrı bir bölüm halinde yazar soyadlarına göre alfabetik olarak numaralandırılmadan verilmelidir.

Kaynak yazımı ile ilgili örnekler aşağıda verilmiştir.

Kitap

a) Türkçe Kitap

Karasar, N. (1995). *Araştırmalarda rapor hazırlama* (8.bs). Ankara: 3A Eğitim Danışmanlık Ltd.

b) Türkçeye Çevrilmiş Kitap

Mucchielli, A. (1991). *Zihniyetler* (A. Kotil, Çev.). İstanbul: İletişim Yayınları.

c) Editörlü Kitap

Ören, T., Üney, T. ve Çölkesen, R. (Ed.). (2006). *Türkiye bilişim ansiklopedisi*. İstanbul: Papatya Yayıncılık.

d) Çok Yazarlı Türkçe Kitap

Tonta, Y., Bitirim, Y. ve Sever, H. (2002). *Türkçe arama motorlarında performans değerlendirme*. Ankara: Total Bilişim.

e) İngilizce Kitap

Kamien R., & Kamien A. (2014). *Music: An appreciation*. New York, NY: McGraw-Hill Education.

f) İngilizce Kitap İçerisinde Bölüm

Bassett, C. (2006). Cultural studies and new media. In G. Hall & C. Birchall (Eds.), *New cultural studies: Adventures in theory* (pp. 220–237). Edinburgh, UK: Edinburgh University Press.

g) Türkçe Kitap İçerisinde Bölüm

Erkmen, T. (2012). Örgüt kültürü: Fonksiyonları, öğeleri, işletme yönetimi ve liderlikteki önemi. M. Zencirkıran (Ed.), *Örgüt sosyolojisi kitabı* içinde (s. 233–263). Bursa: Dora Basım Yayın.

h) Yayımcının ve Yazarın Kurum Olduğu Yayın

Türk Standartları Enstitüsü. (1974). *Adlandırma ilkeleri*. Ankara: Yazar

Makale

a) Türkçe Makale

Mutlu, B. ve Savaşer, S. (2007). Çocuğu ameliyat sonrası yoğun bakımda olan ebeveynlerde stres nedenleri ve azaltma girişimleri. *İstanbul Üniversitesi Florence Nightingale Hemşirelik Dergisi*, 15(60), 179–182.

b) İngilizce Makale

de Cillia, R., Reisigl, M., & Wodak, R. (1999). The discursive construction of national identity. *Discourse and Society*, 10(2), 149–173. <http://dx.doi.org/10.1177/0957926599010002002>

c) Yediden Fazla Yazarlı Makale

Lal, H., Cunningham, A. L., Godeaux, O., Chlibek, R., Diez-Domingo, J., Hwang, S.-J. ... Heineman, T. C. (2015). Efficacy of an adjuvanted herpes zoster subunit vaccine in older adults. *New England Journal of Medicine*, 372, 2087–2096. <http://dx.doi.org/10.1056/NEJMoa1501184>

d) DOI'si Olmayan Online Edinilmiş Makale

Al, U. ve Doğan, G. (2012). Hacettepe Üniversitesi Bilgi ve Belge Yönetimi Bölümü tezlerinin atıf analizi. *Türk Kütüphaneciliği*, 26, 349–369. Erişim adresi: <http://www.tk.org.tr/>

e) DOI'si Olan Makale

Turner, S. J. (2010). Website statistics 2.0: Using Google Analytics to measure library website effectiveness. *Technical Services Quarterly*, 27, 261–278. <http://dx.doi.org/10.1080/07317131003765910>

f) Advance Online Olarak Yayımlanmış Makale

Smith, J. A. (2010). Citing advance online publication: A review. *Journal of Psychology*. Advance online publication. <http://dx.doi.org/10.1037/a45d7867>

g) Popüler Dergi Makalesi

Semerçioğlu, C. (2015, Haziran). Sıradanlığın rayihası. *Sabit Fikir*, 52, 38–39.

Tez, Sunum, Bildiri

a) Türkçe Tezler

Sarı, E. (2008). *Kültür kimlik ve politika: Mardin'de kültürlerarasılık*. (Doktora Tezi). Ankara Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

b) Ticari Veritabanında Yer Alan Yüksek Lisans Ya da Doktora Tezi

Van Brunt, D. (1997). *Networked consumer health information systems* (Doctoral dissertation). Available from ProQuest Dissertations and Theses. (UMI No. 9943436)

c) Kurumsal Veritabanında Yer Alan İngilizce Yüksek Lisans/Doktora Tezi

Yaylalı-Yıldız, B. (2014). *University campuses as places of potential publicness: Exploring the political, social and cultural practices in Ege University* (Doctoral dissertation). Retrieved from <http://library.iyte.edu.tr/tr/hizli-erisim/iyte-tez-portali>

d) Web'de Yer Alan İngilizce Yüksek Lisans/Doktora Tezi

Tonta, Y. A. (1992). *An analysis of search failures in online library catalogs* (Doctoral dissertation, University of California, Berkeley). Retrieved from <http://yunus.hacettepe.edu.tr/~tonta/yayinlar/phd/ickapak.html>

e) Dissertations Abstracts International'da Yer Alan Yüksek Lisans/Doktora Tezi

Appelbaum, L. G. (2005). Three studies of human information processing: Texture amplification, motion representation, and figure-ground segregation. *Dissertation Abstracts International: Section B. Sciences and Engineering*, 65(10), 5428.

f) Sempozyum Katkısı

Krinsky-McHale, S. J., Zigman, W. B. & Silverman, W. (2012, August). Are neuropsychiatric symptoms markers of prodromal Alzheimer's disease in adults with Down syndrome? In W. B. Zigman (Chair), *Predictors of mild cognitive impairment, dementia, and mortality in adults with Down syndrome*. Symposium conducted at American Psychological Association meeting, Orlando, FL.

g) Online Olarak Erişilen Konferans Bildiri Özeti

Çınar, M., Doğan, D. ve Seferoğlu, S. S. (2015, Şubat). *Eğitimde dijital araçlar: Google sınıf uygulaması üzerine bir değerlendirme* [Öz]. Akademik Bilişim Konferansında sunulan bildiri, Anadolu Üniversitesi, Eskişehir. Erişim adresi: <http://ab2015.anadolu.edu.tr/index.php?menu=5&submenu=27>

h) Düzenli Olarak Online Yayımlanan Bildiriler

Herculano-Houzel, S., Collins, C. E., Wong, P., Kaas, J. H., & Lent, R. (2008). The basic nonuniformity of the cerebral cortex. *Proceedings of the National Academy of Sciences*, 105, 12593–12598. <http://dx.doi.org/10.1073/pnas.0805417105>

i) Kitap Şeklinde Yayımlanan Bildiriler

Schneider, R. (2013). Research data literacy. S. Kurbanoglu ve ark. (Ed.), *Communications in Computer and Information Science: Vol. 397. Worldwide Communalities and Challenges in Information Literacy Research and Practice* içinde (s. 134–140). Cham, İsviçre: Springer. <http://dx.doi.org/10.1007/978-3-319-03919-0>

j) Kongre Bildirisi

Çepni, S., Bacanak A. ve Özsevgeç T. (2001, Haziran). *Fen bilgisi öğretmen adaylarının fen branşlarına karşı tutumları ile fen branşlarındaki başarılarının ilişkisi*. X. Ulusal Eğitim Bilimleri Kongresi'nde sunulan bildiri, Abant İzzet Baysal Üniversitesi, Bolu

Diğer Kaynaklar

a) Gazete Yazısı

Toker, Ç. (2015, 26 Haziran). 'Unutma' notları. *Cumhuriyet*, s. 13.

b) Online Gazete Yazısı

Tamer, M. (2015, 26 Haziran). E-ticaret hamle yapmak için tüketiciyi bekliyor. *Milliyet*. Erişim adresi: <http://www.milliyet>

c) Web Page/Blog Post

Bordwell, D. (2013, June 18). David Koepp: Making the world movie-sized [Web log post]. Retrieved from <http://www.davidbordwell.net/blog/page/27/>

d) Online Ansiklopedi/Sözlük

Bilgi mimarisi. (2014, 20 Aralık). Vikipedi içinde. Erişim adresi: http://tr.wikipedia.org/wiki/Bilgi_mimarisi

Marcoux, A. (2008). Business ethics. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/entries/ethics-business/>

e) Podcast

Radyo ODTÜ (Yapımcı). (2015, 13 Nisan). *Modern sabahlar* [Podcast]. Erişim adresi: <http://www.radyoodtu.com.tr/>

f) Bir Televizyon Dizisinden Tek Bir Bölüm

Shore, D. (Senarist), Jackson, M. (Senarist) ve Bookstaver, S. (Yönetmen). (2012). Runaways [Televizyon dizisi bölümü]. D. Shore (Baş yapımcı), *House M.D.* içinde. New York, NY: Fox Broadcasting.

g) Müzik Kaydı

Say, F. (2009). Galata Kulesi. *İstanbul senfonisi* [CD] içinde. İstanbul: Ak Müzik.

SON KONTROL LİSTESİ

Aşağıdaki listede eksik olmadığından emin olun:

- Editöre mektup
 - ✓ Makalenin türü
 - ✓ Yazar(lar)ın özgeçmiş bilgisi
 - ✓ Başka bir dergiye gönderilmemiş olduğu bilgisi
 - ✓ Sponsor veya ticari bir firma ile ilişkisi (varsa belirtiniz)
 - ✓ İstatistik kontrolünün yapıldığı (araştırma makaleleri için)
 - ✓ İngilizce yönünden kontrolünün yapıldığı
 - ✓ Yazarlara Bilgide detaylı olarak anlatılan dergi politikalarının gözden geçirildiği
 - ✓ Kaynakların APA6'ya göre belirtildiği
 - Telif Hakkı Anlaşması Formu
 - Daha önce basılmış ve telifle bağlı materyal (yazı-resim-tablo) kullanılmış ise izin belgesi
 - Kapak Sayfası
 - ✓ Makalenin türü
 - ✓ Türkçe ve İngilizce başlık
 - ✓ Yazarların ismi soyadı, unvanları ve bağlı oldukları kurumlar (üniversite ve fakülte bilgisinden sonra şehir ve ülke bilgisi de yer almalıdır), e-posta adresleri
 - ✓ Sorumlu yazarın e-posta adresi, açık yazışma adresi, iş telefonu, GSM, faks nosu
 - ✓ Tüm yazarların ORCID'leri
 - Makale ana metni
 - ✓ Türkçe ve İngilizce başlık
 - ✓ Özetler 200-250 kelime Türkçe ve 200-250 kelime İngilizce
 - ✓ Anahtar Kelimeler: 5 adet Türkçe ve 5 adet İngilizce
 - ✓ Jel Kodlar: 3 adet
 - ✓ Makale Türkçe ise, 600-800 kelime İngilizce genişletilmiş özet (Extended Abstract)
 - ✓ Makale ana metin bölümleri
 - ✓ Finansal destek (varsa belirtiniz)
 - ✓ Çıkar çatışması (varsa belirtiniz)
 - ✓ Teşekkür (varsa belirtiniz)
 - ✓ Kaynaklar
 - ✓ Tablolar-Resimler, Şekiller (başlık, tanım ve alt yazılarıyla)
-

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Beyazıt, Fatih, İstanbul - Türkiye

DESCRIPTION

Journal of Economic Policy Researches - İktisat Politikası Araştırmaları Dergisi is the publication of Istanbul University Center for Practice and Research in Economic Policy. It is an open access, peer-reviewed, international, scholarly journal published biannually in January and July. The manuscripts submitted for publication in the journal must be scientific and original work in Turkish or English.

AIM AND SCOPE

Journal of Economic Policy Researches - İktisat Politikası Araştırmaları Dergisi aims to publish articles of high quality dealing with issues in economic policy which impact on national and global economies. The journal provides an international forum for economic theory and practice and aims to publish highly selective, widely cited articles of current relevance that will have a long-term impact on economics research.

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All the citations done in the text should be listed in the References section in alphabetical order of author surname without numbering. Below given examples should be considered in citing the references.

Basic Reference Types

Book

a) Turkish Book

Karasar, N. (1995). *Araştırmalarda rapor hazırlama* (8th ed.) [Preparing research reports]. Ankara, Turkey: 3A Eğitim Danışmanlık Ltd.

b) Book Translated into Turkish

Mucchielli, A. (1991). *Zihniyetler* [Mindsets] (A. Kotil, Trans.). İstanbul, Turkey: İletişim Yayınları.

c) Edited Book

Ören, T., Üney, T., & Çölkesen, R. (Eds.). (2006). *Türkiye bilişim ansiklopedisi* [Turkish Encyclopedia of Informatics]. İstanbul, Turkey: Papatya Yayıncılık.

d) Turkish Book with Multiple Authors

Tonta, Y., Bitirim, Y., & Sever, H. (2002). *Türkçe arama motorlarında performans değerlendirme* [Performance evaluation in Turkish search engines]. Ankara, Turkey: Total Bilişim.

e) Book in English

Kamien R., & Kamien A. (2014). *Music: An appreciation*. New York, NY: McGraw-Hill Education.

f) Chapter in an Edited Book

Bassett, C. (2006). Cultural studies and new media. In G. Hall & C. Birchall (Eds.), *New cultural studies: Adventures in theory* (pp. 220–237). Edinburgh, UK: Edinburgh University Press.

g) Chapter in an Edited Book in Turkish

Erkmen, T. (2012). Örgüt kültürü: Fonksiyonları, öğeleri, işletme yönetimi ve liderlikteki önemi [Organization culture: Its functions, elements and importance in leadership and business management]. In M. Zencirkıran (Ed.), *Örgüt sosyolojisi* [Organization sociology] (pp. 233–263). Bursa, Turkey: Dora Basım Yayın.

h) Book with the same organization as author and publisher

American Psychological Association. (2009). *Publication manual of the American psychological association* (6th ed.). Washington, DC: Author.

Article

a) Turkish Article

Mutlu, B., & Savaşer, S. (2007). Çocuğu ameliyat sonrası yoğun bakımda olan ebeveynlerde stres nedenleri ve azaltma girişimleri [Source and intervention reduction of stress for parents whose children are in intensive care unit after surgery]. *Istanbul University Florence Nightingale Journal of Nursing*, 15(60), 179–182.

b) English Article

de Cillia, R., Reisigl, M., & Wodak, R. (1999). The discursive construction of national identity. *Discourse and Society*, 10(2), 149–173. <http://dx.doi.org/10.1177/0957926599010002002>

c) Journal Article with DOI and More Than Seven Authors

Lal, H., Cunningham, A. L., Godeaux, O., Chlibek, R., Diez-Domingo, J., Hwang, S.-J. ... Heineman, T. C. (2015). Efficacy of an adjuvanted herpes zoster subunit vaccine in older adults. *New England Journal of Medicine*, 372, 2087–2096. <http://dx.doi.org/10.1056/NEJMoa1501184>

d) Journal Article from Web, without DOI

Sidani, S. (2003). Enhancing the evaluation of nursing care effectiveness. *Canadian Journal of Nursing Research*, 35(3), 26–38. Retrieved from <http://cjinr.mcgill.ca>

e) Journal Article with DOI

Turner, S. J. (2010). Website statistics 2.0: Using Google Analytics to measure library website effectiveness. *Technical Services Quarterly*, 27, 261–278. <http://dx.doi.org/10.1080/07317131003765910>

f) Advance Online Publication

Smith, J. A. (2010). Citing advance online publication: A review. *Journal of Psychology*. Advance online publication. <http://dx.doi.org/10.1037/a45d7867>

g) Article in a Magazine

Henry, W. A., III. (1990, April 9). Making the grade in today's schools. *Time*, 135, 28–31.

Doctoral Dissertation, Master's Thesis, Presentation, Proceeding

a) Dissertation/Thesis from a Commercial Database

Van Brunt, D. (1997). *Networked consumer health information systems* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9943436)

b) Dissertation/Thesis from an Institutional Database

Yaylı-Yıldız, B. (2014). *University campuses as places of potential publicness: Exploring the political, social and cultural practices in Ege University* (Doctoral dissertation). Retrieved from <http://library.iyte.edu.tr/tr/hizli-erisim/iyte-tez-portali>

c) Dissertation/Thesis from Web

Tonta, Y. A. (1992). *An analysis of search failures in online library catalogs* (Doctoral dissertation, University of California, Berkeley). Retrieved from <http://yunus.hacettepe.edu.tr/~tonta/yayinlar/phd/ickapak.html>

d) Dissertation/Thesis abstracted in Dissertations Abstracts International

Appelbaum, L. G. (2005). Three studies of human information processing: Texture amplification, motion representation, and figure-ground segregation. *Dissertation Abstracts International: Section B. Sciences and Engineering*, 65(10), 5428.

e) Symposium Contribution

Krinsky-McHale, S. J., Zigman, W. B., & Silverman, W. (2012, August). Are neuropsychiatric symptoms markers of prodromal Alzheimer's disease in adults with Down syndrome? In W. B. Zigman (Chair), *Predictors of mild cognitive impairment, dementia, and mortality in adults with Down syndrome*. Symposium conducted at the meeting of the American Psychological Association, Orlando, FL.

f) Conference Paper Abstract Retrieved Online

Liu, S. (2005, May). *Defending against business crises with the help of intelligent agent based early warning solutions*. Paper presented at the Seventh International Conference on Enterprise Information Systems, Miami, FL. Abstract retrieved from http://www.iceis.org/iceis2005/abstracts_2005.htm

g) Conference Paper - In Regularly Published Proceedings and Retrieved Online

Herculano-Houzel, S., Collins, C. E., Wong, P., Kaas, J. H., & Lent, R. (2008). The basic nonuniformity of the cerebral cortex. *Proceedings of the National Academy of Sciences*, 105, 12593–12598. <http://dx.doi.org/10.1073/pnas.0805417105>

h) Proceeding in Book Form

Parsons, O. A., Pryzwansky, W. B., Weinstein, D. J., & Wiens, A. N. (1995). Taxonomy for psychology. In J. N. Reich, H. Sands, & A. N. Wiens (Eds.), *Education and training beyond the doctoral degree: Proceedings of the American Psychological Association National Conference on Postdoctoral Education and Training in Psychology* (pp. 45–50). Washington, DC: American Psychological Association.

i) Paper Presentation

Nguyen, C. A. (2012, August). *Humor and deception in advertising: When laughter may not be the best medicine*. Paper presented at the meeting of the American Psychological Association, Orlando, FL.

Other Sources

a) Newspaper Article

Browne, R. (2010, March 21). This brainless patient is no dummy. *Sydney Morning Herald*, 45.

b) Newspaper Article with no Author

New drug appears to sharply cut risk of death from heart failure. (1993, July 15). *The Washington Post*, p. A12.

c) Web Page/Blog Post

Bordwell, D. (2013, June 18). David Koepp: Making the world movie-sized [Web log post]. Retrieved from <http://www.davidbordwell.net/blog/page/27/>

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d) Online Encyclopedia/Dictionary

Ignition. (1989). In *Oxford English online dictionary* (2nd ed.). Retrieved from <http://dictionary.oed.com>

Marcoux, A. (2008). Business ethics. In E. N. Zalta (Ed.). *The Stanford encyclopedia of philosophy*.

Retrieved from <http://plato.stanford.edu/entries/ethics-business/>

e) Podcast

Dunning, B. (Producer). (2011, January 12). *inFact: Conspiracy theories* [Video podcast]. Retrieved from <http://itunes.apple.com/>

f) Single Episode in a Television Series

Egan, D. (Writer), & Alexander, J. (Director). (2005). Failure to communicate. [Television series episode]. In D. Shore (Executive producer), *House*; New York, NY: Fox Broadcasting.

g) Music

Fuchs, G. (2004). Light the menorah. On *Eight nights of Hanukkah* [CD]. Brick, NJ: Kid Kosher.

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