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Sustainability of External Debt, Current Account Balance and Budget Balance in Developing Countries: A Cross Country Analysis

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Abstract

In this study; sustainability of external debt, current account balance and budget balance in 25 in developing countries are analyzed via Kapetanios unit root test with multiple structural breaks. According to results of the analysis; external deficits in Columbia, Peru and Thailand are unsustainable. While it is weakly sustainable in Bangladesh, Brazil, India, Indonesia, Malaysia, Mexico, Pakistan, Philippines, South Africa and Turkey, it is strongly sustainable in China and Egypt. Additionally, current account balance in Columbia, Czech Republic, Egypt, Greece, India, Malaysia, Pakistan, Philippines and Poland are unsustainable. While it is weakly sustainable in Bangladesh and Turkey, it is strongly sustainable in other countries. Finally, it is determined that budget balance in China, Colombia, India, Indonesia, Pakistan, and Turkey are unsustainable. While it is weakly sustainable in the Czech Republic and Greece, it is strongly sustainable in other countries.

Keywords: External Debt Sustainability, Current Account Balance Sustainability, Budget Balance Sustainability, Unit Root Test with Multiple Structural Breaks.

INTRODUCTION

The Covid-19 pandemic caused the foreign debts, current account deficits and budget deficits of countries to increase again. It is anticipated that countries will have to be more interested in these problems in the near future (Saleemi, 2020). For this reason, it is beneficial to reconsider these issues and keep them on the agenda. It is expected that this study will make a contribution to the literature in terms of its focus, countries and analysis methods used.

Foreign currency flows from countries having excess funds to countries having fund shortage is called external debt (Gill and Pinto, 2011). Accumulation of this debt in time gives external debt stock. External debt stock can be divided into two parts; public and private. Private sector takes credit from foreign markets and begins to use foreign savings when domestic saving is not sufficient to finance investments and savings. This happens mostly through syndicated loan. Public sector external debt, on the other hand, occurs when budget deficit could not be financed from domestic markets. Major external debt types are (IMF, 2014):

- Inter-government external debts
- External debts from international institutions (IMF, World Bank)
- External debts from market in return of bonds
- External debts from foreign banks

External debts, seen as a development accelerating factor for countries facing resource shortages in the beginning (Bernardin et al. 2018), might become one of the major obstacles to have a sustainable economic growth performance with its values reached over time. The reason behind the crises occurred in Latin America (Adler and Sosa, 2013), Far East and many other areas since 1980 is the external debt which had reached to high values and had become unsustainable (Ejigayehu, 2013).

In this study, sustainability of external debts in 25 countries which are classified as Developing Countries according to Morgan Stanley Capital Index (MSCI) is analyzed by available external debt stock, external debt burden, and current account deficit and budget deficit data for 1970-2019 periods. At the end of this study, it is seen that the external debt stocks of developing countries have reached quite high values and sustainability of the debts has become risky. To prevent more critical problems in future, policy makers of the countries and supranational institutions like IMF and World Bank should take necessary precautions as soon as possible. The most important contribution of this study to country economies and the literature is that existence of sustainability in the fields of external debts, current account balance and budget deficit in developing countries was analyzed with the help of tables and econometric methods.

EXTERNAL DEBTS

Reasons and Sustainability of External Debt

Insufficiency of production and income capacity to finance economic growth, increasing public sector financing deficits and balance of payments deficits in Developing Countries (DC) forced these countries to external debts. The main reason which directs countries to external debt is the lack of domestic savings. Other reasons; (i) not having the opportunity to get loan from domestic capital market, (ii) the need of foreign currency, (iii) the reserve search of Central Banks to keep the national currency's value, (iv) less interest burden of having loan from developed countries and (v) the fact that developed countries compel developing countries to indebtedness (Panizza, 2008).

Sustainability of external debts is the ability to pay the principal and interest of the debt in time and in complete amount (O'Neill, 2016). When the principal and interest cannot be paid, several problems arise. What happens first in such situation is the unwillingness of the creditor to give loan again (IMF, 2013). Second, a delay especially in payment of external debt will be felt by market immediately and all the creditors whether they previously give loan to treasury or not will hesitate to create new credits. When such delay happens frequently, country will face big troubles in getting credit from both domestic and external markets. Therefore, it is quite important to pay the principal and interest of the debt in time (World Bank, 2017). In macroeconomics, three concepts have importance on investigating the sustainability of external debts (Mustapha and Prizzon, 2015):

i) External Debt Stock: Total sum of external debts of public and private sectors. Ratio of external debt stock to export can be calculated by Eq. (1);

$$\text{Ratio of External Debt Stock to Export} = \left(\frac{\text{External Debt Stock}}{\text{Export}} \right) * 100 \quad (1)$$

If the ratio is in between 165% and 275%, the country is moderately indebted. If it is over 275%, the country is heavily indebted (World Bank, 2020h).

ii) External Debt Burden: The ratio calculated by Eq. (2);

$$\text{External Debt Burden} = \left(\frac{\text{External Debt Stock}}{\text{GDP}} \right) * 100 \quad (2)$$

If this ratio is in between 30% and 50%, the country is moderately indebted. If the ratio is over 50%, the country is in heavily indebted (IMF, 2021).

iii) Total Debt Service: Shows the amount of principal and interest payments of previous loans to be paid in next year. Rise of external debt stock will make countries more fragile against economic crisis whether it is public or private sector in many countries. World Bank takes two ratios into account while classifying the developing countries about external debts. Total debt service ratio can be calculated by Eq. (3);

$$\text{Total Debt Service Ratio} = \left(\frac{\text{Total Debt Service}}{\text{GNI}} \right) * 100 \quad (3)$$

If the ratio is in between 18% and 30% the country is moderately indebted. If the ratio is over 30%, the country is heavily indebted (World Bank, 2012).

vi) Ratio of Total Debt Service to Export: The ratio calculated by Eq. (4);

$$\text{Ratio of Total Debt Service to Export} = \left(\frac{\text{Total Debt Service}}{\text{Export}} \right) * 100 \quad (4)$$

If the ratio is below 5%, the country is moderately indebted and if it is above 5%, the country is heavily indebted. Although export trend is important here, exchange rate trend and price stability are also important determinants (Merotto et al. 2015).

Several indicators have been developed to track sustainability of public debt stock (Ozkaya, 2013):

- One of the main indicators is the condition that the economic growth rate is greater than the real indebtedness interest rate. If this condition is satisfied, a sustainable growth rate will occur and getting credit again is possible. Otherwise, the country will have hard time on finding credits and external debt stock will increase in time in most countries.
- Another major criterion on investigating the sustainability of external debts is the ratio of external debt stock to country's export revenue. It is hard to have a sustainable external debt when the ratio of external debt to export revenue is over 50% in most countries.
- One of the other important criterions giving idea about sustainability of external debts is the share of external debt stock of public sector in GNP. According to Maastricht Criteria accepted in 1993, one of the necessary conditions for an EU country to join in common monetary union is that the external debt stock of public sector has to be less than 60% of its GDP. We can evaluate this ratio as a criterion of sustainable external debt.
- The last but not least factor is Net Present Value (NPV) of external debts. The NPV of debt is the sum of all the future debt service obligations (interest and principal) on existing debt, discounted at the market interest rate. NPV of the external debt is compared to the threshold. If NPV smaller than threshold, that countries' external debt is sustainable (Wyplosz, 2007).

The validity of these threshold values may vary depending on the indebtedness degree of the countries. The present value of the debt to exports ratio in Heavily Indebted Poor Countries (HIPC's) is 150% and debt service to exports ratio is 15%. In very open economies, whose exports-to-GDP ratio are at least 30%, that have a heavy fiscal burden of debt despite strong efforts to generate revenue (demonstrated by a fiscal revenue to GDP ratio of at least 15%), the present value of debt-to-exports target can be below 150% and is set so as to achieve a 250% ratio of the present value of debt to fiscal revenue at the decision point (OECD, 2021).

A country has to have primary surplus in order to be able to ensure its debt sustainability (Beqiraj et al. 2018). Otherwise, its debt stock will continuously increase. According to economists, two deficits must be monitored to sustain external debts: current account deficit and non-interest deficit (Orhan and Nergiz, 2014).

Countries can increase their sustainability of external deficits by means of adopting export-led growth strategies and precautions to reduce non-interest budget deficit. When export increases, the share of total debt service in exports and the country's total debt service payment problem decreases. In order to reduce budget deficits, either public expenditures are to be decreased or public revenue is to be increased. To increase public revenue, either taxes will be raised or privatization which provides instant income will be tried (OECD, 2021). Of course, the maturity structure of external debts is also of great importance here. Particularly, excessively high short-term external debt is an important financial risk indicator for HIPC's (IMF, 2019).

Most of the developing countries including Turkey have adopted export-led growth strategy since 1980's and tried to increase their production and export. They accelerated privatizations where this strategy became inadequate. For instance, in Mexico, almost all of the small businesses

owned by government were privatized until 1988 in order to reduce budget deficit in accordance with the stabilization program signed between Mexico and IMF in 1983. In 1989, the process has gained speed with Salinas Administrations and 940 of 1155 State-Owned Enterprise have liquidated, unified or sold until 1991. Total value of these was 14 billion Dollars, which was 6% of Mexico's GDP. At the beginning, revenue of privatizations was kept in a special account to protect the economy from unanticipated shocks. When Mexico has become a strong economy, as of the beginning of 1992, domestic debt worth of 14 trillion peso were paid just by privatization revenue. In this way, public sector domestic debt worth of 29.2% of GDP in 1988 was decreased to 17.5% of GDP in 1991. In Turkey, 43 billion Dollars privatization, of which 35 billion Dollars part between 2002 and 2011, were realized 1986-2011 period (OECD, 2021).

Results of External Debts in Developing Countries

According to Rosenstein-Rodan (1943) Big Push Theory, in least developed countries at which private sector cannot arise, financial and physical capital in huge amounts provided from abroad may take the country out of recession and make it self-growing. That is, the use of foreign finance resources is effective in the beginning of development. However, to keep development, domestic finance resources must be advanced. When the external debts of DC's are not evaluated efficiently, they cannot provide required economic growth and become a significant burden on economy in addition to being a reason for fragility against crisis (Macovei, 2009).

External debts of developing countries had quickly risen because of the rapid increase in oil price in 1973, the worldwide economic recession in 1974-1975 and another oil shock in 1978. In this way, period of external debt crisis had begun with the increase in external debts' interest rates and the value of US Dollars between 1980 and 1982. External debt crisis faced by countries deepened as a result of the significant increase in interest rates, implied as "*Libor + spread*" (Watson and Relging, 1992).

The ratio of total debts to GDP rose to 29% from 22% and the ratio of external debts to export jumped to 128% from 115% in developing and underdeveloped countries in 1973. Consolidation demands for external debts, which actually started in 1975, made the external debt crisis a worldwide issue after 1982 in terms of the amount and number of applicant country.

The period, called "debt decade" in literature and begun with the moratorium declaration of Mexico in August 1982, continued with the consolidation demand of Brazil in 1983 and implication of conversion on external debts in Chili in 1985. In 1987, Brazil declared moratorium in February and Argentina reached a discount on external debts by negotiations. Official bilateral credit paybacks postponed in 1988 Toronto G-7 Meeting (G7 Information Service, 1988).

Increasing real exchange rates in East Asia countries in 1990's raised their foreign trade and current account deficits. In this way, external debts of countries started to rise. Moreover, expenditure of external debts on non-exportable sectors like construction, leading the loss of anticipated efficiency, had worsened the sustainability of external debts in these countries. All this circumstances together with speculative attacks created a significant economic crisis in Southeast Asia countries in 1997. The crisis started in Thailand had quickly spread to Indonesia, Malaysia, Philippines and then South Korea, Hong Kong, Singapore and Taiwan (Pesenti and

Till, 2000). After a short while, Russia was affected from crisis and declared moratorium in 1998. Brazil, which lived a great debt crisis in 1980's, faced a significant economic crisis in January 1999 under the impact of Russian crisis together with increasing fiscal and current deficits (Cardosa and Helwege, 1999). In 2001-2002 crisis, Brazil experienced a "default" situation and could not payback its debt around 100 billion Dollars (Macovei, 2009).

While total debts of DC's were 72.8 billion Dollars in 1970's, it increased 609.4 billion Dollars in 1980's, 1458 billion Dollars in 1990's, 2492 billion Dollars in 2000 and 2800 billion Dollars in 2005. It has jumped to 4780 billion Dollars in 2014 (World Bank, 2016b).

In 2019, net debt inflow of low- and middle-income countries was 464 billion Dollars, 18% less than the previous year. It was the result of 60% decrease in net short-term debt flows, from 188 billion Dollars to 72 billion Dollars. External debt to GNI ratio was 22 percent in 2019, and the ratio of external debt to exports was 79 percent in average while external debt burden of low- and middle-income countries stayed at moderate levels. In Table 1, data related to external debts of the countries as of 2019 is presented.

Table 1: External Debt Statistics of Developing Countries

	External Debt Stocks (Billion Dollars)	External Debt Stocks to Exports (%)	External Debt Stocks to GNI (%)	Debt Service to Exports (%)
Bangladesh	47.1	120	18.1	5.5
Brazil	542.9	205.9	26.9	36.1
Chile	102.1	NA	65.4	NA
China	1710.2	63.8	14	7.6
Colombia	124.3	232.6	41.3	41.6
Czech Republic	137.6	NA	86.7	NA
Egypt	82.8	190.2	35.8	15.1
Greece	455.7	NA	174	NA
Hungary	143.7	146.5	115	NA
India	513.2	101	19.7	10
Indonesia	354.3	177	36	33.9
Malaysia	202.5	94.4	66.8	5.8
Mexico	455	101.6	40.4	14
Pakistan	84.5	285.9	26.2	22.8
Peru	68	127.2	33.5	21.7
Philippines	73	74.3	19.3	11.3
Poland	355.9	130.1	39.9	NA
Qatar	116.1	NA	55	NA
Russia	492.7	107.6	32	26
South Africa	176.3	160.3	52	12.1
South Korea	380.9	NA	37	NA
Taiwan	172	NA	37.4	NA
Thailand	129.7	40.6	29.8	4.7
Turkey	454.7	211.4	54.1	40.2
U.A. Emirates	220.4	NA	59	NA

Source: World Bank-External Debt Statistics (2020a, 2020b, 2020c, 2020d).

In Table 1, it is seen that the countries having the most external debt among developing countries are China, Brazil, India, Russia, Greece and Turkey. The ratio of external debt stock to GNI has the highest values in Greece, Hungary, Czech Republic, Malaysia, Chile, Qatar and Turkey. According to the classification of World Bank calculated as external debt stock/GNI, Greece, Hungary, Malaysia, Chile, Qatar and Turkey are heavily indebted. In terms of external debt stocks to exports ratio for the countries whose data are available, it is seen that countries generally classified as moderately indebted. Debt service to exports ratio reveals that, again for the countries with available data, all countries except Thailand is heavily indebted.

Sustainability of External Debts in Developing Countries

In order to determine the sustainability of external debts in developing countries, external debt stocks to GNI and external debt stocks to exports data of each country are analyzed by Kapetanios (2005) unit root test with multiple structural breaks¹. This unit root test allows up to m structural breaks and it can determine break dates and numbers endogenously (Kapetanios, 2005). Null hypothesis of Kapetanios (2005) test is “*series has a unit root*” and rejection of this hypothesis means that the series is stationary. If the series stationary, it can decide that policy is sustainable. For the countries being stationary on level values, it is decided that external debts are sustainable (Jha and Sharma, 2001; Afonso, 2004; Bozoklu and Yilanci, 2004; Claeys, 2007; Afonsa and Jalles, 2012). Kapetanios (2005) test results were presented in Table 2.

¹ The reasons of why Kapetanios (2005) unit root test was chosen are the long analysis period in the study, the existence of many domestic and external factors affecting the economies of the countries in this period and the fact that these factors may have caused more than one structural break in the data.

Table 2: Analysis Results for Sustainability of External Debts

	Test Statistics		Test Statistics		Decision
	Period	(According to External Debt Stocks to GNI)	Period	(According to External Debt Stocks to Exports)	
Bangladesh	1973- 2019	-3.85 [1994]	1976- 2019	-4.27* [1991]	WS
Brazil	1970- 2019	-3.46 [2003]	1975- 2019	-4.92*** [2002]	WS
China	1981- 2019	-4.88** [1993]	1982- 2019	-4.20* [1991]	SS
Colombia	1970- 2019	-3.40 [2003]	1970- 2019	-3.99 [2003]	US
Egypt	1970- 2019	-5.47*** [1988]	1977- 2019	-8.20*** [1989]	SS
India	1970- 2019	-2.91 [1993]	1975- 2019	-4.08* [1991]	WS
Indonesia	1970- 2019	-2.78 [1998]	1981- 2019	-4.93*** [1999]	WS
Malaysia	1970- 2019	-3.74 [1986]	1974- 2019	-4.18* [1986]	WS
Mexico	1970- 2019	-2.97 [1987]	1979- 2019	-5.74*** [-193]	WS
Pakistan	1970- 2019	-3.15 [2002]	1976- 2019	-6.18*** [1999]	WS
Peru	1970- 2019	-2.35 [1988]	1977- 2019	-3.95 [1993]	US
Philippines	1970- 2019	-3.41 [1986]	1977- 2019	-4.09* [1988]	WS
South Africa	1994- 2019	-7.66*** [2011]	1994- 2019	-3.31 [2008]	WS
Thailand	1970- 2019	-3.24 [1998]	1975- 2019	-4.04 [1998]	US
Turkey	1970- 2019	-3.08 [1981]	1974- 2019	-4.91*** [1986]	WS

Note: Critical values for 1%, 5% and 10% significance levels in Kapetanios test are -4.89, -4.35 and -4.07 respectively. ***, ** and * show that the series is stationary at 1%, 5% and 10% significance levels respectively and that the related policy is sustainable. Those who are stationary in two series are called strongly sustainable and those who are stationary in one series are called weakly sustainable. Numbers in brackets is the structural break times determined by the test. SS: Strongly Sustainable, WS: Weakly Sustainable, US: Unsustainable.

According to results of Table 2, external deficits in Colombia, Peru and Thailand are unsustainable because of high external debts in Colombia in recent years and in Peru and Thailand in the early 2000's. While it is weakly sustainable in Bangladesh, Brazil, India, Indonesia, Malaysia, Mexico, Pakistan, Philippines, South Africa and Turkey, it is strongly sustainable in China and Egypt because average external debts/GNI ratio is nearly 12% in China and 26% in Egypt. It is seen that the structural break times estimated endogenously by the test are generally

the times in which countries faced debt crisis. Due to the Covid-19 crisis forcing governments to implement expansionary fiscal policies and the loss of production and tax in economies, countries will need more external financing. In this way, it is evaluated those external debts of Bangladesh, Brazil, India, Indonesia, Malaysia, Mexico, Pakistan, Philippines, South Africa and Turkey all of whose external debt are weakly sustainable may become unsustainable.

CURRENT ACCOUNT BALANCE

Current Account Balance in Developing Countries

Current account balance is the most important indicator of countries' external economic performances as it consists of export, import, tourism, transportation, construction, transfers, revenue of direct investment and interest payments for external debts transactions between the residents of a country and the residents of other country within a period. The case when the expenses are more than income in current account, which is called current deficit, is a risk factor that must be monitored carefully.

Every deficit arose in current account is compensated by either selling external assets of residents or crediting from abroad. This case increases debt burden of the country, which is interpreted as a crisis alert by foreign investors and may make the capital flow out (Gocer, 2013a). In this way, external debts may become unsustainable for the country. That is, the movements and sustainability of current account, being a macroeconomic indicator that should not give deficit, has a great importance to determine policies (Thanh et al., 2001).

Many economists think that the basic reason of the crisis happened in developing countries in 1990's is current deficit (Freund, 2000). Current account gives important information about possible crisis (Edson, 2003; Zanghieri, 2004). The size of current deficit of a country can be seen as an important indicator of future exchange rate crisis (Corsetti, et al., 1999). Dornbusch and Fischer (1990) stated that the ratio of current deficit to GDP should not be greater than 4% while the ratio is 5% according to Freund (2000) and 6% to Karunaratne (2010). This is a critical value which indicates crisis alert in case of surpassing it. Together with the fact that there is not a consensus on this topic, it is accepted that the countries with high current deficit are more vulnerable to crisis. A few years long high current deficits may be the precursor of crisis if export sector is small, external debts are high, savings are low and auditing in banking/financing sector is weak (Radelet and Sachs, 2000). High current deficit in developing economies like Mexico, Turkey, Brazil, Argentina and East Asia Countries can be seen as crisis precursor (Labonte, 2005). Data about current account of developing countries are presented in Table 3.

Table 3: Current Account Balances in Developing Countries (% of GDP)

	1980	1985	1990	1995	2000	2005	2010	2015	2019
Bangladesh	-3.9	-2.0	-1.3	-2.2	-0.6	0.7	1.8	1.3	-1.0
Brazil	-5.5	-0.1	-0.8	-2.3	-3.7	1.6	-3.4	-3.3	-2.7
Chile	-6.8	-7.9	-1.5	-1.8	-1.1	1.5	1.4	-2.2	-3.0
China	NA	-3.7	3.3	0.2	1.7	5.8	3.9	2.7	1.4
Colombia	-0.6	-5.2	1.3	-4.9	0.8	-1.3	-3.0	-6.4	-4.2
Czech Republic	NA	NA	NA	-2.3	-4.4	-2	-3.6	0.2	-0.3
Egypt	-1.9	-5.2	5.4	-0.4	-1	2.3	-2.1	-5.2	-3.4
Greece	-3.9	-6.9	-3.6	-2.1	-7.5	-7.4	-10.1	-0.2	-1.4
Hungary	NA	NA	NA	-3.4	-8.5	-7.0	0.3	3.4	-0.8
India	-0.9	-1.8	-2.2	-1.5	-1.0	-1.2	-3.2	-1.1	-0.9
Indonesia	NA	-2.2	-2.6	-3.2	4.8	0.1	0.7	-2	-2.7
Malaysia	-1.1	-1.9	-2.0	-9.7	9.0	13.9	10.1	3.1	2.1
Mexico	-5.4	0.4	-2.8	-0.5	-2.7	-1.0	-0.5	-2.5	-0.2
Pakistan	-3.7	-3.4	-4.2	-5.5	-0.1	-3.3	-0.8	-1	-2.6
Peru	-0.6	0.6	-5.5	-8.9	-3.0	1.5	-2.5	-4.8	-1.6
Philippines	-5.9	-0.1	-6.1	-2.7	-2.7	1.9	3.6	2.5	-0.1
Poland	NA	NA	4.7	0.6	-6.0	-2.6	-5.4	-0.6	0.5
Russia	NA	NA	NA	1.8	17.5	11.0	4.4	4.9	3.8
South Africa	3.9	3.4	1.4	-1.6	-0.1	-3.1	-1.5	-4.6	-3.0
South Korea	-10.1	-2.0	-0.8	-1.7	1.9	1.4	2.6	7.7	3.6
Thailand	-6.4	-4.0	-8.5	-8.0	7.4	-4.0	3.4	8	6.9
Turkey	-5.0	-1.5	-1.7	-1.4	-3.7	-4.2	-5.8	-3.7	1.2

Source: World Bank (2020e). NA: Non-available.

In Table 3, it is seen that the current account deficit of Brazil in 1980's was 5.5% and become current account surplus in 2005, but in recent years it started to increase again. Chile has been successfully reducing its current account deficit which was 7.1% in 1980. China continuously gives current account surplus since 1990. Greece's and Turkey's current account deficits had reached 10% in 2010-2011 but deficits of these countries are in a tendency to decline. Malaysia and Thailand have a significant current account surplus, while Russia also generally gives current account surplus. Peru was faced a dangerous current account deficit shock in 1995. As of end of 2019, countries which are in most danger in terms of current deficit are Colombia and Egypt. Therefore, above mentioned countries should take precautions to reduce current account deficit as soon as possible.

Sustainability of Current Account Balance in Developing Countries

In order to determine the sustainability of current account balance in developing countries, current account balance to GDP data of each country is analyzed by Kapetanios (2005) unit root test with multiple structural breaks. If the countries being stationary on level values, it is decided that current account are sustainable. Unit root test results are shown in the Table 4.

Table 4: Analysis Results for Sustainability of Current Account Balance to GDP

	Period	Test Statistics	Critical Values			Structural Break Dates	Decision
			1%	5%	10%		
Bangladesh	1976-2019	-6.07*	-6.58	-6.11	-5.84	1994; 2008	WS
Brazil	1975-2019	-7.123**	-6.58	-6.11	-5.84	1992; 2004	SS
Chile	1975-2019	-7.123**	-6.58	-6.11	-5.84	1986; 2003	SS
China	1982-2019	-5.86***	-5.70	-5.08	-4.82	2004	SS
Colombia	1968-2019	-4.52	-5.70	-5.08	-4.82	1991	US
Czech Rep.	1993-2019	-3.65	-5.70	-5.08	-4.82	2003	US
Egypt	1977-2019	-5.41	-6.58	-6.11	-5.84	1989; 2001	US
Greece	1976-2019	-5.24	-6.58	-6.11	-5.84	2005; 2011	US
Hungary	1991-2019	-5.67**	-5.70	-5.08	-4.82	2008	SS
India	1975-2019	-4.21	-6.58	-6.11	-5.84	2000; 2012	US
Indonesia	1981-2019	-6.72***	-5.70	-5.08	-4.82	1997	SS
Malaysia	1974-2019	-4.50	-5.70	-5.08	-4.82	1997	US
Mexico	1979-2019	-5.24**	-5.70	-5.08	-4.82	1994	SS
Pakistan	1976-2019	-5.23	-6.58	-6.11	-5.84	2000; 2008	US
Peru	1977-2019	-6.31**	-6.58	-6.11	-5.84	1988; 2007	SS
Philippines	1977-2019	-4.80	-6.58	-6.11	-5.84	1988; 2005	US
Poland	1990-2019	-4.38	-5.70	-5.08	-4.82	2006	US
Russia	1994-2019	-7.48***	-5.70	-5.08	-4.82	2005	SS
South Africa	1960-2019	-6.22**	-6.58	-6.11	-5.84	1976; 2003	SS
South Korea	1976-2019	-6.12***	-6.58	-6.11	-5.84	1988; 2004	SS
Thailand	1975-2019	-5.20**	-5.70	-5.08	-4.82	1996	SS
Turkey	1974-2019	-6.05*	-6.58	-6.11	-5.84	1987; 2002	WS

Note: ***, ** and * show that the series is stationary at 1%, 5% and 10% significance levels respectively and that the related policy is sustainable. Those who are stationary in 1% or 5% series are called strongly sustainable and those who are stationary in %10 is called weakly sustainable. SS: Strongly Sustainable, WS; Weakly Sustainable, US: Unsustainable.

According to results of Table 4, current account balance in Columbia, Czech Republic, Egypt, Greece, India, Malaysia, Pakistan, Philippines and Poland are unsustainable. Because Current Account Balance to GDP exceeded 6% Poland in 2007-2008, Colombia in 2015, in Egypt in 2016; came near to 6% in Czech Republic in 2002 and India in 2012; it exceeded 14% in Greece and 9% in Pakistan in 2008. Current account balance of Malaysia and Philippines have got a big volatility. While it is weakly sustainable in Bangladesh and Turkey, it is strongly sustainable in other countries. It is seen that the structural break times estimated endogenously by the test are generally the times in which countries faced current account crisis. Since Covid-19 crisis is expected to reduce the purchasing power of the countries and reduce their imports and current account deficits, it is evaluated that the current account balance of the countries whose current account balance is found to be unsustainable or weakly sustainable in this analysis can become strongly sustainable.

BUDGET BALANCE

Budget Balance in Developing Countries

Sustainability of budget deficit is defined as management of the financing resources by administrations to carry out the expenditure liabilities of now and future (Haris, 2000). In this context, a sustainable budget system provides intergenerational fair distribution of public resources. Besides, it keeps interest at a rate that incentivizes investments and protects from uncertainty. In this manner, economy becomes strong against shocks (Intergenerational Report, 2002: 3-13).

The idea originated from Keynes that the government should intervene even expense of budget deficit had brought the permanent and growing budget deficit problems. Many countries try to pay its debts with new credits and that makes finance and sustain budget deficits harder. This process drags countries into vicious debt circles and may create crisis (Gocer, 2013b).

Some regulations with Maastricht Agreement legislated to force the countries reduce debts their debts in 1993. With these criteria, European Union countries willing to join Economic and Monetary Union need to keep their annual budget deficit under 3% of GDP and total debt stock to GDP ratio under 60%.

In economics literature, sustainability of budget deficits can be handled by inter-time budget restriction or accounting approach (Sriwardana, 1998). Sustainability of budget deficit, according to first approach, happens when the discounted value of future non-interest surplus equals or bigger than the public sector current debt stock (Trehan and Walsh, 1988; Quintos, 1995). In second approach, sustainability of budget deficits depends on the fact that today's sum of current and future values of assets and liabilities should be equal or assets are higher (Blejer and Cheasty, 1991).

It can be said that uncontrolled budget deficits have important impact on crisis occurred in different countries in recent periods. Budget deficits are a significant factor in economic problems lived in Greece, Italy, Spain, Portugal and Ireland. According to IMF data, 141 of 184 countries have faced budget deficit in 2019 (IMF, 2020). Many countries, mainly United States of America (USA), followed expansionary monetary and fiscal policies in order to get rid of the effects of 2008 global economic crises and budget balance of related countries significantly disrupted. In Table 5, ratio of budget deficits to GDP for developing countries is presented.

Table 5: Budget Deficit (% of GDP) and General Government Gross Debt (% of GDP)

	Budget Deficit (% of GDP)				General Gov. Gross Debt (% of GDP)			
	1990	2000	2010	2019	1990	2000	2010	2019
Bangladesh	-0.18	-2.9	-2.6	-4.2	NA	NA	35.5	33.4
Brazil	NA	-3.3	-2.7	-8.5	NA	65.5	63	88.4
Chile	2.3	-0.7	-0.4	-1.6	NA	13.2	11.1	24.7
China	-0.7	-2.8	-0.3	-4.1	NA	22.8	33.7	50.1
Colombia	-0.4	-2.9	-3.3	-2.7	NA	38.1	36.5	48.7
Czech Rep.	NA	-3.5	-4.2	1.5	NA	17	37.3	33.2
Egypt	NA	1.3	-7.4	-9.2	NA	71.7	69.6	92.5
Greece	-13.1	-4.1	-11.2	0.5	73.1	104.9	146.3	188.1
Hungary	NA	-3	-4.5	-2.3	NA	54.9	80.2	71.3
Indonesia	NA	-1.8	-1.2	-2.2	NA	87.4	24.5	29.8
India	-7.9	-8.2	-8.6	-6.6	NA	73.6	67.4	69.5
Mexico	-3.3	-2.8	-3.9	-2.5	NA	40.3	41.9	53.8
Malaysia	-2.5	-6.1	-4.5	-2.7	75.2	32.8	51.9	55.1
Pakistan	NA	-4	-6	-6.4	NA	76.8	60.5	72.5
Peru	NA	-2.1	0.1	-2.6	NA	44.4	25.3	26.4
Philippines	-1.5	-3.3	-2.3	-1	NA	61.1	49.6	39.8
Poland	NA	-2.9	-7.3	-1.5	NA	36.4	53.1	49.9
Qatar	2.7	4.7	6.7	3.5	10.7	52.5	29.1	53.4
Russian Fed.	NA	3	-3.2	1.6	NA	55.7	10.9	15.3
South Africa	NA	-1.5	-5	-4.5	NA	42.2	34.6	55.7
Korea, Rep.	NA	4.1	1.5	2.2	13.3	17.1	30.8	40.3
Thailand	NA	-1.8	-1.3	-0.6	NA	57.8	39.8	41.9
Turkey	NA	-8.4	-3.4	-4	NA	51.5	40	32.3
U. A. Emirates	NA	10.5	0.5	0.5	NA	3	21.9	17.8

Source: World Bank (2020f, 2020g), IMF (2020).

It is seen that the country with highest rate of budget deficit to GDP is Egypt and the ratio is 9.2%. After Egypt come Brazil, India, Pakistan, South Africa and Turkey. These countries should take actions soon to provide budget discipline and to reduce budget deficits. Qatar, Russia, Korea and United Arab Emirates generally give budget surpluses.

Sustainability of Budget Balance in Developing Countries

In order to determine the sustainability of current account balance in developing countries, current account balance to GDP data of each country is analyzed by Kapetanios (2005) unit root test with multiple structural breaks. If the countries being stationary on level values, it is decided that current account are sustainable. Unit root test results are shown in the Table 6.

Table 6: Analysis Results for Sustainability of Budget Balance to GDP

	Period	Test Statistics	Critical Values			Structural Break Dates	Decision
			1%	5%	10%		
Bangladesh	1980-2019	-10.19***	-5.70	-5.08	-4.82	1994	SS
Brazil	1980-2019	-25.10***	-6.58	-6.11	-5.84	1993; 2013	SS
Chile	1972-2019	-6.97***	-6.58	-6.11	-5.84	1984; 2003	SS
China	1982-2019	-5.82	-6.58	-6.11	-5.84	2006; 2009	US
Colombia	1983-2019	-4.00	-5.70	-5.08	-4.82	1999	US
Czech Rep.	1994-2019	-4.82*	-5.70	-5.08	-4.82	2009	WS
Egypt	1975-2019	-5.94***	-5.70	-5.08	-4.82	1995	SS
Greece	1972-2019	-6.07*	-6.58	-6.11	-5.84	1990; 2008	WS
Hungary	1991-2019	-6.54***	-5.70	-5.08	-4.82	2001	SS
India	1974-2019	-5.42	-6.58	-6.11	-5.84	1990; 2013	US
Indonesia	1972-2019	-5.19	-6.58	-6.11	-5.84	1989; 2003	US
Korea	1972-2019	-8.28***	-6.58	-6.11	-5.84	1997; 2002	SS
Malaysia	1990-2019	-6.28***	-5.70	-5.08	-4.82	2000	SS
Mexico	1972-2019	-8.18***	-6.58	-6.11	-5.84	1987; 2008	SS
Pakistan	1993-2019	-3.74	-5.70	-5.08	-4.82	2006	US
Peru	1972-2019	-6.15**	-6.58	-6.11	-5.84	1990; 2013	SS
Philippines	1989-2019	-6.33***	-5.70	-5.08	-4.82	2003	SS
Poland	1994-2019	-5.37**	-5.70	-5.08	-4.82	2008	SS
Qatar	1990-2019	-5.45**	-5.70	-5.08	-4.82	2014	SS
Russia	1994-2019	-7.29***	-5.70	-5.08	-4.82	2008	SS
South Africa	1972-2019	-7.74***	-6.58	-6.11	-5.84	1993; 2008	SS
Thailand	1972-2019	-38.93***	-6.58	-6.11	-5.84	1987; 1996	SS
Turkey	1972-2019	-5.14	-6.58	-6.11	-5.84	1985; 2002	US
U.A. Emirates	1991-2019	-5.45**	-5.70	-5.08	-4.82	2008	SS

Note: ***, ** and * show that the series is stationary at 1%, 5% and 10% significance levels respectively and that the related policy is sustainable. Those who are stationary in 1% or 5% series are called strongly sustainable and those who are stationary in %10 is called weakly sustainable. SS: Strongly Sustainable, WS; Weakly Sustainable, US: Unsustainable.

According to results of Table 6, budget balance in China, Colombia, India, Indonesia, Pakistan and Turkey are unsustainable. This is because of increasing budget deficit in Colombia, India, Indonesia, Pakistan and Turkey. Budget balance of China is highly volatile. While it is weakly sustainable in Czech Republic and Greece, it is strongly sustainable in other countries. It is seen that the structural break times estimated endogenously by the test are generally the times in which countries faced budget crisis. The budget deficits will increase due to Covid-19 crisis which forces governments to implement expansionary fiscal policies and the production and tax losses in economies. This may cause the budget deficits to become unsustainable in Czech Republic and Greece, where budget balances are weakly sustainable.

CONCLUSION

It is not possible for developing countries to develop and achieve high economic growth without needing external financing, as it is seen. Especially in countries with insufficient domestic

savings, high budget and current deficit, external debts rise rapidly. Principal and interest payments of these external debts become a real burden and resources to finance investment are wasted in paybacks. In this case, country's investment, employment and output cannot increase adequately and a sustainable high rate of economic growth could not be achieved. Rising domestic and external debts make the country fragile against crisis, and then domestic and foreign investors will go out of the country, leaving it in worse conditions. Therefore, developing countries should consider the following issues; (i) prevent budget deficits by reducing government expenses and increasing budget revenue, (ii) incentivize the citizens to save more to raise domestic savings, (iii) imply policies to decrease foreign trade deficit and current deficit, (iv) attract more FDI to accumulate capital stock without crediting, (v) create a better market with lesser political and economic risks to incentivize domestic and foreign investor and (vi) if external debt is needed, incoming money should be directed to productive and exportable areas, value added must be increased.

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Assessing the Factors Influencing Entrepreneurial Intention Among Undergraduates Students: Evidence from the School of Agriculture and Agricultural Technology, Federal University of Technology, Akure, Nigeria

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Abstract

Entrepreneurship has been recognised as the backbone of the economic development of any nation. It is one of the ways of providing job opportunities for people. The objectives of the study are to examine the factors influencing the Entrepreneurial Intention (EI) of the students of Agriculture and Agricultural Technology toward entrepreneurship. The population of the study comprised of all the final year students in the School of Agriculture and Agricultural Technology, the Federal University of Technology Akure, Nigeria. Stratified sampling techniques were used to divide the School into eight Departments. Each of the Departments was considered as strata for the study. A structured questionnaire was used to collect information about the EI of the students. 40 copies of the questionnaires were randomly distributed to the students in each of the eight departments. A total of 320 copies of questionnaires were distributed and 231 copies were retrieved for analysis. Items on the questionnaire were rated on a Likert-type scale with five possible responses from 1- strongly disagree to 5- strongly agree. Both descriptive and inferential statistics were used for the study. The result of linear regression analysis revealed that all the independent variables have significant effect on EI with $P < 0.05$. The results of the study concluded that behavioural factors are possible determinants of students' EI. The study recommended that both the government and individual need to support the entrepreneurs by investing in enterprise education.

Keywords: Attitudinal factor, entrepreneurial intention, entrepreneurship education, perceived behavioural control, subjective norms.

Introduction

In the last two decades, Entrepreneurship has been considered as the backbone of economic development of any nation. Thus, it has conquered the cardinal theme of academics and governmental policymakers' interest. Nigeria like other countries of the world is confronted with numerous challenges which include unemployment and poverty (Amzad, Naser & Zaman, 2009). These circumstances posture awesome challenges to the exceptionally presence of people in most developing countries in this manner calling for the preparation of taught individuals who can work successfully within the society in which they live. The failure of the government to provide job opportunities for its citizen and her performance within the global economy brought about the introduction of entrepreneurship education into the educational programmes of Nigeria tertiary education in the 2007/2008 academic session (Ayatse, 2013; Amadi & Amakodi, 2019). The policy introduced mandatory entrepreneurship courses that would span two semesters to all undergraduate students in tertiary institutions in respective of their discipline to build the capacity of youths to empower, identify and exploit opportunities in the environment (Okojie, 2009). To achieve this, a center for entrepreneurship studies to facilitate the programme was built up in almost all tertiary institutions in Nigeria. The programme was established to building knowledge and skills either "about" or "for" entrepreneurship generally as part of recognised education programmes at primary, secondary and tertiary levels.

Furthermore, creating entrepreneurial aptitudes among citizens was one of the objectives of the Nigerian vision 2020 (National Implementation Plan, 2010). To solve the problem of unemployment among graduates, different suggestions have been raised by policymakers and academicians in other for these graduates to be self-employed. The majority of the new graduates do have the information and ability that are critical for starting-up their trades, just a few numbers of them were self-employed promptly after graduating (Amadi & Amakodi, 2019). This may be due to lack of self-confidence or support from either government or private individuals. There may be others who are potential business visionaries but are not appropriately mindful of the career choices that are open to them. Their purpose of getting self-employed had provoked analysts to examine especially on the impact of entrepreneurial characteristics and EI among undergraduates towards entrepreneurial activities.

Owing to the perseverance of mass unemployment, low productivity, high inflation, and widespread poverty in Nigeria, many policy trusts and programmes to advance abilities procurement, facilitate the spirit of creativity, self-reliance has been presented by the government of Nigeria. These include Subsidy Re-investment Employment Programme (Sure-P), National Poverty Eradication Programme (NAPEP), National Directorate of Employment (NDE), National Economic Empowerment and Development Strategies (NEEDS), National Poverty Eradication Program (NAPEP), Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and the New Partnership for Africa's Development (NEPAD) (Osibanjo, 2006 as cited in Awogbenle & Iwuamadi, 2010; Egbefo & Abe, 2017). However, the circumstance has not changed the desired direction. Since these programmes only address the output, a complementary approach is required. The educational system that addresses the output conclusion either lays more accentuation on substance and information securing for its purpose or fair stresses the inquiry-discovery demonstrate of educating and learning (Egbefo & Abe, 2017).

Muhammad, Aliyu, Sirajo and Ahmed (2015) noted that despite the career direction through entrepreneurial agricultural courses for students, it takes a longer period for many of them to secure a job. This reflects either the students are not having the interest of being self-employed or they are

having other constraints to becoming what they have learned from their course of study in the school. Hence this study accesses the students of Agriculture if they are willing to take up and put to practice all they have been thought as students of agriculture instead of seeking white-collar jobs if they are willing to be an employer of labour by creating wealth and employment opportunities. This study looks at some factors that affect the intention of agricultural science students towards entrepreneurship. The study is streamlined to the students that study agricultural sciences in the Federal University of Technology Akure, Nigeria using the final year students of the School of Agriculture and Agricultural Technology (SAAT) as the respondents. The study considered the Entrepreneurship Education (EE), Attitudinal factors (ATT), Subjective Norms (SN), and Perceived Behavioural Control (PBC) of the students as independent variables and Entrepreneurial Intentions (EI) as the dependent variable.

Objective and Hypotheses formulation

In other to examine the EI of the study in the study area, the following four hypotheses developed;

H₀₁ Entrepreneurship Education does not have significant effect on the EI of the students,

H₀₂ Attitude factors does not have a significant effect on student's EI,

H₀₃ Subjective norms do not have a significant effect on EI of the students, and

H₀₄ Perceived behavioural control does not significantly affect EI among students.

Literature review

Concept of Entrepreneurial Intention (EI)

Entrepreneurial intention is identical to individual competency that refers to a willingness to conduct a certain behaviour (Rizki, Burhanuddin & Budi, 2017). The intention is an acceptance of a representative relationship. Arbuthnott (2008) observed that strong effect of intention to behaviour as "the more personal and specific our intentions are, the more likely they are to influence our behaviour". In this regard, EI can be determined based on the degree of willingness and ability of an individual or group of persons to set up a business in the future. EI serves as the dependent variable of the model and it has been used by previous studies (Gelderen, Brand, Praag, Bodewes, Poutsma, & Vangils, 2008; Ali, Lu & Wang, 2012; Emmanuel, Adejoke, Olugbenga & Olatunde, 2012). The model links independent variables (Attitude, perceived behavioural control, and subjective norms) with the dependent variable to assess the EI of undergraduate students.

Entrepreneurship education

Entrepreneurship education is the advancement of entrepreneurial aptitudes, successful and effective application of the aptitudes within the management of a business to form a critical distinction from other businesses, recognising the abilities and permitting it to operate successfully (Odoemelam & Maduka, 2017). Alberti, Scisscia and Poli (2004) defined entrepreneurship education as the organised formulae movement of business competencies which in turn refers to the concept, abilities and mental mindfulness utilized by people amid the method of beginning and creating their growth-oriented ventures. In the same perspective, Ayeduse (2011) supports that entrepreneurship education will provide meaningful education for undergraduates which could make them become self-reliant and provide them with creative and innovative skills necessary for identifying new business opportunities. Entrepreneurship education is the sort of instruction planned to alter the introduction and state of mind of the beneficiaries and the method will prepare them with the abilities

and information to empower them to begin and manage a trade. It points at creating the imperative entrepreneurial abilities, attitudes, competencies, and dispositions that will incline the person to start his own new business (Agu, 2006).

Attitudinal Factors

High attitudes of people with attitudinal inclinations towards the financial compensation, sense of achievement, freedom, competitiveness, are considered strong prospective entrepreneurs (Douglas & Fitzsimmons, 2005). A fundamental identity characteristic just like they require for accomplishment can impact an individual's towards EI (Fayolle & Gailly, 2015). Ajzen (2005) noted that attitudes can be measured by two indicators: experiential and instrumental attitudes. According to Wan, Shen and Yu (2014) experimental attitude depends on the previous experiences of a person or how an individual evaluates their overall experiences positively or negatively. When a previous action's result is positive or good, it gives a positive signal to them and vice versa. On the other hand, when an individual learns any attitude it is called instrumental attitude. The experiential and instrumental attitude in the sense of entrepreneurship is the knowledge and transition of the human experience in conducting business activities. When individuals gets positive and they benefit from the experience and translation of entrepreneurship, it helps to get a positive response from the individual, and vice versa (Purusottama, 2019), and attitude can be changed due to change in beliefs (Liñán & Fayolle, 2015). Thus, in entrepreneurial activities when an individual produces or learns a positive or negative response it is called an entrepreneurial attitude (Liñán & Fayolle, 2015).

Perceived Behavioural Control (PBC)

Perceived behavioural control (PBC) alludes to components that will either encourage or hinder the execution of conduct. Numerous important studies have been conducted on PBC such as Kristiansen and Indarti (2004); Usman and Yennita (2019); Nahida and Md (2020). With particular reference to entrepreneurship, it reveals the perceived ease or difficulty of setting up a new business venture (Wu & Wu, 2008). In addition, PBC refers to the level of difficulty for an individual to be an entrepreneur (Liñán & Fayolle, 2015). Potishuk and Kratzer (2017) noted that entrepreneurial PBCs of individuals strongly influence individuals toward entrepreneurship. It ties in with self-efficacy which alludes to an individual's discernment towards his capacity to perform a task and is important in the development of intention (McGee, Peterson, Mueller & Sequeira, 2009). Intentions and their attitudinal antecedents are based on perceived notions. As such, they are not fixed elements grounded since an individual's formative years but can be learned and moulded through one's life. Self-efficacy too influences an individual's conviction on whether he can accomplish his objectives (Cromie, 2000).

This supports the establishment of human inspiration towards accomplishing one's objectives. A person who accepts that he can get the required results from his activities will be profoundly incentivised (and propelled) to act and drive forward in the midst of troubles (Pajares, 2002). Bandura's social theory further states that an individual's level of inspiration and his coming about activities are based more on his convictions than on what may or may not be justifiably genuine. Given a solid discernment of self-efficacy, a person can be enormously affected by acting on a deliberate and will use accessible information and aptitudes towards the specific conduct or objective.

Subjective Norms

Subjective norm refers to the perceived social normative pressures due to environmental factors and other relevant beliefs to perform certain behaviour or not ((Liñán & Chen 2009, Ajzen, 2005). This can also be subjective as a result of the inferences influenced by the immediate community (e.g. guardians, spouse, friends, religious leaders, and teachers). Mohammed and Aparna, (2011) have demonstrated the significance of subjective standards in students' choice of their career inclination. Hence, stand-ins are likely to be self-employed after graduation when their immediate contacts are in support to become entrepreneurs.

Theories underpinning the study

Different theories such as Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) have been used in the literature as a guide to the study of EI. However, one of the strong theoretical foundations that have been used to explain the EI in the previous studies by entrepreneurship researchers is the TPB (Fayolle, Gailly & Lassas-Clerc, 2006; Kolvereid & Isaksen, 2006; Gelderen, *et al.*, 2008; Liñán & Chen, 2009; Liñán & Fayolle, 2015; Aloulou (2016; Entrialgo & Iglesias, 2016; Farooq, Salam, Fayolle, Jaafar & Ayupp, 2018; Al-Jubari, 2019). TPB focuses on organizational or individuals behavior that is influenced by different factors such as entrepreneurship education, attitudinal factor, subjective norms and perceived behavioural control. In addition, TPB was developed by Icek -Ajzen in 1991 as an improvement to the TRA to study the behavior of organisations or individuals. However, TPB was chosen in this study because it has been tested and it is becoming an essential instrument to measure human behavior across different subjects including entrepreneurship (Farooq *et al.*, 2018; Aloulou, 2016). The interaction between environmental and personal factors is effectively explained in this theory (Sivarajah, & Achchuthan, 2013). The antecedents of the factors used in this theory; entrepreneurship education, attitudinal factor, subjective norms and perceived behavioural control impacts the behaviour and the work as predictors of an individuals' preparation (Ajzen, 1991; Liñán, 2004). The greater the desire to participate in a specific action, the higher the chance that it will eventually end up practicing that particular behavior.

According to Ajzen (2005), the preceding activity of performing a specific behavior is the intention of the individual to perform the behavior, the stronger the intention towards the behavior, the more possibility of success of the actual behavior. Furthermore, most planned behaviors are predicted only by their intentions (Krueger, Reilly & Carsrud, 2000; Kolvereid & Isaksen, 2006; Al-Jubari, 2019). According to De- Pillis and Reardon (2007), EI is, "the intention to start the business." On the other hand, Wilson, Kickul and Marlino (2007) noted that it is a conscious and deliberate decision for an individual to become an entrepreneur and to start his own new business and requires time, planning and high cognitive processing (Ozaralli & Rivenburgh, 2016). That's why a career decision to be an entrepreneur is also considered as a planned behavior that can be expelled by the intention model TPB. TPB suggested three interconnected factors that can help to predict EI due to their antecedent and close influence EI, attitudes (personal positive/negative assessment of entrepreneurship), subjective norms (approval or disapproval of action by significant others), and PBC (perception of one's abilities to perform entrepreneurially) (Ajzen & Sheikh, 2016).

Empirical evidence of the study

Empirical evidence by Rizki, Burhanuddin and Budi (2017) investigated entrepreneurship intention within the agricultural sector of the young generation in Indonesia. The research was conducted in three cities, Bogor, Lampung and Bandung with 189 respondents. The accumulated data were then

analysed using descriptive analysis and the structural equation model. Respondents have highly average trends on behaviour belief, normative belief, motivation to comply, control belief, control belief power, and intention. The study revealed that only the evaluation of the consequence to give the medium trend is about 50.26 percent. The study concluded that subjective norms or external factors are factors that affect entrepreneurship intention in the agricultural sector, while attitude toward behaviour and perceived behavioural control factors do not affect entrepreneurship intention in the agricultural sector.

Furthermore, the empirical studies by Zaki, Abdul, Kushairi and Fansuri (2017) examined the perception of a total of 400 graduates from five Universities throughout Malaysia, to determine factors influencing them to pursue careers in the agricultural sector in the future. The quantitative study adopted by the study established measurement for investigating the relationship between personality traits and agribusiness EI among the students. Personality traits, conceptualized into two dimensions, namely, risk-taking and innovativeness demonstrated Cronbach's Alpha values of 0.80 and 0.73, respectively. The study showed both variables had a positive association with agribusiness EI.

Moreover, Nematoollah, Davoud and Seyed (2012) investigated environmental factors that affect the EI of agriculture students at Ilam University. The population of the study was all of the agricultural fourth-year undergraduate students in the University of Ilam, 100 persons were selected for study by adoptions proportionate stratified random sampling method. The study showed a significant positive relationship between the variables of role model, social support, and perceived desirability with EI of students. The result of the analysis showed that the perceived desirability variable has the most impact on the students' EI while the changing social norms had less impact on students' EI.

Ehsan, Naser, Khadijeh and Mohammadreza (2016) conducted a study to determine the extent of EI among senior agricultural students and to identify the main factors influencing their intentions. The population of the study comprised all senior agricultural students who were studying in Shiraz University, Shiraz, Iran. A sample of 196 students was selected through stratified random sampling. The results of the study revealed that subjective norms, perceived behavioural control, and attitude toward entrepreneurship strongly correlated with students' EI.

Also, Muhammad *et al.*, (2015) conducted a study on EI among Nigerian University students". it was found that entrepreneurial attitude, subjective norm, and power of behavioural control are all significant predictors EI. The result shows that the model used has significant implications for policymakers and other stakeholders that want to enhance entrepreneurial ability among University students in Nigeria. The determining factors such as attitude and subjective norms should receive attention since they have a direct effect on the EI of the respondents. Also it was stated that entrepreneurial education and training need to be enhanced further to increase awareness and change the mind-set of the respondents toward imbibing the entrepreneurial culture and reduce complete reliance on government and other formal sectors.

Siyanbola, Afolabi, Jesuleye, Egbetokun, Dada, Aderemi, Sanni and Razak (2009) also wrote on "Determinants of the entrepreneurial propensity of Nigeria undergraduates: by using a pilot survey in the Federal University and a State Polytechnic in the South Western Region of the country, The study discovered that some useful conclusions were derived, which is very important to note that, entrepreneurial interest among Nigerian students is quite high but the expression of this interest in practice is rather low. The study reveals that female undergraduate students are less curious about

enterprise when compared with their male partners. It was moreover found that certain family financial characteristics, trade history, and income significantly stimulate the entrepreneurial interest of the students. Entrepreneurial education plays a significant role in entrepreneurship as students who had taken the entrepreneurship course are more likely to be interested in start-up.

Yeboah, Kumi and Jacob (2013) conducted research on assessment of entrepreneurship intention among Sunyani Polytechnic Marketing Students. The study examined marketing student's intention to pursue entrepreneurship, the determinants of the intentions, motivators of intention, and obstacles to intentions. The findings have shown that there is a high intention and that students are interested to become entrepreneurs. There are motivators and obstacles to entrepreneurship intentions in the country.

Kenneth, Godday and Michael, (2013) investigated "Factors impacting EI among graduates of Nigerian tertiary institutions". It was found that graduates who had gone through entrepreneurship programs were eager to begin their personal businesses, these changes their level of inventiveness, they urge to get their start-up capital, family foundation, trade encounter, self-efficacy, the impact of business-minded companions, introduction to entrepreneurial learning, chance affinity, age, a course considered and ethnicity. It was moreover found that EI expanded with an increment in age.

The conceptual framework for the study

The **Conceptual framework** proposed in this study is illustrated in Figure 1, it explains the relationship between the independent variables (Entrepreneurship education, Attitudinal factor, Subjective norms and Perceived behavioural control) and dependent variable (Entrepreneurial intention). Figure 1 presents the constructs and the hypothesized relationships.

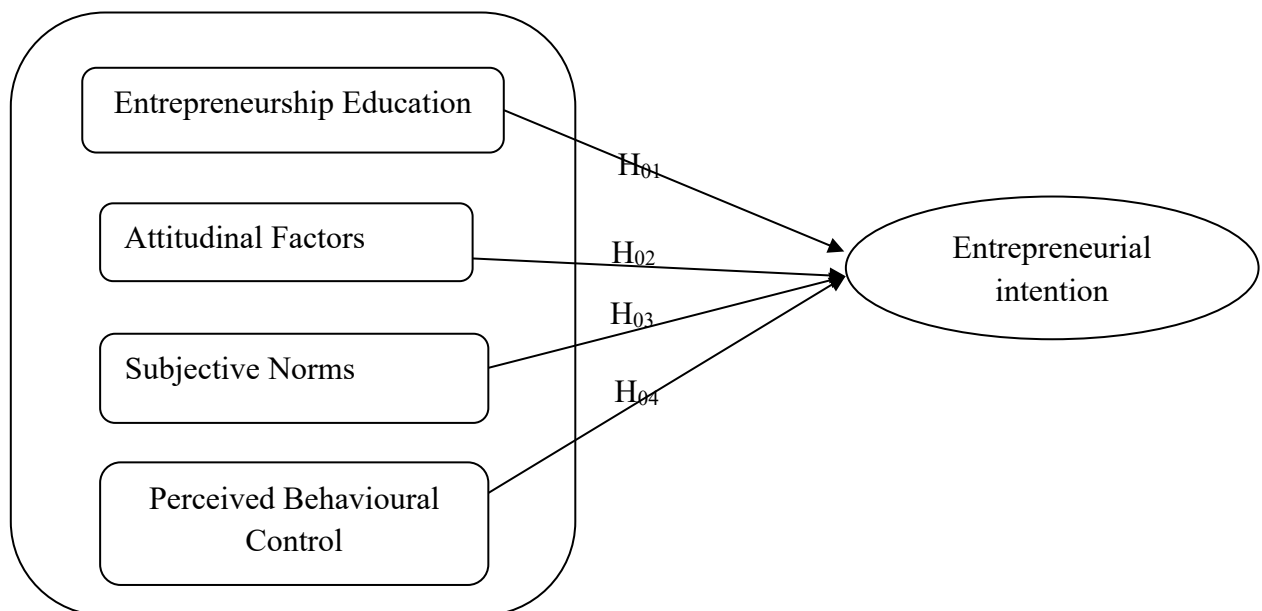


Figure 1: Conceptual framework showing the relationship between the independent variables (Entrepreneurship education, attitudinal factor, subjective norms and perceived behavioural control) and dependent variable (Entrepreneurial intention).

Source: Author's conception based on the literature reviewed.

Methodology

A survey research design was employed in this study. The population of the study comprised of all the final year students in the School of Agriculture and Agricultural Technology of the Federal University of Technology Akure. Stratified sampling was used to divide the School into eight (8) Departments. Each of the eight Departments was considered as strata for the study. A structured questionnaire was used to collect information on EI of the students. 40 copies of questionnaires were randomly distributed to the students in each of the eight Departments. A total number of 320 copies of the questionnaire was distributed and 231 copies were retrieved for analysis. (See Table 1). The content of the questionnaire was developed from the literature (Krueger *et al.*, 2000; Shiri, Mohammadi & Hosseini, 2012) The questionnaire covered: EI, Entrepreneurship education, attitudinal factors, perceived behavioral control, and subjective norms. Items in the questionnaire were rated on a Likert-type scale with five possible responses for 1- strongly disagree, 2- disagree, 3- undecided, 4- agree, 5- strongly agree. Descriptive statistics were used to analyze the background information of the respondents. While Linear regression analysis was used to test the hypotheses developed for the study.

Model Specification

The following linear regression model was formulated for the study

$$Y = a + \beta x \quad \dots\dots\dots (1)$$

Where 'Y' is the dependent variable.

'X' is the independent variable

'a' is the constant, 'β' is the beta coefficient. This was repeated for the four independent variables

The results of the linear regression were shown in Table 2 and Table 3.

Table 1: Number of Questionnaires distributed and retrieved

Departments	Questionnaire Distributed	Questionnaire Retrieved	Percentage Retrieved
Animal Production and Health	40	34	85
Agricultural Communication and Extension	40	30	75
Agricultural Resource and Economics	40	28	70
Crop, Soil and Pest Management	40	27	65
Ecotourism and Wildlife Management	40	29	73
Fishery and Aquiculture Technology	40	26	65
Forestry and Wood Technology	40	29	73
Food Science and Technology	40	28	70
Total	320	231	72

Source: Field survey, 2021

Results and Discussion

Regression Analysis for Independent variables

The regression coefficient for all the independent variables on the dependent variable was shown in Table 2. The result showed that a regression coefficient of all the four independent variables Entrepreneurship Education, Attitude of the Students', subjective norms and Perceived Behavioural

Control have positive effect on the dependent variable indicating that an increase in each of the independent variables will bring about an increase in the dependent variable in the study area. Both the Beta and the significant value of all the independent variables were shown in Table 2. The coefficient of determination R² of entrepreneurship education was given as (0.207), which means that the influence of entrepreneurship education by 20.7% of the variation in EI. The correlation coefficient (R) of 0.455 indicates the influence of the independent variable on the dependent variable. The analysis of variance (ANOVA) showing that the effect of Entrepreneurship education on the dependent variable is statistically significant. This is shown as a value of P = 0.000 which is less than the acceptable significant value of 0.05, Hence, H₀₁ which stated that entrepreneurship education does not have a significant effect on the EI of the students was rejected. This is in agreement with the study carried out by Tateh, Latip and Awang (2014); Khalifa and Dhiyf (2016).

Table 2: Regression Coefficients for the variables

Model	Coefficients		t	Sig
	B	Std. Error		
1 (Constant)	1.964	0.138	14.191	0.000
Entrepreneurship education	0.271	0.035	7.740	0.000
2 (Constant)	2.351	0.080	29.554	0.000
Attitudinal factor	0.252	0.028	9.134	0.000
3 (Constant)	2.242	0.098	22.962	0.000
Subjective norms	0.240	0.029	8.360	0.000
4 (Constant)	2.655	0.042	62.687	0.000
Perceived behavioural control	0.116	0.009	12.796	0.001

Source: Field survey, 2021

Table 3: Analysis of variance for independent variables

Variables	R	R ²	AdjR ²	F-statistics	Std. Error	Sig level
Entrepreneurship education	0.455	0.207	0.204	59.913	0.5862	0.000
Attitudinal factor	0.517	0.267	0.264	83.426	.56368	0.000
Subjective norms	0.484	0.234	0.230	69.891	.57630	0.000
Perceived behavioural control	0.646	0.417	0.414	163.745	0.50275	0.000

Source: Field survey, 2021

Educational background is one of the main factors influencing the EI among the students. The relationship investigation showed that youth EI are emphatically related to their identity characteristics (risk-taking affinity, innovativeness, and resilience of uncertainty), and social learning (information and involvement and family childhood) (Tateh *et al.*, 2014). The entrepreneurship education program has influenced student behaviour control and anticipation of positive and negative impacts (Zampetakis, Anagnosti & Anagnosti, 2014). The study shows that educational background in agriculture affecting the entrepreneurship intention of the students.

Mohavedi, Latifi and Sayyar (2013) showed motives of a bachelor candidate to work in the agricultural sector. Hence, this EI tends to be prominently dominated by agriculture graduates. Respondents with agricultural backgrounds are more likely to become agri-entrepreneurs compared to the ones with social science foundations (Latip & Awang, 2014; Khalifa & Dhiaf, 2016). In any case, it is contrasted with research conducted by Aziz and Naem (2013) on youth interface on rural business in Malaysia, which shows that knowledge and education background is not significantly affecting those youths to be entrepreneurs.

The R^2 of an attitudinal factor in Table 3 is 27% (0.267), this means that the influence of the attitudinal factor by 27% of the variation in EI. The correlation coefficient R of 0.517 significant effects of the independent variable on the dependent variable. The analysis of variance (ANOVA) shown a value of 0.000 which is less than the acceptable significant value of 0.05, Hence, H_{02} is which stated that attitude does not have a significant effect on student's EI was rejected, this is in agreement with the study carried out by Muhammad *et al.*, (2015), Rizki *et al.*, (2017), found out that entrepreneurial attitude, subjective norm, and power of behavioural control are all good predictors of EI but the study was not in support of the work of Arisandi (2016) that Entrepreneurship attitude cannot determine how big intentions for entrepreneurs in the agricultural sector. Hence, the created entrepreneur's behaviour is not based on attitude toward the behaviour. Arisandi (2016) expressing that attitude toward the behaviour does not give any positive influence on the entrepreneur's intention in the agribusiness sector.

The coefficient of determination R^2 of subjective norms in Table 3 is 23% (0.234), this means that the influence of the independent variables by 23% of the variation in EI. The correlation coefficient R is 0.484 indicates the influence of the independent variable on the dependent variable. The analysis of variance (ANOVA) showing the effect of Subjective Norms on EI is statistically significant, this is shown as a value of 0.01 which is less than the acceptable significant value of 0.05, Hence, H_{03} which stated that subjective norms do not have a significant effect on the EI of the students was rejected, this is in agreement with the research conducted by Shiri *et al.*, (2012) and Rizki *et al.*, (2017), the subjective norm has significant influence on entrepreneur's intention of students who has agricultural education background. This factor shows how far social pressure from some sides can increase an entrepreneur's intention. Supports coming from parents, family, friends, consultants and business team affect the high intention's value. This condition is called as external factors of respondents, and it collaborates positively with the entrepreneur's intention. Confirming research conducted by Shiri *et al.*, (2012), and Arisandi (2016) it is expressed that someone who has agricultural education background is highly influenced by the subjective norm.

The R^2 of perceived behavioural in control in Table 3 is 41% (0.417), this means that the influence of the independent variable perceived behavioural is controlled by 41% of the variation in EI. The correlation coefficient (R) of 0.646 indicates the influence of the independent variable on the dependent variable. The analysis of variance (ANOVA) showing the effect of perceived behavioural control is statistically significant in explaining the effect of perceived behavioural control on EI, this is shown as a value of 0.000 which is less than the acceptable significant value of 0.05, Hence, H_{04} which stated that perceived behavioural control does not have a significant effect on the EI of the students was rejected, this is in agreement with the study carried out by Masoomi, Zamani, Bazrafkan and Reza (2016) which proves that perceived behaviour control is highly correlated with EI of students in agriculture at the University of Shiraz, Iran. Likewise, Muhammad *et al.*, (2015) study, found that attitude, subjective norm, and control behaviour power altogether to influence the EI of

Nigerian students. A comparison study with different countries by Indrianti (2008) shows that entrepreneur's intentions among students and the affecting factors are different among those countries. Meanwhile, Arisandi (2016) observed that without any behaviour controls, respondents surely believes that the entrepreneurship's intention can appear from themselves and submitted that perceived behavioural control has no influence on entrepreneur's intention in the agribusiness sector. The study also disagreed with the study conducted by Rizki *et al.*, (2017), which shows that the perceived behavioural control is not significant with the EI of the students.

Table 4: Summary Table of Hypotheses Tested

S/N	Research Hypotheses	Sig level	Decision Results
1	Entrepreneurship education does not have a significant effect on the EI of the students	$P < 0.05$	Null hypothesis (H_{01}) was rejected
2	Attitude does not have a significant effect on student's EI	$P < 0.05$	Null hypothesis (H_{02}) was rejected
3	Subjective Norms do not have a significant effect on the EI of the students.	$P < 0.05$	Null hypothesis (H_{03}) was rejected
4	Perceived behavioural control does not have a significant effect on the EI of the students	$P < 0.05$	Null hypothesis (H_{04}) was rejected

Source: Field survey, 2021

Conclusion and Recommendations

The study investigated the various factors influencing the EI of the students of Agriculture and Agricultural Technology, the Federal University of Technology, Akure, Nigeria towards entrepreneurship. Using entrepreneurial education, the attitudinal factors of the students, subjective norm and perceived behavioural control as the behavioural context leading to their EI. The results revealed that the behavioural factors are possible determinants of students' EI. Entrepreneurship education is needed in Nigeria's economy to create jobs, reduce unemployment, crime, government's expenditure, poverty, social unrest, create wealth, and raise the standard of living in the country. However, in order for the students to have a good interest in entrepreneurship, the study recommended that both the government and individuals need to support the entrepreneurs by investing in enterprise education, this will encourage the students to use the knowledge in order to creating wealth and employment opportunities.

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Bank Performance and Board of Directors' Characteristics in the Context of Bangladeshi Islamic Banks

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Abstract

This study focuses on investigating how bank performance is being impacted by BOD characteristics, Investment Account Holders (IAHS), and contribution to the society in the context of the Islamic Banking sector in Bangladesh for the period 2008-17. This study used only six Islamic banks' data in Bangladesh during 2008-17, and those banks are full-fledged Islamic banks. A generalized least squares (GLS) regression model has been used for this study. The empirical results show that ROA and ROE are significant, and the result shows Board size has an insignificant positive effect on ROA but the negative effect on ROE. That indicates the BODs are not selected based on their expertise and experience in Islamic banks. The result also shows that a smaller board can make quick decisions and monitoring performance effectively, and creating value. Besides that, the separation of CEO and chairman roles and the IAHS have no effect, while the chairman independence has a positive impact. As for the control variables, bank size positively influences bank performance, whereas leverage negatively affects performance. Zakah and gross domestic product produce no significant effect on bank performance.

Keywords: Corporate governance, Islamic banking, Bank performance, GLS regression model.

Introduction

A proper banking system is required for any country's development, and it plays a crucial role in economic growth. Two types of commercial banks exist in an economy. One is conventional banks that do not follow any religious (Shariah) rules and principles, and another one Islamic banks based on Shariah. Conventional banks have either a one-tier or a two-tier system. In Germany, a traditional bank would be including the executive directors as the managing part within the two-tier system. It would have a separate supervisory board in the conventional banking system. The UK and the US typically have a one-tier system with the executive directors on the one hand and independent directors on the other hand. When it comes to Islamic finance, some edit components are included in the governance structure, and one very critical component is the Shariah board, certainly the internal review and audit department.

In Bangladesh, Islamic banking a phenomenon and is becoming more important. Islamic banks are famous for their transparency and good practices. Islamic banking arrived in Bangladesh in 1983, when some Saudi and Kuwaiti hedge funds decided to create an Islamic bank. This bank played a crucial role in turning an agricultural country into the textile powerhouse, and it is today. Today clothes make up 80% of Bangladeshi exports, and Islami bank Bangladesh is the biggest bank in the country. Islamic banks follow the Shariah rules, and the majority of people are Muslim in this country and for this sentiment, most of the Muslim people willing to accept Islamic banks. Therefore, Islamic banks grow up very rapidly in this country. (Islam, 2010; Mohon, 2011; Mannan, 2010; Sarker, 2005 and BMB Islamic, 2011). In Bangladesh, there are 47 banks; among them, 8 are Islamic banks, and many conventional banks provide Islamic banking service of their branches (Yousuf et al., 2014; Khan, 2014 and Akbar, 2014).

Interbank Money Market (IIMM) is a remarkable infrastructure development for the Islamic banks in Bangladesh because, through the IIMM, all Islamic banks in Bangladesh can manage their fund. Vizcaino and Quadir (2012) studied Sukuk market is not developed yet in Bangladesh. The government needs to make necessary amendments and regulations to develop the Sukuk market in Bangladesh. Microfinance plays a vital role in this economy and revises the Grameen Bank's interest-based model. Several Islamic microfinance institutions have started their operations in the rural area of Bangladesh (BMB Islamic, 2011).

Islamic banks have an outstanding possibility to succeed in Bangladesh because Islamic banks have a solid financial position. Bangladesh bank publishes financial stability report, and this report shows that Islamic banks' income to total assets ratio (9.74%) is higher than the industry average (8.14%). The return on assets (ROA) of Islamic banks is higher than the whole banking industry (1.13 and 0.84, respectively). Islamic banks' return on equity (ROE) was 16.81%, and this financial ratio was also higher than the total banking sector (10.56%). Besides that, Islamic banks have only a 3.9% non-performing portion of their total investment, but conventional banks have 10% (Bangladesh Bank, 2013).

The framework of corporate governance in Islamic banks and conventional banks are not the same. Islamic banks usually take the minimum risk, and Islamic banks have Shariah supervisory board (SSB). This board is actually working as a second layer of independence governance mechanism. Most of the time, Shariah's supervisory board prevents them (BODs, top management) from taking the excessive risky project and an investment that will become harmful to this institution. Islamic banks follow Shariah rules and the principle, so their transparency level is very high as compared to conventional banks, and they used to disclose risk and financial position. Islamic banks have Shariah restrictions; for that reason, Islamic banks prefer to invest low risky projects (Hassan and Mollah, 2014). After the Enron scandal, corporate governance has become the most significant area of all institutions (Ahmed and Chapra, 2002). In 2000-01, the

whole world observed the Turkish Ihlas finance house failure, and there were several reasons, and the most meaningful reason was the conspiracy of the board of directors (BoDs), management had taken an excessive risk, and auditors did not take it seriously (Grais and Pellegrini, 2006).

Islamic financial institutions have their own corporate governance framework, and it is based on Shariah, and this framework is clearly different from other financial firms. In this governance, BODs follow the advice of Shariah supervisory boards (SSB), alongside they work in accordance with Shariah principles and rules. In conventional banks, BODs ensure that they have proper knowledge of the banking industry, but the BODs of Islamic banks have required some additional qualifications, which is the members of BODs must have strong professional competence, and most importantly, they have to ethically sound. The primary criteria of members of BODs are the proper knowledge in Shariah regarding banking systems (Chapra, 2007). Rachdi and Ben Ameer (2011) examined that BODs usually use corporate governance mechanisms (internal & external) to resolve agency problems and reduce agency cost. The BODs considered internal governance structure as the most effective mechanisms.

Bank's performance is affected by the management, and the management is the most crucial component of the internal corporate governance of a firm (Fama, 1980). The BODs in the banking industry are more important than other industries, confirmed by Pathan and Skully (2010). Every firm wants to improve its corporate value, and it is possible when agency problems and agency costs will be decreased. Haniffa and Hudaib (2006) examined that board attributes can decrease those issues. The most important components of Corporate governance are the BODs framework of a firm, and it shows how to improve performance by using recourses effectively (Gregory and Simms, 1999). Previous empirical findings could not assure that bank performance and BODs effectiveness is positively correlated. Previous studies face endogeneity problems, and the research sample set was biased and time duration. So, the main focus of this study is to overcome the previous limitations. Moreover, the performance of conventional banking may not be replicated in the context of Islamic banks of Bangladesh because of the different financial systems.

This study focuses on investigating how bank performance is being impacted by BOD characteristics, Investment Account Holders (IAHS), and contribution to the society in the context of the Islamic Banking sector in Bangladesh for the time period 2008-17.

Literature review

Corporate governance in Islamic bank

Corporate governance (CG) means applying best management practices, fulfillment of the law and ethical standards for effective management and distribution of wealth, and discharge of social responsibility for sustainable development of all stakeholders. Last few decades, Islamic banks (IBs) have grown up by their size and numbers in Bangladesh, and the competition between two different banking systems is intensified. The CG of Islamic banks and conventional banks are different. Islamic banks always follow the Shariah principle in every situation because the risk of Shariah incompliance can create an economic crisis. Islamic banks always characterized their investment accounts which complicate their governance system (Claessens, 2006).

The structure of Corporate Governance (CG) in Islamic financial institutions (IFIs) is different from other financial firms not only that its purpose is also different from other financial firms. Ahmed and Chapra (2002) examined Transparency and accountability are at the core of CG of IFIs that ensure fairness to all stakeholders upholding Islamic principles. According to Ibrahim (2006), Islamic Financial institutions (IFIs) follow the Shariah principle, so their main focus is not only profit but also other components. They are investigating transactional structure for finding

elements derived from other than gains or profits would the first scrutiny under the CG of Shariah-compliant business.

Matoossi and Grassa (2014) examined the outcome of CG mechanisms on the banking industry, and they noticed there are many significant differences between Islamic banks and conventional banks. Some variables such as board fee, age of CEO, and CEO duality play a crucial role in Islamic banks, and those variables are also positively correlated with the performance of Islamic banks.

Basically, the past studies on CG of Islamic financial institutions (IFIs) did not examine the relationship between BODs characteristics and Islamic banks' performance except that of Matoossi and Grassa (2014). The main component of CG is the BODs structure, and banks' performance is influenced by this component (Bhagat and Bolton, 2008). The BODs ensure better monitoring which results in value maximization for the company, and the power of influence of BODs on the company performance depends on the attributes of this CG indicator. This study focuses on investigating how bank performance is being impacted by BOD characteristics, Investment Account Holders (IAHS), and contribution to society in the context of the Islamic Banking sector in Bangladesh.

Hypotheses development

Board size and bank performance

Usually, board size and bank performance are negatively correlated. According to Vance (1983), an odd number of individuals can successfully run a corporation, and three are overmuch. Numerous studies concluded that a corporation with too many boards of directors tends to perform poorly (Cheng, 2008; Singh and Davidson III, 2003). This is because, in large boards, proper coordination is very difficult to maintain. Moreover, information asymmetry is present on larger boards. Above all, on larger boards, it is very difficult to reach a consensus.

In the year 2011, a group of scholars (Grove et al., 2011) did a study on US commercial banks. Their study focuses on the post-financial crisis period. They found that board size and bank performance have a concave relationship. Similarly, another scholar (Pokrashenko, 2012) found a concave relationship between these two variables. According to this study, the optimal board size for a bank should be between 6 and 11 members.

On the contrary, some studies contradict previous findings. Arslan et al., (2010) concluded that board size has a positive relationship with corporations' share market performance. This study was conducted in Turkey, a period ranging from 1995 to 2006. Chang and Dutta (2012) supported this finding. This paper focuses on Canadian companies. According to their study, companies with large boards tend to pay a higher dividend. These companies usually do not venture into risky investments. Therefore, they are less prone to market risk. However, these findings could be biased if the research methodology does not control for endogeneity (Wintoki et al., 2009).

H1: The larger (lower) the board size, the greater (lesser) the influence of board members on the performance of the company.

Board composition and bank performance

In the past, the directorship was a very easy job – occasional meetings, lunch, and a few questions. However, this is not the practice now. Nowadays, the role and responsibilities of the director are very important. Directors have a significant influence on a firm's performance. Countless studies have examined the impact of board composition on performance, but the findings are mixed. According to Fama (1980), outside directors significantly increase the firm's value. Outside directors' act as a disciplinary device. They are very effective in monitoring and decision-making

process. This is because they are independent of the management, and most importantly, they have their reputation at stake (Fama and Jensen, 1983).

Kutubi (2011) found a positive correlation between bank performance and board independence regarding the banking sector. She considered 28 banks Bangladeshi commercial banks in her study. Conversely, Prevost et al., (2012) found a negative relationship between outsiders in the board and the corporation's growth. This study focuses on the corporations of New Zealand. In addition to corporate growth, outside directors tend to hurt stock market performance (Arslan et al., 2010). In the financial crisis period, a bank with outside directors performed worse (Erkens et al., 2012).

Lastly, some studies found no statistically significant relationship between bank performance and board composition. Hermalin and Weisbach (1991) proved that there is no significant relationship between performance and board composition. Bhagat and Black (2001) and Johnson et al., (1996) found similar results. Adams and Mehran (2003) reinforced these findings and provided a rationale for these insignificant relationships. According to them, outside directors always try to comply with the regulatory requirements. These directors give priority to safety over shareholder value maximization.

H2: Bank performance is positively related to board composition.

Investment account holder

In Islamic Shariah Law, interest-bearing deposits are not allowed. Hence, Islamic banks raise money through an investment account, where profit and loss are shared. In the case of profit, the bank is entitled to an amount as remuneration. On the contrary, if there is a loss, then the banks receive nothing and do not share loss. In general, Islamic bank offers three types of investment account - investment account based on time (for instance, six months and one year), investment account based on notice (customer requires to give prior notice for withdrawal) and specific investment account (focused on specific investment). Each of these accounts complies with the mudaraba principle (Haron, 1996). In Bangladesh, Islamic banks are very efficient in the matter of loan recovery compared to conventional banks (Ahmad and Hassan, 2007).

H3: Islamic banks' performance is positively related to the proportion of IAH funds.

Social contribution

Islamic banks are more focused on social contribution than conventional banks, and they follow Islamic Shariah. We all know that Islam is based on five key practices known as pillars. Zakat and charity are at the center of addressing poverty in the Islamic economic system. Rich people are obliged to transfer a portion of their wealth to the poor, which is known as Zakat (Badawi et al., 1979). Since the early years of Islam, Zakat has been practicing as an automatic redistribution of the wealth of the rich amongst the poor (Shirazi, 1996). Every Muslim, according to their means, is required to give part of their income to help those in need. It is envisaged that Zakat would improve the quality of life and address the problem of inequality within the society, and generally best managed by Islamic Banks

H4: Islamic banks' performance is positively correlated to social contribution.

Research method

Data and sample size

For this study, data has been collected from Dhaka Stock Exchange (DSE). In Bangladesh, there are many commercial banks that have an Islamic bank wing, but we did not consider those banks in this because of simplicity. We considered only six banks which are full-fledged Islamic banks;

those are Al-Arafah Islami Bank Ltd, ICB Islamic Bank Ltd, Islami Bank Bangladesh Ltd, Shahjalal Islami Bank Ltd, Social Islami Bank Ltd, and First Security Islami Bank Ltd. The time period of this study is 2008 -17 for the above-mentioned banks.

Variable measurement

This study had required bank performance measurement data, BODs attributes, and control variables collected from the annual report, and the GDP data were collected from the world bank website. This study also used two financial ratios for measuring a bank's performance, and these two ratios are considered the best for measuring performance (Sinkey, 2002) which are return on assets (ROA) and return on equity (ROE). Most of the previous studies used these two ratios to measure a bank's performance (Siddiqui, 2008; Sufian and Habibullah, 2009).

Control variables

This study had been used three more variables to control other possible outcomes of bank performance. These are called control variables, and the first control variable is bank size that is mostly used in previous studies of CG (Al-Saidi and Al-Shammari, 2013; Adusei, 2011; Haniffa and Hudaib, 2006). Islamic banks succeeded by the Shariah principles and rules, and one important principle is profit sharing. So, large Islamic banks always try to diversify their risk, and they usually offer their services and products at a lower price and higher profit. The second control variable is leverage (Al-Saidi and Al-Shammari, 2013; Adusei, 2011; Haniffa and Hudaib, 2006). Most of the time, Islamic banks used their internal resources first rather than outside funds for the investments. Islamic banks maintain more assets than debt, and that policy would improve their investments as well as performance (Bukair, 2013). Lastly, we used GDP as a control variable, and GDP is widely used in many previous studies of CG (Cosset et al., 2016; Gaeremynck et al., 2010). Usually, the relationship between GDP and financial sector activities is positive, and People with a higher income in Bangladesh intention to save money and save their money in banks. Therefore, Banks' funds have to increase, leading to more investment and thus better performance.

Table 1: Definition of the independent, dependent and control variables

Variable	Definition
Dependent Variable	
Return on Asset (ROA)	Net income before tax and zakah/total asset
Return on Equity	Net income before tax and zakah/total equity
Independent Variable	
BODs Characteristics	
Board Size (BS)	The total number of directors on the board
Board Composition (BC)	The percentage of non-executive directors to total number of directors on the board
Investment Account Holders (IAH)	Proportion of total investment account funds to shareholders' equity
Social Contribution (ZAK)	The total amount of zakah over total asset
Control Variable	
Bank Size (LTA)	The natural logarithm of total asset
Leverage (LVG)	Total liabilities without profit sharing investment accounts (PSIA)over total asset
Gross Domestic Product (GDP)	The annual change in GDP per capita

Specification of the model

Using panel data for this study that provide proper information on multiple statistical cases for many years. For this study, we did not use cross-sectional or time-series data because Panel data provide us more benefits in economic research in terms of increasing the levels of freedom and minimize the collinearity problems, with a purpose to improve the performance of the econometric estimates (Shah and Khan, 2007). In this study, both techniques (fixed and random effect) had been examined within the regression analysis. A Generalized Least Squares (GLS) regression model had been used in this study for both performance measures (ROA and ROE) to investigate the relationships between bank performance, independent variables, and control variables. This GLS model gives some redress like heterogeneity, which refers to unobserved variables. It also provides redress for the endogenetic time-invariant sources. This study used the GLS regression model, and this model is given below:

$$\text{PERMit} = \beta_0 + \beta_1\text{BS} + \beta_2\text{BC} + \beta_3\text{IAHs} + \beta_4\text{ZAK} + \beta_5\text{LTA} + \beta_6\text{LEV} + \beta_7\text{GDP} + \mu_{it}$$

Where:

PERM = performance (using ROA and ROE);

I = cross section unit;

T = time series;

β_0 = intercept (has constant value);

β_1 to β_7 = the coefficients' scope;

BS = board size;

BC = board composition

IAH = investment account holder

ZAK = Zakah

LTA = bank size

LEV = leverage

GDP = gross domestic product per capita and

μ_{it} = error term

Empirical findings

Descriptive statistics

In this study, we used both parametric and non-parametric tests. The performance measure variables (ROA and ROE), four independent variables, and three control variables have been shown in table 2.

Table 2 shows that the mean value of ROA was 0.013266 and ROE was 0.141817. This studied mean value is more accurate than other previous studies. Bukair (2013) shows that in his paper, the mean value of ROA and ROE was -0.30 and -0.072, respectively, and Bukair and Rahman (2015) studied shows the mean value of the same ratio were -0.023 and -0.037, respectively. The one important noticeable thing is that both studies showed a negative result, and it's maybe due to the 2007 financial crisis.

Table 2 also shows that the mean value of board size is 15.13 that means the board size of Islamic banks in Bangladesh consists of a minimum of 15 executive directors. The number of directors on

the board was 8.8, as reported in a study by Bukair and Rahman (2015) for Islamic banks in GCC countries. Al-Saidi and Al-Shammari (2013) studied to show the board size of the banks in Kuwait is 8.28. In the CG for IFIs, the ideal board size should not be less than seven persons recommended by Hawkamah (2011). The mean value of Board Composition (BC) is 0.9170, and this result shows that more than 90 percent of directors were NEDs. This result is quite similar to 91.23 percent, as reported in a study by Bukair and Rahman (2015) for Islamic banks in GCC countries. Al-Saidi and Al-Shammari (2013) studied show that 94 percent of directors were NEDs in Kuwaiti banks.

The mean value of IAH is about 9.53 percent which implies that Islami banks in Bangladesh are less dependent on the investment account equity in funding their operations than shareholder's equity. This reflects investors have less confidence in Islami Banks. The last independent variable is Zakah, and the mean value of social contribution (ZAK) is 0.0495. The previous study by Bukair and Rahman (2015) shows the amount of Zakah was 0.0079 for Islamic banks in GCC countries. This result indicates that all Islamic banks in Bangladesh contribute less than 1 percent of Zakah to the community.

Now we focus on the control variables, the mean value of bank size is 5.03 million, and leverage is 29.021, which are significantly lower than previous studies like Bukair and Rahman (2015), and Bukair (2013). Finally, the GDP per capita shows the mean value is 0.1063, and the result indicates the country's economic development.

Table 2: Descriptive statistics of dependent, explanatory and control variables

	BS	BC	IAH	ZAK	S	LV	GDP	ROA	ROE
Mean	15.13559	0.917019	9.537305	0.049563	5.032857	29.02132	0.106314	0.013266	0.141817
Median	16.00000	0.933300	9.375000	0.000145	5.113736	0.928099	0.109531	0.012400	0.128200
Maximum	22.00000	0.954500	23.22300	0.737500	5.954223	1653.834	0.137295	0.610000	0.464500
Minimum	5.000000	0.800000	0.845000	0.000000	4.071338	0.086964	0.023256	-0.109200	0.014400
Std. Dev.	4.621754	0.038120	5.062590	0.184589	0.510431	215.1799	0.030237	0.084206	0.076450
Skewness	-0.567198	-1.277274	0.297264	3.439038	-0.341736	7.484448	-1.972878	6.042074	1.420958
Kurtosis	2.176931	4.032344	3.166986	12.82868	2.253508	57.01706	6.170197	44.41438	6.992876
Jarque-Bera	4.828897	18.66231	0.937478	353.7807	2.518283	7723.863	62.98037	4575.394	59.04806
Probability	0.089417	0.000089	0.625791	0.000000	0.283898	0.000000	0.000000	0.000000	0.000000
Sum	893.0000	54.10410	562.7010	2.924241	296.9386	1712.258	6.272534	0.782700	8.367200
Sum Sq. Dev.	1238.915	0.084280	1486.529	1.976234	15.11133	2685538.	0.053029	0.411259	0.338988
Observations	59	59	59	59	59	59	59	59	59

Table 3 Illustrates that the correlation between the independent, dependent, and control variables. According to Gujarati (2004), multicollinearity is considered a severe problem when the correlation between dependent and independent variables exceeds 0.80. There is no significant relationship between dependent and independent variables. The dependent variable ROE has a strong positive correlation with board size with a value of 0.82. There is a strong positive correlation exists between BS and BC. On the other hand, Zakah and ROA had a very weak negative correlation with a value of -0.0246. Control variable leverage had a very weak negative correlation with dependent and explanatory variables.

Table 3: Correlation matrix

	ROA	ROE	BS	BC	IAH	ZAK	S	LV	GDP
ROA	1	-0.25229642...	0.228848664...	0.273279698...	0.171565679...	-0.02468333...	0.052017851...	-0.09602594...	0.128711043...
ROE	-0.25229642...	1	0.066932140...	0.082652936...	-0.12636372...	-0.20209807...	-0.15827132...	-0.11967770...	-0.06534309...
BS	0.228848664...	0.066932140...	1	0.793835064...	0.351112871...	0.093754854...	0.583566844...	-0.20533527...	-0.05933381...
BC	0.273279698...	0.082652936...	0.793835064...	1	0.366926713...	-0.23152535...	0.326097035...	-0.14677276...	-0.01182774...
IAH	0.171565679...	-0.12636372...	0.351112871...	0.366926713...	1	0.215476703...	0.692951513...	-0.22268594...	0.063857250...
ZAK	-0.02468333...	-0.20209807...	0.093754854...	-0.23152535...	0.215476703...	1	0.453196238...	-0.03564878...	0.137465886...
S	0.052017851...	-0.15827132...	0.583566844...	0.326097035...	0.692951513...	0.453196238...	1	-0.22839298...	0.004046896...
LV	-0.09602594...	-0.11967770...	-0.20533527...	-0.14677276...	-0.22268594...	-0.03564878...	-0.22839298...	1	0.012165461...
GDP	0.128711043...	-0.06534309...	-0.05933381...	-0.01182774...	0.063857250...	0.137465886...	0.004046896...	0.012165461...	1

GLS Model Findings

This study used the GLS model, and the result of this model has shown in Tables 4 and 5. This study used two performance measures ratios: ROA and ROE, and the result of both variables is significant at the less than 5 percent level. The result of R squared for ROA is 0.2198 and ROE is 0.4351, and this result indicates around 22 and 44 percent variance in both measures of performance is interpreted by four independent variables and three control variables.

Table 4 shows that Board Size (BS) has an insignificant positive effect on ROA. On the other hand, table 5 shows that Board Size (BS) has an insignificant negative effect on ROE. So, H1 is rejected.

Board Size (BS) has an insignificant positive effect on ROA and an insignificant negative effect on ROE. Thus, H1 is rejected. The negative sign indicates that the directors in Islamic banks' boards are not selected based on their expertise and experience, but more often for fulfilling the requirements of CG codes. The result also matches with Mamun, Noor, and Musa (2016) for Bangladeshi banks'. The results of both measures imply that a smaller board makes quicker decisions and plays an effective role in monitoring performance and creating value for Bangladesh Islami Banks'.

The ratio of NEDs on the board (BC) has an insignificant positive effect on performance, leading to rejecting H2. Besides, this finding contradicts previous studies by Al-Saidi and Al-Shammari (2013). None of the hypotheses can be accepted based on the given regression result.

Table 4: ROA GLS regression output

Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROE	-0.349371	0.144914	-2.410880	0.0196
BS	0.006269	0.005210	1.203221	0.2346
BC	0.135406	0.586750	0.230773	0.8184
IAH	0.004085	0.003269	1.249724	0.2172
ZAK	0.004297	0.075303	0.057067	0.9547
S	-0.068585	0.040374	-1.698752	0.0956
LV	-3.74E-05	5.13E-05	-0.729228	0.4693
GDP	0.320244	0.356960	0.897142	0.3739
C	0.116801	0.546822	0.213600	0.8317
R-squared	0.219788	Mean dependent var		0.013266
Adjusted R-squared	0.094954	S.D. dependent var		0.084206

S.E. of regression	0.080109	Akaike info criterion	-2.071298
Sum squared resid	0.320869	Schwarz criterion	-1.754385
Log likelihood	70.10328	Hannan-Quinn criter.	-1.947588
F-statistic	1.760640	Durbin-Watson stat	1.209216
Prob(F-statistic)	0.107557		

Table 05: ROE GLS regression output

Dependent Variable: ROE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA	-0.215846	0.147271	-1.465639	0.1497
BS	-0.002106	0.006426	-0.327655	0.7447
BC	0.226262	0.638855	0.354168	0.7249
IAH	-0.011050	0.006098	-1.812008	0.0767
ZAK	0.036909	0.070668	0.522290	0.6040
S	-0.079434	0.053652	-1.480543	0.1457
LV	-1.89E-05	4.67E-05	-0.405082	0.6873
GDP	0.402672	0.326117	1.234748	0.2233
C	0.329338	0.583867	0.564064	0.5755

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.435128	Mean dependent var	0.013266
Adjusted R-squared	0.271943	S.D. dependent var	0.084206
S.E. of regression	0.071850	Akaike info criterion	-2.224773
Sum squared resid	0.232309	Schwarz criterion	-1.731798
Log likelihood	79.63080	Hannan-Quinn criter.	-2.032335
F-statistic	2.666466	Durbin-Watson stat	1.455156
Prob(F-statistic)	0.007417		

Conclusion

The purpose of the study is to investigate the impact of BODs mechanisms (Board size, the composition of the board, chairman independence), Investment Account Holders (IAHs), and the social contribution on the bank performance during the time of 2008-17 and the sample is 6 Islamic banks in Bangladesh. This study used The GLS model for testing the relationship between independent and dependent variables. This study shows that the performance of Islamic banks in Bangladesh is not dependent on BODs mechanisms, IAHs, and social contribution. The outcomes of this study fail to reject the hypothesis that the BODs mechanisms, IAHs, and social contribution can improve Islamic banks' performance. Most importantly, The shareholders of Islamic banks appointed Board members for better performance, but unfortunately, their

knowledge was insufficient in the Shariah banking system. So, that was not affected on banking performance. According to Shariah principles and rules, A non-executive chairman has the capability to cordially practice BODs mechanisms and ensuring all the stakeholders' interests have the ability to realize the economic and social objective. Also, the outcomes have shown that the management protects only shareholders' interests, not the other investors such as Investment Account Holders (IAHs).

The findings of this study will help the policymakers and regulatory body of Islamic banks to improve their strategies that will help those banks for better performance and produce better value. The policymakers in Islamic banks are the key component to enhance their performance. The policymakers should evaluate board size regularly and improve the board activities, which will give the better performance.

Although this study has some limitations, it creates an opportunity for future research. This study discovered a significant part of the variation in bank performance by the GLS model, but due to insufficient data, the significant factors of this model are unexplained.

For example, further research may use other mechanisms of corporate governance (CG), including the remuneration committee as well as the nominating committee, top five largest shareholders, and managerial shareholding. Under conventional banking, these factors have been found dominating theoretically and empirically in CG studies. Perhaps, some of these factors may be appropriate to Islamic banks. Next, for the short, mid, and long term performance of Islamic banks, there is a need to study the impact of CG changes. Finally, the sample is limited to Bangladeshi Islamic banks only. Future research may extend the sample to all South Asian, Middle East, and Western countries. A comparative study can be conducted between Islamic banks operating in Islamic countries and South Asian countries.

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