Financial Studies

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Contents

OVERVIEW OF THE NATIONAL BANK OF ROMANIA'S ROLE IN THE LAST CENTURY[1]

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Abstract

The central bank is one of the main pillars of a country's government and one of the institutions most required to respond to crisis situations in the economy. In this respect, the National Bank of Romania, as the monetary authority of the Romanian state, is constantly subject to such pressure. The article aims to highlight the role that the monetary authority in Romania has had over a century since the Great Union. The research is based on the analysis of some historical documents that testify the major changes through which had passed this institution, as well as the remarks noted lately, especially after Romania's accession to the European structures. The results obtained give a general picture reflecting the role of the National Bank of Romania policy over a century filled with social, political and economic events.

Keywords: monetary unification, monetary reform, currency regime, anti-inflationary policies

JEL Classification: N14, E31, E58

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1. Introduction

With the end of the First World War, a new route opens for Great Romania by initiating a series of fundamental changes in the organization and functioning of state institutions. Within this framework, the National Bank of Romania (NBR), as the monetary authority of the Romanian state, is under constant pressure to adapt its role in the different moments of the last hundred years. The objective of this article is to highlight the responsibility assumed by the NBR during the century past from the Great Union. The approach is important to illustrate how the Romanian monetary authority has adapted its instruments and responses to the conjuncture and the challenges it had to respond. For this purpose, we call on exploring both historical documents and recent studies focused on describing the NBR's involvement in national economy.

The economic history since 1918 has been strewn with major events through that have produced various effects on the institutional configuration of monetary authority and on the decision-making and operational framework of its monetary policy. Broadly speaking, the approach takes into account the three periods delimited by the main events that divided the last century: the period between the Great Union and the end of the Second World War; the Communist period; the post-communist period. It is worth mentioning that there have been and other shocks and events that have marked the policy of the National Bank.

2. Literature review

A supporting point is represented by few studies that are essential by the way of capturing in detail the challenges faced by the NBR, as well as by the explanations given over the decisions taken over time. One of the fundamental works on the role of the National Bank from its beginnings until the stage of changes appeared in the first years after the Great Union is that of Victor Slăvescu (1925). This is the basis of many researches in the field of NBR history. In a broader study of the Romanian leu system and its forerunners on the territory of Romania since the pre-capitalist period, Kiriţescu (1997) indirectly performs a critical analysis of the role played by the National Bank in the Romanian economy until 23 August 1944, but also during the communist period and the first years of transition.

In a research on the economic and financial situation of Romania in terms of loans contracted during 110 years (1823-1933), Dobrovici (1934) also addresses the issue of Romanian finances from the first years of the Great Union to the period of the world economic crisis (1929-1933). The 1929 monetary stabilization process is dealt with in detail by Oromulu (1930), Maievschi (1957) presents the effects of the National Bank's decisions on the public finances between 1914 and 1944, and Mariţiu (2006) highlights the aspects related to the implementation of monetary reforms in the Communist period. Axenciuc (2000) has an important contribution in the field of historical research of the economy by building a long-term statistical database that reflects the historical evolution of Romania's economy, including the stage of the Great Union. After 1990 the spectrum of NBR's monetary policy analysis is expanded with a series of occasional and periodical studies conducted by NBR specialists, while an overview of the period before the global financial crisis is described by Isarescu (2007 and 2009).

Based on the analysis of the referenced works stated above and expanding the horizon with the recent post-global financial crisis, the present paper summarizes the main stages of transformation of the NBR during the one hundred years since the Great Union.

3. National Bank of Romania and its changing role over the century

The end of the First World War brought profound changes for Reunified Romania, which exerted strong pressure on the activity of the NBR as this institution had to cope with new conditions using the old instruments and referring to a legal basis still unchanged. Like the other state institutions, the NBR had to manage, on the one hand, the problems stemming from a disorganized economy as a result of the war, and on the other hand, those specific to the three Romanian provinces.

The NBR continued to be the fundamental institution of the national economy and the Romanian state, attributes of which were evidenced especially by the support granted to these two pillars. Thus, as the state could no longer cover the needs of a "drained treasure" (Slăvescu, 1925), and its fiscal rights could not be exercised on the whole territory, the National Bank was the main source of credit for the state.

From an economic and financial point of view, during the first years after the war (1918-1923), Romania was experiencing a very difficult period marked by a deepening of the budget deficit, and the accumulation of important internal and external public debt. For the recovery of the economic situation, the NBR played a crucial role by increasing the monetary emission in order to cover the budget deficit. At the same time, the inflationary depreciation of the domestic currency has worsened, both in relation to commodities in the domestic market and in relation to other currencies, as a factor that stimulated speculative shares[2].

By the monetary union effected by the NBR between 1920-1921 the foreign currency was gradually removed from circulation and the application of the leu's money system on the entire territory of Romania was generalized, but the existing currency surplus resulted after the war could not be eliminated, so afterwards this event the monetary mass continues to grow while maintaining the depreciation of the leu.

In order to lay the foundations for economic development after the end of the war, it was necessary to achieve monetary stability and, implicitly, to liquidate inflation. Although there was the question of returning to pre-war monetary systems based on gold monometalism, no capitalist country in Europe was able to take this step. Many European countries (Germany, Sweden, Austria, England, Italy, Belgium, Poland, France, Denmark, Norway) pursued monetary reforms to restore the old monetary systems but failed. The monetary problems to be solved were complex as they did not only refer to stopping inflation, liquidating the abundance of coins circulating during the war, but also to creating a balance between the monetary mass and the needs of the economy.

Until the outbreak of the global economic crisis (1929-1933), Romania is experiencing a process of economic recovery having the support of a developing and improving functioning of the financial system. The NBR is involved in the financing of the economy through the National Industrial Credit Society (established in 1923), which granted industrial loans to Romanian companies based on bills of exchange that were subsequently re-discounted by the NBR. In this

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[2] *At that time, currency speculations were accentuated both by the introduction of currency in the country through illegal operations and by the high level of the exchange rate set by the government for Austro-Hungarian crowns.*

way, a large part of the discount credits, specific to the emission bank, and which are short-term loans, were actually used for industrial investment. Maievschi (1957) mentioned that over 50% of the NBR's trading portfolio represented outlay in industry, hence long-term investment, which meant that NBR's important assets were immobilized, affecting the bank's liquidity.

During this period, the issue of monetary consolidation through a deflationary process is becoming increasingly acute, which has been implemented since 1925, through the gradual repayment of the state's debt to the NBR and the blocking of these cash, so that the volume of banknotes in circulation meet the needs of the economy. By limiting the emission, the NBR has reduced its capacity to support the economic activity in a period of economic revival, with an increasing demand for loans. This was represented by the rise in prices, with rising interest rates and bank fees being reflected in higher product costs on the internal market, causing domestic depreciation of the national currency by inflation.

The new monetary stabilization process of 1929 was the basis for Romania's economic development, as monetary instruments were considered to be the solution for problem solving. It coincided with the onset of the global economic crisis and meant a devaluation of the leu and a strengthening of foreign capital, as the National Bank had insufficient reserves of gold and currency, and its discount portfolio was immobilized. Moreover, the insufficiency of domestic capital and the poor state of infrastructure, as major impediments to the development of the economy, required the attraction of foreign capital, which was done by the support of foreign banks. Dobrovici (1934) mentions that the major emission banks have agreed to be involved in Romania's monetary stabilization operation and to the formation of a strong banking group (American, English and French) to provide the necessary loan for monetary stabilization. Through the new reform, Romania's monetary system is still based on gold monometalism, but with a devalued currency as a reflection of inflation depreciation in World War I and in the years to come. Kiriţescu (1997) mentions that the application of the 1929 monetary reform meant mainly the granting of external credits to Romania, under very advantageous conditions for the bankers and the business groups that took over these loans.

The World Economic Crisis (1929-1933) disrupts the process of economic development and affects the credit system, which makes it necessary for the NBR to intervene both by granting loans to the state

and to important companies in industry and commerce, and by issuing money to cover losses suffered by large banks. But these measures have amplified the inflationary phenomenon. Moreover, efforts to achieve monetary stabilization through external loans have squeezed the NBR's foreign exchange reserves, still affecting confidence in the national currency.

One of the consequences of this crisis was the collapse of the system created by the 1929 monetary reform.

In the period after the global economic crisis, a decisive influence on NBR policy was given by Romania's financial relations with Hitler's Germany, and the main financial instrument underlying these relations was clearing as a mean of economic expansion in Romania before the war, and as a way to obtain from Romania's economy, during the Second World War, the financing for the flow of products necessary for Germany and its army. The extra currency issuance caused by Romanian-German clearing, as well as the increase of state debt contracted especially to cover its defence needs, exerted inflationary pressure between 1935 and 1940. In this context, in about three years the re-discount and the Lombard operations of NBR increased about seven times[3], as a result of measures aimed at strengthening the defence capability of the country.

The period before the start of the Second World War marks the growth of the NBR's role as a central institution for controlling foreign exchange operations, regulating the banking system, refinancing the economy, carrying out operations on the open market and massive lending to the state, thus having an important role in consolidating Romania's sovereignty.

It is noteworthy that throughout the entire period after the Great Union, the National Bank directly contributed to the economic development of Romania, supporting the activity in industry, commerce and agriculture by granting advantageous credits, using resources from the monetary issuance and from the money resources of the economy that were in its accounts. Within this framework, the NBR strengthened the position of the domestic capital, and during the Second World War it helped to limit the implementation of Hitler's projects aimed at systematically exploiting the country's resources. However, as noted by Kirițescu (1997), the NBR policy was not constantly directed to counteract the domination trend of foreign

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[3] *From 3.6 billion lei in 1938 to 25.3 billion lei in 1941.*

capital, given that the 1929 monetary stabilization meant a capital import under unfavourable conditions for Romania.

Simultaneously with the establishment of the communist regime, the NBR policy was profoundly changed by passing it into state property from January 1, 1947, and from 1948 under the new title of Bank of the Romanian People's Republic, is subordinated to the Ministry of Finance.

The persistence and amplification of the inflationary phenomenon, reflected by the excessive growth of money in circulation, from 54 billion lei (in 1939) to almost 49,000 billion lei (in 1947) (Axenciuc, 2000), made it necessary to implement a monetary reform, achieved through a new monetary stabilization, in August 1947. By radical deflationary methods, the new monetary reform meant the sharp reduction in money supply, from 48.451 billion lei on 14 August 1947 to almost 1.38 billion lei in the next day (Kiriţescu, 1997). Thus, post-war inflation was suddenly annihilated, capital accumulations were liquidated, but subsequent analyses made by communist leaders (Mariţiu, 2006) indicate an imbalance between demand and supply with the risk of price instability. Gradually, it was evidenced that the monetary stabilization of 1947 failed to create a stable environment with low inflation, and therefore through the new reform of 1952 attempt to stop inflation.

The fall of the communist regime brings a series of transformations in the role of the NBR in the economy, together with a remodelling of the financial-banking system on a basis that corresponds to the market economy. In March 1991, by Law no. 33 on banking activity and on the NBR Statute (Law no. 34) it was established a new two-tier banking system, where the NBR becomes the central bank of the Romanian state, the only issuing body empowered to establish and conduct monetary, foreign exchange and national credit policies, while ensuring banking regulation and supervision.

In the first ten years, the years of the transition to the market economy, by redefining its status in relation with the internal economic policy and the financial system, the NBR faces major challenges: very high inflation, the deepening of the balance of payments deficit, the exhaustion of foreign exchange reserves.

The increase of the inflationary phenomenon in the first part of transition, with a peak reached in 1993[4], was determined by structural, psychological and monetary factors, reflecting both the functioning of a rigid and anachronistic price system, incapable of transmitting corrective signals regarding the allocation of resources in the economy (due to the lack of correlation between very high domestic demand and limited supply), as well as structural imbalances in the real sector, financial blockade by creating artificial currency and incompatibility between adopted economic policies.

The conditions created by the rather unstable economic and institutional environment and the significant fragility of the financial system, as well as the assignment of quasi-fiscal tasks to the NBR, did not allow the monetary authority to adopt a clear anti-inflationist orientation for monetary policy, the framework for the implementation of monetary operations in this respect being limited. Moreover, the NBR was in a difficult situation to restore the external balance, given that the administrative mechanisms regulating the activity of foreign trade had been abandoned at the beginning of 1990 and the exchange rate was overestimated, artificially maintained by a fixed currency regime, to reduce the inflationary pressure. However, excessive domestic demand was accommodated at the cost of deteriorating the balance of payments and exhausting the official foreign exchange reserves[5].

Adaptation of the NBR policy to the challenges of transition also implied a gradual change in the currency regime. The opening of the foreign exchange market in February 1991[6] was achieved with the adoption of a dual currency regime, based on two exchange rates of the national currency, one official and the other established on the market, which were then (in November 1991) unified under a regime of

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[4] *Inflation recorded in that year, calculated as the average annual percentage rate of consumer price, reached 256.1%. An important factor contributing to such an increase in inflation was the declaration of the domestic convertibility of the leu, a measure adopted by the NBR in 1992.*

[5] *The significant increase in imports and the dramatic decline in exports after the liberalization of foreign trade and the abolition of the Council for Mutual Economic Assistance (CMEA) practically exhausted the official currency reserve in the first nine months of 1990. According to the 1992 Annual Report of the NBR in early 1990, Romania's foreign exchange reserve was US $ 1.5 billion.*

[6] *The organization and functioning of the interbank foreign exchange market in Romania are based on Law no. 15 of August 1990.*

controlled flotation. During this period, the NBR has a pro-active conduct on the foreign exchange market intervening to maintain the exchange rate of the leu on a certain trajectory that would ensure a balance between the internal constraint to reduce inflationary pressure and the external one to avoid the crisis of foreign payments (Isărescu, 2009). The stage of the transition is marked by the existence of multiple exchange rates caused by the manifestation of currency market failures and significant exchange rate deviations from the equilibrium level, but the full liberalization of the exchange rate in 1997 regulated the functioning of the foreign exchange market by achieving an equilibrium exchange rate and increasing capital inflows. Until the onset of the global financial crisis, the NBR intervenes in the foreign exchange market to mitigate the real appreciation of the national currency against the euro[7] as a result of massive inflows of foreign capital.

The operational framework for monetary policy is being adjusted, especially after 1991, by pursuing the flexibility and standardization of the monetary policy instrument with the implementation of specific mechanisms:

- a bank refinancing system through credit line, auction credit, and fixed term credit (in 1991);
- a minimum reserve system, for regulating liquidity in the banking system (March 1992);
- State Treasury General Account, opened with NBR, to eliminate the automatic financing of the budget deficit by NBR.

In the first half of the 2000s, the NBR's policy was adapted to meet the requirements of European Union membership, which also involved a reorientation of monetary policy towards the policy of the European Central Bank. Direct inflation targeting, the new monetary policy strategy adopted by the NBR in August 2005, together with the capital account liberalization, were applied at a time when the domestic and external macroeconomic environment was stable, with low inflation and economic growth. The NBR's concerns over this period focus on price stability, as a statutory objective of the NBR explicitly assumed since 2004, and in support of its approach, it attaches great importance to communication with the market and the public, and emphasizes the

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[7] *Since March 2003, it is going from the dollar to the euro, as a reference currency in the foreign exchange market.*

importance of its independence both to the pressure of the political factor and in terms of the use of monetary instruments. The analytical framework for monetary policy is changing so that interest rate policy becomes a priority, as a necessary tool to adapt to the new monetary policy strategy, but also to restore banking intermediation. High inflation expectations, fiscal domination, net debtor position of the banking system, and massive capital inflows were important challenges for the NBR before the global financial crisis (Criste and Lupu, 2015).

Some of the NBR's challenges have disappeared after the global financial crisis (massive foreign capital inflows, domestic currency appreciation, as well as changing the position of the NBR from that of the net borrower to that of the net creditor of the banking system), but this did not mean reducing its burden. Thus, the reduction of external financing under the conditions of the imbalances accumulated before the crisis (the deepening of the current account deficit of the balance of payments) created higher volatility in the money and foreign exchange market, with the risk of affecting the price stability, but also of the private sector indebted to foreign currency. After 2008, the NBR had a prudent behaviour by disrupting the trend of raising the monetary policy rate, thus adapting to the new conditions generated by the global financial crisis. In doing so, it has intensively used minimum reserves as a macro-prudential instrument, provided reserves to banks through the lending facility, has conducted foreign exchange and repo transactions, aiming to create the necessary conditions for the resumption of lending to the private sector and to avoid excessive volatility of exchange rate (Criste and Lupu, 2015).

Gradually, through the measures adopted after 1990 and through its conduct, the NBR has gained its internal and external credibility, thus becoming a fundamental institution for ensuring financial stability. This period of events has permanently imposed the adaptation and building of policies and measures that have helped to overcome the crisis situations and to strengthen the position of the national bank in the economic and financial system of Romania.

4. Research results

The research outlines an overview of the major transformations over the last hundred years suffered by the NBR, and the results are presented in the appended table.

The history of the role of monetary authority in the last century could be divided into three major time intervals, based on major policy changes: the Great Union and the strengthening of the national economy (1918-1939), followed by a period of political crisis in the conditions of the Second World War and the transition to the communist political regime, imposed from the outside; the communist period, where the role of the NBR is subordinated to the policy of the Romanian Communist Party and the post-communist period marked by a series of events that increased the degree of complexity of the NBR policy. During the period under review, it is noted that the inflationary pressure was a quasi-permanent challenge for the NBR.

In the first period, the NBR's policy was broadly focused on the economic recovery and the development support by lending but certain events (Great Depression, Second World War) affected expected outcomes, resulting in higher inflation and less confidence in the Romanian leu. Since 1990, the NBR policy has helped to restore macroeconomic balances and to correct the excessive inflation phenomenon, strengthening its internal and external credibility.

The NBR's monetary instruments have diversified over time, by adapting to a more complex reality and by taking into account the developments of monetary policy of central banks from developed countries: while in the first period the main instruments used were the re-discount system and monetary issuance, in the post-communist period the monetary policy toolbox is expanding, so that it includes the provision of permanent facilities to credit institutions (credit and deposit), the application of the minimum reserve system and a diverse set of open market operations in the money market.

5. Concluding remark

The history filled with events has contributed to refining the NBR's role, the monetary authority being permanently constrained to meet the challenges and demonstrating its capacity to support the national economy. Although there have been periods in which its responsibility has been subordinated to internal and external forces, it has always found the springs necessary to meet the current challenges.

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The National Bank of Romania and the Context of the Last Century

The period of the Great Union at the end of the Second World War							
The period after the First World War (1918-1922)		**The period of the development of the reunited economy (1923-1928)**		**The period of the global economic crisis (1929-1933)**		**The post-crisis period**	
NBR's policy	**Current conditions**	**NBR's policy**	**Current conditions**	**NBR's policy**	**Current conditions**	**NBR's policy**	**Current conditions**
- the increase in the monetary issuance - monetary unification delayed (1921-1922)	- deepening of the budget deficit - the accumulation of an important domestic and external public debt - inflationary depreciation of the leu	- indirect financing of the national economy	- restoring the economy - development of the financial system (the establishment of the National Industrial Credit Company)	- NBR interventions by granting loans to the state and large firms - monetary issuance to support large banks	- interruption of the process of economic development and impairment of lending activity - amplification of the inflationary phenomenon - impairment of the confidence in the leu (as a result of the reduction of the NBR's foreign exchange reserves)	- credit control policy - additional monetary issue imposed by the relationship with Germany (clearing operations)	- the increasing of the inflationary pressure
		- monetary consolidation through deflation (1925) - reducing of the capacity to support the economic activity (impaired lending)	- rising prices - internal depreciation of the currency by inflation				
		- monetary stabilization through external borrowing (1929)	- devaluation of the leu - strengthening foreign capital				

Communist regime - subordinating the NBR's policy to the Ministry of Finance and Romanian Communist Party's policy	
NBR's policy	**Current conditions**
- sudden annihilation of post-war inflation - liquidation of capital accumulations - increasing the imbalance between supply and demand	- monetary stabilization by the sudden reduction of money supply (1947)
- the shift from the dollar to the ruble as a basis for reporting the leu in foreign relations	- new monetary reform (1952)
- the correlation between the money supply and the needs of the economy, unbalanced by the administrative price mechanism	- periodic operations of re-setting of prices and wages (monetary quasi-reforms)

After 1989 (The fall of the communist regime)							
Transition period (1990-1999)		**Preparing for European Union membership (2000-2007)**		**The global financial crisis (2008-2011)**		**The post-crisis period (after 2012)**	
NBR's policy	**Current conditions**	**NBR's policy**	**Current conditions**	**NBR's policy**	**Current conditions**	**NBR's policy**	**Current conditions**
- liberalization of prices - opening the foreign exchange market - improving banking legislation (alignment with European standards)	- high inflation - depreciation of the currency - imbalances of the balance of payments	- strengthening NBR's regulatory and supervisory capacities - adopting the inflation targeting strategy - liberalization of the capital and financial account	- the real appreciation of the national currency - the deepening of balance of payments deficit - massive external capital inputs	- the gradual reduction of the monetary policy rate - reduction of required minimum reserves for liabilities in lei and foreign currency - currency swap and repo transactions (provision of liquidity to banks)	- inflationary pressure - depreciation of the currency - risks of financial instability	- strengthening of the prudential regulation framework	- reducing inflation - depreciation of the currency

Source: Authors' conception

CAN BITCOIN BE A STABLE INVESTMENT?

Ismail ÇELIK, PhD[*]

Abstract

This study aims to analyze the volatility structure of Bitcoin returns, which became a popular investment after 2009. The Fractal Market Hypothesis (FMH) is chosen as the instrument to investigate the issue. By testing this hypothesis, the sudden price fluctuations in Bitcoin returns were tried to be determined. Daily closing price of Bitcoin between 04/2013-01/2019 were obtained from coinmarketcap. The fractal nature of Bitcoin market is tested with R/S, DFA, Periodogram and GPH models. The Hurst exponents show that FMH is valid in the Bitcoin market. Additionally, the effect of financial bubble formation and structural breaks on fractality is investigated through the ARFIMA-FIGARCH and ARFIMA-HYGARCH models. We observe that financial bubbles and regime changes increase the fractal structure (long memory) in the Bitcoin market.

Keywords: Fractal Market Hypothesis, Hurst Exponent, Financial Bubbles, FIGARCH, HYGARCH

JEL Classification: C58, G14

1. Introduction

Efficient Market Hypothesis (EMH) is based on the assumption that all useful information in financial markets is reflected in prices quickly and precisely. EMH emphasizes that future investment prices cannot be predicted, investors cannot obtain abnormal returns and asset prices exhibit random walk behaviour. However, the hypothesis is extensively criticized due to some innovation especially in positive sciences. In particular, Hurst (1951) showed that time series exhibited a biased random process or fractional Brownian motion contrary to pure random walk behaviour (Peters, 1989), which caused the

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discussion of the Efficient Market Hypothesis based on Fama (1970). In addition to the fact that financial asset series do not exhibit random walk behaviour, EMH is also severely criticized in terms of the lack of symmetrical knowledge of the market players and the lack of the normal distribution of asset returns (Morali & Uyar, 2018: 2204). Common assumptions about financial asset returns should be listed as follows. Financial asset returns: a) heavy-tailed according to normal distribution b) autocorrelation and partial autocorrelation functions that do not rapidly approach to 0 c) time series with non-periodic cycles. For this reason, Hurst (1951) and Mandelbrot (1972) emphasized that the financial time series exhibited long memory behaviour and that the events emerging in the past can be small pieces that form the picture of the today and today's useful information may be small pieces that will form the picture of the future.

Fractal can be defined as a repeating pattern of details and structure. The Fractal Market Hypothesis, introduced by Peters et al. (1994), was developed as a result of the understanding of self-similarity and long memory characteristics in financial time series. It contributes more to the understanding of capital markets with excessive volatility, discontinuity and non-periodic character (Rachev et al., 1999: 24). Although fractality is expressed as a geometric concept, it expresses the self-similar principle for financial assets. But, the concept of self-similarity statically indicates that the mean and standard deviation of any part of the fractal is proportional to the mean and standard deviation of the whole entity (Erdoğan, 2017a: 51).

The self-similarity feature of financial time series can be explained by long memory behaviour. Long memory series exhibit non-periodic long cycles or permanent dependence in observations that are distant from each other over time. Short-term dependent time series includes standard autoregressive moving average and Markov operations and reveals whether the observations show little statistical dependence from each other (Mulligan, 2000: 33).

Long memory and structural breaks are two important factors in modelling financial time series, and they contribute to the elimination of losses caused by excessive volatility affecting asset diversification, financial asset prices and market expectations (Mensi et al. 2019). The fact that financial assets do not exhibit long memory characteristics can be interpreted as the events of the past do not affect today's prices.

This study aims to investigate the fractal nature of BTC returns. Bitcoin was introduced to the financial world through Nakamoto (2008)

as an electronic payment system with crypto security systems. It attracted a lot of attention of investors especially during 2009 and has exhibited a rather unstable investment instrument for the last few years. The daily trading volume of BTC returns in the cryptocurrency market is approximately 35% of the total trading volume. Although the sudden and high price changes in the cryptocurrency markets provide opportunities for serious speculative gains, they also cause many high-level risks. Particularly, empirical evidence on the persistence level of information shocks can give an idea about whether crypto financial instruments are reliable investment instruments for investors. Within the cryptocurrency market, BTC has a large share of the total transaction volume including more than 2000 cryptocurrencies. Especially, the limited supply leads to higher volatility in return.

Different from the previous studies, the unique aspect of our study is that the BTC market fractality will be examined separately in the context of both Hurst exponent and d parameter. Furthermore, Fractal Market Hypothesis will be tested by considering the structural breaks, financial bubble formations and dual long memory characteristics. There are only a few studies in the literature which test the Fractal Market Hypothesis from different dimensions in the crypto money market by considering the information efficiency of the BTC market.

The rest of the paper is organized as follows: Section 2 presents the literature review about efficiency, volatility structure, fractality and long memory in the BTC market. Section 3 defines the data set and methodology. Empirical findings will be presented in Section 4. Finally, Section 5 concludes.

2. Literature review

While the first studies on Bitcoin focused on issues such as "security" or "the legality" of cryptocurrencies, studies emerging after 2013 have emphasized the financial aspects of the cryptocurrencies (Kristoufek, 2018: 257). As Bitcoin becomes popular in portfolio diversification, many studies on "market efficiency", "long memory", "price discovery", and "hedging capabilities" of BTC have been conducted in the literature.

Urquhart (2016, 2018), Bariviera (2017), and Kristoufek (2018) examined whether the crypto money market was efficient by means of BTC prices for different periods. The common result of the analysis

conducted with different models such as Hurst R/S and the run test was is that BTC contradicted the Efficient Market Hypothesis. Similarly, Lahmiri et al. (2018), Al-Yahyaee et al. (2018), Lahmiri and Bekiros (2018), Mensi et al. (2019), Kayacan and Anavatan (2018) and Erdoğan (2018) examined the multi-fractal structure and dual long memory properties in BTC markets via various parametric and semi-parametric models. Under the assumptions of different forms of error distribution, long memory and fractality were tried to be determined with different model variations such as Hurst R/S, MF-DFA (Multifractal De-trended Fluctuation Analysis), BDS (Brock, Dechert and Scheinkman), FIGARCH, FIAPARCH, and HYGARCH. It is shown that the BTC market was a multi-fractal market with a long memory character.

In their study, Katsiampa (2017) and Dyhrberg (2016a) revealed the volatility characteristics of the BTC market. Dyhrberg (2016a) tested the GARCH and EGARCH models in a study aiming to demonstrate the capabilities of BTC as a financial asset. According to the results of the GARCH model, BTC had some similarities in terms of gold and dollar hedging capabilities as a portfolio diversification tool. As a result of the analysis of the EGARCH model, it was found that BTC offered opportunities for investors expecting negative shocks in the market. Katsiampa (2017) showed that the AR-CGARCH was the best predictor of the BTC volatility among many conditional variance estimators for determining BTC volatility structure. In another study, Dyhrberg (2016b) found that BTC offered hedge opportunities compared to the stock.

Apart from the aforementioned issues on cryptocurrencies, there exist some studies on the existence of structural breaks and price bubbles. Corbet et al. (2018) obtained some evidence of price bubbles in both currencies via SADF and GSADF tests in their study aiming to identify the price bubble formations in Bitcoin and Ethereum by following the principles proposed by Phillips et al. (2011, 2015)

Thies and Molnar (2018) tried to detect structural breaks in BTC returns and volatility through Bayesian models and identified different positive average return regimes and one negative regime as indicators of structural breaks in both return and volatility.

Regime differences such as structural breaks and price bubbles in volatility modelling of financial assets should be considered to avoid inaccurate volatility predictions. Thus, the regime changes (structural breaks) and financial bubbles in volatility models to be used in testing

the Fractal Market Hypothesis in the BTC market have been included in this study.

3. The contribution of Post-Keynesian economics

We obtained daily data for BTC from coinmarketcap for the period from 28/04/2013 to 25/01/2019. We compute the log returns via $\ln(P_t/P_{t-1})$.

It is worth emphasizing that the fractality observed in the financial time series leads to long memory and therefore information shocks that reach the market will not be geometrically reflected in the prices in the market. The fractality in the structure of a long-term financial asset indicates that future price formations can be predicted by means of past observations, which provides evidence for the Fractal Market Hypothesis contrary to the Efficient Markets Hypothesis.

The Hurst Exponent (self-similarity coefficient) described by Hurst (1951) is explained by the following asymptotic relationship.

$$E\left[\frac{R(n)}{S(n)}\right] \sim \alpha * n^H, n \to \infty \qquad (1)$$

In equation, $R_{(n)}/S_{(n)}$ indicates the rescaled range, α is the constant term, $R_{(n)}$ means the difference between the largest and smallest value of the series and $S_{(n)}$ refers to the standard deviation of the series. It is possible to calculate the Hurst exponent in Equation 1 more easily by logarithmic transformation. When equation 1 is expressed in logarithmic form, the Hurst exponent represents the curve of the line (Brooks (1995), Šiljak and Şeker (2014), Beran (1994), Aygören (2008), Morali and Uyar (2018)).

$$log(\frac{R}{S})n = log_{(\alpha)} + \text{H}^*log_{(n)} \qquad (2)$$

The motivation for using the Hurst exponent stems from the spreading characteristics of the time series integrated with the past. The fact that the Hurst exponent, which can take values between 0 and 1, and is used to interpret the rate of decaying of the autocorrelation function of the time series, is less than 0.5 indicates that the series exhibits a short memory feature. That is, the autocorrelation function decays rapidly.

If the Hurst exponent lies in the interval (0.5,1), then it means that the series exhibits long memory and reluctant to approach to the

average. In the long-memory series, the fact that small pieces of the past contribute to inferring future asset price movements will provide evidence of the validity of the Fractal Market Hypothesis (Hurst (1951), (Aygören (2008), (Mulligan (2000)).

There are many methods to estimate the self-similarity parameter H or the intensity of long-range dependence in a time series (Taqqu et al., 1995: 785). In the application part of the study, De-trended Fluctuation Analysis (DFA), Geweke and Porter-Hudak (1983) (GPH), Taqqu et al. (1995) Periodogram, Modified Periodogram (M-Per) and R / S methods discussed by Mandelbrot (1972) and Mandelbrot and Taqqu (1979) were used to calculate H and d parameters.

In De-trended Fluctuation Analysis (DFA) developed by Peng et al. (1994), the time series is de-trended in 3 steps, and the Hurst exponent is calculated. First, the average of the series is obtained so that each element of the time series can be distinguished from the average. The y series, which represents the sum obtained from the differences from the average, is divided into m equal parts, resulting in the y_m series. The OLS is estimated for each local part divided into m parts. Finally, by subtracting the trend from each local series, the integrated time series becomes de-trended ((Weron, 2007: 52), (Peng et al. 1994), (Erdogan, 2017b: 557)). DFA analysis is also more resistant and less sensitive to the possibility of the series leaving the stationary conditions (Bariviera, 2017).

Another method used to calculate the Hurst exponent is the semi-parametric GPH method proposed by Geweke and Porter-Hudak (1983) and based on the calculation of the fractional integration parameter (d). Hurst exponent can be shown as H = d + 0.5 (Weron, 2007: 53). Therefore, GPH, a gaussian method, can be used to calculate the Hurst exponent. Periodogram analysis is used to reveal the dominant period or periods in the time series (Erdoğan, 2017a: 52).

Fractional integration parameter (ξ, d), which is calculated via parametric tests, can also be used to test long memory. Fractality can be tested in both BTC returns and yield volatility using the ARFIMA (p,ξ,q) model developed by Granger and Joyeux (1980), and Hosking (1981), the FIGARCH (p,d,q) method proposed by Baillie et al. (1996) and the Hyperbolic GARCH (HYGARCH) model developed by Davidson (2004).

The different rate of decaying in the autocorrelation functions of the time series prevents the stationarity levels of the series from being

represented as absolute numbers such as I[0] and I[1]. The possible fractal structure in the return and volatility of financial assets leads to a differentiation in the rate of decaying of information shocks affecting financial assets, thus indicating that the long-term conditional returns and conditional volatilities of financial assets with long memory characteristics are predictable. This result implies the emergence of evidence supporting the fractal market hypothesis for the financial assets contrary to the efficient market in the weak form.

The fractional integration (d) level of conditional returns of financial assets can be calculated using the ARFIMA model introduced by Granger and Joyeux (1980) and Hosking (1981).

$$\Psi(L)(1 - L)^{\xi}(y_t - \mu) = \theta(L)\varepsilon_t \qquad (3)$$

$$\varepsilon_t = z_t \sigma_t \qquad (4)$$

$$z_t \sim ST(0,1,v) \qquad (5)$$

In equation 3, ξ refers to the long memory parameter on the conditional mean, and L represents the lag operator. According to Hosking (1981) in the autoregressive fractionally integrated moving average (ARFIMA) model,

a) -0,5 < ξ < 0,5 values are stationary and invertible

b) ξ = 0 series is stationary (short memory)

c) ξ = 1 a unit root process

d) 0 < ξ < 0,5 series is with long memory (positive dependent with distant observations)

e) -0,5 < ξ < 0 anti-persistent long memory (negative dependent with distant observations) (Mensi et al. 2019)

The FIGARCH model developed by Baillie et al (1996) enables the calculation of fractional integration (d) parameter in the return volatilities of financial assets by considering the possibility that the effects of information sets affecting financial assets will decrease at a hyperbolic rate in shaping the conditional variance of the future. The standard FIGARCH (p, d, q) model is given in equation 6.

$$\sigma_t^2 = \omega[1 - \beta(L)]^{-1} + [1 - [1 - \beta(L)]^{-1}\phi(L)(1 - L)^d]\varepsilon_t^2 \qquad (6)$$

$\omega, \beta, \phi,$ and d in the equation represent the fixed term, GARCH term, ARCH term and long memory parameter in conditional variance, respectively. $(1 - L)^d$ refers to the fractional integration operator in the conditional variance equation. All values between 0 <d <1 indicate the presence of long memory (fractal) in the volatility of the series.

The fact that the fractional integration parameter (ξ, (d)) equals 0 in both the return and volatility series indicates short memory, emphasizing that the effect of information shocks on the financial asset disappears at the geometric speed. As ξ and / or d moves away from 0, the series should be interpreted as exhibiting long-term positive dependence.

α is the stationarity criterion in the HYGARCH model developed by Davidson (2004) as a generalized version of FIGARCH and given by equation 7. In the HYGARCH model, when $\alpha < 0$, the covariance of the process is stationary, i.e. autocorrelation roots decrease. The value ϕ(L)/β(L) represents the rate of decaying of the shock.

$$\sigma_t^2 = \omega[1 - \beta(L)]^{-1} + \{1 - [1 - \beta(L)]^{-1}\phi(L)(1 + \alpha[(1 - L)^d - 1])\}\varepsilon_t^2 \qquad (7)$$

$$\alpha \geq 0, d \geq 0$$

4. Empirical results

When the graph regarding BTC returns is analysed, it can be seen that there are volatility clusters and regime changes as an indicator of structural breaks became more frequent after 2017 especially with the increase in popularity.

From the BTC returns graph we observe that there are volatility clusters and regime changes as indicators of structural breaks, and they become more frequent after 2017 especially with the increase in popularity.

Figure 1 shows Bitcoin (BTC) closing prices and logarithmic returns. In the return graph, regime changes and volatility clusters can easily be seen with the help of shaded areas. The MS-DR test was used to detect deviations from the mean yield, and stable and volatile regimes were separated.

Figure 1

BCT graphs of the price and logarithmic return series, the shaded area in the return graph represents the regime changes obtained from the MS-DR
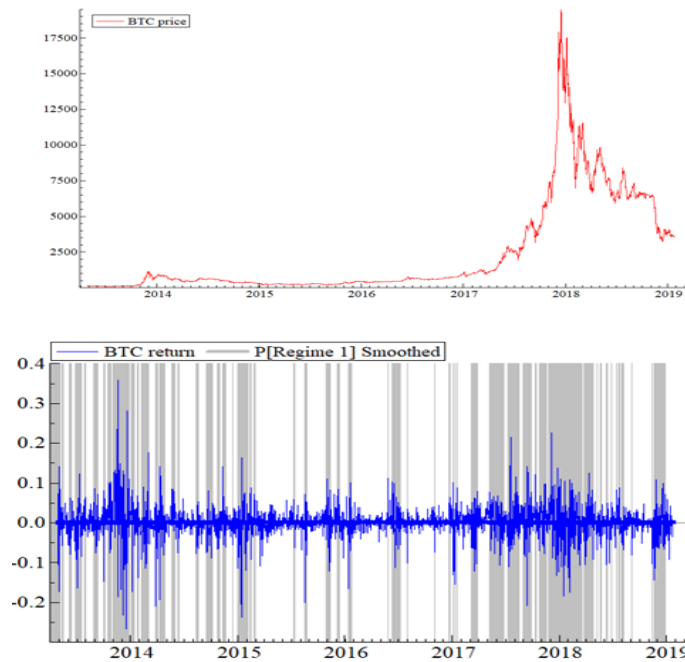
Source: Prepared by the author

Table 1 presents descriptive statistics. The stationarity of BTC logarithmic returns whose unit root test results are presented can be understood via the ADF and KPSS unit root tests, whereas the normality can be seen with skewness, kurtosis and jarque bera tests. In addition, it was found that the errors and squared error contain autocorrelation (Q and Q^2) and also have conditional variance (ARCH_LM).

Table 1

Statistical Properties of BTC Return

	BTC Log. Return
Mean	0.001567
Maximum	0.35745
Minimum	-0.2662

Std. Deviation	0.043703
Skewness	-0.18635
Kurtosis	7.8093
Jarque Bera	5,345.9***
ARCH_LM	112.22***
Q_20	56.8411***
Q²_20	744.196***
ADF	-26.6232***
KPSS	0.155231

*Notes: *** denotes significance at the 1% level.*

Source: Prepared by the author

The Hurst Exponent is calculated by using the methods mentioned in the method section for testing the Fractal Market Hypothesis in BTC returns and volatility (quadratic returns) and the results are presented in Table 2. In order to make robust estimation Hurst exponent was calculated by using more than one method and it was found to be in the range of 0.5302-0.6565 for logarithmic return series and 0.6876-0.9837 for the squared return series representing volatility. The calculation of the Hurst exponent in the range of 0.5-1 proves that the FPH hypothesis is valid in the BTC market and there is a long-term shock persistence.

Table 2

Hurst Exponents of BTC Return and Volatility Series

	BTC Log. Return	BTC Squared Return (volatility)
DFA	0.5848	0.8051
GPH	0.6142	0.9837
Periodogram	0.6267	0.7244
M-Periodogram	0.5302	0.6876
R/S	0.6565	0.7506

Table 3

Estimate Results of ARFIMA (1, ξ, 1) -GARCH (1,1) Type Model of BTC Logarithmic Returns

	FIGARCH(1,d,1)-st		HYGARCH(1,d,1)-st	
	BTC		BTC	
μ	0.002232**	(0.0010531)	0.002162**	(0.00098118)
AR(1)	0.434492***	(0.074457)	0.423411***	(0.067630)
ξ	**0.152523****	(0.067676)	**0.155644****	(0.062515)
MA(1)	-0.618074***	(0.088968)	-0.616093***	(0.081341)
ω	0.154381	(0.13648)	-0.205306	(0.28680)
d_figarch	**0.721058****	(0.096658)	**0.587950****	(0.097924)

ARCH(1)	0.223491***	(0.063448)	0.300791***	(0.11606)
GARCH(1)	0.734919***	(0.072242)	0.713918***	(0.084751)
Log(α)			0.427297**	(0.18671)
Student_df	3.297112***	(0.14599)	2.435179***	(0.15331)
AIC	-4.026118		-4.039353	
BIC	-4.001895		-4.012439	
HQ	-4.017245		-4.029495	
Log-Likelihood	4234.41		4249.3	
Q²(20)	17.5326		17.5863	
ARCH(10)	1.2567		1.3370	

*Note: ( ) represents Standard Errors. ** and *** indicate the significance level of 5% and 1%.*

Source: Prepared by the author

According to the results, both long memory (ξ) on return and long memory (d) parameters on volatility were found to be statistically significant. It is understood from the Q^2 and ARCH test results that the error squares obtained from the FIGARCH and HYGARCH model results do not contain autocorrelation and do not have varying variance. In the HYGARCH model Log(α) <1 was found. This result shows that autocorrelation roots decrease and the HYGARCH model is more stable than the GARCH and IGARCH model. When the information criteria and Log-likelihood values of the models are examined, it is seen that the ARFIMA-HYGARCH model is more successful in modelling volatility in BTC market. Similar to the Hurst exponent results presented in Table 2, the ARFIMA-FIGARCH and ARFIMA-HYGARCH results provide support for the existence of Long Memory and FPH in the BTC market.

To determine the possible effects of regime changes on fractality and long memory behaviour, SADF and GSADF tests (Phillips et al. (2011, 2015)), were used. Additionally, financial bubble formation and structural breaks were analysed by the Markov Switching Dynamic Regression model.

SADF and GSADF tests, which are based on recursive regression, try to identify sudden price increases i.e. financial bubbles that occur differently from the specific behaviour of financial assets (Phillips et al., 2011). These tests are a right-tailed variant of the ADF unit root test. In the SADF test, recursive regression estimations are used to determine the burst behaviour in which the bubbles occur in the financial asset and then the point of collapse. The GSADF test (Phillips et al. 2015) tries to overcome the lack of SADF test to detect

single financial bubble formation. It is used to detect multiple bursts and crashes. Figure 2 shows both SADF and GSADF test results. The test statistics reached after 1000 simulations in which the initial window size was set to 10 were greater than the critical value. Therefore, the null hypothesis "there is no financial bubble formation in BTC prices" was rejected.

Figure 2

SADF and GSADF Test Results of BTC Prices
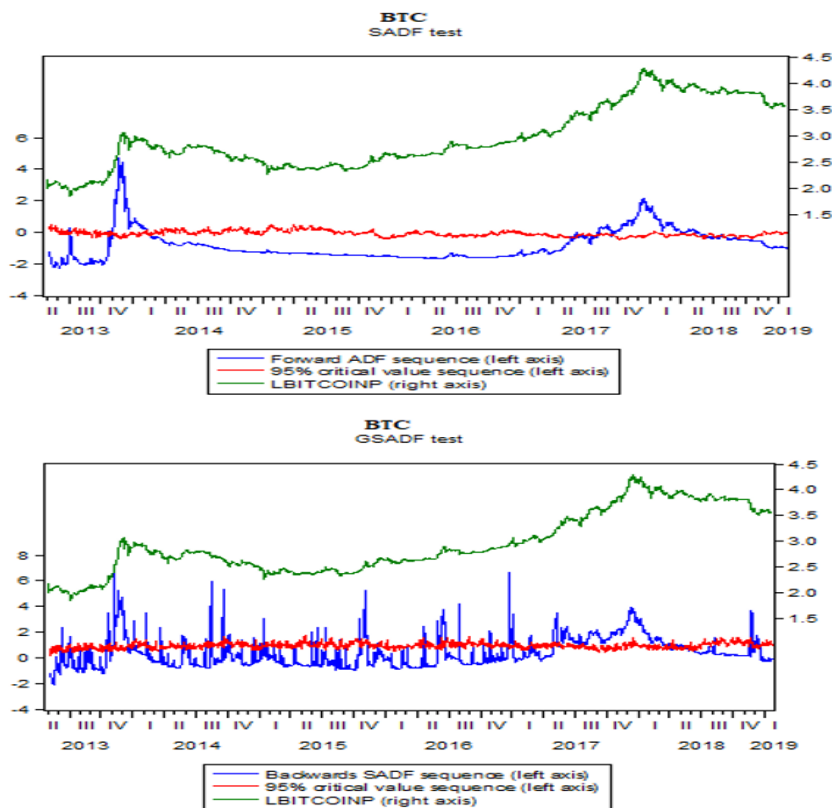
Source: Prepared by the author

ARFIMA-FIGARCH and ARFIMA-HYGARCH models were re-estimated to determine whether both financial bubble formation and high volatility regime changes had an impact on the fractality of the BTC market and the results are presented in Table 4.

Both tests show that the dummy variables representing the high volatility regime and the financial bubbles are statistically significant in terms of representing structural breaks. According to the dummy model results, a decrease in the long memory values is easily understood from both ξ and d parameters compared to the dual long memory parameters in the dummy-free models. The results showed that structural breaks ($D_{Structural\ breaks}$) and financial bubble ($D_{bubbles}$) (formations are factors that increase the fractal structure. In the dummy model, long memory parameters are either reduced or meaningless. It is seen in Q^2 and ARCH test results that the error squares obtained from the dummy model results do not contain autocorrelation and have constant variance.

Table 4

Estimate Results of ARFIMA (1, ξ, 1) -GARCH (1,1) Type Model of BTC Logarithmic Returns (with Dummy Variable)

	FIGARCH(1,d,1)-st		HYGARCH(1,d,1)-st	
	BTC		BTC	
μ	0.002145***	(0.00065456)	0.001843***	(0.00067009)
AR(1)	0.457948***	(0.092007)	0.449539***	(0.087918)
ξ	**0.093959****	(0.047272)	0.101723	(0.052984)
MA(1)	-0.596655***	(0.10195)	-0.592509***	(0.099999)
ω	23.460138***	(0.30994)	8.451175***	(0.17078)
d_figarch	**0.042986****	(0.0068467)	**0.342306****	(0.10810)
$D_{structural\ break}$	-0.002380***	(0.00000022)	-0.000863***	(0.0000000092)
$D_{bubbles}$	0.000535***	(0.00010770)	0.000681***	(0.00020669)
ARCH(1)	0.026608	(0.044457)	0.282986***	(0.057400)
GARCH(1)	0.045670	(0.040377)	0.415716***	(0.068603)
Log(α)			-0.693945***	(0.081248)
Student_df	6.297169***	(0.15246)	5.324590***	(0.46718)
AIC	-4.292303		4.225124	
BIC	-4.262697		-4.192827	
HQ	-4.281459		-4.213294	
Log-Likelihood	4515.772		4446.267	
Q^2(20)	36.7405**		14.7055	
ARCH(10)	1.5546		0.60263	

*Note: ( ) represents Standard Errors. ** and *** indicate the significance level of 5% and 1%.*

Source: Prepared by the author

### 5. Conclusions

Bitcoin, which has recently been in the foreground in terms of transaction volume in the cryptocurrencies, was introduced to the market in the form of the crypto payment system in 2008. However, it has attracted the attention of investors as speculative earning alternatives in which price fluctuations have been observed. The rate of increase in prices in 2017 caused some concerns about possible financial bubbles in the Bitcoin market. Whether the Bitcoin market is a reliable investment tool for rational investors has become an important topic to be investigated by the researchers. The question "Should the dollar remain as reserve money for countries, especially because of the seigniorage income?" has attracted many interest recently, and the information of the preliminary studies regarding the question of whether crypto payment systems can be a new reserve instrument for countries has circulated around.

The Fractal Market Hypothesis, introduced by Peters et al. (1994) into the financial literature as a counter-thesis of the Effective Market Hypothesis, tries to convey the self-similarity concept that the current returns of financial assets will carry parts of the past. To test the validity of the Fractal Market Hypothesis in the BTC market, Hurst exponents have been calculated using multiple models. The results showed that Hurst exponent in the BTC market is in the range of 0.53-0.65 in the return series and 0.68-0.98 in the squared return series included in the analysis to represent volatility. This result can be interpreted as the validity of the Fractal Market Hypothesis in the BTC market.

Fractality is also an issue referred to long memory. Thus, the dual long memory behavior in both the return and volatility in the BTC market has been re-analyzed with ARFIMA-FIGARCH and ARFIMA-HYGARCH models. We conclude that there is dual long memory in both return and volatility, useful information shocks reaching the BTC market are reflected in prices at a hyperbolic rate, and the shock has a long memory effect. This result is consistent with fractality. The SADF and GSADF tests (Phillips et al. (2011 and 2015)), were conducted to determine whether possible financial bubble formations and regime changes affect the Fractal structure (Long Memory) in the BTC market, and it was determined that there were financial bubble formations in the BTC market. In addition, periods with high volatility were determined by the MS-Dynamic Regression method.

The ARFIMA-FIGARCH and ARFIMA-HYGARCH models were re-estimated by using dummy variables that represent financial bubble and structural breaks, and it was concluded that dummy variables were significant and increased Fractality (long memory) in the market. The results show that the Bitcoin market is ineffective and that financial bubble formations and regime changes are one of the most important sources of resistance in reaching information efficiency. The results of this study are similar to the study of Corbet (2018) investigating the formation of financial bubbles in cryptocurrencies, and the studies of Kristoufek (2018), Bariviera (2017), Lahmiri et al. (2018), Mensi et al. (2019), Urquhart (2016), Lahmiri and Bekiros (2018), and Al-Yahyaee et al. (2018) determining that the BTC is an inefficient market. Bitcoin's ability to become a stable investment instrument is closely related to the efforts to decrease volatility in the market. The current study can be extended by applying the methodology described in this paper to the other cryptocurrencies which are representative of the market.

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THE ANALYSIS OF RELATIONSHIP BETWEEN PARTICIPATION-30 INDEX IN TURKEY AND COMMODITY MARKETS, NATIONAL AND INTERNATIONAL INDEXES[1]

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Abstract

The aim of this study is to demonstrate the relationship between Participation-30 index in Turkey and commodity markets, national, international indexes. Islamic finance is increasingly being the research subject of finance literature. Islamic finance shaped by religious principles and prohibits investing areas that the religion doesn't consider appropriate. In 2011, the Participation-30 index consisting of stocks in accordance with the participation banking principles was created in Turkey. The participation index is a stock exchange index in which stock selections are made based on index rules. Then, in 2014, the Participation-50 index and Model Portfolio index were created, and three participation indexes were started to be calculated. Islamic finance mainly operates on the basis of profit and loss sharing and supports the real sector. In this context the activity fields of the companies which are operating in participation indexes are based on production of goods and services so that the indexes have a special importance for commodity markets and commodity indexes. As the results of our research, one-way causality between Participation-30 index and Dow Jones Islamic Market was determined. However, we determined bi-directional causality between Participation-30 index and BIST 100 index.

Keywords: Participation Index, Islamic Finance, Borsa İstanbul, Dow Jones, Commodity.

JEL Classification: G10, G15,

1. Introduction

Recent economic and financial crises around the world have led investors to seek for alternative investment instruments and new financial products that new financial products and financial services have been started to include in their investment portfolios. The global crises occurred in 2008-2009 period and the public debt crises across the countries in 2010 highlighted the importance of systematic risks once again and accelerated the diversification of national and international portfolio investors in their portfolios.

The developments have increased the interest in Islamic finance and the products suggested by İslamic finance. Islamic finance is shaped according to religious principles and prohibits investing in areas that Islam does not consider appropriate. In this context, Islamic finance provides a model that supports real sector financing directly, doesn't involve any earnings based on interest and put forth a structure operating profit/loss sharing basis. This puts Islamic finance the shares of the companies operating within the framework of Islamic finance in close relationship with macroeconomic variables as well as the commodity prices. The fact that commodity markets are negatively correlated with bond and stock prices and positively with inflation appears to be an advantage in commodity markets attracting investors (Doyle et al., 2007). Many types of commodities are subject to purchase and sale in the commodity markets. However, because of their high volatility and impact power, crude oil and gold are more prominent in research (Hussein et al., 2013; Khan and Masih, 2014; Abdullah et al., 2016; Arshad, 2017; Mishra et al., 2019).

Stock investments were not seen as religiously legitimate investment areas until the last periods of the 20th century, but in the following periods, it was put forward that it is possible to invest in stocks of Islamic eligible companies. In this context, the DMI 150 (Dar al Mal al-Islami) index was first launched in April 1998, in which the performances of the largest 150 companies operating according to Islamic procedures and principles were monitored. After that in the same year SAMI (Socially Aware Muslim Index) which monitors the performances of 500 companies, was established (El Khamlichi et al.,

2014: 2). In 1999, Dow Jones Islamic Market Index has taken its place in the market and this index includes companies that are in compliance with Islam and interest-based debt/capital ratio not exceeding 33%. Today there are many Islamic indexes such as MSCI, S&P and FTSE.

The indexes which are defined Islamic indexes in the world, called participation indexes in Turkey. The first participation index in Turkey is Participation-30 index that starts to operate in 2011 in Turkey. After Participation-30 index, Participation-50 index and Modern Portfolio index were established. Thus, three participation indexes have emerged that operating in Borsa Istanbul (BIST) in Turkey.

The participation-30 index which is the subject of our research is a stock exchange index that consist of stocks in accordance with the principles of Islamic banking. The index includes companies that comply with the principles of Islamic banking. According to this:

- Interest-based financing, trade, services, and intermediation,
- Alcoholic beverages, gambling, and games of chance,
- Pork and similar food,
- Tourism, entertainment, press, publication, and advertisement,
- Tobacco products and weapons,
- Futures gold, silver, and currency trade,
- the index covers companies of which field of activity does not involve. In addition, companies to be included in the index must meet certain financial rates. According to this:
- The rate of total interest loans of companies to market value should be lower than 30%,
- The rate of interest-bearing cash and securities to market value should be lower than 30%,
- The rate of income obtained from the mentioned activities to total income should be lower than 5% (http://www.katilimendeksi.org/content/userfiles/files/ke30_sun um.pdf, Accessed; 13 October 2019).

In this study causality between Participation-30 index listed in Borsa Istanbul in Turkey and commodity markets (Gold ounce and crude oil) and Dow Jones Islamic Market World index were investigated. Participation-30 index has the largest time series among the participation indexes in Turkey and daily data of Participation-30 index were used between 07.01.2011 and 01.08.2019. In the study also CIPS unit root test was executed. In terms of the methodology, the study is the first one which investigated the relationship between

participation indexes and commodity markets and international indexes by using the causality test developed by Dumitrescu and Hurlin in 2012.

Our study consists of six chapters. The first chapter is the introduction and following second chapter is literature review. In the third chapter we emphasize the purpose of the research, methodology has taken its place in the fourth chapter. Our fifth chapter is discussion and finally conclusion is the sixth chapter of our research.

2. Literature review

Islamic banking, Islamic finance and Islamic finance products have emerged as an alternative model to the products of conventional financial system after the global financial crises in the world especially after the 2008 crisis. Participation banks and participation index companies which are operating in accordance with Islamic procedures and principles have taken their place in the economy as an option for investors who want to protect their investments from fragilities and financial crises.

In this context Islamic finance literature has made a significant improvement in the last ten years. Islamic indexes are called participation indexes in Turkey. Commodity markets and participation indexes are directly related to each other so the relationship between commodity markets and participation indexes have become more important because of the activity fields of the companies which operate in participation indexes. Besides, the relationship between participation indexes and the international indexes is also important in terms of portfolio management and risk management.

The first studies between Islamic indexes and commodity markets belong to Hussin et al. (2012). Dow Jones Islamic Market World, Dow Jones Industrial Average, FTSE Bursa Malaysia Emas Shariah Index and Borsa Istanbul National 100 indexes are the subjects of the studies in terms of national and international researches (Hussin et al., 2013; Khan and Masih, 2014; Hammoudeh et al., 2014; Yıldız, 2015; Seçme et al., 2016; İbrahim et al., 2018). Hussin et. al (2012), investigated the effects of oil price shocks and macroeconomic variables on Malaysian Islamic Stock Market. Vector Auto Regression (VAR) method, Johansen-Jeselius cointegration test and VECM Granger causality test were applied as methods. The data of during the 2007-2011 period were analysed. The results obtained from the research shows that, cointegration between Islamic Stock prices, oil

prices and macroeconomic variables was determined. According to the Granger causality test no relationship was fixed between Islamic stock prices and crude oil prices.

Hommoudeh (2015) investigated the relationship between Dow Jones Islamic Market Index and three major global equity indexes (Asia, Europe, and United States) and the global factors (oil prices, stock market volatility, U.S.-10 year bonds, 10 year European bonds). The daily data for the period 04 January 1999 to 22 July 2013 were analysed. According to the results, Islamic markets are not enough restrictive to make the global Islamic equity market index very different from the conventional indexes.

Khan and Masih (2014) investigated the relationship between Islamic stock markets and commodity markets in research. In their research Dow Jones Islamic Market as Islamic stock market and energy, precious metal sector, agricultural products, non-ferrous metals and soft products as commodity markets were analysed. MGARCH-DCC model was used as the method and daily data between 03 January 2001-28 March 2013 were analysed. According to the results, they show that the correlations between commodity and Islamic stock markets evolve through time and are highly volatile, particularly since 2007-2008 financial crises. Also, at the idiosyncratic level, a speculation phenomenon is highlighted for energy sector (oil) while the safe-haven role of precious metal sector (gold) is evidenced.

Ülev and Özdemir (2015), analysed the relationship between Participation-30 index, BIST-100 index and market interest rate covering the 2011-2014 period. Zivot-Andrews unit root test and Toda-Yamamoto causality test were applied as methods. According to the results of the research, no causality was determined between Participation-30 index and BIST 100 index.

Yıldız (2015) examined the risk and the return characteristics of Participation-30 index and BIST 100 index. As method paired t test was used and during the period of 06 January 2011 to 31 October 2014 daily data were analysed. According to the results, there ise no significant difference between the returns of indices. Participation-30 index overperformance to the counterpart on the entire and in most of all sub periods. Islamic filtering doesn't have an adverse effect on the Participation-30 index performance.

Altın and Caba (2016) identified the performances of participation indexes and evaluated BIST 100 index (defined as market index including all sector related indexes traded in Borsa Istanbul) in

terms of abnormal returns in their study. During the time period of 01 January 2015 to 31 December 2015 daily data were analysed and examine the statistical significance. According to the results, participation indexes generate returns above the average stock market. Besides, 25 of 33 indexes yielded returns above average and supported the findings that are in spite of efficient market hypothesis.

Seçme et al. (2016) examined the return performance and volatility behaviour of Borsa Istanbul 100 Index and Participation-30 Index. GARCH and EGARCH methods were used in the study. Secondly, the relationship between both indexes is analysed. Thirdly, the return performance of Participation-30 index and Borsa Istanbul 100 index are compared. Lastly in their study they examined the relationship between Participation-30 Index, Dow Jones Industrial Average Index and Dow Jones Islamic Market World. According to the results, it was determined that the volatility of the Borsa Istanbul 100 Index is higher than Participation-30 Index. Both indexes give more reaction to the negative shocks than positive shocks. A strong relationship was detected between Borsa Istanbul 100 Index and Participation-30 Index. According to the results, beta is less than one but close to one therefore Participation-30 Index can be included the investors' portfolios for minimizing the risk. When the index performances are compared Participation Index has better performance. There is a poor relationship between Participation-30 Index and Dow Jones Islamic Market World and beta is less than one.

Sakarya et al. (2018) investigated the cointegration and causality between Participation-30 Index and commodity markets (Gold ounce and Brent Oil). According to the obtained results, there was no cointegration relationship between the Participation-30 Index and commodity markets. This shows that if an investor who invests in gold or oil besides the Participation-30 will have portfolio diversification and minimize the portfolio risk. In the study they couldn't find any relationship between variables according to the results of causality and Participation 30 Index has an independent structure from commodity markets.

Ibrahim et al. (2018) investigated if Islamic stock and commodity market could be a hedging tool against inflation. Thus, several methods such as unit root test, Johansen's cointegration test, LRSM (long-run structural modelling), VECM (vector-error correction modelling), VDC's (variance decomposition), IRFs (impulse response functions), PP (persistence profile) were applied as methods. The

results show that the performance of the Kijang Gold is dependent on FTSE Bursa Malaysia Emas Sharia's Index, strategic commodities and macroeconomic variables. It was suggested to investors and investment portfolio managers to include Islamic shariah equities, crude palm oil and crude oil commodities as part of their investment portfolios to diversify and also to hedge the investments.

Trabelsi (2019) aimed to investigate the connectedness of Islamic Stock Markets in the United States, the United Kingdom, Europe, Gulf Cooperation Council, Asia-Pacific and across different asset classes (bond, gold and crude oil). Dynamic variance decomposition and was used as method in the research. During the period of 07 November 2005 to 31 March 2015 daily data were analysed. According to the results of the research, the United Kingdom and European markets are better to manage the high volatility. Gulf Cooperation countries are the smallest regions where high volatility is least observed and reflects to other markets. In addition, the volatility change of Islamic commodity markets is higher than that of conventional commodity markets. In the research it is specified that Islamic financial markets can provide different investment opportunities and develop financial stability.

Mishra et al. (2019) investigated the relationship between global crude oil prices and Dow Jones Islamic Stock Index. Quantile regression model was used as method in the research and during the period of 01 January to 13 April 2018 daily data were analysed. According to the results of the research, crude oil prices affect the Islamic stock indexes. The positive effect of oil prices continues throughout the original time series. However, when the time series are divided, the positive effect of oil on Islamic markets decreases and the negative effect strengthens.

3. Research method

Participation index was used to present the participation indexes in the research. The reason to prefer the Participation-30 index that it has the largest time series among the participation indexes. While the starting date of Participation-30 index is 07 January 2011, Participation-50 index and Modern Portfolio index has started to operate in 09 July 2014. Augmented Mean Group-AMG (Bond and Eberhardt, 2009) and Common Correlated Effects Mean Group-

CCEMG (Eberhardt and Teal, 2010) were used as estimators in the research. CIPS unit root test was also exerted in the research.

In our research we also used the causality test which has been developed by Dumitrescu and Hurlin (2012). We analysed the daily data during the period of 07 January 2011 to 01 August 2019. In the literature review we determined that the observation frequency is almost daily (Altın and Caba, 2016; Seçme et al., 2016; Sakarya et al., 2018).

4. Analysis

In the study causality between Participation-30 index and both commodity markets (gold and oil) and Dow Jones Islamic Market World were investigated. In terms of method, we investigated the causality between Participation-30 index and both commodity markets and international index by using the causality test which was developed by Dumitrescu and Hurlin (2012). Therefore, it is the originality of our research. We also exerted CIPS unit root test in our research. The method which was developed by Dumitrescu and Hurlin (2012) considers both horizontal section dependence and heterogeneity between the indexes and commodities which create the panel. The method can be used when the time dimension is greater than the horizontal cross-sectional dimension and it can produce effective results in unbalanced panel data sets. Besides, the method can be used to analyse both the presence and absence of a cointegrated relationship.

Table 1

Test Statistics

Null Hypothesis	Wald Statistics	Z-Bar Statistics	Possibility
P-30 ⟶ Gold	2.093	0.564	0.572
Gold ⟶ P-30	1.654	.454	0.671
P-30 ⟶ Petroleum	2.122	.687	0.386
Petroleum ⟶ P-30	2.130	.501	0.413
P-30 ⟶ Dow	1.486	.412	0.675
Dow ⟶ P-30	4.646**	2.275	0.025
BIST 100 ⟶ P-30	6.534***	4.311	0.000
P-30 ⟶ BIST100	3.912***	2.102	0.036

Source: Created by authors.

In the analysis, we determine a statistically significant relationship between Dow Jones Islamic Market World and Participation-30 index and Participation-30 index is affected by Dow Jones Islamic Market World. We could not fix a significant relationship between commodity markets (gold and oil) and Participation-30 index. On the other hand, we determine bi-directional and statistically significant relationship between BIST 100 index and Participation-30 index.

5. Discussion

In this study we investigated causality between Participation-30 index and commodity markets also Dow Jones Islamic Market World and BIST-100 index. We used the causality test which has been developed by Dumitrescu and Hurlin (2012) and applied CIPS unit root test.

As can be seen from the empirical results we determine a statistically significant relationship between Dow Jones Islamic Market World and Participation-30 index. However, Seçme et al., (2016) determined a poor relationship between Participation-30 index and Dow Jones Islamic Market World and the beta sensitivity of Participation-30 index with respect to Dow Jones Islamic Market World was also less than one. In addition, the this, Ülev and Özdemir (2015) could not find a statistically significant causality between Participation-30 index and BIST-100 index. These finding show that the relationship between Participation-30 index and BIST-100 index are mixed. In our research we could not find a fix significant relationship between commodity markets (gold and oil) and Participation-30 index. Whereas it is expected that a statistically significant relationship between commodity markets and Participation-30 index can be determined because of the support of the Participation-30 index to the real sector. Sakarya et al. (2018) have found no relationship between Participation-30 index and commodity markets so Participation-30 index has an independent structure from commodity markets.

6. Conclusion

Islamic finance mainly operates on the basis of profit and loss sharing and supports the real sector. In this context the activity fields of the companies which are operating in participation indexes are

based on production of goods and services so that the indexes have a special importance for commodity markets and commodity indexes.

The relationship of participation indexes with commodity markets and other national and international indexes is very important for investors and fund managers. Especially after the 2008 financial crisis, investors increased their interests in participation indexes in order to diversify their fund portfolios and wanted to reduce their risks through investments in alternative investment areas. This case has aroused the interest of the researchers and the interest in participation indexes has increased all over the world.

Participation indexes operate according to Islamic procedures and principles, i.e. they operate on the principles of profit and loss sharing models therefore these indexes are in close relationship with commodity markets. Commodity markets are non-financial markets, developments in commodity markets affect stocks therefore the relationship between both national and international indexes and participation indexes becomes one of the issues to be examine.

In this study we examined the relationship between Participation-30 index and commodity markets (gold and oil) and also we exerted the causality test which was developed by Dumitrescu and Hurlin (2012) to examine the relationship between Participation-30 index and Dow Jones Islamic Market World.

According to the results of our research, we determined one-way causality between Participation-30 index and Dow Jones Islamic Market World and Participation-30 index is affected by Dow Jones Islamic Market World. We couldn't find any causality between Participation-30 and commodity markets (goals and oil). In this context, for the diversification of investment portfolios, Participation-30 index investors will evaluate commodity markets as investment areas so both Participation-30 index and commodity markets will be evaluated together as investment areas. In the other hand, we determined statistically significant and bi-directional causality between Participation-30 index and BIST 100 İndex. Besides, since there is a relationship between developments in the Dow Jones Islami Market World index and Participation-30 index.

In the following studies, Participation 50 index and Modern Portfolio index can be included to analyse. In addition, relations with other commodities with high transaction volume in international markets can be analysed. This may have an impact on the preferences of portfolio investors and can guide portfolio managers.

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FINANCIAL PERSPECTIVES OF ISLAMIC BANK'S IN OMAN

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Abstract

This paper discusses about the inauguration of banking system in Oman. It studies the financial position of Islamic banks working in the Sultanate. This paper is studying the profitability of Islamic Banks in Oman. This study was a pilot test for the questionnaire in which 50 respondents filled the questionnaire. It was concluded that the respondents had high awareness of Islamic banking products in Oman. Secondly, Majority of the people are Muslim, therefore they like to use Islamic Banking. Thirdly, majority of the Muslims are high at their religiosity, therefore they also like to use the Islamic Banking. But with all these results of study one cannot understand why the Islamic banks are not able to have high profits. These findings suggest also suggest that Islamic Banking is rapidly increasing its assets in Oman.

Keywords: Islamic Banking Regulatory Framework (IBRF), Islamic Banks, Financial Performance

JEL Classification: C39, E58, G21,

1. Introduction

The economic development depends of one of the sectors which is banking sector. In Oman we have developed banking system which consists of conventional banks and Islamic Banks The most common banks in Oman is Bank Muscat, Bank Dhofar, Bank NBO Etc., it includes certain foreign banks as HSBC, Standard Chartered bank.

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On the other side we have Islamic banks which is divided into full-fledged Islamic banks as well as windows of commercial banks.

The History of Banking sector is back from the year 1974 in which banking law established the Central Bank of Oman (CBO), with started its working in April 1975. In the year 2016 the conventional banks were 16 in number. Out of these 7 banks were locally registered and 9 banks were foreign banks which were operating in Oman.

By the end of 2016 two full Islamic banks were incorporated. There were 70 branches of Islamic windows of commercial banks at the end of 2016 which had 72 ATMS and 17 cash deposit machines. There were 6 finance and leasing companies which were registered and licensed by CBO. There were 3 specialized development banks which are related to housing and agriculture and fisheries, namely: The Oman Development Bank; The Oman Housing Bank; and the Oman Bank for Agriculture and Fisheries(Annual Report, CBO 2016).

2. Organization system of Islamic banking

Oman has the great potential in Islamic Banking. In recent decades, the Islamic Banking and Finance has grown up with the implementation of Islamic Banking Regulatory Framework. These industry nascent players are two independent Islamic Banks (IIB) and five Islamic Banking windows. The shariah compliant format announced by the Royal Decree which inspired the banking systems to be more competitive to its banks.

There is great written on both hosts with lots of assets generally optimistic analysis of the development of the car industry in terms of market share along with prospects in the Gulf Cooperation Council countries, capacity and commitment to Islamic banking. Oman, status dwindling oil resources is classified as an oil-rich economy, which has relied heavily on 2012. Almost 80 per cent of their income in this way, the economy of our regional partners and external Oman stood in front of the position associated with commodity prices. However, the government has been all kinds of measures to diversify into higher public and non-oil economy by means higher investment supported by private consumption (tourism and mining mainly) structures. There were two full-fledged Islamic banks i.e. Bank Nizwa and Al Izz Bank in Oman. The conventional banks have opened Islamic windows which are as follows:

- Meetaq is the window for Islamic bank,
- Muzn is the Islamic window of National Bank of Oman
- Sohar is the Islamic window of Sohar Bank
- Maisarah is the Islamic window of Bank Dhofar
- Al Hilal is the Islamic window of Ahli Bank

A lot has been speculated about hunger and perhaps Islamic banking and markets based on regional market growth stories in different countries. These estimates are broadly, cognitive reveries, heuristics and optimism without extensive general and driven development based on stories from the past - the local banking industry, regulatory parameters and the reference balance sheet structure dynamics. A quote, Moody's reports for Islamic banking in Oman are confident in the ability to get a ballpark projection of six to eight percent of the system's assets within the next three to five years. The amount of this decision by Moody's, Islamic banking assets, 10% YOY growth of total banking assets in the period of 5 years, assuming 8% penetration of Islamic banking, should reach around OMR 3 Bn mark. I find with a conservative stance by Ernst & Young, and in a matter of a few years see surmounting USD 6.00 Bn (OMR 2.3 Bn). Dubai-based Arqaam Capital Research Organization predicts that, by 2017, declaring that IBI (2017. OMR 745 Mn to largely dominate around Meethaq per cent of all loans by Islamic assets 15 with the IBW will be created, with all turns out much hope that Bank Muscat) 40% share. But the bank may not come as a surprise. Muscat with total banking assets equally dominant part is to claim (38%). As of December 2014, retail deposits in the form of private sector credit mobilization or more can be seen on core banking activities. With nevertheless, get-set-go stage is set for human resources in all kinds of products, branches working, infrastructure and space, emphasized. The analysis is performed in the next section following table, equity, deposits and financing breakup and physical outreach initiative as a micro view of the branches of the data presented in the financial statements, bank-wise core activities.

Islamic banks were introduced in the year 2011. Among all the GCC countries Oman is the last country to start Islamic Banking. Islamic banking system works on the principles of interest free banking which is considered haram according to the Islamic laws.

Table 1
Combined Balance Sheet of Islamic Banks/Windows (Rial Omani Million)

Indicators	Balance Sheet ending for the Year					Change from 2013 to 2016 (%)
	Dec-2013	Dec-2014	Dec-2015	Dec-2016	Dec-2016-Dec-2013	
Cash on hand and deposits with CBO	72.8	131.5	149.4	237.2	164.40	225.82
Due from Head Office, affiliates and other banks abroad	77.7	56.1	24	48.6	(29.10)	(37.45)
Total financing	434.3	1049.5	1781.3	2425.9	1991.60	458.58
Total investments	104.2	44.9	145.3	159.9	55.70	53.45
Net fixed assets	32.8	34.2	35	34	1.20	3.66
Other assets	5.7	54.8	118.7	174	168.30	2952.63
Total assets /liabilities	815.2	1371	2253.8	3079.6	2264.40	277.77
Total deposits	171.9	688.9	1539.4	2169.8	1997.90	1162.25
Due to Head Office, affiliates and other banks abroad	23.2	157.6	154.1	259.8	236.60	1019.83
Core capital and reserves	328.1	350.6	391.3	433	104.90	31.97
Other liabilities	204.6	173.9	169	217	12.40	6.06

Source: Compiled by authors from Central Bank of Oman Annual reports 2013 to 2016

By the end of 2016 the financing provided by Islamic banks amounted to 2425.9 million Omani Rial which is 458.8% rise from the year 2013.The total deposit during the same period was 2169.8 million which increased from 171.9 million in the year 2013.

Table 2

Profit and loss figures of Islamic Banks

loss for the period	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Alizz Islamic Bank SAOG	-168,432	-3,232,132	-5,499,477	-5,356,384	-4,724,906
BANK NIZWA SAOG	-4,811,927	-12,304,780	-7,708,761	-5,260,242	109,722

Source: Compiled by authors from Annual Reports of Alizz Islamic Bank & Bank Nizwa 2013 to 2016

It can be seen that the Islamic banking came into existence in 2011.It was under a gestation period in the both the banks were facing huge losses. Alizz bank was having a loss of nearly OMR 1684320 in the year 2011-2012 which is increasing throughout the years and in the year 2015-16 we can see it raised to OMR 4724906 whereas Bank Nizwa started with losses but was able to get profits in the year 2015-2016 which amounted to 109722 OMR

3. Literature review

According to De la Harpe (2017) Morocco is the country which started Islamic banking. The central bank approved 5 banks to start sharia compliant services under Islamic banking. In Morocco they are not using the terminology Islamic banking but instead they are using 'participatory' banking.

Riyas at el. (2015) have studied Islamic banking by SWOT analysis, and they concluded that Islamic banking is contributing positively in the economic development of countries.

Mohammed et al. (2017) discussed about the factors which influence the customers' preferences for the Islamic banking. Inthis study they extracted 4 factors which explained 79.14% of variance. These factors were better returns, clear and transparent, profit sharing ratios, Sharia complied business, technological considerations.

Naureen and Sahiwal (2013) studied 200 customers from different banks of Pakistan and they tried to find out the relationship between customer's satisfaction, demographics and customers loyalty. They concluded that on customer's loyalty there was a positive impact of demographical characteristics and customer satisfaction.

Sain et al. (2016) explained the necessity of Islamic Finance as an alternative financial system. They study different aspects of Islamic finance with the various advantages of the same for the different

economies. It also talks about current issues of Islamic Finance in Australia.

Ali & Zhou (2013) approach with interest the service quality of the banks which included Islamic banks as well as conventional banks. They conclude that the assurance dimension was relatively highest in case of Islamic banks, whereas perception about technology use was less in case of Islamic banks. They concluded that the service quality related to internet and online banking services should be improved. On the other hand, elaborate training should be given to conventional bankers.

Muhammad (2013) analyzed the development of Islamic Banking in Pakistan, taking into account the six full-fledged Islamic banks which are operating, and 12 conventional banks are operating with Islamic window in Pakistan. He concluded that the most important aspect in developing the Islamic banking system is transparency of Shariah compliance products.

4. Research Problem

The Islamic banking is getting a good momentum as it is being preferred by not only Muslims but also the non-Muslims. Around the world the Muslim community is scattered therefore the choice of Islamic banking is increasing all over the world. In Oman Islamic banking entities provided financing amounting to RO 2.42 billion at the end of December 2016, a rise of 36.2 percent over the previous year's outstanding of RO 1.78 billion.

4.1. Objectives of study

1. To study the financial position of Islamic banks in Oman.

2. To study the profitability position of Islamic banks in Oman.

3. To identify the customer awareness about Islamic Banking.

4. To determine the customer preference toward Islamic Banking as compare to traditional banking.

5. To explore the challenges for Islamic Banking in Oman

6. To provide the recommendations for Islamic Banking in Oman

4.2. Hypothesis

H1: There is positive effect of customer awareness about Islamic Banking on customer intention to use Islamic Banking.

H2: Muslims prefer to use Islamic Banking as compare to conventional Banking.

H3: Religiosity of the Customers has positive effect on the customer intention to use Islamic Banking.

4.3. Research Methodology

This study will adopt the quantitative Research Methodology. The data will be collected from the customers of Islamic Banking in Oman. Current study will determine the customer behavior; therefore, it will use quantitative research methodology. For this purpose, a survey will be conducted, and that data will be numerical form. Therefore, quantitative methodology will be employed.

5. Data Analysis and Results

This paper will highlight that how the Muslim prefers the Islamic Banking as compare to traditional banking. On the basis of these, we evaluated the customer's perception and their preferences toward Islamic Banking. One an important factor can be religiosity which may have effect on the customer's perceptions and their intentions toward the Islamic Banking. This study adopted the quantitative Research Methodology. The data is collected from the customers of Islamic Banking in Oman. We used a survey method and collected data from 50 customers of Islamic Banks.

5.1. Questionnaire analysis

The demographics of the respondents were analyzed by the frequency of the respondents. There are total 50 customers among of them the male members are only 35 (70) that is the majority of the sample. In age of the respondents, majority of the respondents were related to the more than 29 years. In qualification, the 20% respondents are undergraduates, 40% are the graduate and similarly, the 40% have done their Masters. In experience of Islamic banking, the majority of the respondents have less than 1-year experience.

Table 3

Demographics of the respondent

		Respondents	Percentage of responses
Gender	Male	35	70%
	Females	15	30%
Age	18 to 28 years	15	30%
	29 to 40 years	15	30%
	41 to 55 years	20	40%
Qualification	Under-Graduation	10	20%
	Graduation	20	40%
	Masters	20	40%
Experience of Islamic Banking Using	Less than 1 year	35	70%
	More than 2 years	15	30%

Source: Data compiled by author (based on questionnaire)

Table 4

Descriptive of Questionnaire

	Questions Awareness about Islamic Banking	Not aware of it	Aware but do not use it	Aware and use it
1	Are aware about current account in Islamic Banking?	10	12	28
2	Are aware about Time deposit A/C in Islamic Banking?	5	7	38
3	Are aware about Mudarabah in Islamic Banking?	4	10	36
4	Are aware about Musharakahin Islamic Banking?	14	14	22
5	Are aware about Ijara financing in Islamic Banking?	8	8	34
6	Are aware about Traveler's cheques in Islamic Banking?	4	10	36
7	Are aware about Overdraft in Islamic Banking?	14	14	22

| 8 | Are aware about Letter of credit in Islamic Banking? | 12 | 14 | | 14 |
| 9 | Are aware about Murabaha financing in Islamic Banking? | 6 | 12 | | 32 |

Questions Satisfaction	**Strongly Satisfied**	**Satisfied**	**Neutral**	**Dissatisfied**
10	Are you satisfied regarding Management proficiency in Islamic Banking in Oman?	32	6	3	9
11	Are you satisfied regarding Bank's personal knowledge in Islamic Banking in Oman?	33	7	5	5
12	Are you satisfied regarding Cost of services in Islamic Banking in Oman?	25	12	3	10
13	Are you satisfied regarding Efficiency of transactions in Islamic Banking in Oman?	34	7	5	4
14	Are you satisfied regarding Facilities of parking in Islamic Banking in Oman?	28	15	3	4
15	Are you satisfied regarding Advertising campaign in Islamic Banking in Oman?	33	7	5	5
16	Are you satisfied regarding Working hours in Islamic Banking in Oman?	24	6	3	17
17	Are you satisfied regarding Financial counseling in Islamic Banking in Oman?	32	12	3	3

Religiosity	**Not at All**	**Not**	**Yes**	**Very Much**
18	How much you are religious in your routine life?	13	2	4	31

19	I prefer my religious obligation in my routine life.	12	4	3	21
20	Due to Islamization, I love to use Islamic Banking.	13	12	3	22
21	As compare to traditional banking, I always prefer to use Islamic Banking	25	6	7	12

Source: Data compiled by author (based on questionnaire)

Descriptive of the questionnaire showed that all the respondents answered the all questions included in the questionnaire. The majority of the respondents are aware about the products of Islamic Banking in Oman. All the respondents are Muslim in this dataset. Majority of the respondents are high at their religiosity due to living in a pure Islamic Society.

5.2. Reliability Analysis

In the above questionnaire, we measured the concepts of customers awareness, religiosity and intention to use Islamic Banking by using the 21 question items. To check the internal consistency and reliability of the data, we calculated the Cronbach Alpha value of all three variables. The Cronbach Alpha value of all the variables were found more than 0.70 (See the Table 5).

Table 5

Reliability Analysis

Variable	Cronbach Alpha
Customer Awareness	0.78
Religiosity	0.83
Intention to Use Islamic Banking	0.85

Data compiled by author (based on questionnaire)

5.3. Hypotheses Testing by Regression Analysis

To test the following hypotheses, we performed multiple regression analysis by using SPSS 21 version. We tested the following hypotheses:

H1: There is positive effect of customer awareness about Islamic Banking on customer intention to use Islamic Banking.

H2: Muslims prefer to use Islamic Banking as compare to Traditional Banking.

H3: Religiosity of the Customers have positive effect on the customer intention to use Islamic Banking.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.560[a]	.31	.010	4.39977

a. *Predictors: (Constant), Customer Awareness, Islam, and Religiosity*

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.896	3	34.965	3.806	.03[b]
	Residual	4568.491	236	19.358		
	Total	4673.387	239			

a. *Dependent Variable: Intention to use Islamic Banking*

b. *Predictors: (Constant), marketopenness_1, marketdynamics_1, Commerical_Infra_1*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.287	1.302		4.830	.000
	Customer Awareness	.516	.20	.32	3.614	.003
	Islam	.922	.431	.28	2.138	.034
	Religiosity	.95	.343	.20	2.299	.02

a. *Dependent Variable: Intention to use Islamic Banking*

In our hypothesis 1, we proposed that "There is positive effect of customer awareness about Islamic Banking on customer intention to use Islamic Banking" that is accepted by our results (estimate= 0.32, p<0.05).

In our hypothesis 2, we proposed that "Muslims prefer to use Islamic Banking as compare to Traditional Banking." that is accepted by our results (estimate= 0.28, p<0.05).

In our hypothesis 3, we proposed that "Religiosity of the Customers have positive effect on the customer intention to use Islamic Banking." that is accepted by our results (estimate= 0.20, p<0.05).

Summary of Hypotheses

Serial #	Hypothesis	Status
H1	There is positive effect of customer awareness about Islamic Banking on customer intention to use Islamic Banking.	Accepted
H2	Muslims prefer to use Islamic Banking as compare to Traditional Banking.	Accepted
H3	H3: Religiosity of the Customers have positive effect on the customer intention to use Islamic Banking.	Accepted

Results of our study explained that due to high awareness of Islamic banking products in Oman, the people have higher tendency toward Islamic Banking. Secondly, Majority of the people are Muslim, therefore they like to use Islamic Banking. Thirdly, majority of the Muslims are high at their religiosity, therefore they also like to use the Islamic Banking. These findings suggest, Islamic Banking is promoting very rapidly in Oman.

6. Conclusions and recommendations

This study adopted the quantitative Research Methodology. The data is collected from the customers of Islamic Banking in Oman as well as financial data from the annual reports of the respective Islamic banks and websites of Central bank of Oman.

Results of our study explained that due to high awareness of Islamic banking products in Oman, the people have higher tendency toward Islamic Banking. Secondly, Majority of the people are Muslim, therefore they like to use Islamic Banking. Thirdly, majority of the Muslims are high at their religiosity, therefore they also like to use the Islamic Banking. These findings suggest, Islamic Banking is promoting very rapidly in Oman. However, the financial results of both the Islamic banks working from 2011 is not good. Some more measures should be adopted to increase the financial conditions of the Islamic banks.

In recent years Islamic banking has been nourished enormously and gained enough popularity around the globe. It aims at growing rapidly in coming years as well. Despite of its enormously growing rate it is facing some challenges as well. These challenges must need to be addressed by Islamic banks if they want to sustain

and grow in years to come where competition is very dynamic. Regulatory framework is necessary to address the upcoming issues and challenges in Islamic banking sector. All the obstacles such as in terms of the capital adequacy, supervisory issues and market discipline and corporate governance should be tackled with expertise so that it aids to the expansion of the system. In recent global economic crises, conventional banking faced huge threats and issues, but Islamic banking maintained its growth due to its unique principles and solid foundation on the basis of Shariah.

Global banking crises had a least effect on Islamic banking as compared to conventional banking sector. However, there are some future challenges and threats that must need to be addressed properly. For instance, lack of standard practices can lead to serious issues in coming future. Similarly, market and disciplinary issues also need in time handling. On other hand corporate governance problems may arise to hurdles. In order to address and resolve such type of issues here we have some recommendations for the challenges that are being faced by Islamic banks. It could assist and aid management authorities of Islamic financial institutions to design the policies by taking them into consideration. These are as follows:

1) Uniformity and standardization of Sharia'ah rules in a crucial aspect. For this Islamic bank may have one standard to follow strictly across the board. It will assist the banks to enhance their credibility and goodwill.

2) It is important for financial banks, especially Islamic banks that they must consider the safety and strength of their system. This can be done with the capital adequacy measures. Secondly, they must need to have a cushion against losses of capital.

3) Elimination of moral hazard issues which may arise due to the attempt of raising the return rates must be addressed positively. It will build the confidence of customers in Islamic banking sector.

4) The management of the liquidity issues is also important. So authorities must establish a sound system where these issues can be managed appropriately.

5) Timely and effective information must be circulated to IAH so that standards of effective corporate governance can be fulfilled. It will also generate the support for effective market transparency and discipline.

6) Developing needs and latest trends are necessary to compete with conventional banking. For the future growth and development, it is equally important to focus on the infrastructure needs of the banks. Reasonable investment should be made in this area, it should be also observed that experts in the field of Islamic banking must be generated and skills must be passed to new learners to strengthen the Islamic banking regulations and laws.

7) The need of Ijtihad has been increasingly felt to nourish Islamic economy and Islamic financial institutions. All issues and problems must be addressed in the light of Quran and Sunnah and this should be the benchmark in Islamic banking sector as well. This will aid Muslims and non-Muslims as well to understand the Islamic teachings in day to day life matters.

8) Challenges which are faced by government and authorities must be addressed significantly. For instance, legal infrastructure and framework is necessary to strengthen Islamic financial institution.

9) The refinement of the Islamic commercial law will also be helpful to Islamic banking sector. Islamic commercial law is in its initial stages, so it is not mature enough yet to face the challenges. So, in the light of Quran and Sunnah it can be groomed effectively.

10) Supervisors and regulators in Islamic banking must be given enough power so that they regulate and supervise effectively. In order to make them perform their duties more effectively, they can be trained as per Islamic laws and regulations under the light of Shari'ah.

This study was based on the general Islamic banking system operating in Oman, we can study on the financial analysis of all the Islamic banks as well as Islamic windows working in Oman with the customer's perspective with a model based on regression analysis.

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SKILL GAP PERCEIVED BETWEEN EMPLOYERS AND ACCOUNTING GRADUATES IN ETHIOPIA

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Abstract

In the last decade, many researchers have criticized university accounting education programs for focusing more on the teaching of technical accounting and not on emphasizing accounting skill development. The aim of this study is to identify the knowledge subjects, skills & attitude needed for a graduate accountant in respect of employee's perceptions and employer expectations. Data were obtained from 236 employees and 118 employers from various organizations using a survey are compared with the perceived needs of a sample of employees and employers in Ethiopia. The findings indicate that there is an agreement between the perceptions of both groups, some significant gap still exists. These skills, knowledge and attitudes are relevant to preparing the graduates for careers as professional accountant such as communication & language skills, financial accounting & financial reporting knowledge, and professional competence and due care were the most important for accountants in work place rate by both the employers and graduate's students. The results of study provide better information for academics, Employers, and students graduated in accounting, in bridging the perceived skills gap between employers and graduates. Moreover, study suggest that academician, unemployment, and employers of graduate students' better understanding the importance of the skills required in the current market needs, and higher university institutions to improve their curriculum in promotion quality graduates.

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Keywords: Professional Accountant, Employers, skills, Ethiopia

JEL Classification: M4

1. Background of the study

Accounting education has come under criticism over the last two decades for failing to meet the demands of the changing business environment. In today's world, industries are experiencing changes more rapidly. Various factors are forcing these changes such as globalization, internationalization, rapid changes in technologies and intense competition. These changes have a deep impact on higher education, as education is the foundation on which a competitive workforce is built. Despite some impressive improvements in performance in the higher education institutions, many graduates still emerge from the education system ill equipped to meet the challenges of life and employment. In this era of a new revolution in which employability skills and applied intelligence are rapidly becoming the key to national survival and success, marketable accounting education graduates are needed to help their organizations gain a competitive advantage. Industries are in constant need for a consistent and reliable supply of educated and skilled accounting education graduates' prospective employers. Accounting education programmer is design to produce graduates that will meet the market needs or the requirements of the industries. However, accounting education programmer is lagging in producing graduates that will meet the needs of the industries. Accounting education graduates being unproductive and not being employed because the required employability skills to work effectively in the industries are lacking, this in return creates serious problem of unemployment to them. Perceptions of external stakeholders such as employers regarding these skills are important to educators, researchers, and students. Educators are interested in creating programs that are responsive to market demands. Researchers want an instrument for comparing knowledge and skills. Students wish to acquire those skills that maximize career opportunities.

As per study, Woodcock (2012) simply defined employability skills as "*the capability of getting and keeping satisfactory work*". The acquisition of a degree is not enough but should be improved by having the right mix of knowledge, skills, abilities, and personal qualities in

order to succeed. Employability is not just about getting a job; it is about learning. Employment is a by-product of this enabling process. One may also see these skills as transferable skills because skills developed in one area of life can be transferred to other areas. The employability skill is to include communication skills; teamwork and interpersonal skills; leadership skills; problem-solving skills; and technological and entrepreneurial skills. According to study conducted by Edukugho (2012), universities are hypothetical to communicate high level skills to a reasonable proportion of the workforce, developing intellectual capability of individuals, engaging in training of competent, honest, patriotic and responsible professionals needed virtually in all spheres of human endeavors.

In today's business environment, employers seek for employees with a wide range of skills and accounting knowledge. Accounting employees are not the exception, they are expected to possess a large range of skills that meet the expectations of their employers. Most employers find that accounting university programs are unable to provide graduates with the skills that are required by the profession. It is the aim of this study to highlight what are the needed skills to help students, employers, and educators to narrow the gap. This education gap may be the reason of why graduates find their early employment experience far from their expectations. In most cases, accounting graduates are unaware of the skills desired by their employer. Their employability for entry-level positions and their performance in the company is largely affected by the fit of their acquired skills and those required by the job. A mismatch between the possessed and the demanded skills may lead to the new hire's demotivation, low performance, and dissatisfaction.

Much has been written about teaching and learning deficiencies in accounting education. Thus, there exists a wide gap between the employers' and accounting graduates' perception regarding their preparedness and perceived employability skills and this has been a matter of considerable discussions in the academic and industry circles (Abayadeera & Watty, 2014, and Hakim, 2016). Universities have grappled with the challenge and developed several strategies to address the concerns raised. Many employers are of the opinion that accounting graduates are not taught and hence do not acquire the required generic skills at the universities. There are empirical evidences to prove that the education system has failed in many instances to meet the standards that are expected by employers of

accounting graduates in certain crucial areas like critical thinking, communication (oral and written), inter-personal relations, ethical orientation, leadership development, Information technology (IT), and the like.

In a related study, Grayson (2004) opined that jobs outcomes are connected to what graduates might learn in universities and therefore argues that university accounting curricula should reflect changes to meet job demands. Other accounting education studies have examined how accounting faculties can be motivated and what should be taught in classrooms (Madawaki, 2015). It is important to note that the market drives the profile, responsibilities, and career options of accountants in the business world. One of the responsibilities of universities is therefore to ensure that accounting graduates are equipped with the knowledge and skills identified by the market as desirable for accounting profession.

Further, there is an extensive literature on the generic employability skills expected of accounting graduates. Most of these studies were carried out in the last three decades and focused on the importance of various skills as viewed by academics, employers, students or graduates and professional accounting bodies. These studies suggest that accounting programs are failing to meet the expectations and needs of employers and not in harmony with the requirements of the real world. As per the study of Cory and Pruske, (2012) the dissatisfaction with the skills and knowledge demonstrated by accounting graduates entering the workforce has been of concern by employers for several years. This raise a question that how academics can help accounting learners meets the set of knowledge, attitude and skill demanded both at recruitment and in their advanced accounting careers. Thus, a gap exists between the acquired and required knowledge and skill for accountants due to the rapid changes in the market environment and the slow changes in the curriculum. This further implies that the professional gap of practitioners should be properly identified and incorporated in the curriculum. Therefore, as the global economy evolves, it is essential to continuously ascertain and articulate employers' opinions on what makes a graduate employable so that accounting educators are kept abreast of the skills and attributes that are most valued in the workplace.

The rapid development and ever-changing needs of the global environment have resulted in revolutionary changes in the skills required by accountants to add value for their clients. In the current

globalized world, accounting graduates are expected to possess a wide set of knowledge, technical and generic skills and Professional ethics to meet the requirements of the workplace. In the current turbulent world, technical accounting competences are insufficient for educating professional accountants and needs to be complemented by other competencies such as creative thinking, lifelong learning, professional ethics, use of Information technology and communication skills. Today accountants are more involved than before in business advisory services, due to the increasing demand for financial and nonfinancial information in business decision. The changes in the role of the accounting functions are driven by the characteristics of the modern global business environment.

However, most employers find that accounting programs at university now are unable to provide graduates with the Knowledge, skills and attitude that are required by the profession in this century (World Bank, 2007). For this reason, Jeacle (2008) advised there should be changes in the accounting curricula of the universities to incorporate the needs and market demand in a changing business environment. He further argued that Universities should incorporate the market expectations to their accounting curriculum to ensure that accounting graduates are equipped with the knowledge and skills required by the market.

Ethiopia was never been colonized, its economic and social environments were significantly shaped by its dependence on Western countries for resources. When one closely looks at accounting profession in the country, it is characterized as importing accounting education from one source and accounting practice from another source. Accounting education in Ethiopia was introduced by US academics and was modeled on the US accounting education system. On the other hand, British experts were the first to open public accounting practices; and the first Ethiopian professional accountants obtained British accounting qualification. Both trends continue to the present day. The sourcing of accounting education and accounting practice from different countries has led to the misalignment of the two and has adversely affected the development of accounting profession and restricted its contributions to the economic development of the country (Mihret & Bobe,2014).

University level accounting education has expanded rapidly in the last two decades in Ethiopia, in line with the expansion of the country's higher education sector in general. Nevertheless, accounting

education is deficient, and that academics and students face many obstacles and problems that hinder its development. In spite of this, academic research has not focused on examining the problems affecting accounting education practices in Ethiopian higher institutions from any theoretical perspective except the effort made by Mihret and Bobe (2014) to explain the development of accounting education in the country. Further, Employers and Professionals are complaining that the current accounting education is not preparing graduates to the actual work environment. Employers and former graduates argue that the course offered at university are mainly theoretical and lack practical application. The main purpose of this study is to identify the gap between employers' and employee's perceptions of the needed knowledge of accounting, skills, and attributes to succeed in the accounting profession in Ethiopia. Moreover, the preparedness level of the accounting graduate in this country is assessed. The perception of two main stakeholders is investigated: The Employers of the accounting profession that hires accounting graduates and the graduate students.

2. Objectives of the study

The main objectives were to examine the current state of the gap between expected level and actual level with respect to knowledge, skills and attitudes possessed by employees for the actual work environment.

1. To identify the gaps between the expected level and the actual level of knowledge, skills and attitudes in the workplace.
2. To identify the most important knowledge, skills and attitudes desired by employers.
3. To identify the relative's importance employer, give to knowledge, skills and attitudes of the graduated candidates while hiring.

3. Importance of the Study

The accounting profession is emerging and playing an increasingly important role in Ethiopia, Furthermore, Ethiopian's economy is being integrated into the world market at an increasing rate, in particular, following Ethiopian's membership to the Word Bank, International Monetary Fund and other African Regional Associations.

Changes in Ethiopia's business environment have brought a demand for more accountants equipped with a wide set of skills, which has stimulated the need for accounting curriculum reform. Ethiopia's present move towards economic reforms, new demands for accounting services have risen. A great amount of new skills is now considered necessary for accountants. Thus, the findings of the study would be of benefit to university accounting and finance degree program design. University accounting students may also benefit from this study as the market demand is a good indicator for them to improve their knowledge and skills base during their accounting studies. The findings would also add to the growing accounting education literature dealing with the improvement of university curricula and market expectation of accounting graduates, particularly in Ethiopia.

4. Literature Review

Over the past three decades or so it has become commonplace to lament the failure of universities to equip accounting graduates with the basic accounting knowledge, skills and attitudes required for professional accounting practice, particularly as the latter has had to adapt to the demands of a rapidly changing business environment. With the aid of academics, professional accounting bodies have developed lists of competencies, skills, and attitudes considered necessary for successful accounting practice.

4.1. Knowledge, Skills & Abilities (KSA)

Knowledge, Skills & Abilities is knowledge, skills, and abilities that a person must possess in order to perform the duties of his or her position. KSAs are listed on each position's job description and serve as a guide for applicants, employees, and departments to evaluate and assess a person's likelihood for success in a job.

Knowledge - the subjects, topics, and items of information that an employee should know at the time he or she is hired or moved into the job. Knowledge represents bodies of information that are applied directly to the performance of work functions.

Skills - technical or manual proficiencies, which are usually learned or acquired through training. Skills should be measurable and observable.

Abilities - the present demonstrable capacity to apply several knowledge and skills simultaneously in order to complete a task or perform an observable behavior. Abilities may also relate to personal

and social attributes, which tend to be innate or acquired without formal instructions. Abilities are enduring talents that can help a person do a job.

One of the best ways find a great job in accounting is to focus on your technical accounting skills and abilities. Because so many people in accounting-related fields do not have formal training, and because so many of the accounting positions available require a credential (such as a bachelor's degree, certificate, or even a master's degree), having a set of well-honed skills in accounting will help you stand out from the competition and find success in this in-demand field.

- **Knowledge of Accounting / Financial Reporting**
This is a must have skill for successful learning of IFRS. Accounting is a basic skill, since IFRS is the study of accounting standards. Since IFRS entails remembering various rules and implications in various scenarios, the candidate must possess a great memory skill in case he wants to be an expert in this field. Moreover, these rules are subject to change by notifications; hence, it is necessary that the candidate deal with the any accounting standard require the candidate to be strong with the basic foundation. The candidates must possess a strong knowledge in basics of accounting.

- **General business knowledge -** The roles of accounting and finance professionals are expanding. Given the frequent interaction with other departments, today's accounting professionals need sound decision-making, negotiation, and strategic-thinking skills. It is also important to be able to see the big picture and understand how your accounting role influences the overall organization

- **Up-to-date technology expertise -** Finance leaders often say they have trouble hiring staff that brings enough technology skills to the job. The use of finance-specific software programs is a given in your role, and accounting automation is becoming increasingly popular at many organizations and accounting firms. An accountant might be expected to have a strong background in several applications, including finance-related software systems, Microsoft Excel, and data modeling programs, among others. They must be able to manipulate, extract, analyze from each of these individually, and often use several programs in conjunction with one another to obtain a holistic perspective of an organization's finances.

- **Communication skills -** As an accounting professional, it is good that you collaborate across departments and communicate with a wide array of colleagues or clients. The people you speak with may

not be as perceptive with the numbers as you are, so you need to be able to present information in an easy-to-digest manner. Whether you communicate via email, phone conversations, in-person meetings or presentations, relaying information clearly and concisely goes a long way toward supporting your credibility. Although the technical skills on your resume might land you an interview, companies are looking for accounting professionals with a collaborative personality, an executive presence, conflict-management abilities and adaptability.

- **Leadership abilities -** Accounting professionals need to be ambitious self-starters who can develop new insights, manage projects, and motivate and engage team members, all the while displaying solid leadership skills. While the partners at your firm or leaders in your department are managing the business side of the organization, you may need to serve as a source of aid when colleagues need help navigating a particular program or managing their first busy-season audit.

- **Critical thinking and problem solving -** Critical thinking and problem solving are highly sought-after soft skills, but some employers complain that these skills are lacking among candidates. Stand out by demonstrating that you excel in these areas. Describe specific experiences that required a strategic and solution-oriented approach. Maybe you foresaw a potential investment problem or discovered problematic elements in a business's strategic approach. You then designed a new strategy that neutralized initial concerns while attracting added benefits for your clients. Accountants must be strong problem-solvers and decision-makers, and must be able to objectively analyze information to identify problems within and challenges facing an organization and its accounting framework, then use an integrated approach to develop effective solutions to address them. An accountant should be able to think not just critically, but creatively as well, and understand the relevance of accounting information to all aspects of overall organizational health.

- **Organizational Skills -** Because of the highly technical nature of an accountant, some of the most important accounting skills and abilities center on organization. The most successful accountants are detail-oriented since everything must add up exactly on the bottom line and every cent a business brings in or sends out must be accounted for. This also involves being extremely comfortable working with, and keeping track of, large amounts of data. Additionally, accountants must be involved with, and often responsible for, a variety of different

systems, which require constant maintenance and updating. They must be good planners, as accountants must often be looking far ahead to their next deadlines and have strong time management skills. On top of this, accountants must be able to keep up this high level of organization even under pressure, especially during busy times like tax season.

- **Financial Skills -** Perhaps the most obvious skill for an accountant to have is a facility with financial data. By its most basic definition, an accountant is someone who manages, inspects, and analyzes a business's or individual's financial records. As a result, some of the most important skills in accounting include the ability to apply financial frameworks used by businesses to prepare financial reports and to complete other financial tasks. A good accountant will be able to apply professional judgment when preparing, analyzing, and interpreting financial information, and should be able to perform these tasks in a way that reflects both the art and the science of accounting. Accountants may also be required to assess an organization's accounting systems to ensure sound financial information, generate appropriate asset evaluation, and reduce the risk of fraud. They must also be comfortable assessing the ethics of financial-related decisions and should be scrupulous in their reporting. As the go-to financial experts in their organizations, accountants must be able to research financial-related subjects, synthesize the information gathered, critically evaluate it, and communicate it to a non-accounting audience in a professional, cohesive, and logical way, clearly separating fact from opinion. They should also be able to evaluate financial information within the context of their organization, its strategy, and its culture, not just within a generic bubble of accounting best practices.

4.2 Skill Development Opportunities

Several studies highlighted the importance of generic skills even more than technical skills in both developed and developing countries. Kavanagh and Drennan (2008) conducted a study involving data collection from 322 graduating students in 3 universities in Australia and 28 practitioners in several organizations and industries. The respondents were required to rate 47 specific skills/attributes. Eight factors appeared and were labeled: personal and communication, cultural sensitivity, interpersonal and leadership, promotional, analytic/design, appreciative, routine accounting, and ethics. Although both groups acknowledged the importance of

analytical/problem solving skills, oral and written communication skills, teamwork and continuous learning, there were differences in terms of how each group ranks each skill.

Accounting educators should adapt an approach that improves skills such as analytical/critical thinking, written communication, oral communication, computing technology, decision-making, interpersonal skills, continuous learning, teamwork, leadership, risk analysis, and accounting packages. Under a superficial approach, the student perceives the subject material as only needing to be memorized for the exam. The deep approach enables accounting education to provide students with the communication, interpersonal and intellectual skills that prepare them for business in today's global environment. Accounting education should provide students with not only the knowledge and skills required, but also with the expertise that enables students to apply those skills. (Mohamed & Lashine, 2003)

Over the past three or four decades or so it has become commonplace to lament the failure of universities to equip accounting graduates with the basic accounting knowledge, skills and attitudes required for professional accounting practice, particularly as the latter has had to adapt to the demands of a rapidly changing business environment. With the aid of academics, professional accounting bodies have developed lists of competencies, skills, and attitudes considered necessary for successful accounting practice. One of the major challenges facing accounting education is the creation of a learning environment that promotes high-quality learning. Constructive alignment (Biggs and Tang, 2011) is an outcomes-based methodology for designing, promoting, and assessing deep student learning. It is based on the belief that students construct their learning through engaging in relevant learning activities with the tutor creating the appropriate learning environment. Accounting education has been criticized because of the perception that the objective of training is to know facts, and this has encouraged students to perceive and tackle problems from a narrow perspective.

Many researchers' studies indicated that professional accounting bodies, employers of accounting graduates and academics alike have lamented the failure of universities to equip accounting graduates with the competencies required for the modern business environment. As result of this, accounting education criticized by professional accounting bodies, accounting practitioners and educators have programs for failing to meet the demands of the

changing business environment. This failure by universities has created a gap between accounting practice and accounting education. The study done by Ahmad Zaini (2005) for technical graduates found that 80.000 technical graduates who are still unemployed, and these graduates are largely depend on academic qualifications to get a job but with less nontechnical skills or generic skills required of employers. Employers tend to find competent workers from abroad because of local graduate's lack of employability. According to Rasul et al. (2008), skills of 'employability' are the ability of non-technical and occupational skills that are just as important as technical skills. According to Ramlee (1999), employers in the industry said that technical graduates in Malaysia have adequate technical skills but employers are still not satisfied with the communication skills, interpersonal, critical thinking, problem solving and entrepreneurial skills possessed by those graduates.

Gurvinder and Sharan (2008) done a study on the perceptions of employers concerning the employability skills needed in the job market and graduates' perception of the employability skills that they currently possessed. Eleven variables that make up employability skills based on past research were examined in this study. However, only seven factors, which were the result of factor analysis, were considered. The results of this study revealed that employers preferred to hire graduates from public universities. Moreover, graduates and employers placed similar importance in terms of the ranking of employability skills, where both employers and graduates perceived the order of importance of employability skills to be the same. However, there was a difference between employers' and graduates' perceptions for all seven employability factors, where employers rated graduates much lower in terms of mean rank. The results of this study also suggest that younger employers tend to be more favorable to graduates' employability skills. The higher the job position of the employer within the organization, the higher are the expectations of graduates.

Accounting competencies sought by employers have been identified in various surveys. Carr et al. (2006), for example, found communication, strategic and critical thinking, client and market focus, interpretation of information, and technological adeptness as important skills sought in the marketplace. Similar result Chang and Hwang (2001) found interpretation of information and technological adeptness to be important learning outcomes for AIS courses. In a study of 174

graduate students, Jackling and De Lange (2009) found that, while functional skills are valued, employers require a broad range of generic skills that are not being taught in major accounting programs.

Many research studies indicated that professional accounting bodies, employers of accounting graduates and academics alike have lamented the failure of universities to equip accounting graduates with the competencies required for the modern business environment. As result of this, accounting education criticized by professional accounting bodies, accounting practitioners and educators have programs for failing to meet the demands of the changing business environment. This failure by universities has created a gap between accounting practice and accounting education. The Misalignment between marketplace demand and the accounting curriculum may place accounting students at a disadvantage in job seeking especially when educators emphasize topics that are deemed important by practitioners. The studies also point to alignment between the perceptions of educators and practitioners. In one study of 25 audit topics, both educators and practitioners surveyed agreed (McCartney et al., 2002).

5. Research Methodology

This study used a descriptive research design with Mixed approached. To achieve the objectives of the research, a questionnaire was developed and distributed on a sample of accounting employers and employees to measure their opinions on the importance of Accounting knowledge, skills and attitudes in accounting education. The study sample was former graduates in accounting working in each of manufacturing, construction, financial Services, non-government organizations, public Accounting/Audit firms would be selected using combination of purposeful, convenience and snowball sampling was used in the study. A total of 384questionnaires were distributed to employees and a total of 236 questionnaires were collected back from the employees from various backgrounds and from employers total of 250 questionnaires were distributed to employers and a total of 118 questionnaires were collected back from the employers from various backgrounds. The questionnaire aimed to measure the importance of each accounting knowledge, skills and attitudes item based on a scale from 0 to 5, where 0 referred to the lowest score of importance and 5 referred to the highest score of importance. The respondents were

required to rate the importance of these skills based on a Likert Scale ranging from 0 to 5 (i.e. 0=not important and 5= extremely important). Open-ended questions have subsequently been addressed to the respondents requesting them to suggest other qualities and skills not listed in the questionnaire but are deemed as crucial to be possessed by job applicants. Besides that, employers have also been asked to comment on the characteristics of a successful job applicant. The study used descriptive data analysis, which combines both quantitative and qualitative data methods of analysis. Computer packages like statistical package for the social sciences (SPSS) and Microsoft Excel are used to generate charts and tables. Since the study is descriptive in nature, the collected data would be analyzed using descriptive statistical tools such as mean, frequency, T-test, standard deviation, and percentages through SPSS. Then, a comparison was conducted between the opinions of Employers and employees using independent samples t-tests to examine whether they perceive the importance of knowledge, skills, and attitudes similar or in different ways. Besides that, mean score comparison have subsequently been carried out to compare between perception held by employers on the importance of accounting knowledge, skills and attitudes perception held by employees/undergraduates/ in relation to their core competency.

6. Data analysis and Results

A total of 384 questionnaires were sent to new entry employees who are working in manufacturing, construction, financial Services, non-government organizations, public Accounting/Audit firms and Other organization with a request to get these filled the questionnaires. Only 260 filled in questionnaires were received out of which only 236 were found to be fully filled in, the rest 24 were discarded due to incomplete information with a response rate of 61.4%. As well as a total of 180 questionnaires employers across several organizations who are working in different organization and 146 employers of the organization returned the questionnaires; out of the 180 questionnaires, only 118 questionnaires were answered properly. This resulted in 65.5% a usable response rate.

Demographic composition of employers and employees' sample

Demographic	Category		Employers	Employees
Gender	Male		75 (63.6%)	147 (62.3%)
	Female		43 (36.4%)	89 (37.7%)
Age	20 - 25 years		3 (2.5%)	42 (17.8%)
	26-30 years		38 (32.2%)	102 (43.2%)
	30 - 36 years		51 (43.2%)	68 (28.8%)
	above 37 years		26 (22%)	24 (10.2%)
Experience	0-5 years		11 (9.3%)	108 (45.8%)
	6-10 years		48 (40.7%)	88 (3.3%)
	11-16 years		44 (37.3%)	37 (15.7%)
	above 17 years		15 (12.7%)	3 (1.3%)
Marital status	Single		32 (27.1%)	101 (42.8%)
	Married		72 (61%)	117 (49.6%)
	Divorced		14 (11.9%)	18 (7.6%)
Qualification of education	First Degree		81 (68.6%)	196 (83.1%)
	Masters		35 (29.7%)	36 (15.3%)
	Above masters		2 (1.7%)	4 (1.7%)
Type Organization	Manufacturing		20 (17%)	43 (18.2)
	Construction		18 (15.3%)	34 (14.4%)
	Financial Services		31 (26.3%)	48 (20.34%)
	Non-government organizations		15 (12.7%)	38 (16.10%)
	Public Accounting / Audit firms		28 (23.7%)	52 (22%)
	Other organization		6 (5%)	21 (8.9%)
Job Position	Budget Managers	20 (16.9%)	Senior Accountant	75 (31.8%)
	Vice president finance	40 (33.9%)	Auditors	78 (33.1%)
	Finance Directors	43 (36.4%)	Finance officers	48 (20.3%)
	General Accountant	15 (12.7%)	Others	35 (14.8%)

Source: Field Survey (2019)

It is quite clear that out of the total employees investigated for this study, overwhelming majority 62.3% percent(n=147) of them were males whereas about 37.7% (percent)(n=89) were found to be females. 43.2% of the total employee respondents are in the age group of 30-36 years. Most of them (45.8) have 0-5 years of experience.

According to data displayed in Table 1, 63.6% (n=75) of the total employees investigated for this study are male and 36.4% (n=43), female. 43.2% of the employer respondents are in the age group of 30-36 years, and 40.7% of them have 6-10 years of company working experience.

One of the most important demographics characterized of the respondents is marriage. In a developing country like Ethiopia, it has undergone many changes. The perceptions and attitudes of the person can also differ by the marital status of the persons because the marriage might make the persons little more responsible and matured in understanding and giving the responses to the questions asked. Table 1 shows that 49.6% (n=117) of respondents were married, 42.8% (n=101) were unmarried, and 7.6% (n=18) of the respondents were found to be widows. As we can see in Table 1, out of the total respondents of employers, 61% (n=72) were found married, whereas 27.1% (n=32) were found unmarried and the remaining 12% (n=14) were founds to be widows.

The educational level was categorized into three levels (see Table 1). From the entire sample of employed respondents, 196 were attained the first degree, representing 83.1% of the employed respondents. 36 of the respondents (15.3%) were attained the master degree, and the remaining 4 respondents (1.7%) were attained above master degree.

As we can see in Table 1, about 68.6% of the employer respondents were educated up to first degree level, while 29.7% have a master's degree. Only 1.7% percent of the respondents were educated above the master's degree level. A high number of respondents were just functionally literates. It can be concluded from the Table above large numbers of the respondents from employees and employers were high educated, which is so important today to create a knowledge-based society.

Based on Table1 from employee's respondents were Seniors Accountants that represent 31.8% of the entire respondents. Moreover, a number of 78 (33.1%) respondents were Auditors. Twenty percent worked as Finance officers and the rest of around as fifteen percent employees are others in accounting and finance area.

Table 1 reveals that 36.4% (n=43) of the employer respondents are Finance Directors. Out of the total sample of the employer respondents, 33.9% (n=40) were Vice president Finance, whereas

16.9% (n=20) were budget managers. The rest of the employer respondents 12.7% (n=15) were general accountants.

6.1. Important knowledge, skills and attitudes

Over the course of your education, you will develop knowledge, skills and behaviors. These would be gained through a combination of off-the-job training and practical experience in your workplace. This is a key component of the training and you will need to demonstrate that you have all the required knowledge, skills and behaviors to qualify as in workplace.

Table 2

Testing difference in mean scores between the employees and employers

Knowledge, skills and Attitudes	Employees			Employers		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Financial Accounting & Reporting	236	3.5085	.66838	118	3.3305	.79588
International Financial reporting standard	236	3.3517	.70200	118	3.4153	.70803
Cost and Management Accounting	236	3.1356	.82426	118	3.0678	.90326
Finance and Financial Management	236	3.1059	.86135	118	3.1441	.92704
Internal Control and Auditing	236	3.2288	.77086	118	3.3390	.74214
Public Financial Management and Taxation	236	3.0466	.92825	118	3.1695	.90870
General Business and Commercial law	236	3.1314	.77987	118	3.3390	.73053
Accounting skills related						
Computer/ Software application skill	236	3.2627	.73719	118	3.4237	.61889
Communication and language skills	236	3.4237	.58210	118	3.5593	.49859
Mathematical or Numeracy skills	236	3.0890	.83826	118	3.3305	.76298
Personal Management Skill	236	3.2203	.76782	118	3.1864	.77293
Problem Solving and Analytical skills	236	3.3263	.73188	118	3.5000	.62361
Team work and leadership skills	236	3.1398	.82613	118	3.2119	.78285
Skills of operating other office equipment's	236	2.9661	.90325	118	3.0339	.88610

Attitudes related						
Being objective in professional judgment	236	3.1314	.80140	118	3.3814	.76146
Commitment to public interest before personal interest	236	3.2712	.76254	118	3.2797	.76108
Professional competence and due care	236	3.1186	.86708	118	3.4915	.56607
Keeping organizational secrecy and confidentiality	236	3.1441	.88270	118	3.1525	.91172
Truthfulness and honesty	236	3.2161	.88481	118	3.1780	.95748
Desire to take responsibility	236	3.2585	.76418	118	3.2797	.77223
Respect for customers	236	3.3136	3.10853	118	3.1271	.89200

Source: Field Survey (2019)

The previous table 2 showed clear differences between the means; however, to test that they were statistically different, an independent samples t-test was performed. The t-tests result indicate that employees rated all listed skills, except teamwork and leadership development significantly different – higher.

Table 2, reveals that the highest ranked accounting knowledge as sought by employers as an International Financial reporting standard (mean = 3.4153, SD = .70803), & Financial Accounting & Reporting (mean = 3.3305, SD =.7958) followed by Internal Control and Auditing and General Business and Commercial law (mean = 3.3390, SD = .74214). While the middle ranked are Public Financial Management and Taxation and Finance and Financial Management with a mean of 3.1695 (SD = .90870) and 3.1441 (SD= .92704) respectively. The lowest ranked are knowledge perceived by employers was cost and management accounting with the mean = 3.0678, (SD =.90326).

Table 2 focuses on the differences in accounting knowledge as perceived by employees of in different types of industries /companies. Interestingly, for employees of the companies, Financial Accounting & Reporting (mean 3.5085, SD= .66838) was ranked as the most important, followed by International Financial reporting standard mean 3.3517, SD= .70200) and Internal Control and Auditing (mean 3.2288, SD= .77086). The employees scored General Business &Commercial law at a mean of 3.1314, SD = .77987 and Cost and Management Accounting at a mean of 3.1356, SD = .82426 followed by Finance and Financial Management at a mean of 3.1059, SD = .86135. This is one of the most important accounting assistant educational requirements. You cannot be an accounting assistant without knowing the basics of

financial management. The lowest ranked by employees the knowledge of Public Financial Management and Taxation with the mean = 3.0466, SD = .92825.

Thus, both employers and employees were aligned in their perceptions of the accounting Knowledge which they regard as the most Financial Accounting & Reporting, International Financial reporting standard and Internal Control and Auditing While the least important knowledge for both groups were Public Financial Management & Taxation and Cost and Management Accounting.

Professional skills relates to a professionally attributed degree program that must not only produce graduates with a foundation of technical knowledge but also the skills necessary to effectively apply such knowledge when they enter the profession and further their work place.

On the other hand, the above table revealed that the top skills as sought by employers of companies are Communication Skills & language skills (mean 3.5593, SD= .49859) was ranked as the most important, followed by Problem Solving and Analytical skills (mean 3.5, SD= .62361) and Computer/ Software application skill (mean 3.4237, SD=.61889).   Moreover, the remaining skills by employers Mathematical or Numeracy skills (mean 3.3305, SD= .76298), Teamwork and leadership skills mean 3.2119, SD= .78285) and Personal Management Skill (mean 3.1864, SD= .77293). The lowest skill ranked by employers of the companies were Skills of operating other office equipment's with the mean =3.0339 and SD =.88610.

The top skill ranked in importance by employers was Communication & language skills the most important followed by Problem Solving and Analytical skills and Computer/ Software application skill ranked it as third most important. The next skill ranked fourth in importance by employers Mathematical or Numeracy skills, the fifth and sixth important skills were Teamwork and leadership skills and Personal Management Skill. The least important skills required that perceived by employers was Skills of operating other office equipment's.

 As we can see from the table on the differences in importance skills as perceived by employees of organization. Interestingly, Communication and language skills (mean 3.4237, SD= .58210) was ranked as the most important, followed by Problem Solving and Analytical skills mean 3.3263, SD= .73188) and Computer/ Software application skill (mean 3.2627, SD= .73719) Accounting is, at its base,

a process of recording and presenting data and information. These data can be, at most times, complicated and prone to human errors. Software is, unlike manual system, cuts out most of these inefficiencies and errors, resulting in accurate and efficient recordings, which would lead to better analytical procedures. Software does also make the lives of accountants that much easier and better. Imagine working in the accounts department without the most basic and rudimentary software, the calculator. On the other hand, Personal Management Skill (mean 3.2203, SD= .76782), Teamwork and leadership skills (mean 3.1398, SD= .82613) and while the least important skills perceived by employees with mean, 2.9661, SD =.90325.

The difference in importance of the skills for both groups came with Teamwork and leadership skills with employers ranking it as fifth highest while employers ranked it the sixth important skills required by employees. The other skills ranked similarly by both groups.

Many writers have reinforced the view that oral and written communication skills are considered the most important skills. Similarly, as the importance of communication skills for accountants has been emphasized in the literature for more than five decades, and some articles focus on communication skill offered by the accounting education or possessed by graduates. Siriwardane and Durden (2014) critically review 19 studies. They investigate the written and/or oral communication skills of practicing accountants and they found that oral communication skills were commonly ranked by practicing accountants as being more important than written communication skills.

Ethics and professional values; an understanding of ethical and professional values and attitudes are important elements in the development of accounting professionals. It is expected that higher education providers will pay attention in their programs to the fundamental ethical values of integrity, objectivity, and confidentiality, as well as professional competence and due care.

Concerning Ethics and professional values; Professional competence and due care highest-ranked from employers' perspective with a mean of 3.4915, SD =.56607 followed by Being objective in professional judgment at mean of 3.3814, SD =.76146. Also employers ranked similarly desire to take responsibility and Commitment to public interest before personal interest at a mean of 3.2797, SD = .77223 followed by Keeping organizational secrecy and confidentiality and respect for customers at a mean of 3.1441, SD =.91172 and mean of 3.1271, SD =.89200.

The findings in Table 2 showed the mean of the seven Ethics and professional values. The analysis showed that respect for customers (M = 3.3136) is the highest mean values followed by Commitment to public interest before personal interest (M = 3.2712), Desire to take responsibility (M=3.2585), Truthfulness and honesty (M = 3.2161), Keeping organizational secrecy and confidentiality (M = 3.1441) and Professional competence and due care (M = 3.1186). Respect for customers emphasized by the employees has the highest value indicating the item is one of the most important elements of Ethics and professional values. Accounting professionals can demonstrate good customer service by truly listening to the needs and concerns of your clients, whether they are internal or external. A positive attitude can also go a long way, especially when stress levels are high. Professional ethics and values are one of the most important factors of learning because while knowledge and skills give a person potential, professional ethics or attitude is what determines their level of performance. It is even more difficult to measure how much change occurred in a person's attitude, because of training or educational activities.

Table 3

Testing difference in mean scores between the employees and employers

Knowledge, Skills & Attitudes	Employees			Employers			Sign
	Mean	Rank	Std. Dev.	Mean	Rank	Std. Dev.	
Financial Accounting & Reporting***	3.5085	1	.66838	3.3305	4	.79588	.010***
International Financial reporting standard	3.3517	2	.70200	3.4153	1	.70803	.821
Cost and Management Accounting	3.1356	4	.82426	3.0678	7	.90326	.512
Finance and Financial Management	3.1059	6	.86135	3.1441	6	.92704	.912
Internal Control and Auditing	3.2288	3	.77086	3.3390	3	.74214	.765

	Employees			**Employers**			
Public Financial Management and Taxation	3.0466	7	.92825	3.1695	5	.90870	.821
General Business and Commercial law	3.1314	5	.77987	3.3390	2	.73053	.722
Accounting skills related							
Computer/ Software application skill **	3.2627	3	.73719	3.4237	3	.61889	.059**
Communication and language skills***	3.4237	1	.58210	3.5593	1	.49859	.013***
Mathematical or Numeracy skills	3.0890	6	.83826	3.3305	4	.76298	.745
Personal Management Skill	3.2203	4	.76782	3.1864	6	.77293	.895
Problem Solving and Analytical skills	3.3263	2	.73188	3.5000	2	.62361	.017
Team work and leadership skills	3.1398	5	.82613	3.2119	5	.78285	.728
Skills of operating other office equipment's	2.9661	7	.90325	3.0339	7	.88610	.861
Attitudes related							
Being objective in professional judgment	3.1314	6	.80140	3.3814	2	.76146	.743
Commitment to public interest before personal interest	3.2712	2	.76254	3.2797	4	.76108	.970
Professional competence and due care***	3.1186	7	.86708	3.4915	1	.56607	.001***
Keeping organizational secrecy and confidentiality	3.1441	5	.88270	3.1525	6	.91172	.450

	Employees			Employers		
Truthfulness and honesty	3.2161	4	.88481	3.1780	5	.95748	.430
Desire to take responsibility	3.2585	3	.76418	3.2797	3	.77223	.939
Respect for customers	3.3136	1	3.10853	3.1271	7	.89200	.514

*** Difference is significant at 1%, ** difference is significant at 5%.
Source: Field Survey (2019)

Comparisons are conducted between the opinions of employers and Employees using independent sample t-tests to examine whether they perceive the importance of skills items similar or in different ways.

Table 3 indicated significant Similar at 1% and 5% exist in the perceived importance scores between the two groups of respondents related to Financial Accounting & Reporting knowledge, communication and language skills, Software application skill and Professional competence & due care.

The findings indicate that although there is an agreement between the perceptions of both groups, some significant gap still exists. Basic communication skill, problem solving& analytical skills, financial accounting & financial reporting, professional competence and due care is rated as the most important professional skill by both groups. While students felt that Public Financial Management and Taxation is the least important knowledge; employers on the other hand felt that cost and management accounting knowledge is the least important.

7. Conclusion and Recommendation

The effectiveness of accounting profession depends widely on the best accounting education outputs. The aim of this study is to examine graduate employability to bridge the competency gap between the employers and graduate students in the accounting industry. With the aim of increasing transparency, minimizing the gap between students, job seekers and practitioners this study sought the views of accounting employers and former accounting graduated students in Ethiopia. The literature highlights the facts that often employers and graduate students/employees/ have different perspective about the nature of the professional skills that are required for a successful accounting career. There are most important criteria

used by employers for selecting accounting graduates are communication & language skills, knowledge of IFRS /financial reporting, and professional competence & due care. However, accounting graduate perceive Knowledge financial accounting, reporting most important criterion used by employers followed by communication & language skills, problem solving, respect for customers, and desire to take responsibility. This study shows that communication skills, problem solving & analytical skill, financial reporting/IFRS, profession competence and due care are very important for accountants. The literature indicates that this is the skill with the greatest gap as identified by graduate students/employees and employers. Academics certainly need to focus on the development of this skill. Many universities' accounting curricula have already incorporated a number of employability skills in their programs although they may vary in the emphasis of certain skills over others and the way that these skills are integrated into academic programs.

The findings indicate that although there is an agreement between the perceptions of both groups, concerning knowledge, skills and attitudes some significant gap still exists. Both groups rate communication skill, problem solving& analytical skills, knowledge of financial accounting& reporting and Professional competence & due care and desire to take responsibility as the most important profession of accounting. The accounting curriculum prepares students for careers in communication skills, problem solving skill, Knowledge financial accounting /financial reporting, internal control & auditing, professional competence, and due care. This study provides some insights to academics into the important employability skills that should be integrated into accounting programs. Depending on how they are developed and delivered, the study's findings may assist in narrowing the gap between the knowledge accounting, skills and attitudes developed at university and the skills required of accounting graduates by prospective employers. In addition, researcher suggests that the finding this study help to realize the importance of accounting education faculty to incorporate communication skills in this discipline.

Future research could investigate accounting knowledge and skills needed by entry-level accounting graduates to work in the ever-changing marketplace, since accounting graduates face unpredictable futures.

8. Limitation of the study

This study is based on data obtained through cross-sectional survey of graduate students and employers surveyed from various business organizations in Ethiopia. In a strict sense, the findings are pertinent mainly to the study areas, but may also, be extended to other areas with similar characteristics. However, since there can be heterogeneity among respondents in even slightly varying settings, more of similar studies in other areas will allow to develop comprehensive policy recommendations. More importantly, further studies require large and rich dataset, such as longitudinal and panel dataset, which was not obtained for this study.

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