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THEME:

Taxing the Digital Economy: the Way Forward
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EDITORIAL

The choice of monetary policy framework is essential for the attainment of price stability. When demand for money function is unstable and unpredictable, price stability objective may not be achieved optimally by targeting monetary aggregates such as money supply as intermediate target and reserve money as operating target. When demand for money function is ascertained to be unstable, price stability may optimally be achieved by adopting inflation targeting monetary policy framework. Thus, factors that affect the stability of the demand for money function are essential in choosing the appropriate monetary policy management framework for an economy. The objective of this paper is to investigate the impact of recent developments in digital financial innovation particularly the use of electronic money and payment channels on velocity of money and its implication for the choice of monetary policy framework for Ghana.

The world has come to the point where almost everything, transaction or exchange among individuals, institutions or nations is represented in money or financial value term(s). This makes money, otherwise known as finance, a very critical commodity in the life of any economic unit. Since almost every business transaction or exchange is expressed ultimately in terms of cash (finance), every activity or exchange within the enterprise can only be carried out with finance (money or cash). This makes money (finance) the life blood of businesses. The writer explains the roles being played by the financial intermediaries in providing finance to support the economic units in the country.

The digital revolution is transforming economies, business models, and the lives of all citizens. It is dramatically impacting every aspect of economies, including the tax base and governments’ ability to raise revenues. Tax policy is at the top of the agenda in many countries, and are debated in the newspapers, in politicians’ speeches, and on the minds of citizens. A sustainable and vibrant global economy is one that will be efficiently, effectively and fairly taxed. But the tax challenges presented by digitalization raise very complex technical questions. How do you identify value creation for a company whose headquarters are in one country, whose sales people sit in another, whose users are global, and who earns revenue by selling adverts to other multinational enterprises? The writer calls for global collaboration to come out with a unified tax policy to benefit every country especially at a time where every economy is moving to digital platforms.

Professional skepticism is at the heart of what auditors do - Without it, the audit has little value. However, the urge to use lack of skepticism as a catch-all classification for anything that is wrong in auditing or financial reporting, should be resisted. Simply calling for 'more' skepticism is neither realistic not helpful. Auditors cannot go on asking questions for ever, nor should they. Professional skepticism needs to be exercised by all professional accountants, not just auditors. The writer urges the preparers, to exercise skepticism themselves before handing information over to external auditors. Also outdated practices of ‘gaming’ the auditors, to see how far they can be pushed, is no longer acceptable. Audit committees and internal auditors need to challenge themselves, the controls they put in place, and the quality of the information they produce, before handing it over to external auditors. It is not for the auditors to prove management wrong, it is for management to support its assertions.

These and many more are being presented in this edition for your reading. Please forward your comments on any of the articles or this edition of the journal to:

ofori.henneh@icagh.com or abigail.armah@icagh.com
IPSASB Issues Social Benefits IPSAS and Exposure Draft on Collective and Individual Services

The International Public Sector Accounting Standards Board (IPSASB) has released a new standard and an Exposure Draft on accounting for social benefits, and collective and individual services, respectively. Between them, International Public Sector Accounting Standard (IPSAS) 42, Social Benefits, and the related Exposure Draft (ED) 67, Collective and Individual Services and Emergency Relief (Amendments to IPSAS 19), address a wide range of significant government expenditures that directly impact the lives of citizens globally.

IPSAS 42 provides much-needed guidance on accounting for social benefits expenditure, which comprises about one fifth of GDP across OECD countries. It defines social benefits as cash transfers paid to specific individuals and/or households to mitigate the effect of social risk. Specific examples include state retirement benefits, disability benefits, income support and unemployment benefits. The new standard requires an entity to recognize an expense and a liability for the next social benefit payment.

“IPSAS 42 represents a big step forward for global financial reporting in the public sector and fills one of the major gaps in IPSASB’s suit of standards,” said IPSASB Chair Ian Carruthers. “Social benefits has been a challenging project because of the differing, strongly held views as to when a liability for social benefits arises. We are confident that the final standard will increase transparency and comparability in public sector financial reporting.” In order to extend IPSASB’s guidance to public services as well as cash transfers, ED 67 proposes new requirements for accounting for collective services (such as defence at national-levels and street lighting at sub-national levels), individual services (such as healthcare and education) and emergency relief.

For collective and individual services, ED 67 proposes that an expense is recognized at the point of service delivery. ED 67 also proposes that an expense and liability is recognized for some emergency relief, but not where emergency relief is delivered as an ongoing activity of government. “The distinction between social benefits and collective and individual services is important, but the accounting treatment of these transactions must be conceptually consistent,” said Mr. Carruthers. “Issuing ED 67 now, together with IPSAS 42, will allow our stakeholders to identify and account more consistently for the full range of social policy obligations of government.”

How to Comment

To access Exposure Draft 67 and its summary At-a-Glance document, or to submit a comment, visit the IPSASB website at www.ipsasb.org. Comments on the Exposure Draft are requested by May 31, 2019.

Exposure Draft, International Standard on Quality Management 1, Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements - Previously International Standard on Quality Control 1

To ensure that firms’ systems continue to be robust and effectively support high-quality audits and other engagements, the IAASB has proposed various enhancements to address firms’ systems of quality management, previously known as systems of quality control. This Exposure Draft includes a new proactive risk-based approach to an effective system of quality management that establishes the foundation for consistent engagement quality. Other enhancements include:

- Increasing firm leadership responsibilities and accountability, and improving firm governance;
- Modernizing the standard for an evolving and increasingly complex environment,
including addressing the impact of technology, networks, and use of external service providers; and

- More rigorous monitoring of quality management systems and remediating deficiencies.

This memorandum should be read in conjunction with the overall explanatory memorandum, The IAASB’s Exposure Drafts for Quality Management at the Firm and Engagement Level, Including Engagement Quality Reviews.

Respondents are asked to respond separately to each of the exposure drafts and the overall explanatory memorandum. We request that comment letters do not include tables as they are incompatible with the software we use to help analyze respondents’ comments.

Updates World Congress of Accountants (WCOA) 2018 Sydney – Australia

International Conference Centre

The Sydney event has attracted delegates from across the globe, keen to put their learnings into action. With close to 6000 WCOA delegates, the halls of Sydney’s International Conference Centre was buzzing. They were filled with accountants and related professionals from various countries, speaking different languages and representing a vast range of companies. It’s no surprise host nation Australia led the delegate count with 2725, according to the statistics. The second largest contingent, however, is from Nigeria – 749 delegates flying 18 hours from Lagos to be in Sydney for the week. More than 100 delegates each were from the UK, New Zealand and Japan. Substantial numbers also arrived from Mongolia, Malaysia, Ghana and the US.
DAY 1

After four years of planning, the World Congress of Accountants (WCOA) 2018 was back in Sydney for the first time in 46 years. The quadrennial event, hosted by Chartered Accountants ANZ and CPA Australia, attracted 5500 delegates from more than 115 countries. They were immersed in vigorous discussion about the future of accountancy and elements of Australian culture, with Vegemite, koalas, sports and lifeguards featuring prominently.

Since the last congress, in Rome in 2014, global markets have been shaken by the uncertainty of Brexit, the rise of Bitcoin and the threat of trade wars. This year’s theme, “Global Challenges, Global Leaders”, emphasised the importance of ethics and integrity, and embracing disruptive technology and sustainability. The WCOA program featured 153 speakers, giving delegates an array of keynote presentations, master classes, sponsor showcases and exhibitions to choose from.

The Monday morning workshop sessions included broad-reaching topics, from what Shakespeare taught us about leadership to dealing with the changing digital landscape and strategies to help tackle difficult everyday business issues. A presentation by Gordon Beal, Vice President of Research Guidance and Support at CPA Canada, covered one of the humanity’s most pressing issues – climate change – and why it’s essential accountants understand the impact it has on global businesses. “It’s not about creating climate change experts,” Beal said. “It’s about how professional accountants apply the skills and competencies they already have in their tool belt in helping their organisations become more adaptable and to integrate the issues of climate change into the way they look at strategy, risk, their operations … in fact, the way they look at their fundamental business models. “I really believe we need to provide leadership in this space.”

The afternoon sessions covered other vital issues, including the rise of automation, trust within financial institutions and sustainability. Jamie Lyon, the Interim Director of the Association of Chartered Certified Accountants, ran a session called “Robotics: Unlocking the Automation Prize in Finance”. Having completed a global study on robotics with 2700 respondents three months ago, Lyon concluded automation would change accounting for the better. “The main message I want people to take away is opportunity,” he said. “Automation can start to free up finance teams from pretty mundane, repetitive work and instead transition into more challenging work and that’s got to be a huge prize for CFOs.” According to Lyon, a robot completed a particular task in 1.5 hours while it took an accountant 15 hours. This gave accountants time for more important work.

The rise of automation is a pressing issue for the industry, with other sessions covering how accountants can stay relevant. One presentation discussed how accountants could save the world by adhering to the UN’s sustainable development goals, and another looked at the ethics involved in handling other people’s money. Many delegates took advantage of the relatively small Monday attendance to visit the vast Exhibition Hall. Among the exhibits was CPA’s virtual reality (VR) experience, which was played by 150 people within the first four hours of opening. This three-minute experience, created by Melbourne-based Liminal 360, involved saving a koala manufacturing company from a $10 million loss. Delegates were invited to do the VR goggles and turn a loss into a profit. “Even though it’s gamified, it’s about a serious finance task, and that’s why people are enjoying it,” said Loretta Ross, CPA’s Learning and Development Manager. “It relates to what they do in their day job.”

As well as entertaining delegates, the VR game has a strong educational message. “We wanted to show the importance of a financial decision on the operation of a company in whether [it] was successful or not.” By collecting feedback from those trying the VR experience, CPA is testing its viability as part of future learning programs. “We want to push the barriers, we want to do something different, and so this is the start of our journey.”

At the ICC Sydney Theatre, final preparations were made for the WCOA 2018 opening
ceremony. Katy Alexander, Creative Director from Heckler, worked with WCOA board members to capture the conference mission. “We tried to bring out the conference’s main themes of trust, sustainability and the future, and link these to both the accounting profession and our own Australian heritage,” she said. The ceremony featured strong links to the Australian outback and indigenous culture, particularly through the use of colour, sound and costume. It concludes with dancers from Legs on the Wall performing alongside custom-designed graphics that represent the technological and global future of the accounting profession.

DAY 2

The second day was the official beginning of the 20th World Congress of Accountants, with an action-packed schedule focusing on the theme of “purpose”. Traditional indigenous performances at the opening ceremony gave delegates a taste of Australian culture, while a keynote address from IFAC President Rachel Grimes officially welcomed accountants from across the world. Economic historian Professor Niall Ferguson started the congress by delivering a keynote speech that critiqued international economic policies. He looked at the likelihood of the world heading into another global financial crisis, and concluded the odds were high. “The consequences were not and are not always considered by policymakers,” he said. With a “purpose” theme, morning and afternoon sessions looked at what accountants should aim for, and whether they should be taking a leap of courage into a business venture or blowing the whistle on corporate fraud.

A stand-out presentation was by Nadine Champion, a martial arts gold medalist who drew on her experiences to empower audience members. Having suffered three torn ligaments, breaking her hand and being diagnosed with cancer but still succeeding as a martial artist, she encouraged businessmen and women to take that leap of faith. “If you don’t start, you’ll never find out what you’re capable of,” she said. “Never quit anything in your life until you try again 10 times.”

Trust within the financial sector was a prominent issue of the day, with many sessions and the keynote speech covering the accountants’ ethical code. A panel called “The truth about truth telling” discussed how accountants must sometimes make hard choices and become a whistleblower to maintain a company’s integrity. Another panel – “Assurance of the future – building credibility and trust” – gave accountants the tools to develop trust with clients and colleagues. Reimagining the accounting profession itself was on the minds of CPA Canada’s Tashia Batston and Gordon Beal, who spoke about their organization’s Foresight program. “Technology will continue to disrupt business models and alter the future of work,” Batston said. “The new norm for professional accountants will be to anticipate change, understand the implications for the businesses they serve and ultimately be a trusted partner to help businesses adapt and succeed into the future.”

The final keynote speech continued discussions about trust by examining the accounting scandals that shocked the world. Diana Henriques, an investigative reporter on financial crime, encouraged major financial firms always to be wary of their workers, no matter how trustworthy they appear. “The biggest risk for companies is those who know it the best,” she said. She used the example of Bernard Madoff, who ran one of the biggest Ponzi schemes of all time with a combined debt of US$17.8 billion in cash. “All you need [for a Ponzi scheme] is a trusted liar and a bank account,” she said. Henriques interviewed Madoff behind bars, calling him a “trusted criminal”.

Michael Woodford spoke of his experience exposing the biggest and longest financial scandal in Japan’s history. Woodford was CEO of optics and camera company Olympus for two months when he discovered irregular payments worth $US1 billion. His whistle-blowing forced all 13 Olympus board members to resign. Several were also arrested, including the former CEO and chairman. “They wouldn’t accept me in Japan [after that], because to them I’d bitten the hand that fed me,” Woodford said. “And for them, that’s much worse than corporate fraud.” Woodford left his audience on a cliffhanger after saying he was fired from the Olympus board:
“You’ll have to buy my book to find out the rest of the story.”

Such heavy-duty topics were broken up by light-humoured fun in the Melbourne Cup-themed Exhibition Hall. Delegates watched horses run, made bets and drank champagne or orange juice, with a few sporting confused looks about this peculiar Australian tradition. There was even a sweepstake, with delegates sent a push notification of their lucky number. The crowd cheered as outsider Cross Counter made a triumphant final dash and won the race, showing a real sense of purpose.

Day 3: Practice what we preach

All talk centred on what accountants must do to get it right – now and in the future, writes Daniella Scotti. Former Australian cricket captain Ricky Ponting put WCOA’s day-three theme of “best practice” in sporting terms. “In cricket, it was always about trying to find ways to get better, to lead by example with everything that we did,” he said. “It was about setting new boundaries and trying to find ways to live up to those values every day.” Despite long queues, WCOA delegates were able to spend some time with the cricketing legend. “It was a bit of fun, something to break up the day,” Ponting said. When delegates weren’t grabbing a photo with Ponting, however, they spent the day understanding more about the meaning of best practice – for them and their profession.

Artificial intelligence (AI) and block chain technology were popular and relevant topics during morning and afternoon sessions. Leading AI expert Dr Ayesha Khanna began the morning by speaking to a packed auditorium just two hours after landing in Sydney. This session turned into a must-attend event for delegates, with Khanna saying AI is a “huge opportunity to improve the system”, while noting it goes beyond the accounting world. “If you’re an entertainer, if you’re a cook, if you’re a lawyer … you will run into the need for data, technology and AI,” she said. Khanna’s Q&A, facilitated by Holly Ransom, was popular – more than 25 questions were lodged before it commenced. Khanna left delegates with the challenge to “start knowing what is happening to your industry so you can be ahead of the curve”.

Brian Forde, Senior Lecturer for Bitcoin and Block chain at the Sloan School of Management, spoke about the impact of digital currencies and block chain. He alluded to the Gartner “hype cycle” by describing the Bitcoin trend as “going down the peak of inflated expectations into the trough of disillusionment”. Contrary to trends, Forde remains optimistic about block chain. He predicted “in a couple of years, everyone will say they would rather go without coffee than without block chain”.

A panel discussion about “the innovation-led finance function” included CPA Canada Chief Executive Officer Joy Thomas, DBS Bank Managing Director Jacqueline Chan, Australia Post Group Financial Officer Janelle Hopkins and Cochlear Global Planning and Finance Transformation Controller Daniel Papallo. The 1300-strong audience was asked a poll question: “What would you say is the No.1 challenge you and your finance team face?” The most popular answer was “building an innovative culture”, closely followed by “dealing with change”. Chan said that it’s about “taking the lessons and moving on”. Papallo paraphrased Thomas Edison: “We have not failed. We’ve just found 10,000 ways that won’t work.” Thomas said professional accountants need to be agile and able to adapt quickly to changing operating environments. “Collectively, we must be future-focused, recognizing that change will continue to disrupt business models and alter the future of work but also create new opportunities,” Thomas said.

Meanwhile, Hollywood and Bollywood filmmaker and scholar Shekhar Kapur implored delegates to find their passion and unleash their inner storyteller. Free keep cups, reusable bags and water bottles, such as those from sponsor A4S, have been hard to miss at the congress, displaying WCOA’s commitment to sustainability. WCOA Executive Organizing Committee Chair Olwyn Connolly said she hoped this conscious effort will “trigger a conversation or an opportunity to do more”, given it is the “best practice of the future”.
Day three ended on a high, with best-selling author and popular TEDx speaker Sir Ken Robinson mixing humour with wisdom. He said creativity and innovation are the lifeblood of organizations exposed to globalization, increased competition, digital disruption and diversity. He asked the room full of delegates to raise their hand if they considered themselves “creative”, and very few did. “An awful lot of you gave yourself low ratings for creativity because there’s a common assumption that when you ask people if they’re creative, what they think you’ve asked them is, ‘are you artistic?’” he said. “The fact is creativity is a function of intelligence. Some of the most creative people I know are mathematicians, scientists … you can be creative at anything at all. It’s about having original ideas that have value.”

As delegates headed to enjoy the evening’s Gala Event, most walked away with a greater insight into what “best practice” means in 2018. Delegate Fanisa Lamola, Executive Director at the South African Institute of Chartered Accountants, said: “Like in [Khanna’s] artificial intelligence session, you can never say you have reached the climax of a practice – the more you work on it, the more you improve.” Justin Ikechukwu Nwosu, an accountant for ICAN and lawyer from Nigeria, said: “We are a developing country. We are not there yet like the developed world, but we will get there.”

Day 4: Ready for the future

The final day focused on the accountant’s future, technology and the next generation, writes Vanessa Lim. Accountants have been told to be successful in the future, they will need to embrace teamwork, communication, leadership and their soft skills. In the final keynote of the conference, LinkedIn Australia and New Zealand Managing Director Matt Tindale presented data that showed the skills necessary for accountants to thrive in the modern world. Kellie Hamilton, WCOA Executive Committee Member from CPA Australia, explained accountants were encouraged to take this knowledge back to excel in their profession. “It’s really about our delegates thinking about what it means for them and what they want to be able to do to actually be the change and drive the profession forward,” Hamilton said.

“What we’re starting to see now is that technological and software skills are starting to increase in terms of interest levels and requirements from employers. There’s also evidence that those who demonstrate soft skills on their profile are hired quicker than anyone else.” Technology of the future was on display with a virtual reality (VR) experience produced by CPA in the Exhibition Hall. “The VR experience will enable us to better prepare for the future of learning and the future of the finance profession,” said CPA Corporate Learning Solutions Consultant Richard Callender-Reid. “I think having some familiarity is out there and getting used to a virtual experience will definitely enable them to do more [for the finance profession].”

With new technologies, however, come new threats – including cybercrime. Enlightening the audience on the issues was former hacker turned security expert Keren Elazari. “Criminals are continually updating their game, changing what they do to make you download malicious content,” she said. Elazari encouraged action with practical ideas to minimize the threat of cyber-attacks. She also appeared in the keynote session, “Global Risks and future shocks”, alongside former UN Secretary-General Ban Ki-Moon, Group Chief Risk Officer for Zurich Insurance Group Alison Martin, and former Greece finance minister Yanis Varoufakis. Moderated by television interviewer Tony Jones, the panel discussed accountancy’s global role from cyber warfare to global warming. “Everyone here needs to make their community leaders accountable,” Ki-Moon said. “You’re all accountants; you need to make them accountable.”

Embracing the evolving role of finance professionals and the future generation was the Generation Next program run by Olwyn Connolly, Leader of Engagement and Innovation at Chartered Accountants Australia New Zealand. The program aims to open the perspective of accountants starting their careers. “We thought long and hard how to best give them content that we hope would really make a difference with how they look at professional accountants and where
their careers can go,” Connolly said. Generation Next delegates attended sessions such as “Young Accountants Changing The World”. That session featured young accountants such as Shelley Cable, who advocated the importance of indigenous empowerment in the finance sector.

“What’s very close to my heart is increasing the numbers of indigenous accountants,” she said. “There’s too much at stake not to dedicate my entire life to it, so I’m glad to see so many aspiring Indigenous accountants in the audience today. “Who would have thought that accounting had the potential to protect human rights?” WCOA delegates did their part by offering gold-coin donations for the Gunawirra charity at the book cafe coffee cart. The charity focuses on indigenous welfare and keeping the Aboriginal culture alive, and had been teaching delegates about indigenous culture during the week at WCOA. By the end of the conference, they had raised $1220.65. It was yet another promising move towards the future.

Events

WCOA 2018 was not just all work and no play. Thursday’s event allowed delegates to enjoy a night cruise around Sydney’s famous harbour. With iconic sites to see, including the Harbour Bridge and Sydney Opera House, and with food, drinks and entertainment provided, the night was a perfect opportunity for delegates to relax and unwind after a busy week. Below are the pictures of Ghana’s delegation to the conference:
ICAG NEWS TIT-BITS

The Institute of Chartered Accountants (Ghana) in collaboration with the University of Ghana Business School (UGBS) has appointed Professor Michael Ofosu Mensah as the occupant of the UGBS/ICAG Chair of Accountancy for 2018/2019. The professional chair was established to create the opportunity for research in the field of accountancy to benefit both academia and industry. Prof. Ofosu Mensah is a Professor of Accounting, occupant of the Leadership Chair in Business Education, and Dean Emeritus at Kania School of Management, University of Scranton Pennsylvania, USA. Prof. Ofosu Mensah obtained his BSc degree in Accounting in 1975 from the School of Administration, University of Ghana (now University of Ghana Business School), and an MBA degree from University of Louisiana and PhD in Business Administration from University of Houston, both in USA. He has taught at a number of institutions, including University of Houston, Prairie View A&M University and University of Scranton. He was Head of Accounting at Scranton until his appointment as Dean of Kania School of Management in 2005.

ICAG Establishes Accountancy Chair at UGBS

Prof. recently stepped down as Dean after thirteen years of service.

Prof. Ofosu Mensah has been visiting professor of Accounting at the Capital University of Economics and Business in Beijing, China, and at the National Management School in Chennai, India. He has also acquired corporate experience in management and corporate accounting.

ICAG Organises Workshop for Examiners

The Institute of Chartered Accountants (Ghana) in its quest to strengthen the professional qualification and further align it with international best practice, organized a workshop for a section of its examiners as well as moderators on 31st January, 2019 at the Secretariat.

The workshop was facilitated by Prof. Edward Marfo-Yiadom, Dean, University of Cape Coast School of Business, and a Council member.

The objective of the workshop was to train examiners and moderators using the workshop-based approach, and also to enhance their skills.
in moderating and marking the professional examinations.

The workshop had three sections; two sections for different group of examiners and a section for moderators. Each section lasted two hours with the programme starting at 9:30 am and ending at 5:30 pm.

The facilitator brought to bear major highlights regarding the November 2018 conference marking and pointed out aspects of marking that needed further improvement.

Eighty six (86) examiners and moderators attended the workshop.
FRATURES

General Overview Of The Financial System
In Ghana

Frank Yao Gbadago

Following the upheavals among the general populace following the recent turbulence within the banking sub-sector of the financial system of the Ghanaian economy, it has become necessary for various stakeholders in general and professional accountancy professionals in particular to once again update their knowledge on the nature, categorization and operations of the financial system within their economy. On this basis, this article discusses the general overview of the Ghanaian financial system for the knowledge of the readers.

1.1 Introduction
The world has come to the point where almost everything, transaction or exchange among individuals, institutions or nations is represented in money or financial value term(s). This makes money, otherwise known as finance, a very critical commodity in the life of any economic unit. Also, since almost every business transaction or exchange is expressed ultimately in terms of cash (finance), every activity or exchange within the enterprise can only be carried out with finance (money or cash). This makes money (finance) the life blood of businesses. Just like any other commodities, finance is not readily available (in other words scarce or limited in supply).

There is, therefore, the need to always ensure that the available finance (money) is efficiently and effectively utilized so as to achieve the firm’s objectives. As business entities operate to generate finance, they equally need finance to do so. As such, those economic units with sufficient finance (resources) will be able to generate more finance as they are able to finance their operations more smoothly than those without finance. Consequently, to ensure that even those economic units (such as individuals, institutions or nations) without finance are better able to finance their profitable operations and ventures, economic systems of nations across the globe, have systems in place to facilitate this exchange among various economic units (known as financial system) and those involved in this system of facilitating exchange of finances and other economic resources among various economic units usually referred to as financial institutions. The recognized place, location, platform, or network where the above mentioned exchanges or interactions between various participants takes place is known as a financial market: That is, the players in the financial system (comprising the banks, non-bank financial institutions and their regulatory authorities), thus channel finance (funds) from people who might not put them into productive use to those who can do so thereby improving the efficiency of the economy. The function and activities of these economic unit(s) is the focus of this section as discussed below. Your understanding of how these entities are managed and/or operated is of utmost importance to you as an individual, professional accountant (employee), or entrepreneur. As such, you are likely to interact with them at one point in time in your career lives.

1.2 Financial Institutions
Financial institutions are the businesses or organizations (in other words those entities) involved in the collection and distribution of money/finance within economies across the globe. The financial institutions develop the methods and procedures that allow them to mobilise liquid financial resources from the surplus economic units (mostly in the form of deposits) and lend these resources out to deficit economic units (borrowers). In principle, financial institutions develop the financial securities and provide the financial markets where lenders, borrowers, investors, speculators, and hedgers can meet to exchange financial resources (money and/or financial assets) for future payments in the form of interest, dividends for ownership interests such as stocks; for the payment of future contingent claims such as with options and derivatives; and for sharing risk such as the pooling of insurance premiums for financial protection. These pooled financial resources and/or assets are then channeled out to the public through loans and/or investments to businesses and other organizations so as to enable them to finance
specific projects or to provide financing for other needs.

1.3 Functions of Financial Institutions and Financial Intermediaries

In practice, as business entities make money by supplying products and services that are desirable; it follows that the more desirable the products or services are, the more income that business is likely to earn. Thus, to generate greater returns on their investments, businesses need finance; and those individuals and institutions that have excess finance to offer (financial institutions) will be of immense importance to businesses.

Consequently, in their desire to earn greater returns, financial institutions help to direct financial resources to the most successful businesses, which allows them to grow faster and supply even more of the desirable goods and services. This is how financial institutions greatly contribute to the efficient allocation of economic resources within economies across the globe. From, the above discussions, we could postulate that financial institutions are those institutions and organizations that are involved in financial intermediation. Hence, financial institutions are also referred to as financial intermediaries. It must be stated that financial institutions and financial intermediation are what actually make the financial markets work. Thus, without financial institutions and their intermediation activities, financial markets may not have existed nor have been as efficient and productive as they are.

Financial intermediaries or institutions usually profit by earning returns on the various intermediary activities and operations that they normally undertake (investments) far more than what they actually paid to their providers of the financial resources made available to them. The assets of any financial institution and intermediary are in the forms of loans, stocks, bonds, and real estate that are the company's investments and its liabilities are its obligations to its customers, which includes deposits, insurance policies, and pension payouts etc. In order to carry out their intermediation activities and operations well, so as to earn adequate return without actually losing their initial investments:

a) financial intermediaries mine for information, evaluate the mined information (so as to decide whether to give out the funds available with them) necessary for investment decisions; and, if possible, have an insurance policy in place (especially, where the perceived risk is more than what can be accepted and how the investment opportunity promises to be for instance profitable), and consequently sharing information;

Fig.1: Diagrammatic Representation of Functions of Financial Institutions and Financial Intermediation

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b) put systems and procedures in place to ensure their clients and the public have confidence and trust in them to guarantee continuous inflow of funds (mostly in the form of deposits and investments) from the surplus economic units such as the individual households, firms and governments (that have spent less out of the incomes they have earned and therefore have saved their earnings) to be advanced to those with a deficit (that is those economic units such as individual households, firms and governments that have less income than their spending needs and therefore have no finance to finance their investment opportunities due to deficit finance) thereby virtually mitigating potential risks; and

c) specializing in the niche market or segment they can best serve with the nature of their financial intermediary activities and hence largely reducing transaction costs.

1.4 The Financial System and its Structure
This comprises a complex and interweaving network of systems and platforms that facilitate the provision of financial services and intermediations for various clients and/or the public, including the market in which these players meet for exchanges. It is one of the most important and well-regulated sectors of the economy of any nation. Typically, in Ghana, it actually comprises different types of financial institutions and intermediaries, namely:

a) The banks and depository institutions, which include the central bank, universal banks (commercial, investments, merchant banks), rural and community banks (RCB), and savings and loans;

b) Non-bank financial institutions such as finance houses, discount houses, and leasing companies;

c) Micro-finance institutions;

d) Insurance companies;

e) Mutual funds; and

f) Pension houses.

These institutions and intermediaries are highly regulated and monitored by the government through its appropriate agencies and authorities as the case may be. For instance, Bank of Ghana (BOG), as the central bank, supervises, monitors and/or regulates the banks including the business of banking and its networks. It is responsible for their licensing as well. In the same vein, Apex Bank, as the designated regulator of the RCBs, supervises, monitors and/or regulates the rural and community banks, including their operations. Other regulators are the Securities and Exchange Commission (SEC) (responsible for regulating securities and their exchange), Ghana Stock Exchange (regulator of the stock exchange and its operations including listing and delisting of entities together with their securities), the pension authority (being the regulator of pension and pension fund operators) etc.

As at September, 2016, Bank of Ghana (BOG) had licensed 33 banks with universal banking licenses, which are referred to as the class 1 banks; 66 non-bank financial institutions as at January, 2016 (see table 1 below for details); 140 rural and community banks, 69 micro-finance institutions comprising of 10 financial NGOs; 28 money lenders and 31 micro-finance providers as at July, 2016.

Table 1: Summary of Non-Bank Financial Institutions as at January, 2016

<table>
<thead>
<tr>
<th>S#</th>
<th>Nature of Business of NBFI</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Finance House</td>
<td>23</td>
</tr>
<tr>
<td>2.</td>
<td>Remittance Companies</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>Credit Reference Bureau</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Savings &amp; Loans</td>
<td>31</td>
</tr>
<tr>
<td>5.</td>
<td>Leasing</td>
<td>2</td>
</tr>
</tbody>
</table>
a) The Banks and Depository Institutions
These comprises banks and other depository institutions, which include the central bank, universal banks (commercial, investments, merchant banks), rural and community banks (RCB), and savings and loans as discussed in turn.

i. The Banks
The banks are depository institutions that accept deposits and/or issue cheques on the deposits collected. They then use the deposits collected to give out loans and advances. In Ghana, such institutions are referred to as universal banks. They are different from other depository institutions such as the savings and loans companies, rural and community banks and credit unions as discussed under the other depository institutions. Thus, the banks as depository institutions collect money in the form of deposits from the depositors and lend the money out to borrowers mostly in the form of loans. Lending has risks because of information asymmetry between the lender and the borrower. Borrowers know a lot more about their ability and willingness to pay than lenders do. This is why it is risky for people to lend out money directly to others. The banks and depository institutions mitigate this risk by assessing the creditworthiness of borrowers for possible loan defaults, monitoring the borrowers after the loan is disbursed, and collecting on delinquent accounts. They also convert the short-term deposits (that most savers prefer) to the long-term loans (that businesses desire).

Another major service offered by depository institutions is a convenient payment system through the clearing houses and networks across the economy and beyond. Money can be transferred by cheque, electronic funds transfer, or by credit or debit card. This eliminates the need for people to have a large amount of cash on hand, which is very risky, and it provides a proof of payment.

International banks, in addition to the above mentioned functions, provide foreign exchange services (thus converting the currency of one country for those of another). They also provide exporters and importers with services, such as letters of credit, that facilitate international trade and payment.


It should however, be noted that due to the recent turbulence including the recapitalization, revocation of operating licenses, and/or consolidation of banks by the regulator as well as merger and acquisitions among banks, there are now 23 universal banks currently licensed by Bank of Ghana to operate the business of banking in Ghana as at January 31, 2019 namely:
1. Access Bank (Ghana) Limited,
2. ADB Bank Limited,
3. Bank of Africa Ghana Ltd,
in order to promote accelerated economic growth through poverty reduction thereby improving the living standards in the rural settings mostly dominated by agricultural activities.

The RCBs thus mobilize deposits from their clients and the public (by offering chequeing and savings accounts and other securities) and thereafter lend the mobilized funds to the deficit economic units through loans and other products and services. Currently, BOG has licensed 140 RCBs and the Ashanti Region alone hosts 25 of them. Although the initial focus of these banks was on farmers, they now serve an array of customers including commercial and other entities. Examples of RCBs currently registered with BOG are Atwima Rural Bank Ltd, Foase, Kwamaman Rural Bank Ltd, Kwaman, Kumawuman Rural Bank Ltd, Kumawu, Odotobiri Rural Bank Ltd, Jacobu, Otuasekan Rural Bank Ltd, Kofiase and the rest.

Interestingly, even though the law that established these RCBs requested them to operate within their traditional catchment areas, the trend nowadays is that most of these RCBs are opening up their operations or branches in the urban and city centres for survival and profitability reasons among others. The importance of these RCBs to the Ghanaian economy is that the majority of Ghana’s local cocoa transactions are effected through these banks. In addition, it is believed that payment of salaries of government workers who are on the Controller and Accountant General’s payroll (largely teachers and others in the rural and para-urban areas) mostly have their payments processed through RCBs’ platforms. Further, RCBs mobilize financial resources from the public through sales of shares (equity), clearing of Akuafo cheques, customers’ deposits and savings among others through their operations.

2. Savings and Loans Companies

These are depository institutions that mobilize funds from the public through savings, time and chequeable accounts or deposits. Examples of these institutions in Ghana are Iwze Savings & Loans, First Allied Savings & Loans, etc. There
are currently 31 licensed savings & loans institutions in Ghana.

3. The Credit Unions
The Credit Unions are usually referred to as financial cooperatives who lend to their members only. Their resources are mobilized through contributions of the members usually referred to as shares that are then loaned to them. Typical Credit Unions are usually formed by institutions so as to pool resources to help members finance their personal needs such as ECG Cooperative, UEW Cooperative, St Peter’s Cooperative etc.

b) Non-Bank Financial Institutions
Non-Bank Financial Institutions (NBFI) are those financial intermediaries apart from the banks that collect money as savings, deposits, premiums, contributions, and/or by selling securities for specific purposes, and then invest the money collected for higher returns. The NBFI’s may include such entities that may be seen as depository and non-depository institutions in nature such as finance houses, discount houses, and leasing companies among others as outlined in detail below.

i. Finance companies:
These companies get money by selling securities, mostly commercial paper, in the money market to other businesses, including banks, and then lend the money out to individuals or businesses at a higher interest rate than what they pay on their securities. There are three basic types of finance companies, namely acceptance companies, small loan companies, and commercial credit companies. The small loan companies (also known as direct loan companies) lend money to individuals. The acceptance companies or sales finance companies buy retail and wholesale commercial papers of consumer and capital goods dealers. Commercial finance companies (also known as commercial credit companies) loan money to manufacturers and wholesalers that are secured by the borrowers’ account receivables, inventory, or equipment.

ii. Consumer Credit Companies

Some financial institutions, such as consumer credit companies (or financial supermarkets), offer several types of products and services (such as hire purchase, short term credits to meet purchase of household appliances, etc) that traditionally have been served by separate financial institutions.

iii. Lease Finance Companies
Finance lease companies provide finance mostly for acquisition of long term capital assets that the traditional banks could not offer, usually at a lower interest rates. These underlying assets are thus used as collateral security to secure the loan facilities with these companies. This helps to eliminate issues of lack of security when accessing funding from the traditional banks.

c) Non-Depository Institutions
The non-depository institutions such as the insurance companies, pension funds, securities firms, and finance companies as the name suggests do not accept deposits from clients and the public but rather offers financial securities and/or services in the form of premiums, contributions, and/or by selling securities for specific purposes, and then invest the money collected for higher returns. There are various types under this classification as discussed in detail below:

i. Insurance companies:
These institutions pool the premiums of many people and businesses with the promise to protect each from financial disaster resulting from rare events.

ii. Pension funds:
Pension funds or institutions collect contributions from workers and businesses to invest so that workers can retire with an income provided from the invested funds. Pension funds are set up by businesses, labor unions, or governments for their employees. Employers and employees make contributions from payrolls into the fund. The fund manager then invests
the money to earn a return that will allow it to pay out benefits according to a prescribed schedule based on actuarial estimates. Contributions to the fund and the returns earned by the fund are usually tax deferred.

**iii. Securities firms:**
These include firms such as stock brokers or future merchant commissions who provide the institutional foundation that allows investors to invest their money in the various financial markets by providing current market information, and allowing the investors to select markets or limit orders to buy or sell securities through their computer system. Securities firms also provide clearing and settlement systems so that investors can easily clear and settle trades.

d) The Central Bank
Central Bank is a financial institution that has the most influence over their economies, since they determine the money supply and key interest rates, and regulate and monitor other financial institutions, especially depository institutions. In Ghana for instance, the Bank of Ghana is established and accorded such responsibility and power to act as the central bank of Ghana. The roles and functions of the Bank of Ghana, like other central banks, are as summarized below:

1. As regulators and overseers of the financial institutions. Thus, central banks issue and implement many banking regulations and require institutions to have a minimum amount of capital compared to their liabilities.
2. They may audit financial institutions to ensure that the proper procedures are being followed and that they are not taking excessive risk.
3. Central banks provide services to financial institutions such as clearing and settlement services, especially for cheques and electronic money transfers.
4. The main function of central banks is to regulate the money supply (that is, the monetary policy). The money supply in an economy is expected to grow proportionately with the size of the economy. At the same time, the quantity (or supply) of money in an economy should be relatively stable. Where the quantity of money in the economy grows faster than the size of the economy, inflation may be the resulting consequence. This may cause people within the economy to lose faith in the country’s currency. Hence, causing them to save less as more of their earnings will be spent if they are to maintain their standard of living. Consequently, people on fixed incomes may be hurt; and businesses may not be able to plan effectively as uncertainty about the future value of money may be so pervasive. However, where the money supply in the economy decreases relative to the size of the economy, there may be deflation as the resultant consequence. This deflation may cause people to hold onto their money since it will be more valuable in the future. It must be noted, however, that decreased spending in an economy may cause businesses to lose income, which then may lead to unemployment. The increases in unemployment may also cause demand to fall even more, causing a spiral of deflation.
5. Central banks control the money supply either by setting key interest rates or through the creation and destruction of money usually in the form of buying or selling government securities.
6. Central banks are the fiscal agents of their countries.
7. Central banks provide banking services for their domestic governments.
8. They collect tax receipts and provide payment services on behalf of their domestic governments.
9. They issue and retire government securities.

**1.5 Financial Institutions Regulation**
The fundamental characteristic of all financial institutions is that they accept public funds. As such, they are heavily regulated. From the foregoing discussions, central banks have assumed a critical importance in almost every economy due to the roles and/or functions they play. Most people are not willing to put their money in financial institutions if they do not believe them to be safe. It is apparent that,
should people keep their money instead of saving or investing with financial institutions, the allocation of economic resources would be much less efficient, if not impossible. Due to all of the foregoing reasons, financial institutions of nations are heavily supervised and regulated.

For instance, in Ghana and globally, financial institutions are regulated by governments and government agencies that promulgate rules and regulations for the industry and monitor these institutions for compliance. As it were, the central banks of nations regulate the depository institutions so as to ensure the safety of the savings of depositors.

The Securities and Exchange Commission (SEC), on the other hand, regulates the securities industry and the Insurance Commission supervises and regulates the various players and participants in the insurance industry just like the Apex Bank, an arm of the central bank in Ghana, regulates the rural and community banks. The Pension Authority and the SSNIT regulates and license pension funds operators. Insurance companies are mostly regulated by state law and guarantees by the states vary widely. All states have solvency laws to maintain the solvency of its insurers by requiring minimum amounts of capital and guaranty funds to help failing insurers, or to, at least, maintain coverage and pay the claims of customers of insolvent insurers.

1.6 Economic Importance of Financial Institutions

The credit crisis of 2008 and 2009 underscores the importance of financial institutions to an economy. Businesses, for instance, depend on financial institutions for money. When they can't get it, unemployment rises, mortgage and other credit defaults increase, people and businesses stop spending money, which reduces income for other people and businesses, and reduces tax revenue for governments, which causes them to cut spending, which causes more unemployment, and so on. This is why governments around the world injected trillions of dollars into their financial institutions during the credit crisis to prevent their collapse and the subsequent collapse of the economy.

Further Reading List:


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The Pre-Audit Role: Internal Control or Internal Audit

Kwame Boakye

Introduction

The Pre-audit role has been widely used as an activity to ensure that transactions are accurate, in all respects, even before the payments for those transactions are made. The prime goal of any pre-audit activity is to ensure that deficiencies are identified and rectified even before cash is parted with. There has been varying opinions as to where exactly the pre-audit function falls within a firm’s organogram. Is it an activity to be performed by management or to be left to the internal auditors? Faced with this dilemma, firms quite often entrust the pre-audit role to the Internal Audit Unit. Is this the right thing, in the tenets of a sound corporate governance structure?

The objective of this article is to break the ice, dive deep into the clearer distinction of pre-audit, internal controls and internal audit to help ensure that the internal audit unit is in the best position to deliver on its core mandate as an independent, objective assurance and consulting activity.

What are Internal Controls?

Internal control, as defined by the Turnbull Report (1999), refers to “the policies, procedures, tasks, behaviors and other aspects of an organization that taken together:

- Facilitate effective operation by enabling it to respond in an appropriate manner to significant business, operational, financial, compliance and other risks to achieve its objectives. This includes safeguarding of assets and ensuring that liabilities are identified and managed;
- Ensure the quality of internal and external reporting, which in turn requires the maintenance of proper records and processes that generate a flow of timely, relevant and reliable information from both internal and external sources;
- Ensure compliance with applicable laws and regulations and also with internal policies.”

Simply put, internal control processes, if implemented well, adds value to the organization by considering outcomes against plans and then proposes ways in which deficiency might be addressed.

It is a programme of activities established to catch and monitor potential exposure that could result in a significant error, omission, misstatement, or a fraud (Hightower, 2008). According to the report, a sound internal control reduces, but cannot eliminate, the possibility of poor judgement in decision-making; human error; control processes being deliberately circumvented by employees and others; management overriding controls; and the occurrence of unforeseeable circumstances.

In the accounting space, internal control procedures can be broken into seven (7) categories, with each designed to prevent fraud and identify errors even before they become problems. Below are the seven categories:

i. Separation of Duties: This involves splitting responsibility for bookkeeping, deposits and reporting. The further duties are separated, the lesser the chance of any single employee committing fraudulent acts.

ii. Access Controls: This involves controlling different parts of an organization’s accounting system through passwords, lockouts and electronic access logs. This will not only keep unauthorized users out of the system, but also provide a way to audit the system to identify sources of discrepancies.

iii. Physical audits: This includes hand-counting cash and any physical assets tracked in the accounting system, such as inventory, materials and tools.
iv. Standardized Documentation: Standardizing documents used for financial transactions, such as invoices, internal materials request, inventory receipts and travel expense reports, can help maintain consistency in record-keeping over time. Standard document formats also make it easier to review past records for discrepancy or fraud.

v. Trial Balances: Using double-entry accounting system adds reliability by ensuring that the books are always balanced.

vi. Periodic Reconciliations: Performing occasional reconciliations ensure that balances in the accounting system match up with those held by other entities including banks, suppliers and credit customers.

vii. Approval Authority: Requiring specific managers to authorize certain types of transactions can add a layer of responsibility to accounting records by proving that transactions have been seen, analyzed and approved by appropriate authorities.

The Internal Audit Function

Part of the implementation of a sound internal control system is the reviewing of internal controls to assess their effectiveness. This review process is to be done by Management and report to the Board (or Governing Council) on timely basis. For Management, this review should be done with the highest level of objectivity. A separate, independent unit within the organization called the Internal Audit Unit is tasked to perform among other things, this review.

Internal Audit is a function performed at specific times to assess: if the organisation has a good understanding of the risks that it faces; and if the controls put in place to mitigate risks are effective. According to the Institute of Internal Auditors (IIA), “the role of internal audit is to provide independent assurance that an organization’s risk management, governance and internal control processes are operating effectively.” There is a professional duty for internal auditors to provide an unbiased and objective view in the performance of their roles. To ensure this, internal auditors must be independent of the operations they evaluate.

While the Internal Audit function is performed by internal auditors, Internal Control is the responsibility of operational management functions. Another point of contrast is frequency. An internal audit is a check that is conducted at specific times, whereas Internal Control is responsible for checks that are ongoing to make sure operational efficiency and effectiveness are achieved through the control of risks (Manoukian, 2016).

Pre-audit

There are various explanations given to pre-audit as an accounting practice. Firstly, some define pre audit as an accounting practice used prior to the official examination of the accuracy of an organizations financial statements. This preliminary phase of an audit is used to establish the audit's scope and any special areas of concern. It is also used to gather background information and to request needed documents, records and information. A pre-audit may be conducted in the form of a written questionnaire that the auditor gives to the client.

The second widely used definition explains pre-audit as a system designed for the examination of vouchers, contracts etc., in order to substantiate a transaction or a series of transactions before they are paid for and recorded. For the purposes of this article we shall restrict the meaning of pre-audit to the latter definition. This practice has gained more popularity because of the need to identify and correct illegalities or fraud even before they occur. But the bone of contention here is who is really charged with the performance of this role? Is it the role of Management, as part of
their internal control activities, or the role of the Internal Auditors, as part of their independent assurance role? Answering all these questions require a microscopic look at the pre-audit role. risk control and compliance oversight functions established by management are the second line of defense, and independent assurance is the third.

We shall adopt The Three Lines of Defense Model to determine where to appropriately place the pre-audit role.

In this Model, management control is the first line of defense in risk management, the various risk control and compliance oversight functions established by management are the second line of defense, and independent assurance is the third.

This Defense Model basically provides some three main shields to guard against things going wrong in the organization. To effectively identify and manage the risks of things going wrong, all these lines of defense have to be highly efficient and effective in executing their core functions.

The First Line of Defense: Operational Management

As the first line of defense, operational managers own and manage risks. They are responsible for maintaining effective internal controls and for executing risk and control procedures on a day-to-day basis. The 2nd line of defense seeks to provide additional reinforcement to the 1st line. It seeks to ensure that all those risks of fraud that have bypassed the 1st line are identified and addressed. For all these initial controls to work effectively comes the independent unit – the Internal Audit – to continually assess the efficacy and effectiveness of these initial controls and report same to Management and the governing council. Internal auditors provide both the governing body and senior management with comprehensive assurance based on the highest level of independence and objectivity within the organization. Internal audit provides assurance on the effectiveness of governance and the controls put in place by management in the first line of defense.

From this we can confidently say that the pre-audit role falls under the first and second lines of defense and part of the operations of the organization. Internal auditors are supposed to review these controls and report to the governing body. Can the internal auditor be in the position to give an objective evaluation of the internal control measures if he/she is part of the control (operations)? Certainly not! Unfortunately, this has been the practice seen in most of our private and public sector...
companies. Internal auditors are rogued in the daily operations of the organization by way of pre-audit and the same time, are also tasked with reviewing the effectiveness of these controls (they are part of) to the governing bodies of those organizations. The result – a deficient, less objective evaluation report.

The Institute of Internal Auditors (IIA) defines Internal Auditing as “an independent, objective assurance and consulting activity designed to add value and improve an organization’s operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance process”. The definition by the IIA emphasizes the key word “independent”. But how would an internal auditor be independent if he/she is part and parcel of the performance of the same internal control activities he/she is to evaluate for effectiveness. To provide an independent and objective assurance service requires that Internal Auditors are detached from the operational activities of the organisation in all respect including control activities such as checking payments and contracts before such payments are made.

I would like to conclude in the words of Cann (2014) that the important role of pre-checking of supporting documents, contracts and other payments are the prerogative of Management. This prerogative is normally delegated to the Finance Department. However, most internal auditors in countries that do pre-auditing are of the concerns that asking the Finance Department to do pre-auditing increases the incidence of financial misappropriations because of laxity of finance staff in stopping false transactions.

Inferably, asking Internal Audit to be part of the internal processes of approving and authorising payments and contracts is an attempt to make Internal Auditors part of the operational side of the organisation. This has the tendency to incapacitate the Internal Audit Unit to offer an independent and professional assurance service to Management on the very activity to which they are a part of its implementation. Many have argued that the self-review threat and potential compromise of internal audit’s independence and objectivity can be managed with the proper separation of the pre-audit and post audit functions within the internal audit activity. Proponents of the performance of pre-audit functions by the Internal Audit Unit opine that any threats can be managed by ensuring that internal auditors with pre-audit responsibility do not participate in the post audit of the activities they pre-audit. Although the separation of pre-audit and post audit functions within the internal activity can mitigate the threats to independence and objectivity, it cannot eliminate the threats. Ultimately the Chief Audit Executive (Head of Internal Audit) who oversees the internal audit function has responsibility for all internal audit activities and is answerable for pre-audit and post activities.

Management in reducing the threat of asking Finance Departments to do pre-auditing and at the same time providing platforms for Internal Audit Departments to be independent and objective in their assurance and consulting roles should delegate the important role of pre-auditing to an Examination Unit or any other designated unit independent of Finance and Internal Audit Departments which has the training and capacity to offer such services on behalf of management. As much as internal auditors uphold the faith that Management hold in them by trusting them with the duty to vouch the existence and completeness of transactions before financial commitments are made, I would like to implore internal auditors to explain to Management the compromising nature of implementing internal controls on the assurance and opinion internal auditors give to Management, the very purpose which makes internal auditors with their sensitive organs of Management.

*The writer is an employee at the Directorate of Internal Audit, University of Cape Coast*
Three Imperatives for Taxing the Digital Economy

by Kevin Dancey, Chief Executive Officer, IFAC

The digital revolution is transforming economies, business models, and the lives of all citizens. It is dramatically impacting every aspect of economies, including the tax base and governments’ ability to raise revenues. And tax policy is at the top of the agenda in many countries. From the UK and India, to France, Germany, Malaysia and the US, you can see these debates front and centre in the newspaper, in politicians’ speeches, and on the minds of citizens. On behalf of the global accountancy profession, we are committed to advancing a global tax system that is trusted, relevant and resilient to the evolving needs of the 21st century.

A sustainable and vibrant global economy is one that will be efficiently, effectively and fairly taxed. But the tax challenges presented by digitalization raise very complex technical questions. How do you identify value creation for a company whose headquarters are in Germany, whose sales people sit in Singapore, whose users are global, and who earns revenue by selling adverts to other multinational enterprises? Let’s not be naïve – this is a big challenge and the debate is not about specific companies: it will likely prove inadequate to restrict any approach to just “digital” entities. The entire economy is moving to digital platforms.

The OECD has been addressing this issue within its BEPS Framework over the past half-decade. The current Consultation, issued on February 13 with responses due by March 1, represents a critical decision-making point. On behalf of the global accountancy profession, we strongly encourage pursuit of global consensus in development of taxation policy for the digital economy. We know this will be challenging, but unilateral action will only result in increased complexity, uncertainty and double tax, which will impair cross border trade and impede growth. In fact, we’ve been advocating for globally aligned practices for years. For more than four decades, IFAC has been working with international standard-setters to promote adoption and implementation of global ethics, audit, education and public sector reporting standards.

The global accountancy profession needs to be a part of the solution. According to research from IFAC, ACCA and CA ANZ, which took the pulse of citizens across the G20 on tax systems, professional accountants are the most trusted group by citizens in contributing to fairer and more effective and efficient tax systems. As a key player in the digital tax debate, we must use this opportunity to set ourselves on the right course for growth and sustainability. And here’s how: by sticking to a rigorous, global policy-setting process.

Imperative #1: Global Collaboration is Essential

It is in the common interest to maintain a single set of relevant and coherent international tax principles to promote economic efficiency and global welfare. Despite efforts to work towards a consensus-driven global solution, some countries have started to take unilateral action. Going it alone on policy for taxing the digital economy will increase regulatory fragmentation, which is harmful to the health, resiliency and growth of the global economy. Fragmented regulation is not only costly in terms of resources, but also in terms of added risk to the financial system.

Last year, IFAC and Business at OECD (BIAC), through a survey of senior compliance and regulatory leaders, identified the cost of fragmented financial regulation – more than $780 billion USD each year. This is unacceptable and unsustainable. However, collaboration for collaboration sake is not enough. Creating good, global tax policy is a rigorous and intensive process that requires identifying and pursuing clear objectives and transparent and open consultation. The particular aspects in the digital economy associated with identifying value creation and developing a coherent tax policy to address
them are challenging – but they need to be addressed collaboratively.

Imperative #2: Learning from the Past to Shape the Future

While the largest digital services companies weren’t quite so dominant at the turn of the 21st century, the dot com boom two decades ago can provide us important lessons for navigating taxing the digital economy. We can draw upon learnings from the Ottawa Taxation Framework, which was developed at the turn of the century, to address the challenges of then-emerging Internet enterprises. The Ottawa framework laid out several important principles to bring tax practices into the digital age. Arguably the central principle of the Ottawa framework is neutrality. In 2003, the OECD wrote: “Although many small vendors exist, the market is now dominated by a comparatively small number of larger well-recognized companies with established international names and brands that, in the main, existed before the Internet or were built up very rapidly from the early stages of the Internet boom.”

Sound familiar?

As we did then, we must continue working to collaborate on policy that balances accuracy and simplicity. It must be administrable by both developing and developed countries, and have a good dispute resolution mechanism. In addition to these principles, we also endorse many of the potential design considerations laid out in the OECD Consultation document, particularly those that seek to:

- Take into consideration different levels of development and tax administration capacity;
- Ensure a level playing field between small and large jurisdictions;
- Examine the potential effect of the various options on revenue and taxpayer behaviours;
- Limit compliance cost and administration;
- Keep in mind a principles-based approach;
- Coordinate between global rules and domestic rules; and
- Consistently apply the rules across tax administrations in multiple participating jurisdictions.

Imperative #3: Developing Tax Policy that Enhances Trust

Taxes are about many things – money, politics, incentives, economic policy, etc. As citizens, we all know how important taxes are on a personal basis. Strong and equitable tax systems are key to maintaining public trust in government, tax authorities and other institutions throughout the economy. Our research shows that citizens feel strongly about tax minimization, and whether multinational companies are paying enough tax. This is particularly relevant when it comes to the digital economy, where ambiguity and the inability of tax systems to keep pace with evolving business models has shaped public and government opinion over the past decade.

As it is, citizens are concerned about transparency, inequity and complexity in the tax system, and less than half (42%) see the tax process as generally fair. The good news is that the public appears to be well-aligned with contemporary policy conversations, as collaboration on international tax policy is supported by the majority of citizens across the G20. Setting tax policy ultimately comes down to trust – between governments, corporations and people. Protecting this trust is, in its own right, essential to resilient economies. The resolution to the debate surrounding how the digital economy is taxed will go a long way to either enhance or decrease trust in the global tax system.

Conclusion

The reality is that national governments will retain sovereignty over tax policy, and that every nation has unique needs and public opinion contexts surrounding taxation. It’s also true that countries will continue to use tax policy as an economic lever to compete for investment. But, digitalization is a trend that’s
only set to deepen, and there is a pressing need for consensus. We must pursue a process that increases trust in the global tax system and that avoids regulatory fragmentation at all costs. Digital revenue streams will only grow over time – we must get this right the first time to avoid setting the global economy on a crash course of competing interests.

Directionally, the OECD proposals go beyond a focus on strictly "digital" companies and focus on all businesses with cross border operations, whether they are digital or not.

As such, this work will likely affect all businesses with cross-border operations – and it is moving very quickly.

Professional Skepticism: The Heart of Audit by Katharine Bagshaw, Manager, Auditing Standards, ICAEW

Most of us who trained as auditors never really lose the urge to question numbers. The temptation to ask on what basis they were calculated, to generally prod and poke around, and to make sure that they are what they appear to be, becomes instinctive. Skepticism it not just at the heart of auditing, it is in the heart of most auditors, a fact that is not obvious to outsiders given the various calls for auditors to exercise more skepticism, particularly when the pressures of deadlines and budgets are brought to bear and doing the right thing becomes more of a challenge.

Firms are well aware of this. They use the insights of behavioural psychology, particularly as relates to the various forms of bias, to build checks and balances into the system to ensure that skepticism is in fact applied consistently throughout the audit and across the practice. The ICAEW’s report, Skepticism: The Practitioners’ Take, aims to move forward the debate on skepticism by offering insights from real auditors and people who work with them. Based on a series of interviews with practicing auditors, training providers and audit regulators, the report sets out the views of those with first-hand audit experience who deal with the pressures of deadlines and budgets.

It explores who is responsible for skepticism, how to improve it, and what firms are already doing to try and encourage it. These are some of the key messages:

- **Professional skepticism is at the heart of what auditors do** - Without it, the audit has little value. However, the urge to use lack of skepticism as a catch-all classification for anything that is wrong in auditing or financial reporting, should be resisted. Simply calling for 'more' skepticism is neither realistic nor helpful. Auditors cannot go on asking questions for ever, nor should they.

- **There is a shared responsibility for skepticism** – Professional skepticism needs to be exercised by all professional accountants, not just auditors. Preparers, in particular, need to exercise skepticism themselves before handing information over to external auditors. Outdated practices of 'gaming' the auditors, to see how far they can be pushed, is no longer acceptable. Audit committees and internal auditors need to challenge themselves, the controls they put in place, and the quality of the information they produce, before handing it over to external auditors. It is not for the auditors to prove management wrong, it is for management to support its assertions.

- **An effective skeptic is neither a cynic nor a dupe** - Exercising skepticism
means not accepting the first answer at face value without following up, even if it sounds plausible. It also means not asking questions *ad infinitum* because real audits have deadlines. It’s about asking the right questions, following up answers and knowing when to move on.

- **Auditor working practices need to support and encourage skepticism in the field** - Budgets, deadlines, working practices and methodologies should not impede the exercise of skepticism.

Firms need to find better ways, including potentially using technology, to teach inexperienced junior staff what can go wrong.

ICAEW will continue to explore this issue, including seeking further examples of ‘what good looks like’, in terms of how preparers and auditors identify areas in which more skepticism needs to be applied, and what they do in such cases that they would not do otherwise.

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**You and your Health**

**How Emotions Affect Our Health**

'Emotional health' is a commonly-used and rather understated term. Emotions have a powerful impact on a person's well-being. Understanding how emotions affect the heart and overall health will help channelize them in a more effective way for positive results.

**Interesting Facts on Human Emotions**

- In the 17th century, French philosopher René Descartes believed that, when a person experiences emotions - happy, sad, angry, etc., the body's inner valves open up to release fluids like bile, phlegm, etc.

- A human can make over 10,000 facial expressions to express a wide variety of subtle emotions.

Reasons that Lead to Positive Emotions include; moving to a new house, getting married, getting a new job, getting a promotion, having a baby, having a child/sibling return home, etc. Happy events lead to a flood of positive emotions - happiness, excitement, pleasure, satisfaction, etc. Emotion is associated with the heart because it leads to irregularity in blood flow, heartbeats, etc. However, when this happens due to controlled positive emotions, the heart remains healthy. These emotions have a positive effect on the entire body.

Positive emotions can affect the heart, and make it healthy and strong. Being happy and blissful contributes to contentment, satisfaction, and warmth. It makes us want to smile and laugh. Joy,
happiness, and laughter facilitate easy blood flow to the heart and lowers blood pressure. Sharing happiness, smiling, laughing, being grateful, etc., increases happiness manifold, which is good for the heart and small intestine.

Sympathy, affection, kindness, care, and empathy are positive emotions that affect heart rate, i.e., they help normalize the heart function. Spending time with loved ones lowers blood pressure. Compassion, gratitude, and generosity affect the health of the liver, gallbladder, and the eyes. A spate of these emotions keep these organs running in perfect order.

Love is the fundamental emotion that no human can live without. At any time, age, or situation, people love to fall in love. Platonic crushes, adolescent excitement, mature love, or deeper commitments - each one makes a difference to one's health. It's comforting to know that, there's always someone for you, someone to care for, to trust, and be trusted. Love, trust, honesty, support, and fairness are said to strengthen the functions of the spleen, heart, stomach, and pancreas.
Physical intimacy - the expression of love and passion plays a very important role in our health. Hugs are great stress relievers - hugging people releases dopamine and oxytocin, and relieves stress. Holding hands is said to soothe the nerves and lower blood cholesterol. Meeting someone you are crazy about can literally set your blood racing, increase heartbeats, and raised palpitations. Love in all its forms lowers the risk of a heart attack.

Righteousness, calmness, truth, integrity, silence, gentleness, courage, etc., are emotions that sum up how ideal and ethical a person is. Depicting these emotions is said to strengthen the kidneys, bladder, lungs, ears, large intestine, and the skin. One can make out the difference. Staying calm and courageous increases the flow of positive energy through the body, and boosts the immune system.

Reasons that lead to negative emotions include: suffering an illness/injury, dealing with someone's death, marital problems/divorce, being unemployed, experiencing money problems, having a child leave home, etc. Sad events lead to a torrent of negative emotions - tears, anger, grief, fury, etc. At such times, the brain sends signals to the heart and other organs that something is wrong. An organ-energy connection depicted here - negative emotions impair organs and reduce positive energy flow.
Worry

Worry, tension, mistrust, and anxiety may severely affect the stomach, spleen, and pancreas. It is manifested by digestive problems - loss of appetite, inability to excrete, vomiting, etc. Worrying or being upset unnecessarily can take a severe toll on the digestive system.

Anger

Anger has been the root cause of negativity since forever. Irritation, annoyance, anger, frustration, envy, fury, etc., are emotions that'll harm the liver, gallbladder, and the eyes. It is manifested by reduced bile production, excess cholesterol, and reduced detoxification.

Fear

Fear impairs the kidneys.
Fear is an emotion that can practically finish off one's self-confidence, happiness, and belief. Fear, anxiety, terror, panic, dismay, cowardice, distress, etc., leads to cold feet, trepidation, and phobias, and affects the kidneys, bladder, and ear functioning. It is manifested by nervous disorders, disinterest in sexual life, abdominal pain, etc.

Grief

Experiencing sadness, grief, and depression, especially after a trauma or the death of a loved one, can put immense load on the body. To deal with the fact that a loved one has gone, is traumatic and painful, and it affects the mental health of the person too. These emotions affect the lungs, heart, large intestine, and the skin. It is manifested by breathlessness, lung disorders, constipation, etc.

Stress

Stress is the biggest contributor of bad health. It is also associated with emotions like impatience, dislike, hate, cruelty, etc. Stress primarily affects the heart and the brain. The heart's electrical stability is affected, and so is the immune system. It is manifested by increased heartbeats, palpitations, chest pain, high blood pressure, etc.

Impact of Poor Emotional Health on the Body

Your body reacts to the way your mind senses work; it reacts to how you see, smell, feel, think, and act. This is called 'the mind-body connection'. Whenever you undergo an emotional change, your body
exhibits physical changes. People who have balanced minds and a fairly good emotional health are aware of their thoughts and feelings. When certain events disrupt their lives, positive or negative, their bodies react in a different manner. Excess of anything is bad, so there should always be a balance between the good and bad changes. It is up to the person to decide how much he/she lets the event affect him/her. When one suffers from poor emotional health, the body depicts most of the following signs: headache, body ache, backache, loss/gain in appetite, weight loss/gain, chest pain, upset stomach, constipation, fatigue, heavy head/light head, high blood pressure, insomnia, palpitations, disinterest in physical intimacy, breathlessness, and sweating.

Technology Corner

How has Technology Changed Our Lives

In our attempt to analyze how technology has changed our lives, we need to consider the way it has been used. Let us know how technological developments have shaped our lives over the decades.

"I am enough of an artist to draw freely upon my imagination. Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world."

— Albert Einstein

The way technology has impacted our lives is evident in every walk of life. Human mind has achieved everything by the power of imagination. It is by the virtue of imagination that man has ushered in an age dominated by revolutionary technological developments. From the day of landing on the moon to that of a trip to Mars; from the introduction of Microsoft Windows to the inception of 3G and 4G technologies; from tape recorders to Apple iPods; from rarely available landline telephones to abundantly available breed of smartphones, QWERTY phones, and iPhones; from the origin of world wide web to web 2.0 and web 3.0 technologies; from revolutionary Internet search engines to addictive social networking websites; from blogging forums to Internet shopping; technological developments have impacted our lives in such a way, that it is next to impossible to imagine this world without
their presence. While these developments have made life amazingly easier, simpler, and anything is just a mouse's click away, it has brought several negative health impacts, psychological problems, and stress in daily life.

"The real problem is not whether machines think, but whether men do."
— B. F. Skinner, American psychologist, author, inventor, and social philosopher

Obviously, development of technology in the 1970s has led to a far better, comfortable, and easier life for people in this century. However, on the flip side, it has equally created innumerable problems. Mostly, these problems have stemmed from the misuse of technology. As BF Skinner stresses, it is the human mind that has developed these technologies. Hence, it depends on us, how we use them: for our peril, or to our advantage. There are three broad areas in our society, which have been impacted by technological changes.

Business

Internet technology has changed our life in numerous ways, and it is difficult to keep a count on them. Global trade and business have become faster, easier, and more reliable in the last fifty years.

- It is easier to book flights, railway tickets, and bus tickets from the comforts of our home.
- Banks and financial institutions also have introduced online systems, and these have made our lives easier. Bill payment and account-related work is easily managed online. Now, one doesn't need to go to a bank, wait in a line for a long time, and then deposit money. The ATM technology has made it possible to withdraw money during anytime of the day.
- In today's world, it is impossible for any small or large businesses to thrive without a web presence. You may be a stay-at-home mom or an entrepreneur, the success of your business model can be guaranteed to a large extent, if you're able to use the Internet to your advantage. Google AdWords and Google AdSense have made online advertising the greatest growing business.
- Be it local shops, restaurants, shopping malls, or retail stores, almost every place has been well managed with the help of technological growth.

Businesses have become faster and more challenging, thereby increasing competition in every field. The impact of technology on business has been phenomenal, and in this era,
information and knowledge have become commodities.

Education

The impact of technology on education is a classic example of the way our lives have changed. Our forefathers never got the opportunity to study in interactive classrooms with 3D images and projectors, and they did not have an access to the Internet and various other technological facilities.

- Computers, PowerPoint presentations, and the Internet, have given teaching an altogether different dimension. Education has become computer-dominated in this era, and it has gone beyond notebooks and blackboards.
- Computer education has become an integral part of college education across the globe, as it is the key to make the students competent enough to meet the industry requirements.
- In the recent years, online education and distance learning courses have changed the way of gaining knowledge. Now, it is not very important to be present in classrooms to hear a lecture or understand some intricate concept.
- This doesn't mean that student-teacher interaction has been replaced by technological developments. It means that audiences and students who're located in different nations, can easily get access to any lecture being conducted in one location through video conferencing.

Many websites too, promote online tutoring, so if someone has an Internet access, it is easy to grasp a concept.

Communication

If you go through the list of latest developments in technology, you will find that most of them have revolutionized the way we communicate.

- Social networking websites are the order of day. Websites like Facebook and Twitter have given birth to the concept of social media marketing.
- Business networking to personal online dating, communication was never so fast and easy in any century, as it is now. Meeting new people online has given way to the billion dollar industry of dating.
- Latest gadgets and gizmos have become a part and parcel of life. No matter where we are, or what we're doing, it has become possible to contact our loved ones at any time of the day.

In the last couple of decades, communication has become amazingly faster, thanks to the Internet. It brought email and chatting facilities. Instead of sending letters to their respective
destinations, it is easier to send a mail to your loved ones, or talk to them through video calls.

In seeking answers to the issue on technology demerits, we look at some of the negative aspects of technology. With threats of Internet scams increasing every day, and cyber security becoming a global issue, governments of all countries are trying hard to make rules and laws regarding cyber access. Moreover, lifestyle habits have changed drastically. Nowadays, psychologists are frequently using the term, Internet addiction to address certain issues in the lives of people who're constantly glued to their computers. So, if we have to comment how our lives have been changed by technology, the answer is that it has given us the power to make a difference in our lives by using it wisely. It depends on us, how we use it and benefit fr
om it instead of getting addicted to it.

Technical Matters

Financial Innovation and Monetary Policy in Ghana

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Abstract

The objective of this paper is to investigate the impact of recent developments in digital financial innovation particularly the use of electronic money and payment channels on velocity of money and its implication for the choice of monetary policy framework for Ghana.

Using Generalised Auto-regressive Conditional Heteroskedasticity (GARCH) model and maximum likelihood Estimation for Conditional Variance estimation method, the empirical results show that the demand for money function is unstable and is significantly determined by financial innovation and growth in the volume of mobile money transactions, growth of nominal GDP and broad money supply, average lending rates of universal banks and depreciation in the nominal USA Dollar-Cedi exchange rate.

A key issue emanating from the findings of this paper is that policy initiatives geared towards development of the payment systems provide support for an inflation targeting framework. The study also affirms that inflation targeting rather than monetary targeting is the appropriate policy framework for Ghana on account of the instability in the demand for money function.

Background

The choice of monetary policy framework is essential for the attainment of price stability. When demand for money function is unstable and unpredictable, price stability objective may not be achieved optimally by targeting monetary aggregates such as money supply as intermediate target and reserve money as operating target. The evidence also show that when demand for money function is ascertained to be unstable, price stability may optimally be achieved by adopting inflation targeting monetary policy framework. Thus, factors that affect the stability of the demand for money function are essential in choosing the appropriate monetary policy management framework for an economy.

Some studies were undertaken in the past to assess whether Ghana’s demand for money function is stable or unstable. For instance, Mannah-Blankson and Belnye (2004) found that both M1 and M2 were stable despite the rapid growth in financial innovation in Ghana. The policy implication from the study was that monetary targeting was the appropriate monetary framework for Ghana. The study however failed to take account of the impact of financial innovation on the stability of the money demand function and also little dated on account of recent developments in the payment and financial systems.

Abradu-Otoo, Amoah and Bawumia (2003) in investigating the transmission mechanisms of
monetary policy in Ghana found that in the long-run, the exchange rate channel remains the main medium through which monetary policy acts. The implication of this finding is that the exchange rate is a significant determinant of prices in Ghana and policies that promote exchange rate stability should be explored. Development in the payment systems through uptake in use of credit cards will provide a lag in the use or transfer of the country’s foreign exchange reserves. Settlement of credit card transactions compared with cash transactions for instance is not instant. In an economy where payment instruments are developed, pressure on the available foreign exchange is somewhat reduced in the short run.

Bawumia, Amoah and Mumuni (2008) in examining the choice of monetary policy regime in Ghana employed broad monetary supply (M2+), rate of return (deposit rate), return or alternative assets including Treasury Bills and inflation, the nominal effective exchange rate and return on foreign securities. The empirical study found significant parametric shift in the demand for money in Ghana since 1990s and increasing during the 2000s. The study supports the current Ghanaian policy framework of inflation targeting. One of the main shortcomings of this study however, is its inability to assess the impact of financial innovation in the parametric shift of the demand for money function.

Financial Innovation is deemed to affect velocity of money and also play an important role in the choice of monetary policy framework. It culminates in improvement in the payment system through adoption of information technology and also enhances financial sector efficiency, minimises transaction costs and impacts on the demand for money function. The objective of this paper is therefore to investigate the impact of recent developments in digital financial innovation particular the use of electronic money and payment channels on velocity of money and its implication for the choice of monetary policy framework for Ghana.

Using Generalised Auto-regressive Conditional Heteroskedasticity (GARCH) model and maximum likelihood Estimation for Conditional Variance estimation method, the empirical results show that the demand for money function is unstable and is significantly determined by financial innovation and growth in the volume of mobile money transactions, growth of nominal GDP and broad money supply, average lending rates of universal banks and depreciation in the nominal USA Dollar-Cedi exchange rate.

Literature Review
This section examines the conceptual issues on the impact of financial innovation on central bank’s ability to control monetary base and provides review of the theoretical and empirical literature. King and Levine (1993) showed that financial innovations could narrow the margin between deposit and loan rates and stimulate faster growth in the rest of the economy. The study noted that advances in Information Communication Technology (ICT) have the potential to impact adversely on the ability of the central bank to control the monetary base. A number of studies including Ely (1997), England (1997), Berentsen (1998), and ECB (2000) found that electronic money is rapidly becoming a substitute to central bank’s issued currency as it performs more roles than facilitating transactions.

Theoretical Literature
The impact of financial innovations on monetary policy could be explained with Fisher’s (1911) equation of exchange where MV = PY and ‘M’ is the money supply which is determined by the monetary authorities. ‘V’ is the velocity of money and is considered to be more or less constant based on classical economists view that factors that affect velocity of money include psychology of individuals regarding lending and borrowing, social and institutional factors that affect the mode of payment, are fairly constant both in the short and long runs. This theoretical proposition explains the motivation for this study that should the classical economists’ assumptions about the velocity of money hold in Ghana, then direct monetary policy management framework is the suitable framework for Ghana but where the velocity of money is unstable as prescribed by the Keynesians, then inflation-targeting framework is suitable for Ghana. Velocity of money has been observed in a number of
empirical studies prior to the deepening of the Ghanaian payment systems to be stable.

The variable ‘Y’ is defined as real output which is determined from the real sector of an economy. The real sector comprised agricultural, industrial and labour sub-sectors which cannot be altered in the short-run and therefore Y is assumed to be invariant in the short-run. The quantity theorists thereafter postulated a direct relationship between price (P) which is the only unknown variable in the equation of exchange and the money supply. However, the Keynesian economists argued that velocity of money is unstable and changes rapidly and offset changes in the money stock. Keynesians pointed out that there are moments of sudden and rapid shifts in the desire of the public to hold money balances which may affect prices though the monetary authorities may successfully maintain stability in money supply. This results in short-run shifts in the velocity of money and consequently demand for money.

Friedman’s nominal demand for money (M\textsuperscript{d}) function is stated as follows:

\[ M^d = f(W, h, r_m, r_b, P, \Delta P/P, U) \]  \hspace{1cm} (1)

Where \( f'_w > 0; f'_h > 0; f'_r_m > 0; f'_r_b < 0; f'_r_e > 0; f'_{\Delta P/P} > 0; \text{and} f'_U > 0. \)

Where \( M^d \) stands for nominal demand for money and \( M^d/P \) for demand for real money balances, ‘W’ stands for wealth of the individuals, ‘h’ for the proportion of human wealth to the total wealth held by the individuals, \( r_m \) for rate of return on money or interest on money, \( r_b \) for rate of interest on bonds, \( r_e \) is for rate of return on equities, ‘P’ is for price level, \( \Delta P/P \) for rate of inflation, and \( U \) for institutional factors.

The institutional factors comprise mode of wage payments, use of digital payments, bill payments, economic environment, capital and political instability. Incorporating these modifications into Friedman’s demand for money function provides the following function:

\[ M^d = (Y_P, h, r_m, r_b, \Delta P/P, U) \]  \hspace{1cm} (1)

When we assume that no price change is anticipated and institutional factors such as \( h \) and \( U \) remain fixed in the short run and the three rates of interest returns are consolidated, Friedman’s demand for money function is therefore simplified as follows:

\[ M_d = f(Y_P, r) \]  \hspace{1cm} (2)

The position of monetarist economists on velocity of money has led to resurgence of various empirical research works. A number of these empirical studies are reviewed in the next section to assess the appropriate methodology and model for this study.
Empirical Literature Review
Studies on demand for money, behaviour and determinants of velocity of money have engaged the attention of empirical researchers since the IMF-World Bank led economic reforms in African countries. Some of the earliest papers in this field of studies are Ezekiel and Adekunle (1969), Khan (1973), Short (1973), Kharadia (1988) and Anyanwu (1994). Ezekiel and Adekunle (1969) examined the conduct of income velocity using income velocity of currency; income velocity of narrow money, and income velocity of broad money for 37 countries with various GDP sizes and found that velocity of money and GDP are inversely related to the three different definitions of velocity of money. The results showed an inverse relationship between per capita income for both the narrow and broad money velocities when countries were treated in isolation. When inflation rate was introduced into the model the results showed that the rate of decrease in velocity of money slowed down as the level of per capita income increased. This suggests that as per capita income increases, velocity of money either decreases or remains constant implying velocity of money is not constant over time.

Short (1973) in a study on West Malaysia and part of Singapore found that negative impact of per capita income on velocity was moderated by changes in monetary habits. The study showed that a rise in either interest rate or anticipated rate of change of prices led to a rising velocity and vice versa. The study equally showed that an increase in the number of bank branches caused velocity of money to increase. The study indicates that velocity of money is not stable as prescribed by the classical economists when new payment points or channels are developed.

Similar study by Khan (1973) for parts of Pakistan showed that per capita income was negatively related to velocity of money. The negative relation observed was reversed when the model was augmented with extra exogenous variables. The results from the augmented model showed that there was an inverse relationship between the number of bank branches and velocity of money. This means that increases in bank branches caused moderated wide swings in the velocity of money on account of increases in total savings and fixed deposits compared to volatile demand deposits. Kharadia (1988) examined the behaviour of income velocity of money in parts of India and found no evidence in support of constant income velocity but observed that income velocity had a secular downward trend with significant short-term variations.

Bordo and Jonung (1987, 1990) investigated the nature and causes of an U-shaped secular trend in velocity on a century-long scale for selected countries. The results showed secular pattern of velocity which is attributed to the evolutionary technical progress taking place in the financial sector through the use of regulatory sandbox. Sub-Saharan Africa empirical investigations on stability of velocity of money included Killick and Mwega (1993), Anyanwu (1994), Ndanshau (1996), Mukisa (1998), Weil et al. (2012), Misati et al. (2010), Macha (2013), Ndirandgu and Nyamongo (2015) and Aron et al.’s (2015). Killick and Nwega (1993) investigated stability of money velocity in Kenya. The study identified demand for money, lagged adjustment term, expected inflation and interest rate as major determinants affecting velocity of money and making money velocity unstable. These results were in line with findings from earlier studies such as Darrat (1985) and Kanga (1985).

Anyanwu (1994) conducted a study on income velocity of narrow money for Nigeria over the period 1960-1992. The findings suggested that interest rate, inflation rate, real gross national product, exchange rate, and financial deregulation significantly impacted on velocity of money making it unstable. The study also observed feedback from velocity to interest rate. Ndanshau (1996) using data from the period 1967-1994 for Tanzania found that expected rate of inflation influenced income velocity negatively. Currency to money ratio and lagged real money were found insignificant while real interest rate was found to be significant. Mukisa (1998) conducted a study on the determinants and behaviour of income velocity of money for Uganda over the period 1980-1997 and found financial innovation to significantly influence velocity of money to be.
Misati et al. (2010) also found that financial innovations seemed to have weakened monetary transmission mechanism. Weil et al. (2012) undertook a preliminary assessment of financial innovation (mobile money M-Pesa) on the behaviour of monetary aggregates in Kenya and concluded that mobile money’s impact on monetary policy was nugatory in Kenya and the impact may be smaller in Tanzania and Uganda. The paper acknowledged, however, that developments and innovations in the mobile money space could fuel the growth of mobile money to have significant implications for monetary policy. 

Macha (2013) conducted a study based on conclusions of Weil et al.’s (2012) for Tanzania, and found a coincidence of instability of money demand parameter estimates with the introduction of mobile money implying that mobile money has had an impact on money demand and velocity of money. Ndirandgu and Nyamongo (2015) updated and extended the analysis of Weil et al. on Kenya. The paper observed that fast pace of financial developments in Kenya has not caused structural shifts in the long-run money demand function, and has therefore not adversely affected the conduct of monetary policy in Kenya.

Aron et al.'s (2015) conducted econometric investigation into inflation forecasting models for Uganda, with a notable focus on the potential impact of mobile money. The results indicated that mobile money exerted some downward pressure on inflation, possibly a reaction from positive impact on productivity. Adam and Walker (2015) examined mobile money and monetary policy in East African countries using Dynamic Stochastic General Equilibrium framework with two sectors and found that mobile money increased macroeconomic stability with benefits accruing to lower income households. The results also suggested that as mobile money reduces the incompleteness of markets, the monetary authorities may be able to shift their focus from headline inflation to core inflation.

**Methodology, Analysis and Presentation of Results**

This section provides the choice of the model and empirical analysis of the chosen model for this paper.

**Model Specification**

This paper adopts a variant model specification of Irungu (2003) which states that velocity of money (\(V\)) is a function of a measure of income (\(Y\)) that is, per capita income; “\(r\)” a measure of opportunity cost of holding money (\(\delta\)) either Treasury Bill rate or lending rate; “\(\text{exc}\)” inter-bank exchange rate defined as amount of domestic currency per unit of USA dollars; broad money supply (\(M2b\)) and a measure of financial innovation \(\delta\) which is defined as volume of mobile money (\(VMM\)) transactions, number of mobile money accounts (\(MMAC\)) and broad money supply (\(M2B\)). The broad money supply is also considered as an innovation variable because in Ghana monetary survey, the effects of mobile money innovations are classified under currency outside banks, demand deposits, savings and fixed deposits or foreign currency deposit.

The empirical model is therefore specified as follows:

\[
V = \beta_0 + \beta_1 GDP_t + \beta_2 FDR_t + \beta_3 \text{exc}_t + \beta_4 \delta_t + \beta_5 M2B + \epsilon_t \]

Where \(\beta_0\) captures omitted variables, \(\Gamma_{\text{GDP}}>0, \Gamma_{\text{FDR}}<0, \Gamma_{\text{exc}}>0\) and \(\Gamma_{\delta} \geq 0\) or \(\Gamma_{\delta}<0\) \(V_t\) is defined as income velocity of broad money (\(M2b\)), \(\epsilon_t\) is the stochastic term with expected mean zero and a constant variance.

Interest rate (\(r\)) is incorporated as a measure of opportunity cost of holding money and it is expected to be positive. Fixed deposit rate is factored into the determination of the Ghana Reference Rate for banks and specialized deposit-taking institutions and therefore its impact on velocity may be significant. Substitution may occur between money and alternative financial assets hence a rise in the rate of interest leads to a higher cost of holding
money making velocity of money to increase. However, we experimented with an alternative measure of opportunity costs of assets substitution, in particular Treasury Bills. This is based on the view that financial asset choice of wealth is limited in Ghana.

The exchange rate variable is expected to have positive impact on velocity on account of increased international trade occasioned by liberalization of the Ghanaian economy. When the domestic currency depreciates, domestic portfolio holders may shift portfolios in favour of foreign assets. Depreciation therefore increases cost of holding local currency and velocity of money. To halt this portfolio shift, T-bill and fixed deposit rates increase which reduce demand for money (through reduced ability of banks to create money) and consequently velocity of money increases. Depreciation therefore increases cost of holding local currency and velocity of money.

Mobile money began in June 2009. It picked up in terms of volume and value of transactions from 2012. The rapid increase in the use of mobile money or digital money in Ghana after the passage of the Electronic Money Issuers Guidelines in 2015 affected economic transactions by bringing on board rural poor and unbanked population to enjoy formal financial services. Mobile money or digital money and broad money supply therefore capture the impact of financial innovation on velocity of money. The expected sign of financial innovation is indeterminate hence three definitions were ascribed to mobile money namely income velocity of currency; income velocity of narrow money, income velocity of broad money and ratio of mobile money transactions to GDP. The parameter estimates of the mobile money variable may be either positive or negative. Monthly data series are used with monetary data coming from the Bank of Ghana monetary survey and GDP from International financial statistics and mobile money from the payment system department of the Bank of Ghana. Monthly Mobile money data for 2012 and 2013 have interpolated just GDP series using e-views.

Time series variables like prices of financial assets comprising daily quotes on shares, stock index, currency exchange rate or commodity are usually analyzed applying log returns – log \((p_k/p_{k-1})\) on the financial assets i.e. series instead of relative returns – \((p_k/p_{k-1}/p_{k-1})\) because the former displays additive property which is not shared by relative returns. In the light of many other typical ‘stylized facts’ present in financial log-return series, Engle (1982) proposed Auto-Regressive Conditionally Heteroscedasticity (ARCH) which was later generalized and made more realistic by (Bollerslev (1986) and Taylor (1986)) and termed Generalized Auto-Regression Conditionally Heteroscedasticity (GARCH). Thereafter, GARCH models have become the most commonly used models in analyzing volatilities in financial time series and have also promoted dozens of more sophisticated models. GARCH (1,1) is employed in this study to further validate the volatility that may be observe in the estimated results from the velocity of money model above. If volatility in velocity is confirmed, it lends support to the inflation-targeting framework currently in place in Ghana as against monetary targeting regime being contemplated by others.

Therefore the study adopts GARCH (p, q) defined as

\[ y_k = \sigma_k \epsilon_k \] \[ \sigma_k^2 = \omega + \sum_{i=1}^{p} \alpha_i y_{k-i}^2 + \sum_{j=1}^{q} \beta_j y_{k-j}^2. \]

Equation (4) is the mean equation and equation (5) is the variance equation. This parsimonious specification is augmented with explanatory variables from equation (3) above comprising GDP, EXC, M2B, VMM, MMAC and FDR.
After estimating the GARCH (1, 1) model above, if ARCH term is significant, then it means that previous month’s velocity of money influences current velocity of money and that there is volatility in velocity of money but if ARCH term is insignificant, then there is volatility in velocity money from ARCH. Similarly, if GARCH term is significant after estimation, then it means that there is volatility in velocity of money emanating from previous month’s velocity information on volatility in velocity of money. The ARCH effect and GARCH effect constitute the internal factors that cause volatility in velocity of money. Again, if M2B, VMM and MMAC are significant, then we conclude that financial innovations produce volatility in velocity of money. Finally, if GDP, TBR or any other explanation is diagnosed to be significant, then that explanatory produces volatility in velocity of money.

**Analysis**

The main focus of this paper is to find out whether the velocity of money is stable on account of rapidly growing financial innovations in the payment and financial systems spanning January, 2012 to December, 2017. We conducted an econometric diagnostic test on the data set to establish whether velocity of money and all the explanatory variables series are stationary before undertaking any estimation. The key diagnostic tests conducted included optimum lag selection test, Jarque Bera Test, unit root test using Augmented Dickey-Fuller and Phillip Peron Tests. Measurement of volatility of velocity of money was undertaken using GARCH (1,1) model. GARCH (1,1) model is one of the main methods of measuring volatilities in financial time series in econometrics (W. H. Greene, 2007). In applying GARCH (1,1) model, we estimated a mean equation and a variance equation simultaneously. A number of diagnostic tests were conducted from these equations to ascertain sources of volatility in velocity of money which is the endogenous variable.

Chart 1 provides graphical examination of the volatility in velocity of money (M2+). Graphical representation of velocity of money by inspection did not suggest that velocity of money is stable.

**Chart 1: Overview of Velocity of Money Trend**

![Graph of Trends of Velocity of Money](image)

When narrow definition of money supply is used, volatility in velocity of money remained the same indicating that volatility in velocity of money may not be on account of foreign currency deposits of
banks but by changes in economic fundamentals such as changes in nominal gross domestic product and broad money supply.

The p-values of the five variables are more than 5% therefore the null hypothesis that the data have come from a normal distribution is not rejected (see Table 1).

**Table 1: Descriptive Statistics of the Parameters**

<table>
<thead>
<tr>
<th></th>
<th>LNM2B</th>
<th>LNGDP</th>
<th>LNVMM</th>
<th>V2</th>
<th>DV2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>10.43443</td>
<td>10.28232</td>
<td>17.38155</td>
<td>0.864036</td>
<td>0.001089</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>10.46766</td>
<td>10.24079</td>
<td>17.38937</td>
<td>0.861028</td>
<td>0.009843</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>11.06146</td>
<td>10.90960</td>
<td>18.54449</td>
<td>1.078553</td>
<td>0.090565</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>9.803520</td>
<td>9.661199</td>
<td>16.20675</td>
<td>0.702727</td>
<td>-0.177597</td>
</tr>
<tr>
<td><strong>Std. Dev.</strong></td>
<td>0.384632</td>
<td>0.333292</td>
<td>0.659636</td>
<td>0.095661</td>
<td>0.048426</td>
</tr>
<tr>
<td><strong>Skewness</strong></td>
<td>-0.033962</td>
<td>-0.028539</td>
<td>0.001954</td>
<td>0.334285</td>
<td>-1.079403</td>
</tr>
<tr>
<td><strong>Kurtosis</strong></td>
<td>1.681476</td>
<td>2.049258</td>
<td>1.794585</td>
<td>2.377117</td>
<td>4.830189</td>
</tr>
<tr>
<td><strong>Jarque-Bera</strong></td>
<td>5.084096</td>
<td>2.645908</td>
<td>4.238034</td>
<td>2.435322</td>
<td>23.36259</td>
</tr>
<tr>
<td><strong>Probability</strong></td>
<td>0.078705</td>
<td>0.266347</td>
<td>0.120150</td>
<td>0.295921</td>
<td>0.000008</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td>730.4104</td>
<td>719.7623</td>
<td>1216.708</td>
<td>60.48255</td>
<td>0.076208</td>
</tr>
<tr>
<td><strong>Sum Sq. Dev.</strong></td>
<td>10.20797</td>
<td>7.664761</td>
<td>30.02326</td>
<td>0.631419</td>
<td>0.161813</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

The empirical evidence therefore suggests that based on Jarque-Bera test, the sample data sets are drawn from a normal population with zero skew and zero excess kurtosis. Empirical evidence from the five VAR lag order selection criteria; comprising LR, FPE, AIC, SC and HQ employed to determine the optimum lag length to be used for the study suggests eight lags as the optimum lag length for the study (See Table 2).

**Table 2: Optimum Lag Selection Test**

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
</table>

VAR Lag Order Selection Criteria
Endogenous variables: ALR EXC MMAC NGDP TBILL V2 VMM
Exogenous variables: C
Date: 03/26/18   Time: 09:51
Sample: 2012M01 2017M12
Included observations: 64
Table 3: Augmented Dickey-Fuller Test for Stationarity in Levels

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Test: Level</th>
<th>ADF Test: 1st Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXC</td>
<td>-1.391</td>
<td>-13.286***</td>
</tr>
<tr>
<td>LNM2B</td>
<td>-2.047</td>
<td>-5.205***</td>
</tr>
<tr>
<td>MMAC</td>
<td>-1.471</td>
<td>-8.709***</td>
</tr>
<tr>
<td>NGDP</td>
<td>-0.277</td>
<td>-5.862***</td>
</tr>
<tr>
<td>TBIL</td>
<td>-2.819</td>
<td>-8.583***</td>
</tr>
<tr>
<td>V2</td>
<td>-0.671</td>
<td>-5.486</td>
</tr>
<tr>
<td>VMM</td>
<td>-1.471</td>
<td>-8.633***</td>
</tr>
</tbody>
</table>

Unit Root Tests for Determination of Order of Integration (Stationarity)

Empirical findings derived from applying both Augmented Dickey Fuller and Phillip Peron Tests to the data set on the variables of interest suggest that all the variables are not stationary and are integrated of order one ($I_1$) in levels, however, are integrated of order zero in first difference. A key condition for undertaking ARCH model requires that all variables of interest are stationary to eliminate possibility of spurious regression results and erroneous inferences. All variables of interest were made stationary before estimation was carried out. The results of Augmented Dickey-Fuller Test for stationarity tests are reported in Table 3.

The ARCH model was run to determine clustering volatility and secondly to ascertain presence of ARCH effect in the velocity of money after establishing stationarity.

Table 4: Empirical Estimation of the Equation of the variables.

Dependent Variable: DV2
Method: Least Squares
The regression results in Table 4 shows there is no autocorrelation as Durbin-Watson Statistic is very close to 2 and has adjusted R-squared of 99.4%. The results therefore show that velocity of money is significantly determined by growth of nominal GDP, growth of broad money supply, depreciation in the nominal USA Dollar-Cedis exchange rate and more recently financial innovation variable and growth in volume of mobile money transactions. The average lending rate on loans from the universal banks to the general public was also significant. Growth in the number of mobile money accounts holders which was another measure of financial innovation was, however, not significant in the determination of velocity of money in Ghana. The autoregressive conditional heteroskedasticity (ARCH) model was generated from the estimated regression (see Chart 2) and the residual of this regression was analysed to establish clustering of volatility and ARCH effect.

**Chart 2: Analysis of Residual of the Regression**
The graph of the residual showed that from the fifth month of 2012, to about fifth month of 2013, there were high volatility followed by periods of low volatility. ARCH effect was determined by conducting heteroskedasticity test with a null hypothesis that there is no ARCH effect in velocity of money. The empirical findings showed acceptance of the null hypothesis. (See table 5)

Table 5: Heteroskedasticity Test: ARCH

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>1.403799</td>
<td>0.2403</td>
</tr>
<tr>
<td>Obs*R-squared</td>
<td>1.416034</td>
<td>0.2341</td>
</tr>
</tbody>
</table>

GARCH (1,1) model comprises estimation of a mean equation and the variance equation simultaneously. The variance equation is the GARCH model. The results of the GARCH (1,1) are shown in Table 6.

Table 6: Estimation of mean and Variance Equations

Dependent Variable: DV2  
Method: ML - ARCH (Marquardt) - Student's t distribution  
Date: 04/05/18  Time: 19:02  
Sample (adjusted): 2012M01 2017M10  
Included observations: 70 after adjustments  
Convergence achieved after 25 iterations  
Presample variance: backcast (parameter = 0.7)  
GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1) + C(6)*DEXC + C(7)*DLNVMM  

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
</table>

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From the above estimation results, growth in nominal GDP and money supply are found to be significant in causing volatility in velocity and remain the main forces driving volatility in velocity (See Table 6). These findings are consistent with earlier findings on velocity of money in Table 4 above. In the GARCH model, there was no ARCH effect meaning previous month’s volatility in velocity of money does not affect the current month’s volatility in velocity of money but there is GARCH effect suggesting that, previous month’s velocity information on volatility is significant in the determination of current volatility in velocity of money. Also, depreciation of the exchange rate significantly affects stability of the velocity of money. Also, depreciation of the exchange rate significantly affects stability of the velocity of money. Volume of mobile money transactions, however, does not influence volatility in the velocity of money.

Table 7: Wald Test

Equation: EQ01

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>df</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>1.430859</td>
<td>(2, 62)</td>
<td>0.2469</td>
</tr>
<tr>
<td>Chi-square</td>
<td>2.861718</td>
<td>2</td>
<td>0.2391</td>
</tr>
</tbody>
</table>

Null Hypothesis: C(4)=C(7)=0
Null Hypothesis Summary:

<table>
<thead>
<tr>
<th>Normalized Restriction (=0)</th>
<th>Value</th>
<th>Std. Err.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(4)</td>
<td>0.071595</td>
<td>0.052589</td>
</tr>
<tr>
<td>C(7)</td>
<td>4.23E-05</td>
<td>2.71E-05</td>
</tr>
</tbody>
</table>
Restrictions are linear in coefficients.

The GARCH model and Wald Test revealed that C(5) which is the coefficient of owned shocks emanating from nominal GDP and money supply causes volatility in the velocity of money (See Table 7).

**Table 8: Wald Test**

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>df</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>t-statistic</td>
<td>4.092578</td>
<td>62</td>
<td>0.0001</td>
</tr>
<tr>
<td>F-statistic</td>
<td>16.74919</td>
<td>(1, 62)</td>
<td>0.0001</td>
</tr>
<tr>
<td>Chi-square</td>
<td>16.74919</td>
<td>1</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Null Hypothesis: C(5)=0
Null Hypothesis Summary:

<table>
<thead>
<tr>
<th>Normalized Restriction (= 0)</th>
<th>Value</th>
<th>Std. Err.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(5)</td>
<td>0.568538</td>
<td>0.138919</td>
</tr>
</tbody>
</table>

Restrictions are linear in coefficients.

**Summary and Conclusion**

This section provides a summary and discussion of the empirical results and concludes with recommendations. The recommendations are meant to intensify efforts at digitisation of the economy through policy initiatives to enhance the payment systems.

**Summary of the results**

The choice of monetary policy regime is essential for attainment of price stability. When demand for money function is unstable and unpredictable price stability objective may not be achieved optimally by targeting monetary aggregates such as money supply as intermediate target and reserve money as operating target. Some studies undertaken in the past found that both M1 and M2 are stable despite the rapid growth in financial innovation in Ghana. The policy implication from the study is that monetary targeting is the appropriate monetary framework for Ghana. The study failed to take account of the impact of financial innovation on the stability of the money demand function and it is also little dated on account of recent developments in the payment and financial systems. Another study however found significant parametric shift in the demand for money in Ghana but failed to assess the impact of financial innovation in the parametric shift of the demand for money function.

Motivation for this study is therefore to investigate the impact of recent development in digital financial innovation particularly the use of electronic money and payment channels on velocity of money and its implication for the choice of the current monetary policy framework for Ghana. Using Generalised Auto-regressive Conditional Heteroskedasticity (GARCH) model and maximum likelihood Estimation for Conditional Variance estimation method, the empirical results show that the demand for money function is unstable and is significantly influenced by financial innovation and growth in the volume of mobile money transactions, growth of nominal GDP and broad money supply, average lending rates of universal banks and depreciation in the nominal USA Dollar-Cedi exchange rate.
**Recommendation**

The key issue emanating from the findings of this paper is that policy initiatives that are geared towards development of the payment systems will provide support for the choice of inflation targeting as a monetary policy framework. The study also affirms that inflation targeting rather than monetary targeting is the appropriate policy framework for Ghana on account of instability in the demand for money function.

**References**


QUOTES

“When one door of happiness closes, another opens; but often we look so long at the closed door that we do not see the one which has been opened for us.”

-Helen Keller

“Twenty years from now you will be more disappointed by the things that you didn’t do than by the ones you did do.”

-Mark Twain

“A friend is one that knows you as you are, understands where you have been, accepts what you have become, and still, gently allows you to grow.”

-William Shakespeare

“Great minds discuss ideas; average minds discuss events; small minds discuss people.”

-Eleanor Roosevelt

“A successful man is one who can lay a firm foundation with the bricks others have thrown at him.”

-David Brinkley

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