

Analysis of Indonesian Sovereign Green Bond and Green Sukuk Initiatives

Analisis Inisiatif Sovereign Green Bond dan Green Sukuk Indonesia

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Abstrak

Obligasi hijau, sebagai alat untuk memobilisasi investor tambahan dalam mendukung keuangan yang berkelanjutan, telah menjadi topik hangat diskusi. Lebih lanjut, sukuk hijau juga telah dikembangkan di berbagai pasar yurisdiksi Islam, mencerminkan sifat obligasi hijau dalam mengakomodasi investasi yang bertanggung jawab secara sosial. Sementara studi-studi sebelumnya berfokus pada pengembangan kelas-kelas aset baru tersebut di negara maju, tulisan ini secara khusus akan meneliti dalam konteks negara-negara berkembang, khususnya Indonesia. Indonesia memiliki inisiatif untuk menerbitkan obligasi hijau dan sukuk hijau untuk pertama kalinya; sehingga perlu dipastikan bahwa inisiatif tersebut tidak akan mengganggu praktik yang sudah ada. Studi ini bertujuan untuk melihat pasar obligasi dan sukuk konvensional yang telah ada di Indonesia, kemudian menganalisis apakah kondisi yang ada sekarang memadai – dari perspektif stabilitas keuangan. Bertentangan dengan studi-studi Islam sebelumnya, tulisan ini akan menunjukkan bahwa praktik sukuk mungkin tidak kebal dari instabilitas. Studi ini berpendapat bahwa dukungan yang kuat oleh pemerintah dapat memberikan efek stabilisasi terkait dengan agenda kebijakan penerbitan obligasi hijau dan sukuk hijau di Indonesia. Studi ini, bagaimanapun, tidak mencermati struktur sukuk per kasus, yang berguna untuk mengidentifikasi isu-isu spesifik yang mungkin timbul.

Abstract

Green bonds, as a vehicle to mobilize additional investors in supporting sustainable finance, have been a longstanding topic of discussion. Moreover, Green sukuk also have been developed in Islamic jurisdiction markets, mirroring the nature of green bonds in accommodating socially responsible investments. While earlier studies focused on the development of those new asset classes in the developed economies, this paper specifically examines the context of emerging countries, in particular Indonesia. Indonesia is on its way to issue the first green bonds and green sukuk; therefore, it is needed to assure that the initiatives will not disrupt the existing practices. This paper aims to look at the existing Indonesian conventional bond and sukuk markets, then analyse whether the preconditions are sufficient – from financial stability perspectives. Contrary to the Islamic researches, this paper will point out that sukuk practices may not be immune from instability. The paper argues that strong support by the government may serve as a stabilising effect on the policy agenda to launch green bonds and green sukuk in Indonesia. This paper, however, does not scrutiny sukuk structures per case, which may be useful to identify specific issues that may arise.

“In the future, all bonds should be green”

– Suzanne Buchta, Managing Director, Bank of America Merrill Lynch-

1. INTRODUCTION

Indonesia, as one of the world's largest emerging economies, has recognised the need for supporting green growth and promoting green finance. Indonesia has an ambitious commitment to reducing greenhouse gas emission by 26% at its own expense or 40% with assistance from international community. Moreover, Indonesia's participation in G20 encourages a policy agenda to launch green bonds, which are considered as powerful innovation for raising capital in the green and inclusive development initiative – an aspiration that currently influences most economies to finance their development in a more sustainable way.

Based on data extracted from the Climate Bonds Initiative, the outstanding number of green bonds has increased by more than thirty-five folds over the seven-year period since its emergence in 2007. The growing size of green bond markets is also evident in emerging economies, which face immense financial challenges in dealing with climate change problem (Africa Development Bank Group 2016). Such massive funds are clearly needed to achieve these expected goals. Especially in the case of emerging markets, green bond markets lead the way to reform financial systems to reflect the climate change reality (Cooke 2015). In addition, it is because their green development agenda is highly incorporated with huge infrastructure needs, in which the money is too heavy to be borne by the government itself.

Green bonds potentially serve as a parallel option in financing green development in emerging countries. It has been argued that the growing green bond issuances in emerging economies are also a part of the consensus to reduce their heavy reliance on bank lending for their green financing needs (Cooke 2015). In the case of the Africa Development Bank's green bonds, the bonds can attract new socially responsible investors, who were different with traditional investors. Regional central banks and other financial institutions previously purchase most of their plain vanilla bonds, but new institutional investors in western countries buy around 84% of their green bonds.

The innovation of green bonds has induced Indonesian government to consider green sukuk initiative. Almost similar to green bonds, green sukuk contributes to environmentally friendly projects. Most importantly, they must comply with Sharia laws. Despite the fact that bond markets in Asian emerging countries are relatively overlooked, compared to the equity markets and banking system, green sukuk has been thought to be potential. In Indonesia case, the country has been acknowledged as one of the leading sukuk issuers. This initiative to scale up sukuk to be green sukuk aligns with the Indonesia's ambition to become the global sovereign sukuk hub in Asia. Thus, currently, the government examines the most prudent way to issue green sukuk, without disrupting the conventional bond and sukuk markets.

The green bonds are seen by analysts as a catalyst to economic resilience, since it is able to captivate long-term investors (Africa Development Bank Group 2016). Meanwhile, sukuk are also postulated to serve as an asset class investment, which provides long duration of maturity and

favourable for financial stability. Recent studies argue that Islamic finance offers a more sustainable alternative to the financial system, compared to the Anglo-Saxon model. In order to achieve Indonesia's financial sustainability goals, it is imperative to evaluate whether these initiatives are disruptive to the financial stability.

This study examines the stability elements of existing Indonesian bond and sukuk markets. It offers a basic guidance on the agenda of issuing government green bonds and green sukuk in Indonesia. This study contends that the current preconditions are sufficient for green bonds and green sukuk issuances, due to the strong support and presence of government. Therefore, this study presents information based on exploratory analysis involving stability elements, such as the issuers, maturity profiles, investor profile, and denominated currency in the current Indonesian conventional bonds and sukuk. Although extensive research has been carried out on green bonds and sukuk, no single study explores the features to a green bond and green sukuk initiatives in developing countries. This study will serve as the first study which examines green bond and green sukuk agenda; linked with financial stability in the context of emerging countries. For the Indonesian government, this study will provide support to the urgent agenda, to seek new financing schemes for green development in the country as well as incorporates financial stability facets. This paper takes as a starting point of the importance of financial stability considerations when issuing new financial assets, particularly in the green economy sphere.

The organisation of this paper as follow. Section 2 of this study provides the concept of sustainable finance, green bonds and sukuk. Then, section 3 presents the current state of Indonesian markets, which is followed by Section 4 which explains the methodology used in this paper. An analysis on the current state of Indonesian conventional bond and sukuk markets using stability factors will be presented in Section 5. Section 6 will address the debate in sukuk market and its implications in the green sukuk initiatives. Section 7 concludes.

2. CONCEPTS

2.1. Sustainable Finance

Sustainable finance is a new paradigm that is highly promoted by the World Bank and the United Nations in order to support sustainable development framework. With the increasing challenges from climate change, sustainable development framework has attracted many countries and institutions to address current development issues, especially in emerging countries, which deem climate change as an element that can impede economic growth. The sustainable development framework brings three essential aspects together, namely economic, social and environmental sustainability (United Nations 2008). In that respect, the social and environmental interests are seen to matters as much as the economic factors.

The International Finance Corporation (IFC), which plays a crucial role for sustainable development framework socialisation, defines sustainability as a 'long-term business success' (GIZ 2014 p.8) that contributes toward development in economic and environmental sectors as well as enables a healthy environment and stable society. It is expected that the implementation of this framework can promote economic transformation, facilitate greater opportunities for the poor to move out of poverty and enforce justice (Financial Service Authority 2015). In other words, this concept is also widely mentioned as a low-carbon and climate-resilient economy (OECD 2015).

For that purpose, the sustainable development programme needs financial supports, which then are called as 'sustainable finance'. It is emphasised that sustainable finance also means developing a more diversified and competitive financial system, enabling an expanded access to funding mobilisation which addresses the people's needs (United Nations 2008). Funding from traditional sources of finance, such as official development assistance, loans from multilateral financial institutions, and government budget, is seen no longer sufficient. Thus, several practical solutions and alternatives are being examined to finance sustainable development needs. United Nations (2008) has pointed out that government needs to look beyond their revenues by mobilising private sector investment in infrastructure as well as in environmental and social sectors.

The growing concern of climate change due to its possible severe impacts on development strategies has made global community emphasise the conduct of environmental-friendly economy. The impacts of climate change are not only seen in environmental sectors; they are rather considered as a significant driver that causes economic and socio-political problems. The underdeveloped countries are deemed as the most vulnerable when it comes to climate change, as they have the least capability to adapt in health systems, develop infrastructure, diversify the economies, and minimise the exposure to climate-sensitive diseases (United Nations 2008). Therefore, the international community has recognised the need for climate finance, and shift their funding reliance to the private sector with under promising market, profits and policy environment.

2.2. Green Bonds

Green bonds are simply bonds, but their "green" label distinguishes them from a regular bond, as it shows the commitment to specially use the raised funds to finance "green" projects, assets or business activities (ICMA 2015). Green bonds can be issued by either public or private agents and are usually structured to provide fixed payments (in the form of "coupons") over time to investors, with the initial invested amount (the "principal") returned once the bond reaches maturity. Green bond issuers will need to raise cash flows to repay the bond principal over a certain period, which might also involve a supplementary variable or fixed rate of return through the coupon. Green bonds can be asset-backed securities, which are dedicated exclusively to a particular green project. However, most of them are issued to generate cash flows to finance green projects across an investment portfolio.

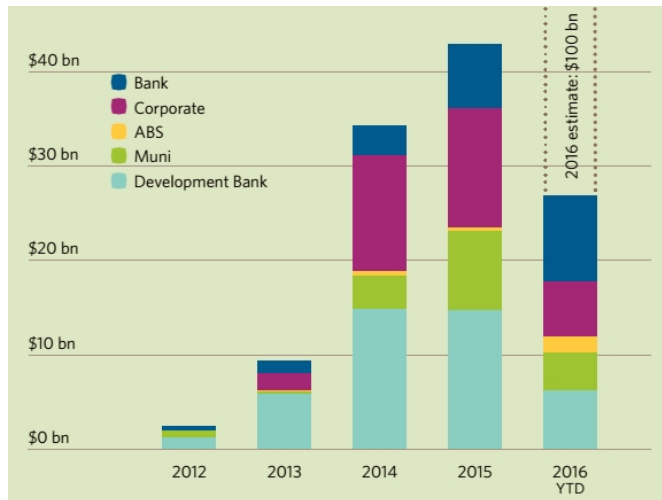
In 2014, the Green Bond Principles (GBP) was first launched in 2014 by a group of issuers, investors and international banks; they work with the International Capital Market Association to promote the principles. The principles were considered as a significant progress in the establishment of standards and criteria to define a green bond since initially, guidance for green bonds' market practice seem to be difficult to find.

The emergence of green bonds was first coined by the multilateral development banks in 2007. Until 2012, the market was dominated by supranational organisations, such as the World Bank, European Investment Bank, and the International Finance Corporation, along with some governments and local development banks. Then, in around 2013, the private sectors started to participate in the green bond issuances, including banks and corporations.

Since then, green bonds have increased exponentially. Although, the total remains very small compared to the overall global bond markets. Current issuance in 2016 has reached USD 72 billion which is fuelled by the high growth of China (BNEF 2014), and the figure is expected to exceed the prediction made by Climate Bonds Initiative (2016) as shown in Figure 1. It reflects the confidence

of experts and investors; predicting the size of global green bond markets will reach USD 1 trillion by 2020 (Tozzi 2014).

FIGURE-1: The Trend of Global Green Bond Issuance and The Breakdown by Type of Investors



Source: Climate Bonds Initiative (2016)

What differentiates green bonds with conventional bonds are the efforts that signify the commitment to fund environmental projects. The GBP serves as the most widely used guidelines to define green bonds, which covers the process of project selection to reporting. Despite the distinctive features, green bonds also have similarity with regular bonds. In the case of full-recourse green bonds, the responsibility goes to the issuers –not the revenues derived from the specific project as there is no legal “green” promise to fulfil the liability (Preclaw 2015).

Furthermore, Preclaw (2015) argues that this similarity is imposed to induce the market growth by providing the convenience of familiarity with the traditional practices of bonds for issuers in the middle of their efforts of signalling commitment to sustainability. In spite of issued by companies specialising in environmental business lines such as the wind and solar energy, their bonds are not automatically qualified as green bonds. The GBP defines five major broad categories of environmental projects, namely pollution prevention and control, alternative energy, green building, sustainable water, and energy efficiency.

Although there is guidance like GBP to define green bonds, the standardisation of green bonds still raises several concerns. The term “green washing” emerges to challenge the practice of green bonds, challenging whether they fund projects with the approved level of greenness. The environmental benefits carried by those green projects seem to be difficult to measure, due to the diversity of investors and project areas. Thus, prior the issuance, green bond issuers seek second-party opinions from independent institutions, such as CICERO and Sustainalytics. Around 60% of outstanding labelled green bonds are reviewed by them, provided the burgeoning demand from investors on the report of impacts that interestingly influences their buying decisions. Some indices, such as the Barclays-MSCI Green Bond Index and Global Green Bond Index, are also launched to assist the market (Preclaw 2015). Reichelt & Davies (2015) also point out that there is a possible discourse that the standardisation should be country-context as it would be different conditions across countries to define green projects.

There have been several arguments why green bonds have attracted some investors. The majority outstanding green bonds are green “use of proceeds” bonds which imply that in the event of defaults, the recourse will go to the entire issuers’ balance sheet. This type of green bonds offers some advantages for the investors due to the absence of additional risk of investing in the green initiative (Africa Development Bank Group 2016).

Furthermore, Reichelt & Davies (2015) argue that green bonds can act as a catalyst to create a more responsible and sustainable fixed-income capital market, which is in line with the most economies’ initiative to pursue a sustainable economy. Moreover, green bonds also offer disclosure and transparency to the investors through their assessment, to assure that they fulfil their sustainability credentials. Therefore, this nature of green bonds is attractive for niche investors, who support climate-focus initiatives. It is argued by Reichelt & Davies (2015) that this builds the engagement between issuers and investors on the issuers’ activities.

Another issue of green bonds is the costs culminated in their issuance, as it involves some specific process. The issuers can offer an independent review that covers the various level of transparency, such as project selection, fund tracking, and impact reporting. However, Reichelt & Davies (2015) argue that value of the practices may out weigh the costs, making green bonds attractive – given the same comparable pricing imposed in plain vanilla bonds. This vetting process can also be adjusted based on the issuers’ need to communicate their reputations and credentials with corresponding costs incurred. This degree of customisation is seen as helpful for encouraging new issuers.

The advanced economies usually have well-developed general bond markets that enable an easier introduction of new financial instruments like green bonds. Although, green bonds might also pose some particular challenges. In contrast, the general bond markets in emerging countries are still considered as under-developed. This situation is believed to the slower green bond market growth rate (Climate Bonds Initiative 2016). However, the Climate Bonds Initiative suggests that green bonds could still occur even if the bond market is generally under-developed.

2.3. Sukuk

Sukuk are Islamic financial instruments that have traits like conventional bonds. However, sukuk are also said to have stock-like nature (Godlewski et al. 2013). Sukuk and conventional bonds are similar, in the sense that they have a set of maturity and the holders deserve a regular stream of income over the life of sukuk along with the payment of the sukuk principal at maturity. What distinguishes sukuk from bonds is that sukuk are entitled to underlying tangible assets and do not pay interests as it is prohibited in Sharia laws; while bonds are basically an instrument which finances any assets or activities and offer guaranteed cash flows (Taoual 2016). Instead, returns on sukuk are rather derived from tangible transactions with real business risks (Zakaria et al. 2012). Thus, sukuk can be described as an investment certificate that corresponds to asset ownership with inherent cash flows, risks and benefits; which makes sukuk are comparable with equity stocks (Godlewski et al. 2013).

However, Arslan-Ayaydin et al. (2016) argue that sukuk can be neither presented as Islamic certificates nor equity, but income bonds since the coupon payment relies on the earning of the issuer. Sukuk can be best described as a debt to show the entitlement of cash flows, which is not present in the case of equity. While said as mirroring conventional bonds, sukuk also reflect as a proof of ownership (Tahmoures 2013).

The existence of sukuk provides more options for financing and investments, which can satisfy the strict preference of niche investors who follow Sharia rules, which is not served by conventional financing manners (Kusuma & Silva 2014). For developing countries, sukuk serve as a promising means to finance the infrastructure development, due to the nature of sukuk which are necessarily backed by long-term assets.

Beside promoting profit sharing, sukuk also comply with Islam's ethical-legal framework, in which it concerns about well-being on Earth and its habitant (Moghul & Safar-Aly 2015). It means that the projects or assets must be environmentally friendly or not 'destructive' to the environment; implying that sukuk incorporate social and environmental values which are the features of green financing ideas.

2.4. The Development of Bond and Sukuk and Its Effects on the Financial Stability

Financial stability has been of primary concern in public policy formulation. The last Global Financial Crisis in 2008/9 provided a serious warning for the authorities in the fact that any instability can potentially turn into a financial crisis. What can be worse, instability in financial crisis can also possibly lead to any instability in the real economy (Crockett 1997).

After Global Financial Crisis, one of the most discussed issues in economic instability is whether Islamic finance can serve as an alternative to creating a more stable financial system. Islamic finance sets economic stability as its goals which in turn is favourable for growth and development (Chapra 2009). Most importantly, Islamic economic stresses the need to create social welfare (Karwowski 2010) which is heavily backed by empirical results from its microfinance practices (Ferro 2005).

The profit-and-loss sharing (PLS) mechanism under Islamic finance, which emphasises the risk-sharing concept, offers a more resilient system to external shocks, as the debtors are freer to choose backed assets with higher risk-return profiles and longer-term investment, such as infrastructure. Despite the high risks, in the event of losses, the debtors can just pass on to the investors to some extent. In fact, speculation (*gharar*) is prohibited in Sharia laws, which reflects financial stability (Karwowski 2010).

Given the arguments favouring the stability induced by Islamic finance, Karwowski (2010), however, argues that Islamic finance and conventional finance are generally not different in a significant manner which cast fresh doubts on the Islamic economics' capability to bring stability. Using the case of Islamic banking, Karwowski (2010) points out that trust, which is widely used in Islamic practices, is a weak, illogical, and insufficient base to ensure the practice and regulation in the financial markets.

During the Global Financial Crisis, Islamic instruments – in this case, were stocks – are found to outperform the conventional ones, provided the fact that the so-called subprime mortgages, as well as its derivatives, are prohibited by Sharia laws to be used as underlying assets. Thus, the Islamic financial assets which were not linked to such risks from toxic derivatives were able to do better compared to those covering sub-prime mortgages (Akhtar & Jahromi 2015).

The heavy reliance on foreign currency debt is believed to be an aggravating factor that causes financial instability. Bond markets dominated by local currency can promote stability as they lengthen the maturity of debt and reduce currency mismatches. Furthermore, an adequate level of

liquidity is also an important key to the financial stability (Committee on the Global Financial System 2007).

3. THE CURRENT STATE OF INDONESIAN MARKETS

3.1. The Indonesian Financial System

Overall, the Indonesian financial markets are relatively shallow, compared to regional emerging market peers (Mandiri Institute 2015). There has been limited development over the last decade, compared to its ASEAN neighbours, including Malaysia and Thailand. Indonesia's financial system, like most developing Asia countries, has been historically dominated by their banking sector with minimal involvement of the capital markets. As of April 2016, the financial system relies heavily on the banking sector, with total assets held by banking sector was 76.07%.

The Indonesian bond market is minuscule and has been in the most nascent stage of development compared to other economies in the East Asia region (Fabella & Madhur 2003). Moreover, they also state that bond issuance in the Indonesia, similar to the PRC, is mostly of short and medium-term maturity bonds. The small size of domestic Indonesian bond market seems to be caused by the weak legal environment that discourages debt contracts and lacks institutional investors which lower the demand (Montgomery 1997).

Although the capital market is underdeveloped, the Indonesian stock exchange has been progressing rapidly in the last two decades. Since 2004, Indonesian stock exchange has been even more attractive than any other countries, such as Dow Jones, NASDAQ and S&P 500.

3.2. Indonesia's Sustainable Finance

GIZ (2014) suggests a definition of sustainable finance tailored for Indonesia which explains the financial sector support to the sustainable economic growth and emphasises the aspects of environment protection and social welfare. Most importantly, the concept aligns with Indonesian development principles: pro-growth, pro-jobs, pro-poor and pro-environment. The government itself has incorporated the concept of sustainable development in their Medium and Long Term Development Plan and added the fourth aspect to complement the economic, environmental and social aspects: institutional.

Despite its status as an emerging economy, Indonesia has a major role in meeting global climate stabilisation target as it highly contributes to the global use of land, peat land, forestry and agriculture emissions. As one of the major greenhouse gas emitters, Indonesia is also committed to pursuing an ambitious goal by setting a target of emissions reduction of 26% below business usual by 2020, levelling up to 29% by 2030, and increasing their ambition to 41% with international support (Ministry of Finance Indonesia 2014). The efforts to reduce greenhouse gas emission need about USD 24.8 billion per year, in which the public spending is expected to cover the 47% of them (Volz 2015). The government decides to no longer highly rely on the direct public expenditure as the country needs to move from the middle to high-income status (ICMA 2015). While the government has devoted significant resources to finance the green investment, the government is also working hard to shift the financing reliance to the private sector.

To meet the targeted funding coverage from private sectors, in 2014 Indonesia's Financial Services Authority has officially launched a set of detailed work plans on sustainable finance programme that serves as guidance for the stakeholders in the scheme. The programme has marked

as an important innovation to reform its financial market, following up the authorities' demand for financial institutions to incorporate social and environmental considerations on sustainable investments. In particular, developing the domestic bond market is imperative as it will become an increasingly necessary financial instrument for green financing while the Indonesian financial markets are growing. The commitment to encourage green financing is also by developing sustainability ratings in its fast-growing capital markets.

4. METHODOLOGY

The study develops a descriptive exploratory analysis to summarise the main characteristics of the data using graphs. It capitalises on this technique to explore the main features of bond issuance in Indonesia, namely the issuers, maturity profiles, denominated currencies, and investor profiles, which include the type of investors and their jurisdiction.

5. ANALYSIS OF THE EXISTING INDONESIAN MARKETS

CIMB Islamic (2016) finds that the sukuk market in Indonesia is the 4th largest in the world. In the case of Indonesia, sukuk is predicted to continue their major role to fulfil the dire need of infrastructure financing. Sukuk will remain to serve as a prime asset class due to their more desirable longer maturities, compared to banking sectors may provide (CIMB Islamic 2016).

A review in Indonesian Sukuk market, by assessing current investors and their demand, is imperative to depict the basic preconditions for developing Islamic financial sector which operates effectively (Kusuma & Silva 2014). As an open economic country, Indonesia faces a significant challenge to maintain its financial stability, which in turn can affect its macroeconomic stability. This issue is a lot more being emphasised by some economists these days[†] and of main concern in economic policymaking. One of the major trends that may bring adverse consequences to the financial stability is a fast growing financial systems which may not be followed by the sufficient amount of real economy growth (Schinasi 2006).

A more expanded argument proposed by Orhangazi (2011) arguing that, initially, finance provides a solution to the economy, but at the other times it rather exacerbates the economy. As finance is growing, the relationship between finance and economy becomes more complicated and contradictory. Minsky (1992) describes that the financial sector complexity along with its expensive financial assets, is the major cause of instability, and this is natural in normally functioning capital economy. The complexity, then, leads to behavioural trends witnessed by financial institutions and influenced by the structure of the financial system, history of the economy and institutional relations (Minsky 1985).

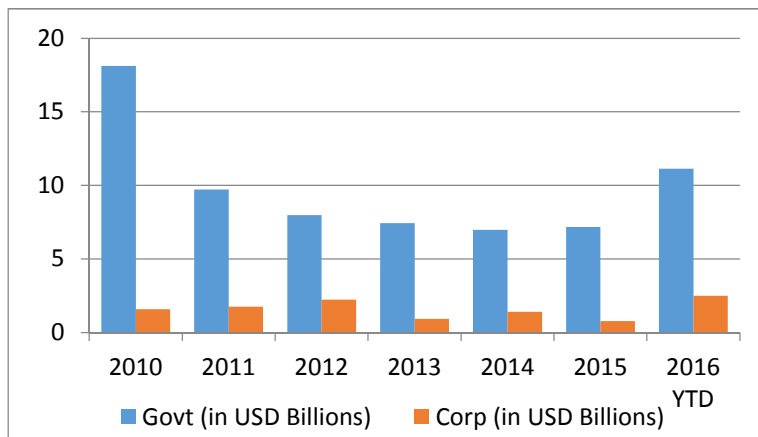
This paper will critically analyse the Indonesian government's initiative to issue green bonds and green Sukuk by looking at one particular close facet: its possible connection to financial stability. By analysing the current state of both sukuk and conventional bonds' stabilising elements, this review will suggest as to how to develop green bonds and green sukuk in the Indonesian context. This approach is recognised rather as limitations since can ill-afford to oversimplify the analysis of a potential increasing financial complexity marked by this initiative.

[†]For example Crockett (1997) and Schinasi (2006)

5.1. Government as issuer

In Indonesia, the government is the largest issuers of domestic conventional bonds. As of March 2016, about 86.7% of the outstanding local currency bonds in Indonesia has been issued by the government (Asian Development Bank 2016). This depicts the funding needs from capital markets, which are commonly evident in economies with fiscal deficit position like Indonesia.

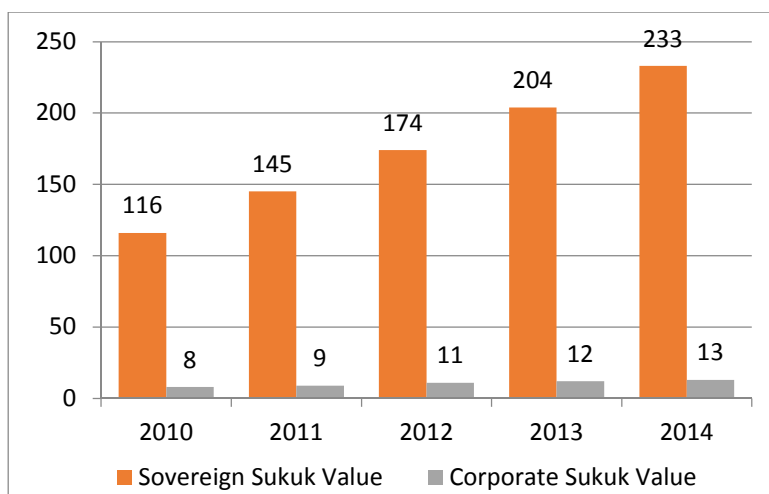
FIGURE-2: Issuance Volume of Local Currency Bond Market



Source: Asian Development Bank

The sukuk markets have witnessed an even bigger share of government's sukuk; comprising around 96%. Within the total Indonesian sukuk outstanding, about 68% of them are structured in *ijarah* arrangements. The tiny existence of corporate sukuk may have the role in balancing the market by fulfilling the demand for diversifying investors' portfolio (CIMB Islamic 2016). Provided that the government is the major issuer in Indonesia, there seems to be a tendency that sovereign sukuk are issued to serve as a safe asset to Sharia banks, or to conventional banks/institutions with Sharia subsidiaries.

FIGURE-3: Indonesian Sukuk by Type of Issuer (in IDR Trillion)



Source: Thomson Reuters

As explained by Jeanneau & Tovar (2008), heavy government issuance in domestic debt markets offers some advantages. For instance, the governments may act as a key for the development

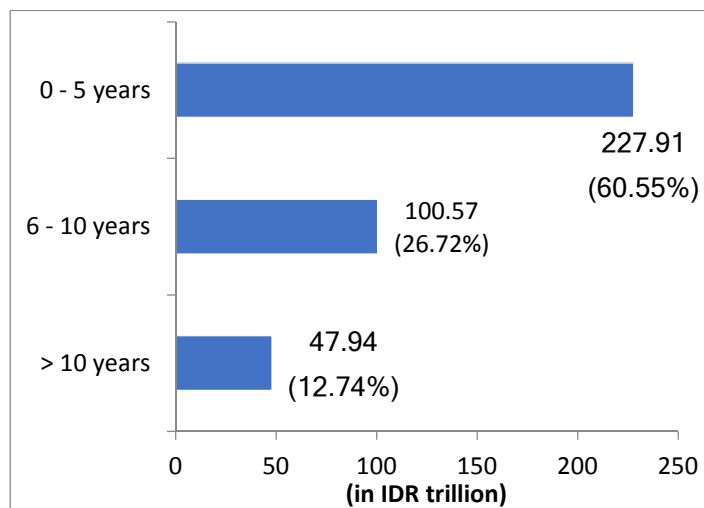
of liquid debt markets by creating risk-free yield curves, which are widely used as benchmarks for issuance by the private sector. However, in the case of sukuk, the benchmarks are not that necessary due to the interest-free nature of sukuk with unique underlying business risks. Sovereign financial debt instruments are considered safer, but strong government borrowing can also prompt higher market prices for the corporate sector to make investments. Their strong presence would also crowd out corporate sector and retard its development. The high share of government bonds can also lead to an increase in foreign borrowing by the private sector and would exacerbate any existing currency mismatches.

5.2. Maturity Profiles

This paper attempts to examine liquidity risks by looking at the appetite on the bond maturity in Indonesian market due to an imperative association between economic and financial stability to maturity mismatches (Committee on the Global Financial System 2007). Looking at the experience of Obligasi Ritel Indonesia/Retail Indonesian Bonds (ORI) series, the problematic part of issuing sovereign bonds in Indonesia is the low demand for long-term bonds. This fact was evident during the issuance of ORI005, which created the lowest demand among ORI series. ORI005 covers five year long maturity and lesson learnt, the government only issues three year long bonds afterwards (Indonesia Investments 2014).

Meanwhile, as of April 2016, the government sukuk are dominated by the shortest-term type, which covers no more than 5 years. However, globally, the appetite for issuing short-term Sukuk (less than 12 months) in Indonesia is relatively tiny compared to other economies, accounting for 0.75% of total issuances in the world (IIFM 2016).

FIGURE-4: Composition of Sukuk Negara Outstanding by Term (as of 29 April 2016)



Source: Ministry of Finance

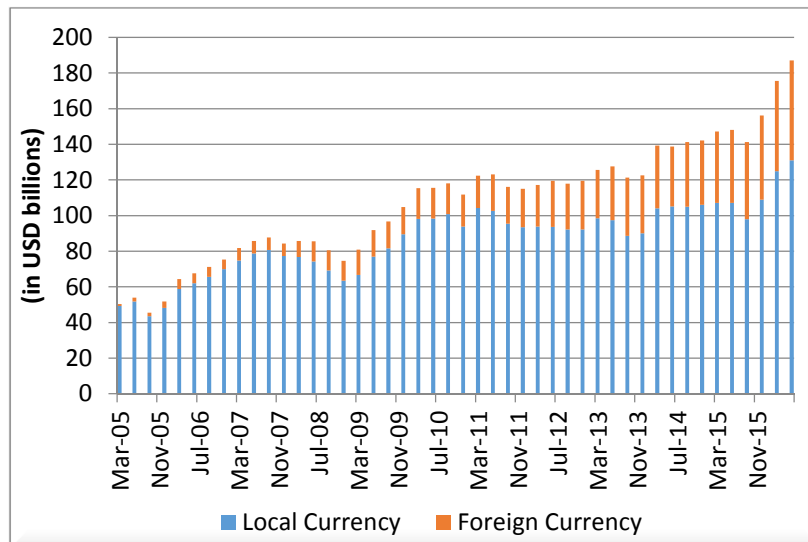
The trend towards favouring short term borrowing in emerging markets has been described by Broner et al. (2013); arguing that borrowing short term is cheaper owing to the higher risk premium on long term bonds, given the trade off against safer long-term borrowing. In addition, the shortened debt maturity was evident in the episodes of crises because of the significant increase in the cost of long-term borrowing.

In Indonesia case, the graph may suggest a low Sharia sensitivity – a measure for investor stickiness to their Islamic investments. Particularly in the retail market, it would be difficult to retain investors who are not Sharia-sensitive, provided poverty and low income in the major Indonesia's population, which prompted economic returns set as a top priority rather than religion considerations in making investments (CIMB Islamic 2016).

5.3. Denominated Currency

Developments in the share of foreign bonds in total government bonds outstanding are summed up in Figure 5. Over the past decade, while the Indonesia government bond markets have seen an increasing trend, the issuance of international bonds has risen substantially. In June 2016, foreign currency bonds accounted for 30% of total government bonds outstanding. A possible explanation for the less dominant trend in domestic issuance by the government sector is the government's plan to increase foreign-currency-denominated bonds to finance its budget deficit (Asian Development Bank 2016).

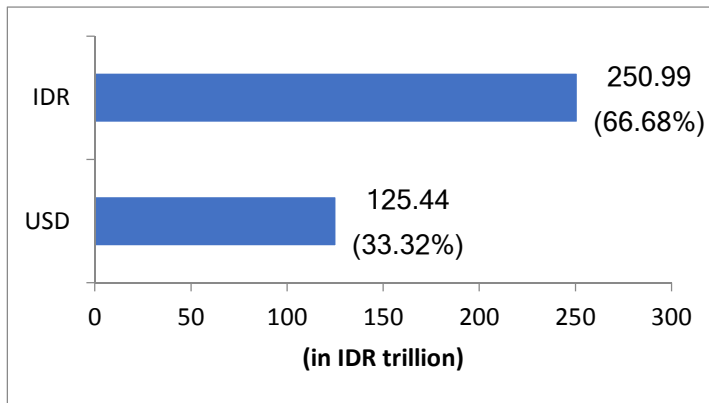
FIGURE-5: Breakdown of Government Bond Outstanding (as of March 2016)



Source: Asian Bonds Online

As of 2016, rupiah-denominated sukuk amount to approximately 67% of total outstanding sukuk issued by the government of Indonesia. Currently, Indonesia has the largest outstanding international sovereign sukuk (USD-denominated) running over USD9.5 billions (Figure 7). The growing keen interest to issue foreign-currency-denominated sukuk by the government is partly the effort to access the international markets (Karatas & Nienhaus 2015) since the interest in incorporating Islamic Finance has developed not only in Muslim jurisdictions (Najeeb & Vejzagic 2013). International markets can also build a supportive legal framework to create SPVs and issue suitable sukuk in jurisdictions that are globally well-recognised, like the US and the UK (Kusuma & Silva 2014).

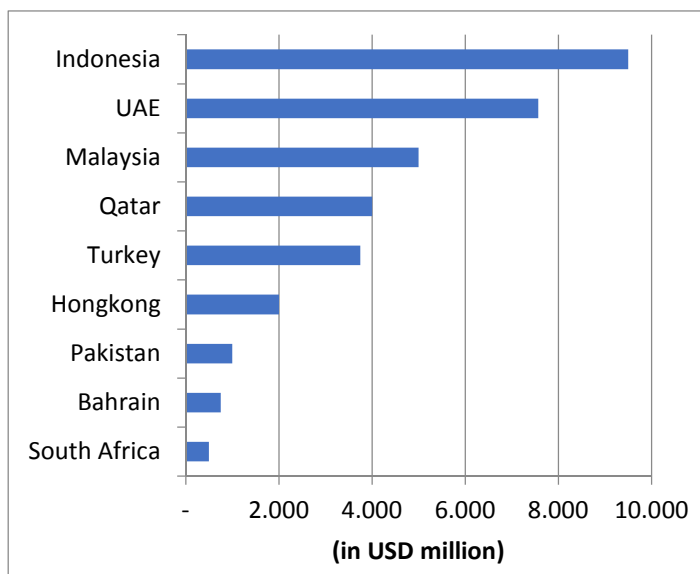
FIGURE-6: Composition of Sukuk Negara Outstanding by Currency (as of 29 April 2016)



Source: Ministry of Finance

However, domestic issuance witnessed to be less vulnerable during the Global Financial Crisis 2008/9, at least in some Sukuk markets, such as Bahrain (Ariff et al. 2012). Overall, international currency debt, particularly the short ones, intensifies systemic risks as the monetary policy might be disrupted (Kern 2012). On the other hand, external long-term borrowing may also lead to currency mismatches if the borrowers' financing is through short-term loans, or if their revenues are in local currency (Jeanneau & Tovar 2008). During the recession, currency mismatches will worsen the severity and retard the recovery adjustment (Goldstein & Turner 2004).

FIGURE-7: Total Outstanding of International USD Sovereign Sukuk



Source: Ministry of Finance

5.4. Investor Profiles

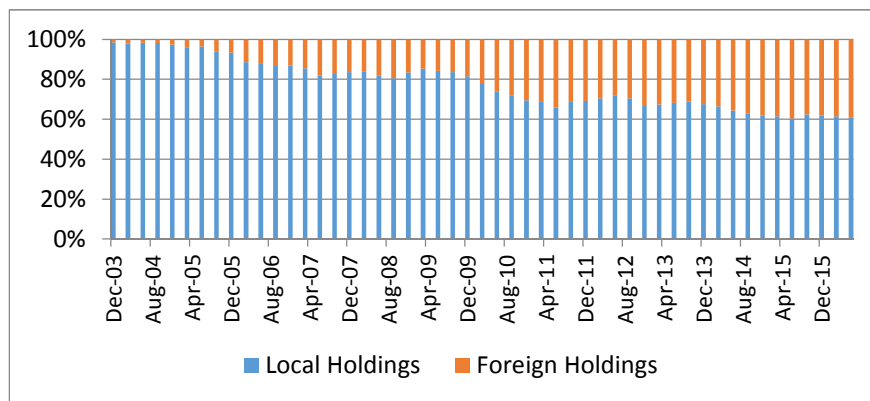
5.4.1. Jurisdiction of Investors: Foreign vs Domestic

Foreign participation in the government bond at local currency markets has been rising over the last years (Figure 8). The growing appetite of foreign investors in local currency paper over the medium paper has been explained by Committee on the Global Financial System (2007); highlighting that their presence plays a major role in risk dispersion in the local currency bond

markets. Instead of concentrated on the home country, significant non-resident participation would spread such risks overseas. However, during the crisis, foreign investors might suddenly sell to local currency bonds, which may bring an aggravating effect to the exchange rate.

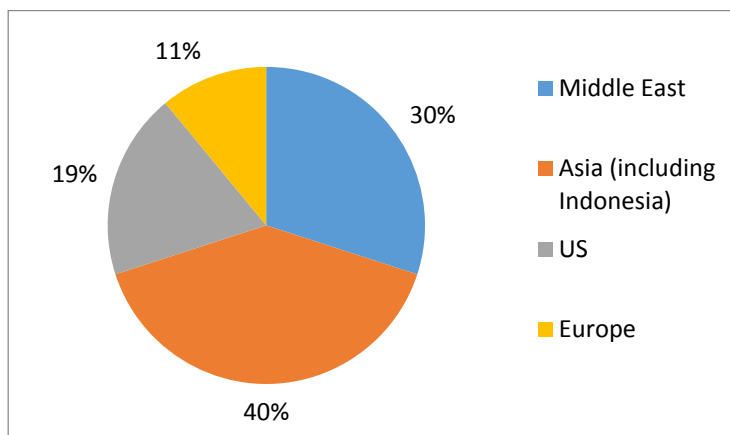
On the other hand, foreign holdings can contribute to stabilising the domestic market to compensate the risk-averse attitude by local investors on unfavourable domestic development – the non-resident investors are assumed to hold local bonds as their international portfolio diversification. The recent growth of non-resident investments in local markets also indicates an increasing confidence in the macroeconomic stability prospects and credit worthiness profiles on the domestic markets (Committee on the Global Financial System 2007).

FIGURE-8: Foreign Holdings in Local Currency Government Bonds



Source: Asian Development Bank

FIGURE-9: Indonesia Sukuk Investors Distribution - By Geographical Area



Source: Ministry of Finance

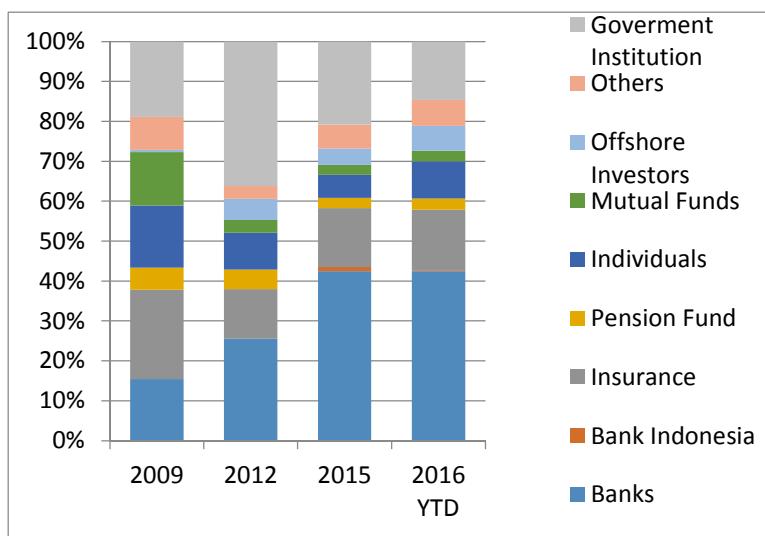
In the sukuk market, the major holders reside in Asia, followed by the Middle East in which the Sharia compliance is more prominent in these regions (Figure 9). Apart from that reason, the quite high subscription by Middle Eastern investors was influenced by increasing oil prices and substantial liquidity level in the region (Jakarta Post 2008). Like in Asia, most of the money generated from sukuk practices in the Middle East is channelled to infrastructure, especially in real estate market (Taoual 2016). This may induce stability, but it does not mean that inherent risk is not in place. In the short run, property markets involve considerable expectations, forecasts and fluctuations influenced by the intrinsic feature of the property market; leading to a possible sudden

withdrawal. Moreover, the sudden sell-off can also be worsened by the recent bursting bubble in Middle Eastern debt market; caused by the switch to less vulnerable instruments, such as equities (The National 2013).

5.4.2. Type of Investors

Commercial banks continue to be the major investors in Indonesian government sukuk (Figure 10), holding 42.4% of all government Sukuk outstanding – as of April 2016. The share may continue to increase by the end of the year.

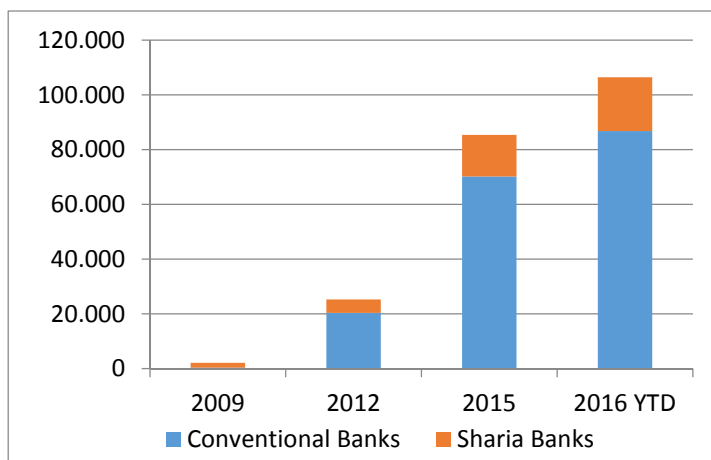
FIGURE-10: Breakdown of Sovereign Sukuk Investors



Source: Ministry of Finance (as of April 2016)

Among those banks holding the sukuk, Sharia banks have witnessed a relatively low share of ownership, compared to conventional banks. Although Sharia banks' holding proportion is lower, this share already represents 9% of Sharia banks' total assets compared to that of conventional banks which only represents 1.5% of their total assets (Figure 11).

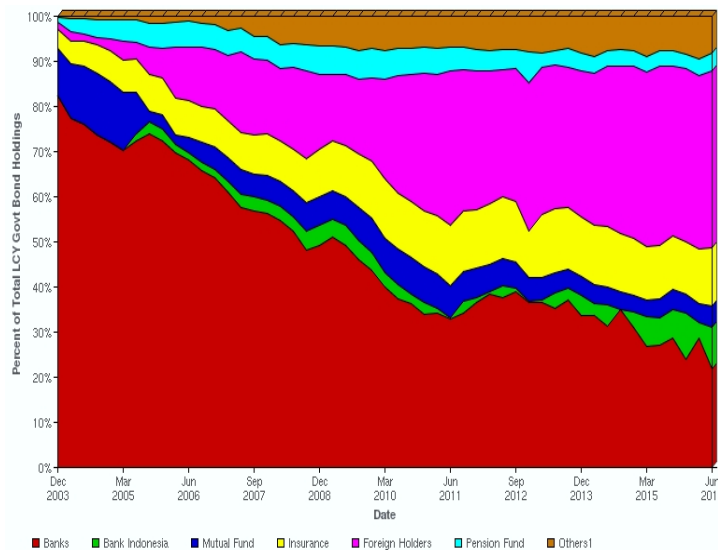
FIGURE-11: The Breakdown of Banks Investing in Sukuk



Source: Ministry of Finance

Individuals have seen a positive trajectory in sukuk ownership evident in recent retail bond issuances by the government of Indonesia. Sukuk holdings by insurance, pension funds and mutual funds have increased in 2016 and are expected to rise further given the recent implementation of Financial Service Authority regulation which requires a holding of government debt securities (including sukuk) at least 20-30% of their total investments by 2017. Offshore holdings on sukuk continue to increase reflecting confidence in the strengths of the Indonesia credit story and improved awareness of sukuk securities issued by the Indonesian government.

FIGURE-12: Indonesian Bonds – Investor Type Breakdown



Source: Asian Development Bank

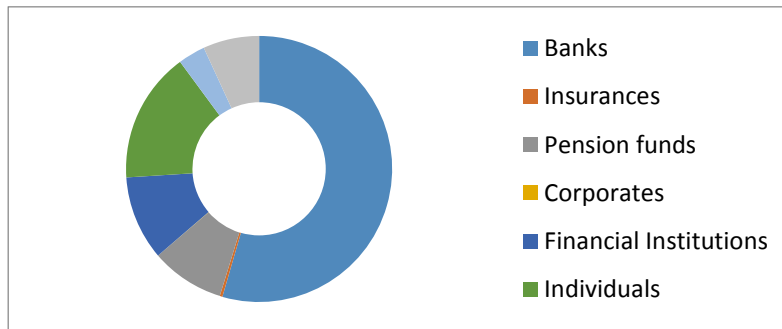
Banks are also the major subscribers of government conventional bonds, although the trends continue to decrease (Figure 12). A high subscription by banks may influence price movements in the bond markets; making significant implications in banks' balance sheets. As, particularly, banks rely heavily on money markets for their funding, it would expose banks to financial instability (Committee on the Global Financial System 2007). The participation of Islamic banks investing in sukuk does not guarantee a stabilising role to the system. Although the further flow of fund analysis is needed in this case, a complex financial business cycle and over capitalisation taking place in emerging capitalist economies may bring destabilising effect to the system through fund channeling from over capitalised corporate investors to households (Karwowski 2009).

5.5. The Experience of Indonesia on Environmental-Themed Retail Bonds

Prior to the inception of green bonds and green sukuk initiatives, the government of Indonesia has issued a series of retail bonds (ORI) in which some of them are considered as the prototype of green bonds. Most of them are three-year bonds and do pay interest monthly at around 7% rate, which is considered as competitive compared to other financial instruments.

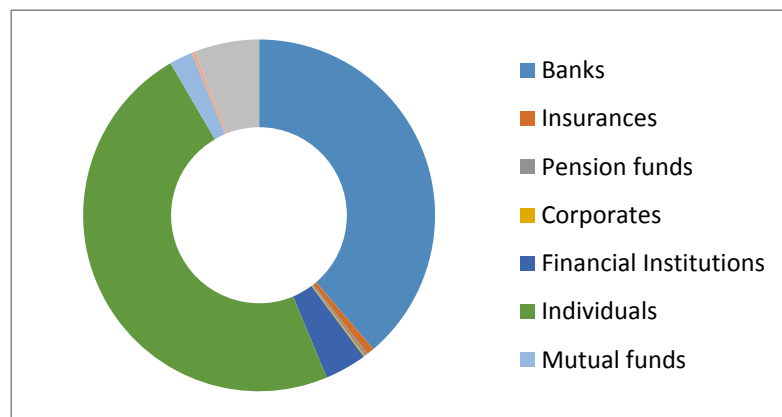
Two last ORIs are bonds dedicated to environmental cause: ORI011 for water conservation and ORI012 for coral reefs preservation. The major holders of ORI011 are banks (Figure 13), which are common in emerging economies (Committee on the Global Financial System 2007), followed by individual investors. For the case of ORI012, the investor share is dominated by the individual; taking the lead (Figure 14).

FIGURE-13: Breakdown of ORI011 Investors



Source: Ministry of Finance

FIGURE-14: Breakdown of ORI012 Investors



Source: Ministry of Finance

The retail bond issuances which are indeed aimed at diversifying investor base have witnessed the growing interest from individual investors. Indonesia, which is also home to the largest retail sukuk (USD1.67 billions), has put more focus on the household involvement in private financing as their financial deepening efforts. Retail type bonds or sukuk succeed in an economy like Indonesia since most investors deposit their money in saving accounts. This scheme has been widely used since Asian Financial Crisis in 1997/8 which influenced the loss of investor confidence. Thus, investors have become more risk-averse, investing in safer investments (CIMB Islamic 2016), like sovereign bonds or sukuk. A high participation of households in ORI011 and ORI012, however, is questioned as to whether they buy it with an influence of green consciousness or purely by a financial matter of cost and benefit.

6. DISCUSSIONS

The strong existence of government is evident in the current state of conventional bond and sukuk markets in Indonesia. The initiative of the Indonesian government to issue green bonds and green sukuk means an ever-stronger government roles in the market. A high participation of government in the market may contribute to building sufficient essential preconditions for new asset class issuances, like green bonds and green sukuk – as the support of government is needed to establish a holistic framework; enabling green bonds and green sukuk to develop. The perfect combination of enhancing the environment and appropriate government actions may assure that the initiative is prudent; not being disruptive to the current market. Moreover, the conventional

sovereign bond and sukuk practices in Indonesia are secured and guaranteed by the state budget; increasing market confidence.

For maturity issue, it has been argued in Kidney & Padraig (2014) that a shift from short-term to longer-term debt evident in green bond practices is a catalyst for economic stability and resilience. However, the maturity favoured in the market presents a dilemma, in which the investors tend to choose shorter-term of investment while the long-term ones are probably more stable. Besides, local-currency-denominated bonds are perhaps more desirable, but green bonds and green sukuk in western currency like USD would tap into more diverse international investors who may be more sensitive to the green issue.

Infrastructure will be the primary focus of Indonesia's national development strategy, which may work well with the green sukuk schemes. However, infrastructure project financing is undoubtedly more complex to be financed by sukuk, both in partial and full schemes. Infrastructure projects, especially in the large-scale case, usually take more than ten years for completion. This nature would prompt the reluctance of investors to deal with such long duration investments.

This maturity issue can cause a problem – given the facts that banks are the major holders of Indonesian sovereign sukuk. While sukuk are widely held by conventional banks, sukuk are also of interest for Islamic financial institutions (i.e. Islamic banks) that are not allowed to invest in conventional financial instruments which involve interest and *riba* (Zakaria et al. 2012). To Islamic banks, the nature of long-term investments would be problematic because they cannot perform their function in maturity transformation effectively. Unlike conventional banks, they do not carry adequate preconditions to perform an appropriate maturity transformation due to the narrow interest-free Islamic financial markets.

Being known as the applications of securitisation in the Islamic economy, sukuk, however, share commonalities with the conventional practices in promoting risk sharing by involving a broad range of investors and investments. Sukuk allow final investors to ultimately access the ownership of assets – compared to conventional practices which have multi-layered ownership, impeding the end investors to access any recourses. In this way, the strict Islamic principles offer stability as it controls the likelihood of such assets to be traded many times over, which may prompt the cascading effect of liquidity (Askari et al. 2010).

On the other hand, sukuk lack of vibrant secondary markets as there are not enough sukuk being traded in the market; moreover, the conventional investors are holding most of them. In sukuk markets, most investors undertake typical buy-and-hold strategy since there is a limited number of Sukuk issuances offered in the market (Zulkhibri 2015). While some types of sukuk are tradable, actually there is no plenty of Sukuk traded in the markets.

Moreover, they are only functioning in the primary market through an over-the-counter mechanism. Thus, they buy the Sukuk and hold them until the maturity date in response to this demand-supply imbalances, leading to insufficient liquidity and product scarcity in the secondary market (Tariq & Humayon 2007) and impeding the determination of efficient price (Jobst et al. 2008; Abdullah et al. 2014; Yean 2010). For the case of green sukuk, it may be an issue since the development of secondary markets is of paramount significance for the primary market developments (Askari et al. 2010), which is also acknowledged by the government of Indonesia in issuing such instruments.

The focus of sukuk on infrastructure or property funding which is widely evident in the likes of Asian and Middle Eastern countries is contested by Harvey & Cosgrave (2012). The concentration on infrastructure creates too many long-term sukuk that may hamper a possibility of short-term liquidity programmes to succeed. The diversification in sukuk underlying assets is needed to be put in place to accommodate investors who purely intend to purchase sukuk for the sake of portfolio variation. Furthermore, wealthy investors with excess liquidity are attracted to buy sukuk to diversify their portfolio profile – which suggests that no portfolio shall over rely on one instrument.

It is also imperative to note that Sharia practices cannot be totally isolated from the conventional post-modern economies with their characterised financialised institutions. The efforts to shield itself from interest-based economies are considered impossible, given the fact that the corporate, which put their deposits in Islamic sectors, earn their funds from the conventional business. It suggests the inter-dependence in the open economy, which may bring more possibility to any destabilising impacts to Islamic financial system (Karwowski 2009).

The complexity of transactions under Sukuk schemes may also create costs, for the sake glory of religious compliance. As such this problem is similarly criticised in the case of ‘additionality’ in green bonds; in which a green project can still be implemented without such green bonds; it is argued that they are not different from regular infrastructure bonds (Cripps 2015). It may also have the same implications in the case of green Sukuk, since the cost to comply both green and Sharia criteria, adding layers of complexity, may be greater than its additionality; meaning a project cannot be run without such sukuk.

In addition, since the financial needs continue growing, the definition of assets used in sukuk practices has significantly evolved. Recently, a non-physical property that guarantees certain income or claim of future cash flows can be deemed as the assets or source of wealth (*tamawwul*) for sukuk proceeds; traditionally, sukuk only involve real assets in physical forms. “Under-construction and to-be-constructed project infrastructure” are the example of non-physical assets, as long as they can be exchanged and compensated as well as generating future benefits (CIMB Islamic 2016 p.74).

It is broadly contended that the Islamic financial system was less affected by the Global Financial Crisis due to its less exposure to toxic assets (Arslan-Ayaydin et al. 2016; Harvey & Cosgrave 2012). Nevertheless, this paper suggests that (long-term) green sukuk holdings by banks shall not expose them to maturity mismatch problems as they would rely on short-term financing that needs to be rolled over. Islamic banks, however, which undertake murabahah transaction schemes, often misconduct the schemes by simulating the interest-based operations in a way they extend the maturity of murabahah agreements with additional charge over the same assets. These practices are totally against the Sharia principles.

Furthermore, in Indonesian context, the sovereign sukuk is guaranteed by the state budget. That may induce the market interest to sovereign Sukuk as it may be considered safer, but the practice can be questioned on how that sukuk differ from conventional bonds since the return is not purely from Islamic investments.

Green projects that focus on renewable energy, for example, can be more profitable, and thus, attractive for the investors, given the rising electricity prices and declining technology costs (Alam

et al. 2016). One upcoming green sukuk in Indonesia is a photovoltaic project, a renewable energy project; transforming solar energy into electricity. Any photovoltaic projects might be willing to learn from the experience of Orasis green sukuk, the first green sukuk issued in France, financing photovoltaic. The issuance was considered as unsuccessful, only 40,000 Euro out of 40 million Euro were sold to the investors. Some reasons were used to explain the failure, but one most highlighted here is the hesitance of investors due to the failure to fully comply with Sharia rules since the assets are partially secured by a purchase pledge in the next ten years (Hassoune 2014).

Connecting to the upcoming green Sukuk issuances, with all costs to satisfy both green criteria and Sharia rules, the players need to be aware of the possibility of 'green washing', which is often pointed out in the green financing literature (Cripps 2015; Olsen-Rong et al. 2015). It means that the bond proceeds cannot re-certify that the fund is, in turn, allocated to projects that doubtfully bring green values. What is worse is if it does not seem to assure the Sharia-compliance.

The argument above and the low demand for long-term retail bonds in Indonesia may suggest diversifying green sukuk products to fully exploit the investor base. From the experience of Indonesia in issuing ORI011 and ORI012 which are environment-themed and short-term, it can provide a benchmark for launching short-term green bonds and green sukuk as long as they adhere to the green label principles. In the case of retail, the stability might be in place due to the robust and diversified investor base.

As explored in Africa's green bonds and Gulf Cooperation Council's green sukuk experience, the western shores might serve as potential markets outside Islamic sphere of influence. However, it is suggested that the practices of green bonds vary across countries, case by case, (Lambden 2015), and it definitely would also apply to the case of green sukuk. Thus, this may have implications for developing the standards of green bonds by country-specific conditions.

The green labelling may not be globally applicable as it may differ on how investors perceive what defines a green bond across countries and what future technology advancement may influence. While having tailored standards, homogenisation, and clarity on the definition of the products are needed, mainly to satisfy the requirements by investors – which constitute the key factor for the market to grow. The GBP may serve as the baseline for self-labelling green bonds which is also assured through the second opinion from independent reviewers.

7. CONCLUSIONS

It is apparent from this study that government and bank (as investors) presence is significant in the Indonesian conventional bond and sukuk markets. The role of government may assure stability, while Islamic banks' activities in the sukuk market seem to enhance resilience to the economy system. Nevertheless, Islamic banks in the growing complex economy may also bring destabilising effects through their practices that are not discrete from the conventional system.

While this would be a challenge, Indonesia is in an urgent need of financing for their sustainable development. Green bonds and green sukuk, which have prominent experiences in other economies, have attracted the government to launch them to fulfil the dire needs. Taken together, this paper offers support to Indonesian government's policy agenda, expecting the new financial instruments can tap into deeper and more diverse investor base.

However, a well-functioning and supporting financial market ecosystem is required to develop these new capital markets options. The development of green bond and green sukuk entails layers of

the vetting process which oblige genuine motivation to compliance; but the efforts may add costs that exceed their additionality in green financing.

This paper offers that the government, as well as the regulators,, , should immediately develop the most appropriate framework for the case of Indonesia, which might also provide guidelines for fellow emerging countries. More importantly, the framework should be tailored to the case of Indonesia, which may be different from the global practices, but still follow the homogenisation of the global standards to satisfy the international investors, since they may serve as a more attractive target equipped with a higher awareness of green concept.

Due to the complexity of green bond and green sukuk practices, there is abundant room for further work to establish the emergence of Indonesian green bonds and green sukuk in the future. Continued efforts are needed to make the initiatives more accessible to private sectors. Future research should, therefore, explore on the investigation of green bond and green sukuk issuances beyond government. It is also imperative to evaluate as to what extent green bonds and green sukuk can address additionality. A future case study examining whether green washing is in place is also important to suggest an improvement in the practices.

8. ACKNOWLEDGMENT

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