Paper 34

Financing Public Infrastructure Projects in Indonesia: Analysis of Most Applicable Scheme for Developing Transportation Infrastructure

Bryan Rasyiidyan Bovanantoo and Ahmed Atil

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Abstract - **The beginnings of the economic growth Indonesia seeks in the next 15-30 years slowed down by the COVID-19 outbreak recently. This led to restructuring of state-budget funds (APBN) to focus on healthcare and the post-pandemic recovery. Creative financing solution is needed to replace dependency on the APBN. How will the Indonesian government save state budget funds during this post-pandemic era in developing public infrastructure in Indonesia, especially transportation infrastructure? What will be the most appropriate financing scheme to develop transportation Infrastructure in Indonesia? What are the factors in deciding a proper financing scheme for transportation infrastructure in Indonesia? The decision making process of applying different financing methods and schemes based on different factors. Given that Indonesian public transportation infrastructure development is largely in its early phases and does not currently provide any current revenue streams, in order to minimize the risk, considerations about future sustainable revenue generation are also essential. It has also been demonstrated that, in exchange for the greater risk involved in investing in the infrastructure sector, this approach has a lot to offer for private companies.**

Keywords - **Development, Financing, Infrastructure, Public-private Partnerships, Public-transportation**

I. INTRODUCTION

A. Background

Going into the 21st century, Indonesia has set goals in economic development. As of today Indonesia has been a huge prospect in the global economy, predicted to jump the ranks up to an astonishing 7th largest in 2030. This will mainly be driven by several aspects, especially with the rise of Asian countries, technological growth, and urbanization [5].

In accordance with the development of the economy, essential development needs to be made. Infrastructure has been the key aspect of a growing country, with this, a country could connect point A to point B, connecting points for essential supply chains, and moving people all around the country [10]. Although this is an important and essential matter for a country to move forward, Indonesia's national investment in public infrastructure has been slowly progressing at a not very fast pace since the 2000s compared to China and Vietnam, which has been investing 7 percent of their Gross Domestic Product (GDP) more in public infrastructure per year. Indonesia has been stuck in the near 3 percent level for investment in public infrastructure compared to the rough benchmark of 5 percent from the Asian Development Bank to be a minimum level for developing countries [4].

"Recent World Bank data suggests that the stock of capital in Indonesia is still very low. The World Bank estimate is that in 2014 both the United States and Australia had a national stock of capital of around US$1 million per person. By comparison Indonesia had around US$50,000 per person" [4].

Fast forward to recent times, Indonesia's new projects planned have been spread across multiple infrastructures from new airports, seaports, railways, and roads. A major breakthrough was acquired with the total length of Indonesia's highway/toll-road increased significantly in the past decade, with more cities are connected.

B. Problem Statement

In 2019, we saw the peak rapid growth and major MoU signings of new planned public infrastructure projects in Indonesia. However in 2020, Indonesia saw something unexpected coming into the planned path, as the COVID-19 pandemic spread rapidly into the country in March, several infrastructure and newer planned investments were delayed. Activities related to construction and planning have been postponed to be a priority in 2021 instead as per the instructions from the Indonesian Ministry of Public Works and Public Housing. With other budget changes, major state-fund allocation was focused on health infrastructure for building emergency COVID-19 hospitals, quarantine, and medical facilities.

"The ministry reallocated Rp 44.58 trillion, 37 percent of its 2020 budget, to finance infrastructure for COVID-19 emergency measures, including the construction of Galang Hospital in Riau Islands. The hospital, which began operations in early April, is used as a quarantine and medical facility to handle COVID patients. The COVID-19 crisis has also affected the construction of other infrastructure projects in Indonesia, including the Jakarta-Bandung high-speed railway project that is expected to be delayed. Highspeed Railway developer PT Kereta Cepat Indonesia China had planned to finish the project

and start operations in 2021" [13].

The unexpected turn of COVID-19 has definitely impacted significantly to the current President Joko Widodo's administration plan, with recent developments in the pandemic started to slowly recover, Indonesia's Minister of Finance, Sri Mulyani Indrawati has stated that the 2023 state budget will be plan to prioritize spending on healthcare. As of 2020, this has changed to slowly focus on healthcare with an increase of Rp113 Trillion to Rp172 Trillion, and in 2021, it was raised up to Rp312 Trillion, and in 2022 to be expected around Rp255 Trillion [3].

According to the Vice-Minister of Indonesia's MoF, he stated that the state budget is very limited in order to maintain a healthy level of sustainable funding. With infrastructure development the key to long-term economic growth, the future of mobility, productivity, connectivity, and access must be built sustainably. The Vice-Minister also said that the Government gave great support to infrastructure development. The support includes the provision of State Capital Participation (PMN) in several construction State-Owned Enterprises (SOE/BUMN), infrastructure development expenditures at several Ministries/Institutions, and providing guarantee programs.

C. Research Question

(1). How will the Indonesian government save state budget funds during this post-pandemic era in developing public infrastructure in Indonesia, especially transportation infrastructure? (2). What will be the most appropriate financing scheme to develop transportation Infrastructure in Indonesia? (3). What are the factors in deciding a proper financing scheme for transportation infrastructure in Indonesia?

D. Research Objective

Backed by the problem stated, this research will help the invitation of other creative source of financing, based on the statement from the Ministry of Finance (MoF) of Indonesia,

"I would like to invite all observers and policy makers in the infrastructure sector to be able to look at the whole comprehensively, namely looking at the overall infrastructure needs and also looking at our overall ability to finance. Government sources are one of the most important sources for infrastructure, but as time goes on we have to be able to make more creative financing" [8].

The government is open to other methods of infrastructure investment. This research will help find appropriate alternative financing to help develop infrastructure and in this case will focus on transportation infrastructure in Indonesia during the COVID-19 pandemic to help reduce dependency on state funds.

II. LITERATURE REVIEW

E. Funding and Financing Infrastructure

In defining the word 'Funding' in Infrastructure, this refers to the context of having the funds from taxpayers and state budget pay for the infrastructure projects as subsidized by the government. Although 'Funding' and 'Financing' almost could be defined the same way, 'Financing' is leaning more towards public funds that includes public borrowings, international grants, and private funds from infrastructure companies, commercial banks and investors.

"When it comes to infrastructure investment, these are two separate concepts. Financing is defined as the act of obtaining or furnishing money or capital for a purchase or enterprise. Funding is defined as money provided, especially by an organization or government, for a particular purpose. For infrastructure investment, however, communities almost always look to external sources for money to complete projects. This money can be in the form of loan (financing), or grant (funding), or donations (funding), or investments from partner agencies (VTrans, for example; funding), or programmatic below market loans (State Revolving Funds or USDA-RD, for example; a mix of financing and funding). Financing sources need to be paid back but funding is often not if the work is performed in accordance with the funding agreement. Further, these two concepts are interrelated in that funding must be present to serve as a source of repayment for financing" [15].

F. Public Infrastructure Financing

Recent Patterns

Depending on the country, each government would adopt different financing strategies that may vary to one another, which resulted in different financing variations across the world. The aspect that might be seen in the differences are from;

"infrastructure characteristics – affecting the user profiles and revenue-raising capacities of particular assets; fiscal and macroeconomic conditions – potentially restricting use of particular financing vehicles because of their budgetary consequences; institutional arrangements – defining the legal and regulatory framework as well as the intergovernmental relationship within which public infrastructure assets are operated and financed; perceptions of the role of government – and voters' expectations for the involvement of government in delivering specific services and managing the economy" [2].

G. Alternative Solution for Infrastructure Financing in Indonesia

With recent roadmap plans for Indonesia by the Indonesian President, the government has set to push infrastructure development a step further, with an acceleration construction Indonesia has not seen before, the government required over $400 Billion in the period of 2015-2019. With limited budget, the government has turn into private investment, which in order to attract it, they have issue a certain amount of new initiatives such as; The Public-Private-Partnership; a New Land Acquisition Law; Investment Coordinating Board One-Stop Service, New Fiscal Support Law; Created a new unit in the Ministry of Finance for Public Private Partnership (PPP); Strategize Priority Projects through Indonesia Committee for Acceleration of Priority (KPPIP); Established Government of State Assets Agency. Although the government has set a number of new initiatives there are still new challenges from the financing models available that are constrained by;

"Issuers are bound to fulfill their existing loan covenants, commonly the debt/equity ratio (which is used to measure an entity's financial leverage). Additional debts may result in a breach of those loan covenants and, consequently, may have the result of putting them in a default position where they are required to pay in full the respective existing loans; Specific investors, like banks and pension funds, who may have the capital to invest, may be restricted by law to investing only in certain types of securities; Tax implication of certain type of securities may not be favorable to either the issuer or investors or both; Significant expertise and resources on the part of the investor may not be available for it to assess the risk/return profile of the investment throughout its economic life" [11].

Thus, related stakeholders must utilize the appropriate financing models for the specific projects that will depend and vary according to the objectives set. There might be several factors such as structuring the models based on Indonesia's requirement for taxation and accounting, in order to have the appropriate model for both investors and the project itself.

H. Equity Instrument: Public Private Partnership

As one of the alternative ways of financing, PPP has been a breakthrough in the world of infrastructure and public works, as it eases the government's burden in funding projects. The concept for PPP is;

"Public-private partnerships in infrastructure development involve private sector participation in any or all of the design, construction, financing and operation phases of a public utility infrastructure, service or both. Examples of infrastructure developed through PPP models abound worldwide. It has been used in industrialized countries, such as the UK and Germany, and in newly industrializing countries with tremendous infrastructure demands, such as China and India, as well as in some developing countries in particular in Latin America. The capital-intensive nature of basic infrastructure and competition for limited government budgetary resources have prompted governments to invite private investors to fulfill the widening demand-supply gap for infrastructure while the governments are endeavoring to meet the social commitments within the fiscal constraints. Attention has been drawn that the level of adoption of PPPs across the world differs widely. Typically, in industrialized countries, PPPs are used in areas of public service provision including education, health services, waste management and public buildings. While in industrializing countries with enormous needs for basic infrastructure, PPPs are often seen in the power, water or road sectors in order to sustain the countries' rapid economic growth" [1].

PPP is not just a regular partnership between public and private, it serves as a mutual source of benefits. PPP implies that the private company could be allowed to have responsibility and control for the project in a period of time, while giving back the responsibility and operation to the public sector after the end of a contract. This will benefit private companies as it would be enough to return their investment from payments like fees, tariffs, and other payments.

Having the objective of giving public projects to private companies, private companies will be responsible for financing, management, operation, maintenance, construction, and design of the public infrastructure. The public sector will take responsibility in supervision, monitoring, and assuring that everything will be delivered according to the standard and planning. Usually the PPP projects will see the public sector putting some of their key people in higher positions in the project to oversee in conjunction with having key people from the private sector for the execution. Even though PPP varies among countries, PPP will bring the same characteristics anywhere, as it will bring gains from risk and responsibility sharing, having private investment as the key element from the model, having long term contracts between stakeholders, and innovation. Thus, PPP is mainly driven by having to push public infrastructure without having to splurge public and state funds too much.

Advantages of PPP

The advantages of PPP are: having more efficiency than conventional methods in providing public projects;

employing private sector business practices and leadership experience to restructure public services; creating more competition in the industry; and removing the burden of having state funds all over for funding projects.

"For example, in Germany, the basis for the decision whether to adopt a PPP approach or to procure the project conventionally through government resources lies in the evaluation of the Public Sector Comparator (PSC). Each PPP project is, before being tendered, compared to traditional public sector procurement by a so called "value for money test" (or efficiency comparison test), which comprises quantitatively a comparison of the net present value of all cost occurred during the intended contract period, i.e. for design, construction, finance, maintenance, operation etc. for the traditional (PSC) and the PPP option" [1].

Efficiency gain is the reason for having a sustainable public saving model, which will transfer risks to the private sector, payment upon performance, competition in PPP tenders, utilization of new management from the private sector, new incentives, and fewer administrative costs.

Elements of the PPP Business Model

Being the models of PPP would vary depending on the country, there are still the standard PPP procedures that will not be affected by each country's legal, political, administrative, economic, institutional structure (See Figure 1). PPP could be defined into different parts such as; Basic Model which revolves around urban development or public service provision; Kinds of Partnership, is it vertical or horizontal; Types of Asset, a single building or bundle/ network; Sector or Sub-Sector of application lies between transportation, supply/disposal, and public real estate; Mode of Sector Financing which could be either budget financing, and user financing (through toll tariffs, ticketing, etc.); Type of Works, is it a new construction, extension, widening, or rehabilitation; Forms of Privatization which is either formal, functional, or material; Type of Contract Model, a Design-Build-Finance-Operate (DBFO), Concession (Build-Own-Transfer (BOT), Build-Own-Operate-Transfer (BOOT), Build-Own-Operate (BOO), etc.), Mixed Special Purpose Vehicle (SPV), etc.; and Type of Project of greenfield or brownfield projects. (See Figure 1) [1].

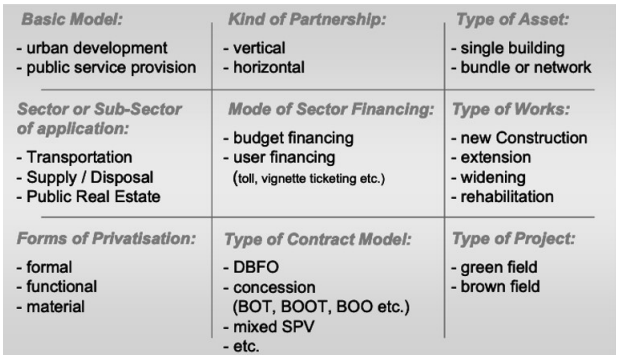

Figure 1 - Elements of The PPP Business Model

I. Debt Instruments: Bonds

Bonds are considered to be one of the most common larger sources of financing for companies. Bonds are generally a fixed-income instrument that could be issued by a corporation or government that is used to help finance projects which are held by the owners of bonds that are the creditors or debtholders. Bonds have several forms, such as; convertible bonds; project bonds; preferred stock; corporate bonds; project bonds; sovereign bonds; and syariah bonds (sukuk).

Project Bonds

For infrastructure projects, project bonds are used as standard securities that will help finance a specific particular project. Project bonds are then issued and could be sold in the market and even could be held privately.

"Project bonds are a salient part of this taxonomy: they are an emerging part of infrastructure finance and a growing source of long-term funding for infrastructure projects. Project bonds are issued solely to finance a specific project, whereas straight corporate bonds bear the credit risks of the issuing entity whose projects are diversified across a portfolio of assets. In this sense project bonds are more risky because the risk of loss to credit holders is higher for any one specific project versus a diversified portfolio of projects. Bonds become a more viable option when project volume is large (in excess of USD 100 million), and where longer duration finance is needed" [17].

Project Bonds are different compared to loans as they are more standardized in terms of contract in comparison to loan agreements. Selling bonds in the public market also requires registration through the regulatory institution, which will have more benefits in terms of transparency, more liquidity and also audited financial statements that are based on the regulations.

Corporate Bonds

For corporate bonds, these are securities that are standardized to finance a corporation's balance sheet, as this is a very dependable source of financing for firms. The usual issuer of this are public infrastructure companies that want to raise sources of financing through the public markets or events held privately. Corporate bonds have longer long-term financing with a fixed set coupon rate and also pushes high levels of transparency and liquidity as with the requirement of financial reporting for publicly listed ones.

"Instead of bearing the risks of an individual project, corporate bonds bear the risk of the issuing corporate entity. Thus credit-worthiness is determined by an issuer's general ability to service the debt, making them less risky than project bonds. Corporate capital structures can be complex with many debt issues at varying levels of seniority; issuance of corporate bonds is tied to the general financing strategy of the corporate balance sheet. Credit quality can range from investment grade to below investment grade" [17].

Larger corporate bonds could benefit from more liquidity by being included in major bond indexes. Index funds and Exchange Traded Funds (ETF) provide access for investors whether its institutional or retail access to bond markets.

Sukuk/Syariah Bonds

Sukuk or Syariah Bonds are securities that adhere to based on syariah law of Islam. Sukuk differs from regular bonds, as they are not an interest-bearing instrument. Instead Sukuk are designed to give profits by changes in gain and losses in the capital, and income to holders in terms of payments periodically. Sukuk is very popular in Islamic and Muslim majority countries, which are often issued by the government, private sectors corporations.

"There are multiple structures that can include project finance sukuk, asset-backed sukuk, sale/lease-back structures or rent/income pass-throughs. The asset-backed nature of Islamic financial instruments make sukuk well suited to infrastructure assets. Generally the underlying principle of such instruments are a sharing of risk and return amongst the parties in a transaction – cash flows are determined by incomes generated by the asset, and the return to investors is linked to the performance of the asset. In effect, sukuk resemble Public Private Partnerships due to this risk- and return-sharing arrangement." [9]

With recent trends of sukuk in the market, having a generally new instrument means that liquidity could still be low, and especially for a smaller size sukuk. As there are also trends for greater volumes of sukuk to receive a growing demand to have diversification in Islamic or Muslim majority countries from western countries.

J. Debt Instruments: Loans

The term loan is generally described as an instrument of credit vehicle, where an amount of money from party A could be lent out to another party. In exchange, party A expects future repayment of the sum amount of money back, in which the lender will add charges of interest that the borrower party must pay an extra amount back. Loans usually are issued for a one time deal, and have different kinds of forms.

Bank Loans

Bank loans are considered to have the risk lower than any other type based on the risk scale debt of project finance. Bank loans generally have collateral to be more secured with an added amount of loan given when the asset's liquidation value has the ability to earn cash in order to pay debts.

"Non-recourse asset-based debts such as loans differ from generic credit risk such as unsecured corporate bonds in that the performance of the asset itself is critical to service the debt, rather than the general ability of a debtor to meet payment obligations. Repayment of the loan is not necessarily tied to the success of the project during the operation phase; but in the event of a default, lenders drive the restructuring process" [14].

Bank loans give the comfort for the investors that the asset would perform itself to cover the dents, rather than seeking constant obligation for the debtor to pay the exact amount. In the case of a project, the success completion does not generally mean it is time to repay back.

Direct Lending

Direct Lending is not generally a financing instrument, but it is one of the schemes in raising finance for infrastructure financing. Direct Lending usually is sourced through experts that could bypass capital markets to lend directly to projects from large investors. Direct lending also means that,

"An institutional investor invests in infrastructure loans originating by an internal investment team or another institutional investor under the direct and co-investment model. The lead underwriter forms a syndicate and keeps a predetermined percentage of each loan in its portfolio before selling the rest to other investors (banks, the

traditional source of issuance, may participate in such deals, but the due diligence and procurement are handled by the lead investor, such as a pension fund or insurance company)" [9].

As investors are working much closely with the project, investment banks or banks don't need intermediaries. Usually a team of infrastructure investment is developed by these investors. Direct lending towards infrastructure projects is also considered to be a niche market in comparison to Small Medium Enterprises (SME) direct lending. As for the lender, it is very crucial to be familiar with the industry, the project itself, and also deal with underwriting, but the investors are keen to invest due to the reduced fees, and the yield.

K. Hybrid Instruments

Another form of financing is Hybrid Instruments, this is a form of financing scheme in which they share the characteristics of debt and equity instruments. Hybrid instruments may have their securities sold in the market at an exchange or a brokerage, which could give them a floating or fixed rate by interests or dividends.

Convertible Bonds

This is not the same as the usual debt instruments, Convertible Bonds have characteristics of an equity instrument, as these are used in corporate capital structures. Corporate bonds have the right of a call option included, they are less expensive for an issuer as coupon payments are offset by the conversion option's value. Investors in this case are prepared to have a lower coupon rate in exchange for having gain through share price.

"Their distinct investment profile offers downside protection, similar to that of a bond, as well as upside participation in the issuer's development through conversion to common shares" [9].

Due to their low cost and probability of share price rises, convertible bonds are a popular tool among fast growing companies.

Mezzanine Debt

Mezzanine loans are a type of debt instrument that is in between and fills the gap between debt and equity instruments, and this has the highest form of risk. Some examples of mezzanine debt are call options, rights, and warrants. Mezzanine is considered to be lower than pure debt, but it is higher than equity in terms of level. Mezzanine also behaves much more similarly to stock due to the options of debt into equity. Usually mezzanine could have much higher returns than other forms of debt.

"Mezzanine debt is a sort of privately issued subordinate loan or bond that is typically used in project finance or private equity investments. Mezzanine debt can be either interest-bearing or interest-only, and might involve a portion of the project's value increase. Payment in kind features (where debt payments are made through stock offers) are becoming more popular" [9].

Because of the increased cost and risk of capital equity, infrastructure projects could be very difficult to fund through equity, especially in areas prone to regulation changes and utilizing new technology. Furthermore, equity sponsors may be hesitant to reduce their commitment to an asset, preferring debt instruments over new stock. Mezzanine debt, initiated by public institutions such as Multilateral Development Bank (MDB), can be used to decrease the amount of equity required from more hesitant private investors, providing internal credit support for the entire project structure. Additional solvency, for example, may make the project eligible for commercial loans and investment from companies that need a certain amount of stock.

L. Indonesia Infrastructure Guarantee Fund (IIGF) / Penjaminan Infrastruktur Indonesia (PII)

A guarantee fund is a fund which could be characterized as government guarantees in minimizing risk of political influence, pushing transparency and high standards, securing assets, and ensuring independence. These funds are usually liquid assets that could be mobilized when there is a contingent liability.

IIGF, which manages infrastructure guarantee funds in Indonesia has the purpose of giving financial guarantee to obligations of the government to related contracting stakeholders in PPP with private investors. IIGF also provides a financial guarantee in the form of an agreement. Unlike the infrastructure "letter of support", which was just a unilateral and simple letter issued by the government, the current agreement is negotiated and signed by both IIGF and the investor, as well as the government if it guarantees the project with IIGF. As a result, the agreement provides a lot more information on the parties rights and duties. There is now an explicit figure for the liabilities that the state may be liable for in the case of a risk occurrence. This component was missing from the previous guarantee letter, making contingent liability harder to assess [12].

M. Greenfield and Brownfield Investment

The term greenfield investment defines the stages of a project of an investment which is categorized into the early phase of the process. Greenfield projects are generally newly held projects that are categorized in the

phases of a very early stage. This includes building new companies and entities, and starting from scratch with hiring management, human resources, and facilities. This field usually generally has risks and high cost as what would be encountered in what creating a new entity would have [6].

While for the term Brownfield investment means that they are in fully operational condition. In which, management, facility, and human resources already exist. Brownfield investments carry less risk, as it is an ongoing operational company, in which there is no speculation from the planning and predicted revenue. Brownfield investments is the perfect stage for new investors to enter the company through newly raised capital, or even through issuing bonds in the capital market [7].

N. Hypothesis

During this post-pandemic era, the Indonesian Government has several ways to reduce the weight on the APBN without sacrificing development of public transportation infrastructure projects. First of which is by implementing debt financing instruments, such as bond financing, or loan financing. This will have options of having funding from the public market through bonds, and also institutional investors for lending. This poses risk that will arise, as usually the sectors the public have interest are towards other industries other than infrastructure, as infrastructure investments are generally for the long term. The implementation of the PPP scheme will also be beneficial for the government in maintaining control over public projects while sharing the risks with private investors.

Implementing this strategy, would then reduce the burden on the APBN, thus could help private investors help develop public infrastructure in exchange for investments for them, and a future revenue stream for their businesses.

III. RESEARCH DESIGN & METHODOLOGY

The purpose of this research is to analyze and provide a proposed solution for infrastructure development funding in Indonesia based on current financing methods in comparison to creative alternative financing solutions. The result we want to achieve in this research is to provide solutions for the Indonesian Government, construction companies, investment authorities, investors, and other related stakeholders to finance projects to reduce burden on the national budget and could have less of a challenge to execute. In order to conduct research based on unbiased opinion, a method of systematic research needs to be done. This research will begin by studying existing conditions and the goal of infrastructure development in Indonesia, and exploring possible problems that are encountered during the process. Furthermore, the research will then delve into several supporting information to support the proposition through a series of research journals and academic journal articles, and a focus group discussion interview.

O. Data Collection

In order to find the basic foundations of this research, the method that will be used is qualitative based research. This method will be a literature review conducted through reading research journals, and academic articles. Furthermore, an interview will also be conducted to provide primary data with Mr. Wisnu Wardhana, M.Sc., an Investment Manager of PT Indonesia Infrastructure Finance, a private national company under multiple international and national institutions that provides infrastructure financing and advisory services. Mr. Wardhana has first-hand experience in assessing potential deals on PPP projects, familiar with structuring project financing instruments such as debt, equity, and mezzanine debt. Furthermore, Mr. Wardhana is also involved in several deals with clients and related authorities in multiple sectors such as Renewable Energy, Port and Airports, Toll-Road, Telecommunication, Water Treatment, and Oil and Gas.

The data collected will be aimed to help aid further information first-hand from a primary source to understand the processes, and challenges in the management field, as well as past experiences of the interviewees career in infrastructure financing, and past related projects to prove the proposition of the paper.

P. Data Analysis

A comparison between multiple funding methods from different secondary data sources in the literature review will help give the foundations of the analysis for the primary data focus group discussion result. The analysis will break down several theories from the secondary data and match it with real life data to gather the facts for this paper.

IV. FINDINGS AND DISCUSSION

Q. Findings

Based on the research objectives, this paper has several findings that could be separated into 4 parts from 3 research questions; How will the Indonesian government save state budget funds during this post-pandemic era in developing public infrastructure in Indonesia, especially transportation infrastructure? What will be the most appropriate financing scheme to develop transportation Infrastructure in Indonesia? What are the factors in

deciding a proper financing scheme for transportation infrastructure in Indonesia? These research questions are defined more in depth into a series of more findings that revolve around the same matter.

Post-Pandemic Impact Towards Infrastructure Financing

Being in the post-pandemic era, when discussing the impact on COVID-19 towards the industry and infrastructure development, the interviewee has expressed the difficulty of financing activities that differs towards the pre-pandemic era in which the year 2020 and 2021 has been a major slowed down process compared to 2019. Banks and companies are waiting for leveled conditions before investing again due to the uncertainties. And as expected, the post-pandemic situation will have many constraints. For the internal process itself, the interviewee has shared that the internal process itself is not far off the pre-pandemic situation, with the economy starting to get better and better, more infrastructure projects will roll down in the list, additional new ones in the upcoming years.

Infrastructure projects have a wide field of scope in terms of the projects, but for this case the interviewee has stated that each project has different risk and returns. When comparing toll-road projects, railway, and water treatment, a toll-road will give a lower rate of return than others, despite the fact that their tenor is longer than railways and water dams. However, toll roads have some success story projects, so there is already a sample which is successful on the projects, so some firms believe that this project has lower risk than railway and water treatments, as railways in Indonesia still only have one success story for non-fully funded government projects.

Methods of Financing and Schemes

Indeed for infrastructure projects, there are many kinds of financing instruments, as discussed before in the topic of the likes of equity and debt instruments and also hybrid ones too. The interviewee said that for the most common ones are debt instruments, namely senior term loans, because few institutions can provide equity financing or equity investment. Banks can only provide senior term loans, with the exception of Indonesia Infrastructure Finance, which can provide equity investment through Sarana Multi Infrastruktur. The process for senior term loans would be in general, a corporation will apply to the bank if they have a project that they will discuss, for example a railway project with a tenor of ten years could use different set of schemes such as A, B, and C, and the bank will examine the viability of the project. But this comes with constraints;

"Actually in the bank itself, what we called 'normal banks', the problem for the bank especially in terms of financing tenor, because for the infrastructure project they required longer tenor more than 10 years, so not many banks can finance more than 10 years actually, like for the projects, they usually required 15 years for financing tenors, maybe other project they required 20 years, and not many banks can provide longer tenor periods. This is maybe one of the constraints. Secondly, it is about the pressing itself, currently during the pandemic, the Central Bank of Indonesia decreased its reference rate, with the decrease in reference rate, so the all in rate for the project is low for the bank, maybe below 8% per annum. so not many bank can afford this kind of pricing, only big Indonesian banks like Bank Mandiri, Bank Rakyat Indonesia, or Bank Central Asia could achieve this kind of project, and the project finance itself normally they will arrange syndication, so can only give finance by one single bank, so it is difficult for some banks to find any participants for the financing project and there is constraint in the mission before like financing tenor, or interest rate is low." [16]

There are also some other options for financing as mentioned by the interviewee, however it is not as easy or as fast as bank loans. Companies can go to the capital market by issuing bonds, such as project bonds, but for SPV companies that are currently developing greenfield projects, it would be difficult to find investors willing to buy these project bonds unless the project is already an ongoing operational and generating revenue company. There is also a possibility of another type of investor that the interviewee mentioned, that is through angel investors, who wish to fund equity through direct equity participation. However, finding investors for infrastructure projects would be a challenge. Even for SOEs, they prefer not to wish to fund the entire project themselves.

For PPP itself, it is used as the scheme for the project itself, but debt financing, equity financing, or a combination of equity and debt financing are the most common ways to fund a project. Another usual practice, the interviewee said was blending loan and equity with a debt-to-equity ratio of 70 percent debt and 30 percent equity from the project owner. So the PPP is basically the government's method for supporting these initiatives by designating them as PPPs, allowing the government to give incentives.

Indonesian Government Support

There are several government supports that are given through incentives. The interviewee refers to it as a government guarantee since it is implemented on the Trans-Sumatra Toll Road. So, in the event that the project business fails to return the banks to the lenders, the government will top up funds the project firm, which is what is referred to as a government guarantee. This is one of the government's most secure incentives. Government

guarantees are normally obtained directly from the MoF.

The second type of payment is called availability payment (AP). This AP is provided to projects that may have so-called project companies that do not need to consider the project's traffic demand, such as railways, which do not have the need to calculate the railway's traffic. As long as they meet the government's KPI, they will be paid with the amount already stated on the concession agreement, with the fixed amount stated in the concession agreement.

The third instance is the Viability Gap Fund (VGF), or viability gap fund, as it is known. For example, there's a 10 kilometer toll road project, it could be 6 kilometers built by the corporation and 4 kilometers funded by the state budget. However, despite the government's construction of 4 kilometers, the project company could still get money from the 10 kilometers, and the corporation may receive revenue from the entire toll road.

The final is the IIGF guarantee, which provides some safety to the banks and lenders in the event that the government fails to pay the project business; IIGF will guarantee the government payment;

"So for the government there are two conditions, first is because IIGF also acts as the arranger of the PPP project, so they are involved in the preparation of the project, from the start. So if IIGF is involved in the preparation of the project, this is what we call a solicited project. So IIGF will provide a guarantee, because they already know about the project they know that this project needs guarantee from IIGF for or to be feasible for the banks, so they will start from zero. The second type is what we call unsolicited projects, so these unsolicited projects are actually already feasible from the beginning, but if the project company wants to apply for a guarantee from IIGF, they can apply to IIGF. Gives additional comfort" [16].

An Attractive Infrastructure Project for Financiers

When asked about what makes an infrastructure project stand out in Indonesia for investors, the interviewee tends to say that it depends on the future revenue stream and how likely in the future it would produce from its revenue streams. For the IIF, because of their obligation, they must fund this sector because IIF is limited to infrastructure projects. However, the interviewee believes that one of the main reasons for banks to finance these projects is that they have a dedicated future revenue stream from the project. For example, if an investor finances a toll road, investors already know that they will have dedicated revenue from traffic for the next 15 years, so the sustainability of a so-called sustainable revenue is becoming more important to banks when financing infrastructure projects. The interviewee has also stated several finance factors that will influence the decision making process;

"Actually in terms of interest rate and the rate of return, some of the projects such as toll road projects have maybe lower rate of return as compared to other sectors. So if we so called, see only from the return perspective, some of the projects are not as attractive as compared to other projects such as manufacturing or trading. but on the other hand, like manufacturing and trading, this sector is so called, we call it a short term investment but for infrastructure it will be a long term investment, it will increase the bank asset in the long term" [16].

It is clear from a broad view that most generally investors are interested in long term goals of an asset, which also will not be as attractive in investing in other sectors. The interviewee also addressed that for national strategic projects (PSN) in Indonesia gives more attractiveness. Since the project is under the government, there are a lot of incentives for it, such as insurance from the IIGF and some kind of equity payment, so this kind of availability payment the project didn't have anything to do with traffic demand or anything like that. As a result, throughout the financing term, also known as the concession period, the revenue is already set. As a result, lenders are more interested in this type of national strategic initiative since the risks are smaller than in a typical project. Because, in the end, banks will look at the project's risk, and if the risk is lower, they will favor the lower risk project over the high risk initiative.

R. Discussion

From the overall result, we could discuss several points that will help answer the following research questions; How will the Indonesian government save state budget funds during this post-pandemic era in developing public infrastructure in Indonesia, especially transportation infrastructure? What will be the most appropriate financing scheme to develop transportation Infrastructure in Indonesia? What are the factors in deciding a proper financing scheme for transportation infrastructure in Indonesia?

The result indicates that the post-pandemic era has definitely changed the way the Indonesian government helps finance infrastructure financing, especially transportation infrastructure. But with the recent progress of the 'new normal' has brought light into the situation in giving a positive outlook. With the normal interest rate from Jakarta Interbank Offered Rate (JIBOR) around 4%, the next 1-2 years will recover Indonesia into the normal pre-pandemic era. Hence this will move banks from waiting for the conditions, into having more interest towards the infrastructure projects, which will attract more banks into investing.

Reference [16] claims that in Indonesia, toll-roads would be the most preferable option for infrastructure financing than railways, as there are more success story projects in Indonesia. This makes direct equity investments from an angel investor and a firm highly unlikely for transportation infrastructure projects. Debt instruments especially loans are more preferable with a high chance of success depending on the factors. Reference [16] stated projects are more feasible and accessible to bank loans with the improving state of interest rates in Indonesia, and also with lower traffic during the pandemic, revenue returns are hard to be dependent on if there is an equity investment.

In line with the results, Reference [16] mentioned the project stages has also an influence on the decision making for choosing a financial instrument. As the greenfield stage is more appropriate to use debt instruments such as bank loans/lending and also a mixture of debt and equity through PPP of 70/30 ratio. There is an exception for brownfield projects that already generate revenue which will have options of refinancing of using equity instruments such as an Initial Public Offering (IPO), debt instruments of bonds, bank loans too, and also even through hybrid instruments.

Being lending as the highly supported instrument for developing transportation infrastructure, a form scheme to support is needed to be a PPP. As this is a way of government support for allowing private firms to reduce their risk. The PPP will also help the lending process to be more achievable, as according to the interviewee, the government will provide incentives such as government guarantees, a VGF, and also AP. This data contributes to a clearer understanding of the factors in influencing the financing scheme. As the PPP scheme will be the most beneficial for relevant stakeholders.

From the project itself, the factors will be overseen through the expected return from future revenue streams of the project, which in this case, for transportation infrastructure will be important to lenders such as banks to have additional comfort from having sustainable revenue, which will make the decision making faster for lending. As focused on long term investments, transportation infrastructure is chosen to be an attractive lending opportunity as it is part for lenders in having long-term assets, and also being part of a PSN project from the Indonesian Government means having less risk to deal with.

Although this has answered the research question, there are limitations in finding data regarding how efficient is using certain types of financing in this research with the data, as there is a lack of data available regarding the comparison of returns from in between financing methods and also between project sectors in the infrastructure industry. As different returns might also change the decision making process of choosing a financing instrument based on the statements stated before, Further research quantitatively from a revenue comparison point of view could help define and prove answering efficiency of each financing method.

V. CONCLUSION

This research aims to analyze the most appropriate financing scheme for developing public transportation infrastructure in Indonesia through looking at several factors in the decision making process. After analyzing the process of how a public infrastructure gets financing outside from the state budget through an interview with one of the stakeholder, in this case from IIF, has shown how decision making is applied from the concepts of financing instruments by comparing several instruments and relating it with the existing factors of a project to oversee the most appropriate method.

Based on a qualitative analysis of an interview as well as supporting sources from journals and research, it can be concluded that there could be recommendations methods of financing scheme for the Indonesian Government to help develop public infrastructure as well as focusing on saving the APBN as seen from several factors such as; stages of the project; future sustainable revenue stream; project's investment return; JIBOR interest rate; and either it is categorized as PSN or not. The appropriate one would be through the PPP financing scheme. As this is perfect for the government to have within reach control of the project itself by helping as supervisors and let the private firms handle operation and construction. This will have the project be under a new entity that will have both stakeholders of a private company and also a government entity. This project could be funded in a mix of debt and equity ratio of having debt funded and also equity funded from the private firm. The project would then be financed again by debt instruments, in this case would be by financing through bank loans, direct lending and also sukuk. This method is efficient for planned public transportation infrastructures as they have no ongoing revenue stream and are still on the greenfield stage.

As developing public transportation infrastructure is key in Indonesia's development, it would be a public need, with the right planning, there will be a dedicated future revenue stream for the long term that will benefit financers and also investors through daily ridership. The combination of PPP scheme, debt-to-equity financing, and debt instruments will help the start of these greenfield projects which then reduce the weight on the Indonesian APBN. In this post-pandemic era, the APBN could then be restructured to focus more on healthcare, without sacrificing construction on public transportation infrastructure.

As transportation projects could be categorized into

PSN, government incentives could also help through the proposed PPP, debt-to-equity financing, and debt instruments scheme. With a project categorized as PSN, specific government guarantee will help if the project fails to return the sum amount of loan to the lenders in the amount of time agreed before in the contract.

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