EPICTETUS E. PATALINGHUG, PH.D

THE BUILD, BUILD, BUILD PROGRAM:
WILL IT LIVE UP TO EXPECTATIONS?

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WRITTEN BY
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ABSTRACT

Economic infrastructure is considered to be linked to economic growth. In this light, the Philippines has embarked on a "big push" infrastructure spending program called "Build, Build, Build Program" and attempts to inject billions of dollars to the economy.

This paper aims to analyze the progress and efficiency of the Philippines' "Build, Build, Build Program" and obtain insights on what lessons can be learned from a "big push" infrastructure program targeted to be implemented or completed over a six-year period.

The "big push" needs to consider three things: the absorptive capacity, which explains the inability of additional public investment to create sustained output growth; the need for effective coordination and consultation among line agencies, which poses serious limitations to the existing public investment framework; and the assessment of the performance of the infrastructure program.

In a nutshell, the lessons that can be learned from the experience of countries embarking on a "big push" infrastructure programs are: (1) its expected gains from coordinated pushes in complementary infrastructures can only be attained if absorptive capacity exists; (2) reaping the benefits of greater investment in infrastructure requires an improvement in investment efficiency; and (3) private participation in infrastructure can increase efficiency and bring expertise, but possible risks that can occur must be understood in order to determine the appropriate regulatory framework.

For the recommendations, this paper emphasizes the roles of the following agencies: the DOTr in building a "built-to-last" organization; the DPWH in reinforcing its pool of human resources and harness technical competence and core technologies; and the NEDA in establishing an integrated databank of infrastructure projects to facilitate efficient, coordinated, and evidence-based decision-making.

THE BUILD, BUILD, BUILD PROGRAM: WILL IT LIVE UP TO EXPECTATIONS?

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Core or economic infrastructure is considered to be linked to economic growth. It is composed of roads, bridges, tunnels; railroads; seaports; airports; water supply, sanitation, and water treatment facilities; electricity generation, transmission, and distribution facilities; and telecommunications. Based on an article on three decades of research on the productivity of infrastructure, Bom and Lighthart (2014) analyzed 68 studies in a meta-regression analysis and estimated an average output elasticity of 0.17 for core or economic infrastructure. This implies an average rate of return of around 42 percent. There is no debate on the importance of infrastructure investment for nation-building. While the level or quantity of infrastructure investment is undoubtedly important, the efficiency with which a country invested in infrastructure also matters. The varying estimates of the elasticity of public capital with respect to growth can be attributed to inefficiencies in the provision of public investment and the lack of appropriate oversight (Chakraborty and Dabla-Norris, 2009).

The Philippines has embarked on a "big push" infrastructure spending program called "Build, Build, Build Program." This program

attempts to increase infrastructure spending from 5.4 percent of GDP in 2017 to 7.3 percent of GDP in 2022, and costs approximately US$170 billion. Numerous studies have examined the empirical record of whether big infrastructure and public capital spending programs have succeeded in accelerating economic growth in developing countries. Evidence shows, on average, only a weak positive association between infrastructure spending and economic growth under episodes of "big push" or massive infrastructure spending.

This study aims to analyze the progress and efficiency of the Philippines' "Build, Build, Build Program" and to possibly obtain insights on the lessons learned in attempting to implement and/or complete a "big push" infrastructure program over a six-year period.

This paper is divided into the following sections: Section II discusses the relation between public investment scaling-up and absorptive capacity; Section III evaluates the existing public investment framework; Section IV assesses the performance of the "Build, Build, Build" program; and lastly, Section V presents conclusions and recommendations.

Public Investment Scaling-Up and Absorption Capacity

The advantage of "big push" infrastructure programs is that it complements different infrastructure projects and public and private investments which may lead to disproportionate gains from coordinated approaches in infrastructure (IMF, 2014). Policymakers assume that scaling-up of public investment could foster development (Presbitero, 2016). However, looking at large public investment boom episodes, Warner (2014) finds very little evidence supporting the idea that public capital can promote growth. He explains that the

weak association between public investment accelerations and output growth is due to limited absorptive capacity. Limited absorptive capacity (skills, institutions, management) explains the inability of additional public investment to create sustained output growth. The expected rate of return is declining with capital investment due to constraints in the availability of institutional, human, and private capital. In addition, public investment above a certain threshold could create distortions, crowd-out private investment and create an adverse effect on GDP growth. The lack of technical and managerial resources, which cannot be augmented immediately during the scale-up period, affects the implementation of several projects (Presbitero, 2016; Abiad, Gonzales, and Sy, 2017). When public investment is constrained by absorptive capacity, efficiency falls, project costs increase, and the share of investment that translates into public capital declines. Project outcomes depend on the quality of policies and institutions (Presbitero, 2016).

The presence of limited absorptive capacity in countries implementing scaling-up infrastructure program is generally taken for granted by policymakers and when the pace of infrastructure spending acceleration is sustained for a significant period, government bureaucrats may not have the capacity to select projects with high expected rates of return – meaning that "white elephant" projects may squeeze into the government's selection procedure (Presbitero, 2016). Thus, financing poorly selected projects can lead to a reduction in the average rate of return on infrastructure investment. However, the Philippine policymakers have recently acknowledged remaining institutional weaknesses such as poor planning and preparation, procurement difficulties, and project implementation bottlenecks (DBM-DOF-NEDA, 2017). Underspending due to delayed passage of the 2019 budget by the Congress was blamed for the 5.6 percent GDP

performance in the first quarter of 2019. The measured underspending from 2010 to 2014 was due to weaknesses within implementing agencies with respect to design, procurement, and execution. Another perspective is that it was due to absorptive capacity constraints rather than apathetic or incompetent bureaucrats (Monsod, 2016).[1]

Long-term productivity effects are triggered by completing the infrastructure investments and not merely by spending on it. The scale-up spending program is more likely to succeed if the government takes analytical issues seriously and safeguards decision-making process against vested interests that distort public investment decisions (Warner, 2014). Scaling-up public investments can spur economic growth, but it can also create some major macroeconomic challenges. The effects of investment depend on the rate of return of public capital, the type of financing, the efficiency of public investment, the response of the private sector, the fiscal space, and the costs of required operations and maintenance. In countries with high investment efficiency, increased public investments may lead to significant growth effects. At any rate, reaping the benefits of greater investment in infrastructure requires policymakers to improve investment efficiency and to sustain fiscal capacity (IMF, 2014). However, changes in public investment efficiency are expected to be slow. Public investment efficiency can be described in four ways: (1) a fraction of misused spending (e.g. corruption), (2) project costs deemed higher than needed (e.g. waste as a result of inefficient use of inputs), (3) option to choose poorly designed projects and (4) misallocation of public investment spending across sectors or categories of investment (Berg et al., 2015).[2] Waste and efficiency occur when project construction is delayed or incurring cost overruns. World Bank (1994) has concluded that badly-designed and managed infrastructure is a major source of environmental degradation in both urban and rural areas.

The figures computed from investment flows do not reflect effective infrastructure stocks. The official costs of investments are often disconnected from their effective value due to governmental inefficiencies and institutional weaknesses. An estimate of how efficiently a country is investing in infrastructure is attempted by employing the data envelopment analysis (DEA) which allows one to examine how efficiently inputs (e.g. infrastructure investment) are converted into outputs (e.g. quantity and quality of infrastructure stock). Singapore, Hong Kong, and South Korea have delivered at least US$1 worth of good infrastructure stock for every US$1 of infrastructure investment, while the Philippines has delivered only US$0.40 worth of infrastructure stock for every US$1 of infrastructure investment. In the case of South Korea, its infrastructure investment was a relatively small share of its GDP but it delivered greatly because its infrastructure projects were well targeted towards reinforcing and complementing its industrial policy (Straub, 2008; Abiad et al., 2020).

The Build, Build, Build (BBB) program, belongs to what economists call "the big push" program. But what is the historical performance of a big solution to a very big problem in developing economies? Easterly (2016, p. 99) has explained that "the relevant choice turned out to be between a big partial reform and a small partial reform. The big partial reform failed on an equally big scale." Gradualism is preferable and a big solution to a very big problem is an outlier in the practice of economics.

Warner (2014) identifies five major problems with past investment surges. Let us examine each one and apply it to the current Philippine experience.

Problem 1. "It creates an incentives problem as key actors are likely to benefit from accomplishing the investment itself rather than from whether the investment is socially worthwhile."

The government claims that as of October 2019, total actual disbursements for infrastructure reached PhP 628.5 billion or 73 percent of full-year disbursement of PhP 859.5 billion. The assumption here is that within-a-year disbursement of infrastructure budget affects that year's growth and that infrastructure projects (including PPP projects) must avoid unwarranted delays and contingent liabilities so that they can be delivered quickly for the benefit of all Filipino citizens (DOF website, January 12, 2020).

Problem 2. "The failure to collect key information, either at the appraisal stage or ex-post stage, and the associated failure to act on the basis of evidence."

The downsizing of the original 75 big projects in the BBB program after three years illustrates the failure to undertake project appraisal before including these projects in the "big push" infrastructure program.

Problem 3. "The problem of chronically over-optimistic forecasts, and the lack of safeguards against self-serving analysis or interests that have an incentive to promote unrealistic forecasts."

This applies to the DPWH's (Department of Public Works and Highways) claim that the Metro Manila Skyway Stage 3 will be completed by March 2020 and DOTr's (Department of Transportation) equally unrealistic forecast that MRT 7 will be fully completed by 2022 (it is only 50 percent complete as of January 15, 2020, despite breaking ground in 2015 and starting construction in April 2016) and the Metro Manila Subway (which is still to bid the E&M systems and track works for its Phase 1) will be completed by 2025. DOTr now claims that the BBB program is comprised of thousands of infrastructure projects (many of which have already been completed) and it is unfair to assess the success of the BBB program by merely looking at the implementation of the flagship projects.

Problem 4. "Shallow or non-existent economic analysis."

For an application of this problem in the Philippine setting, see Box 1: "Motorcycle Taxis and Capture Theory of Regulation," and Box 2: "Competition in the Ride-Hailing Market."

Problem 5. "The use of public enterprises as vehicles for conducting investment projects, which facilitated lower levels of transparency and scrutiny compared to regular government expenditures."

The use of the Bases Conversion Development Authority (BCDA) to fast-track the BBB projects in the New Clark City is an illustration of this problem.

While absorptive capacity constraints are the major bottlenecks in implementing a "big push" infrastructure program, the BBB program has no explicit complementary programs addressing these constraints, most particularly those focused at the level of the two infrastructure implementing agencies: the DPWH and DOTr. Although there are donor-driven financing assistance (e.g. project loans) to address these constraints, such as Asian Development Bank's Infrastructure Preparation and Facility Fund (IPIF) and the Republic of Korea's Philippine Korean Project Preparation Facility (PK-PPF), they are limited in scope and cover only a small segment of the BBB projects.[3] On the other hand, the PPP Center's Project Development and Monitoring Facility (PDMF) is being used to support the development of PPP projects proposed by local government units (LGUs) considering that the BBB program has de-emphasized the solicited PPP projects and instead favored the unsolicited ones (e.g. San Miguel Corporation's New Manila International Airport in Bulacan) which are less transparent because they simply involve negotiation and bargaining between the original proponent and the implementing agency.

This section emphasizes the importance of going beyond discussions of spending levels and instead addresses the issues of broad

institutional framework underpinning the provision of investment. Simply increasing public spending on infrastructure can be highly inefficient if government oversight of bureaucrats is less effective and higher corruption reduces the effectiveness of government spending. Since the BBB program addresses pressing infrastructure needs, in a country that has weak institutions, improving the quality of monitoring and bureaucratic oversight is of paramount importance to ensure the effectiveness of public infrastructure spending (Chakraborty and Dabla-Norris, 2009).

Box 1. Motorcycle Taxis and Capture Theory Regulation

The commonly discussed rationale for regulation is to protect the public interest. An alternative explanation holds that firms and the industry want to be regulated because they can "capture" the regulators so that regulators do what the industry wants. "Interest Group Theory and a generalization of "Capture Theory." It states that various interest groups are affected differently by regulation. Interest groups compete to influence the regulators of legislation creating the regulatory agency the best organized and those most affected by regulation spend much money attempting to promote their own interests through legislation and sympathetic regulators. The emerging motorcycle taxi-hailing industry in the Philippines is pioneered by a company called Angkas which started serving market needs before the regulator (Land Transportation Franchising and Regulatory Board or LTFRB) noticed it's a viable operation nationwide. The latter banned Angkas' service operation on the ground that the law on land transportation and traffic code does not allow two-wheeled taxis to provide public transportation services, and Angkas' track record of catering to existing demand and the popularity of motorcycle taxis and neighboring countries such as Indonesia, Malaysia, Thailand, and Vietnam. Due to public clamor, the Department of Transportation (DOTr) mandated the LTFRB to allow the operation of motorcycle taxis under the legal cover of conducting a Motorcycle Taxi Service Pilot Implementation Run from May to December 2019. The pilot test is intended to assess the viability of motorcycles as a mode of transportation and has allowed Angkas to operate only in Metro Manila and Metro Cebu. The pilot test finally started in July 2009 under the supervision of the inter-agency technical working group (TWG) chaired by LTFRB. After the pilot test ended on December 23, 2019, the TWG extended it to another three (3) months from December 23, 2019 to March 23, 2020. But the rules imposed by the TWG for the extended test period are arbitrary and inconsistent with market realities. It mandated that only a maximum of 30,000 motorcycle taxis in Metro Manila, and 9,000 in Metro Cebu and to be shared equally among us and to new entrants: JoyRide and Movelt. While

introducing competition to the pilot test is desirable, fixing the price and number of riders for each company neutralizes the self-adjusting regulation of competition. Arbitrary administrative rules imposed by the TWG prevents the efficient working of the competitive forces. The Philippine Competition Commission (PCC) cautioned the TWG that displacing 17,000 riders of Angkas (it has 27,000 riders but it is only given a maximum of 10,000) will take away what was rightfully obtained by the company via the operation of the market forces. Among the arbitrary and restrictive rules imposed by the TWG on the participants and the second stage of the pilot tests are: (1) its rider must be registered to only one motorcycle ride-hailing platform (the PCC advise the TWG and all LTFRB to consider the option of allowing the riders to use more than one ride-hailing app); and (2) only motorcycles with 100cc to 150cc engines can join the pilot test (30% of Angkas' 27,000 riders use engines above 150cc, represent a smaller portion of accidents and tend to offer better features related to passenger comfort and safety). Obviously, the TWG did not conduct enough public consultations with its stakeholders before issuing the new guidelines. As a result, Angkas secured two temporary restraining orders (TROs) from the Mandaluyong City and Quezon City regional trial courts stopping the TWG from imposing a rider cap per company. Eventually, a deal was made between TWG and Angkas. The latter withdrew the cases it filed against the former. The former in turn agreed to raise the driver cap in metro manila to 45,000 or 15,000 each for Angkas, JoyRide, and Movelt. In addition, each motorcycle taxi provider can have 3,000 drivers in Cebu and another 3,000 in a new area, Cagayan de Oro City. However, TWG still bans "multihoming" (which allows any rider to register and switch between platforms and has pro-competitive effects). TWG is still clueless in implementing market-driven regulatory rules.

The legislation that will consequently legalize the motorcycle taxi industry may or may not address the problem of how to intervene in this market. For sure, legislators have their own goals and corporate constituents who lobby to win them for their views. For instance, Sen. Aquilino "Koko" Pimentel III endorsed that DOTr and LTFRB the inclusion of JoyRide in the pilot test and file the Senate Resolution to declare the Singaporean CEO of Angkas "persona non grata" because he considered and Angkas' court filings as intended to shame and bully government official which merely implemented the law. On the other hand, Lawyers for Commuters Safety and Protection (LCSP) petitioned the Quezon City Regional Trial Court for a TRO to stop the operation of five fledgling motorcycle taxi companies because they failed to comply with the legislation regarding private transport for hire and were sabotaging the government's pilot program for motorcycle taxis. The court denied the petition. Clearly, the dynamics of interest group theory are at work.

Sources: Stigler, 1973; Carlton and Perloff, 2015; Rey Canivel and Krixia Subingsubing, "PCC Cautions Against Angkas Cap," Philippine Daly Inquirer, December 26, 2019, page 4. Alexandria San Juan, "Court Issues TRO on Rider Cap Policy for Motorcycle Taxis," Manila Bulletin, January 7, 2020, page 3; Dexter Cabaiza, "Angkas Revs Up Opposition to Pilot Test Guidelines," Philippine Daily Inquirer, January 1, 2020, page 10; Krixia Subingsubing, "No TRO Versus Motorcycle Taxis, Court Clears Way for More Tests," Philippine Daily Inquirer, January 4, 2020, page 2, Krixia Subingsubing, "Angkas Withdraws Raps: Test Body Allows More Motorbike Taxis," Philippine Daily Inquirer, January 23, 2020, page 7; and Leila Slaverria, "Pimentel Wants Angkas Official Out," Philippine Daily Inquirer, January 24, 2002, page 4.

Box 2 . Competition in the Ride-Hailing Market

The Philippine Competition Act (R.A. 10667) defined "relevant market" as the market and which a particular good or service is sold and which is a combination of the relevant product market and the relevant geographic market. Some of the quantitative approaches used in the relevant market analysis are: (1) estimation of demand elasticities; (2) comparison of prices across markets thought to be similar except for differences in market structure; and (3) Katherine qualitative information about the distribution of product characteristics and seller locations, and information on how much buyers value the products. Boshoff (2013) argues that market definition involves more than an exercise to calculate market shares; underlying market definition is an analysis and ranking of substitutes based on a broad set of evidence.

The Philippine Competition (PCC) considers the ride-hailing sector as uncompetitive after Grab bought its biggest competitor, Uber. As one of the conditions for the approval of the Grab-Uber merger, the PCC negotiated with Grab in which the latter will voluntarily commit to keeping its fares as close to their levels when Grab and Uber were still competing. This condition, according to PCC, could keep Grab in check from exercising its market power as a virtual monopolist. But how is the ride-hailing market defined? Does this market simply composed of four-wheeled transport network companies (TNCs) - the narrow definition, or does it include all types of TNCs (e.g. including two-wheeled vehicles such as motorcycle taxis)? The latter is considered a broader definition of the market. A much broader definition is to include regular four-wheel taxis, van shuttle services (e.g. UV Express), regular buses, point-to-point buses and jeepneys. PCC seems to use the narrow definition of the market, but ride-hailing vehicles are competing with motorcycle taxis, regular taxis, van shuttle service, jeepneys, buses, and P-to-P buses too. Even if we ignore the positive cross-elasticity of demand (e.g.higher fare of Grab relative to that of a regular taxi will increase the demand for regular taxi) between Grab and regular taxi, there is still much competition between four-wheeled TNCs and two-wheeled TNCs (e.g. Grab versus Angkas). If Angkas did not exist, Grab would probably not be interested in offering GrabBike services because Grab will just cannibalize the ride-hailing market which it dominates. Does Angkas compete against Grab? Definitely, in fact, Angkas is Grab's closest rival with over 3,000 bookings a day. If the technical working group (TWG) overseeing the pilot test to assess the viability of the motorcycle taxi service blacklists Angkas and prevents it from participating in the ride-hailing market, Grab will be a beneficiary of such misguided regulatory decision. This is because Angkas offers a faster substitute to commute in a heavy traffic destination. The market for ride-hailing services should be defined broadly.

Sources: Stigler, 1973; Carlton and Perloff, 2015; Rey Canivel and Krixia Subingsubing, "PCC Cautions Against Angkas Cap," Philippine Daly Inquirer, December 26, 2019, page 4. Alexandria San Juan, "Court Issues TRO on Rider Cap Policy for Motorcycle Taxis," Manila Bulletin, January 7, 2020, page 3; Dexter Cabaiza, "Angkas Revs Up Opposition to Pilot Test Guidelines," Philippine Daily Inquirer, January 1, 2020, page 10; Krixia Subingsubing, "No TRO Versus Motorcycle Taxis, Court Clears Way for More Tests," Philippine Daily Inquirer, January 4, 2020, page 2, Krixia Subingsubing, "Angkas Withdraws Raps: Test Body Allows More Motorbike Taxis," Philippine Daily Inquirer, January 23, 2020, page 7; and Leila Slaverria, "Pimentel Wants Angkas Official Out," Philippine Daily Inquirer, January 24, 2002, page 4.

Evaluation of the Existing Public Investment Framework

The policy framework governing capital projects in the Philippines involves the implementing or line agencies in preparing the project proposals and submitting them to the oversight agencies for approval and inclusion in the National Expenditure Program that the President submits to Congress. The inter-agency Development Budget Coordination Committee (DBCC) decides on the annual program of expenditures, while the inter-agency Investment Coordination Committee (ICC) approves all major projects (costing PhP 2.5 billion or more) whether it is financed by GAA, ODA, or PPP.[4] The smaller capital projects (e.g. locally funded costing less than PhP 2.5 billion) are reviewed by DBM through the technical budget hearings.

When line agencies identify priority projects, they are expected to consult and coordinate with local government units (LGUs) and Regional Development Councils (RDCs), but in practice, there is a lack of effective coordination and consultation. This results in inconsistencies of approved infrastructure projects to both national and regional priorities. The lack of effective consultation leads to regional disparity in the choice of infrastructure projects. In addition, LGUs are constrained in their capacity to plan, prepare, and implement infrastructure projects because they cannot retain and attract relevant expertise to prepare projects, do feasibility studies, make detailed engineering designs, and supervise construction (Patalinghug, 2017).

World Bank (2009) has concluded that the credibility of the national planning processes with regard to transport infrastructure can be improved. Since the capacity to assess investment projects from the line agencies is limited, there is a need to improve the quality of project proposals and the undertaking of proper cost-benefit and technical analysis of projects on a routine basis. The varying quality

of the planning documents reduces their usefulness for prioritization and guidance in the budget preparation process; few feasibility studies are carried out, even for high profile projects. The lack of technical capacity to prioritize projects based on technical and socio-economic analysis leads some line agencies to submit their wish lists of priority infrastructure projects with no clear prioritization and sequencing. Actual decision-making on infrastructure expenditure is highly fragmented and implementation is poor. This makes the task of the National Economic and Development Authority (NEDA) more daunting because few resources are dedicated to the appraisals of project proposals with varying format and quality. Moreover, insufficient project data preclude a consistent screening of project feasibility, ranking, and scoring of preparedness.

The BBB program can take a lesson from the World Bank (2011) report that finds low efficiency rate in public transport spending and suggests the need to address high levels of corruption before growing further public expenditures on the sector. It attributes the low efficiency in public spending to disparities in the distribution of public expenditures across income groups and across geographic regions.

As early as 1977, the then Budget Commission (precursor of Department of Budget and Management or DBM) advocated for long-term budgeting to have a long-range view of agency activities. Long-term budget commitments for large investment projects are useful for improving public investment management in the Philippines. Is there a need for a long-term infrastructure plan? During the 4th Philippine Construction Industry Congress, one of the sector's action plans is to draft a long-term infrastructure plan and to support the filing of a bill in Congress for a thirty-year Long-Term Infrastructure Development Plan. The importance of the long-term infrastructure plan is to provide a roadmap of the Philippines' economic infrastructure sector covering

roads, railroads, seaports, airports, water and waste treatment facilities, electricity generation, transmission, and distribution facilities, and telecommunications. Long-term infrastructure plan helps put a clear connection between the current medium-term plan: 2017-2022, the next medium-term plan: 2023-2028, and the nebulous "AmBisyon Natin 2040." The motivation behind the construction industry's desire to draft a long-term infrastructure plan is to avoid waste of public funds because projects started by one administration were not carried over to the new government due to the difference in priorities. A component of the long-term infrastructure plan is the National Transport Policy that intends to synchronize decisions and investments of all transport-related projects in the Philippines. Two years after the adoption of the National Transport Policy, only the completion of its implementing rules and regulations (IRR) has been accomplished (see Box 3: "Regulation in the Land Transport Sector").

The short-term horizon of the medium-term plan (6 years) compared to the long-term horizon (10-30 years) for major infrastructure projects puts a project's priority at risk during its implementation lifetime. Some countries, such as the United Kingdom and Ireland, decided to strengthen the link between the medium-term plan and the long-term plan by embracing the concepts of long-term budget commitments for large investment projects. The Australian Infrastructure Plan provides a comprehensive audit of the country's infrastructure assets, and its accompanying document called the Infrastructure Priority List provides an investment roadmap for Australia's economic infrastructure sector. Thus, these documents provide an important guiding role for the Australian government in shaping its strategic decision on a list of priority infrastructure projects (Patalinghug, 2017).

Box 3 . Regulation in the Land Transport Sector

The main objective of government regulation is to promote economic efficiency or to correct market and efficiency. The Land Transportation Franchising and Regulatory Board (LTFRB) mainly uses the outdated "command-and-control" regulatory tools such as regulations that directly affect price, quantity, quality, and entry, instead of using market-based and incentive-based regulations. LTFRB approves the entry and franchising of land transport operators, and sets the price of the services to be rendered by the operators. However, an operator's market power will eventually get eliminated by new entrants as long as LTFRB itself does not impose barriers to entry. Competition can bring self-adjusting market regulation and easy entry into the land transport market making government regulation unnecessary. Furthermore, entry may be difficult when large and inflexible investments are needed and exit from the industry becomes so difficult. This is the case of LTFRB's Public Utility Vehicle Modernization Program that requires a "jeepney" operator to shell from PhP 1.6 million to PhP 2.3 million to purchase a mini-bus with Euro 4 compliant as a replacement (equipped with air-conditioning, Wifi, and Beep-card compatible amenities) of his fully-amortized "jeepney" for a measly PhP 80,000 subsidy per purchase. On the other hand, economies of scale exist and bust operation. The government may guide the market by encouraging the formation of a consortium of bus operators that function like a regulated monopoly in major city-wide routes using a digital dispatching and coordinating technology, while allowing the bus operators to compete in other segments of the market. Technology influences the form of government intervention and the industry. For instance, network technologies complicate the smooth functioning of competition and highways and railroads. They offer both scale economies and externalities. It can also offer more services at lower costs on alternative transport providers.

Sources: Stigler (1973); Sherman (2008)

A program to ramp-up infrastructure spending must likewise take into account the human resource implications of increased spending. In any organization or undertaking, increased volume of spending, activities, and projects require an automatic review of the staffing requirements of agencies or project management offices. In moving towards having a long-term infrastructure plan, the country must address the human resources requirements behind the plan. But eventually, the goal is to establish a multi-year planning and budgeting system (e.g. 6-year or 10-year capital projects plan) fully costed and

coordinated with the budget process. The long-term infrastructure plan must have financing allocation consistent with long-term fiscal projections and should be regularly updated and reviewed during the annual budget review and medium-term budget review. The core capability required to implement any plan is the ability of the coordinating and implementing agencies to undertake project preparation, appraisal, prioritization, and post-evaluation of completed projects. As discussed in the previous section, this core capability remains to be a major problem in the Philippine infrastructure sector.

Assessing the Performance of the Build, Build, Build Program

The Build, Build, Build program has set targets for infrastructure spending from 2017 to 2022 (see Table 1) in aggregate peso amount as well as a percent of the Gross Domestic Product (GDP). Infrastructure expenditures were targeted to progressively increase from 5.4 percent of GDP in 2017 to 7.3 percent of GDP in 2022. The actual infrastructure expenditures from 2017 to 2019 (see Table 2) both in aggregate peso value and as a percent of GDP are consistently below target after 2017. For instance, the targeted infrastructure expenditures in 2017 were estimated at PhP 847.2 billion (5.3 percent of GDP) by NEDA and PhP 858.1 billion (5.4 percent of GDP) by the DPWH. The actual infrastructure expenditures, PhP 991.1 billion, exceeded target expenditures. But from 2018 to 2020, actual (and proposed) expenditures consistently fall below targeted expenditures. The actual infrastructure expenditures in 2018 (PhP 990.52 billion) were below the 2018 targeted expenditures (PhP 1,097.3 to PhP 1,169.6 billion); and the actual 2019 expenditures (estimated at PhP 859.5 billion) were

below the 2019 targeted expenditures (PhP 1,295.5 to PhP 1,359.1 billion). And finally, the proposed 2020 infrastructure expenditures (PhP 972.6 billion) are below the 2020 targeted expenditures (PhP 1,456.6 to PhP 1,497.2 billion). As a percent of GDP, the actual infrastructure expenditures in 2019 is only 4.3 percent of GDP against the target of from 6.8 percent to 7.1 percent of GDP. For 2020, the proposed infrastructure budget is only 4.6 percent of GDP against the target of from 6.9 percent to 7.1 percent of GDP. The delayed congressional approval of the 2019 budget was blamed for the slower first quarter and second quarter 2019 growth of 5.6 percent and 5.5 percent, respectively. However, the DPWH and DOTr spent less than 40 percent of their budgets in 2017 and 2018 when the congressional approval of the budget was not delayed (see Table 3). See also Box 4: "Perception Management Can Also Backfire."

Box 4 . Perception Management Can Also Backfire

Before the Philippine Statistics Authority (PSA) downgraded the 2019 third quarter GDP growth rate from 6.2% to 6.0%, economic managers we're optimistic of hitting the lower end of the 6.0% to 6.5% GDP growth rate target for 2019:

"The Duterte administration overcame one of the challenges in 2019 - an economy hobbled by a combination of the delayed congressional approval of the year's national budget and global trade tensions - through a bold, but carefully crafted catch-up expenditure plan anchored on accelerating state spending on infrastructure and human capital development programs."[1]

Carlos Dominguez
Secretary of Finance

On the other hand, a different perspective was projected after the release of the official 2019 GDP growth rate of 5.9%:

"If the 2019 budget was passed on time and the national government was able to replicate the 2018 cross in the government consumption and government construction in 2019, the economy would have grown by an additional 0.9 percentage point or 6.8 percent."[2]

Carlos Dominguez
Secretary of Finance

Be careful with the practice of perception management or relying on press releases combined with information feed to friendly and sympathetic journalists because it can also backfire overtime. there is a big gap between the world of public relations and the goings-on in the real economy.

Sources: [1] *"Catch-up Spending Plan Brings Growth Back on Track," Philippine Information Agency, January 12, 2020*
[2] *Chino Leyco, "Budget Delay Pulled Down PH Growth in 2019 - DOF," Manila Bulletin, January 25, 2020, page B-3*

Table 1 . Infrastructure Spending Targets: 2017-2022

	2017	2018	2019	2020	2021	2022
Amount	PhP 847.22 B	PhP 1,169.55 B	PhP 1,359.05 B	PhP 1,147.20 B	PhP 1,668.09 B	PhP 1,898.77 B
% of GDP[1]	5.32%	6.68%	7.07%	7.09%	7.19%	7.45%
% of GDP[2]	5.4%	6.3%	6.8%	6.9%	6.9%	7.3%
% of GDP[3]	5.3%	6.7%	7.1%	7.1%	7.2%	7.3%

Source: [1] *National Economic and Development Authority, May 30, 2017*
[2] *Department of Public Works and Highways, November 21, 2017*
[3] *Department of Budget and Management, July 11, 2017*

Table 2 . Infrastructure Expenditures: Program Versus Actual, 2017-2020

	2017	2018	2019	2020
Proposed	PhP 860.65 B	PhP 1.097 T	PhP 909.74 B	PhP 972.55 B
Program	PhP 858.07 B	PhP 1.094 T	PhP 816.24 B	
Actual	PhP 991.25 B	PhP 990.52 B	PhP 628.5 B[a]	

Source: Department of Budget and Management
[a] *Covering January to October 2019 only*

Table 3 . Disbursements as a Percent of Agency's Budget

Agency	2017	2018
DPWH	34.1%	39.7%
DOTr	25.6%	23.8%

Source: Commission on Audit
Cielito Habito, "Disturbing Slowdown," Philippine Daily Inquirer, August 16, 2019, page 14.

Obviously, absorptive capacity constraints explain the inability of the infrastructure implementing agencies to spend their allocated budgets which are already downgraded from the rosy targets set at the start of the medium-term planning horizon of the Duterte Administration. DPWH was not able to use the PhP 275 billion in 2018 due to poor planning. Another reason advanced by Sen. Panfilo Lacson was that the DPWH was not consulted before legislators inserted this amount into their budget. Furthermore, Sen. Lacson cited instances of poor planning at the DPWH such as: some items had incomplete or vague descriptions or scope of work and showed overlapping projects.[5]

Let us examine the status of the various infrastructure projects planned, implemented, or completed during the Duterte Administration:

a) Railway Projects

Table 4 shows the implementation status of twelve (12) railway projects. The LRT-1 Cavite Extension Project (from Dr. Santos, Parañaque City to Niyog, Bacoor City) after its long planning hiatus since its conceptualization was set on track with a concession contract signed in September 2014 between the government and a consortium of Ayala Corporation and Metro Pacific Investments Corporation (MPIC) as the operations and maintenance (O&M) provider for thirty-two years of the existing LRT Line 1 (LRT-1) (from Baclaran, Parañaque City to Trinoma, Quezon City) and the builder of the civil works, train stations, and rail tracks for the LRT-1 extension segment. Due to various route alignment and right-of-way (ROW) acquisition issues, the consortium's subsidiary Light Rail Manila Corporation (LRMC), which operates and manages the LRT-1, was never able to start its obligation in the concession agreement (CA) to build the civil works for the extension portion, but they assumed control and operation of

the LRT-1 since 2015. It seems that the CA was badly designed because it guarantees a lucrative rate of return for LRMC by just focusing on the O&M commitment on the existing line and delaying implementation of its more risky construction commitment for the extension line despite the ceremonial ground breaking conducted on May 4, 2017. The construction for the depot at Pasay City and at Zapote, Las Piñas City started on May 7, 2019, and piling works for the supporting piers for the elevated railway structures at Dr. Santos Station in Parañaque City started on September 1, 2019. Given the delay and slow pace of work, there is no chance that the extension line will be up and running by 2022.

The LRT Line 2 (LRT-2) East Extension Project (4 kilometers and two stations) was implemented in 2010 and is planned to be completed by December 2020 (a duration of 10 years). The previous government divided the extension project into three separate contracts (implying three separate and circuitous bidding and budgeting processes): Package 1: civil works, Package 2: train stations, and Package 3: railway tracks and electromechanical (signalling) system. Under the Duterte Administration, ground-breaking ceremonies were held on May 29, 2017, but the final phase of track laying and installation of the electromechanical system (EMS) started only on April 15, 2019. The viaduct construction was finished in 2017, while the two stations (Emerald Station in Cainta City and Masinag Station in Antipolo City) remain to be completed. At present, there is little progress on the final phase of the construction work. It is hoped that this project will be completed by December 2020. The fire on October 3, 2019 that destroyed the power rectifier of LRT-2's Katipunan Station forced LRT-2 to shorten its route from Recto Station to Cubao Station (instead of from Recto Station to Santolan Station). At present, there are no indications as to when LRT-2 will resume its regular route service.

LRT-1, MRT-3, and MRT-7 Common Station dubbed as the "Unified Grand Central Station" had its ground breaking ceremonies on September 29, 2017, but actual construction started on May 7, 2018 at the Ayala portion (Area B) which is near completion, and on February 13, 2019 at the government portion (Area A) that covers the link between LRT-1 and MRT-3 started construction. There is no information as to when the SMC portion (Area C) will start construction. Most probably the completion target date of December 2020 will be missed.

The PhP 22 billion MRT-3 rehabilitation project had turnover ceremonies on April 30, 2019 when the MRT-3 maintenance team handed over the task to a team composed of Sumitomo Corporation, Mitsubishi Heavy Industries, and the latter's subsidiary, TES Philippines (TESP), which will undertake a comprehensive rehabilitation and maintenance of MRT-3 over forty-three months. Due to the congressional delay in the approval of the 2019 budget, actual rehabilitation work started in July 2019. After six months of rehabilitation work, MRT-3 train glitzes disappeared, and trains are running with less vibration. Rail replacement started in November 2019, but improvement in the operating speed from 30 to 60 kilometers per hour will have to wait after the completion of rail replacement work on February 2021.

After its ceremonial ground breaking on January 5, 2018, construction of the Tutuban to Malolos railway began on February 15, 2019. On the other hand, the Malolos to Clark railway, which had a ceremonial ground breaking on October 18, 2017, is currently undergoing various stages of procurement and pre-construction works. Eleven companies joined the bidding for Packages 1 to 3, and six companies joined the bidding for Packages 4 and 5.[6] The project is divided into five packages, namely:

Table 4 . Implementation Status of Railway Projects

Project	Groundbreaking	Construction Status
1. LRT-1 Cavite Extension Baclaran, Parañaque City to Niyog, Bacoor City, East (11.7 km)	May 4, 2017	Piling works for the elevated railway structure at Dr. Santos Station in Parañaque City started on September 1, 2019
2. LRT-2 Extension Santolan, Pasig City to Masinag, Antipolo City (4 km)	May 29, 2017	Track-laying and electromechanical system (EMS) installation started on April 15, 2019
3. LRT-1, MRT-3, and MRT-7 Common Station (13,700 sq.m.)	September 29, 2017	Ayala's portion started on May 7, 2018; Contract for the government portion that covers the link between MRT-3 and LRT-1 was signed on February 13, 2019
4. MRT-3 Rehabilitation North Avenue, Quezon City to Taft Avenue, Pasay City (16.9 km)	April 30, 2019	It started in July 2019 and will last for 43 months
5. Tutuban to Malolos Railway (38 km)	January 5, 2018	February 15, 2019
6. Malolos to Clark Railway (53 km)	October 18, 2017	Undergoing various stages of procurement and pre-construction
7. Metro Manila Subway Quirino Highway, QC to NAIA 3, Pasay City (36 km)	February 27, 2019	Undergoing various stages of procurement and pre-construction works
8. Subic to Clark Railway (71 km)	Planning Stage	
9. Tutuban to Sorsogon Railway (653 km)	Planning Stage	

Package 1:	covers 17 kilometers for civil works, including Calumpit and Apalit Stations
Package 2:	covers 16 kilometers including San Fernando Station
Package 3:	covers 12 kilometers including Angeles and Clark Stations
Package 4:	covers 8 kilometers and includes Clark International Airport
Package 5:	includes the Clark Depot

The existing Tutuban to Calamba railway was extended to Los Baños, Laguna. Philippine National Railway (PNR) purchased in 2018 nine (9) diesel locomotives from Indonesia to serve this route. Given the current state of railway tracks (occupied by informal settlers along the route), it takes two hours and 26 minutes to travel from Tutuban to Calamba.

The proposed Subic to Clark Cargo Railway and the Tutuban to Sorsogon South Line, the latter to be funded by China official development assistance (ODA) are still in the planning stage. The NEDA Board approved the Subic-Clark Railway project on April 25, 2018, and the Tutuban-Sorsogon Railway project on November 14, 2016. But both are far from being implemented.

The Metro Manila Subway broke ground on February 27, 2019. It ambitiously aims to complete the first three stations (Quirino Highway, Tandang Sora, and North Avenue) and the Valenzuela Depot by 2022. Currently, not much progress has been achieved for this project, except for right-of-way acquisition. On December 21, 2019, a ceremony was held to formalize the start of the subway's construction with the signing of deeds of absolute sale and the distribution of checks to the affected landowners. The tunnel boring machine has yet to arrive.

The first phase of Mindanao Railway (Tagum-Davao-Digos) has

been hounded by planning and costing snafus from the beginning. The NEDA-ICC Cabinet Committee approved on July 10, 2019 the cost increase from PhP 35.9 billion to PhP 82.9 billion due to a change in scope. DOTr originally planned a diesel-powered train running on a single track, while the Mindanao Development Authority (MDA) preferred a double-track railway system with electric cars and standard gauge. The NEDA-approved cost increase will cover the cost due to changes in civil and structural work (viaduct and bridges) needed to accommodate slopes and embankments along the track, as well as the upgrade from diesel to electric trains. This project is an illustration of a project analysis that is not done appropriately.

MRT-7 broke ground in 2015 and started construction in April 2016. This project got off the ground after the government provided a performance undertaking. Acquisition of land to locate the train depot was mired in litigation. First, the property owner in San Jose del Monte, Bulacan questioned the expropriation in court. The Regional Trial Court (RTC) Branch 11 issued on February 15, 2018 an order granting DOTr writ of possession provided that it pays the property owner the new market value of PhP 1,800 per square meter, instead of the old value of PhP 200 per square meter. That would have raised the acquisition cost from PhP 66 million to PhP 594 million for the 33-hectare property. In November 2019, DOTr took possession of a 20-hectare property in Lagro, Quezon City (to be used as MRT-3 train depot) after winning a writ of possession issued by Quezon City RTC Branch 92 and 98. The property owner (Century Properties Group, Inc.) is offered PhP 3,600 per square meter (acquisition cost of PhP 720 million), but the property owner filed the necessary court pleadings rejecting the offer (valuation) as grossly inadequate compared to the actual market value. In the meantime, DOTr reported that the 23 kilometer MRT-3 project is 50.7 percent complete as of January 15,

2020. If it takes four years to reach 50 percent completion, it is hoped that it will not take the same length of time to complete the remaining 50 percent.

MRT-4 from Quezon City (near LRT-2's Gilmore Station) to Taytay, Rizal was approved by the NEDA-ICC Cabinet Committee on December 20, 2019 and by the NEDA Board on January 28, 2020. ADB is interested in funding this project.

b) Airport-Related Projects

Table 5 shows the implementation status of eight (8) unsolicited airport PPP projects, and Table 6 shows the status of three (3) government-funded airport projects.

San Miguel Corporation's (SMC) proposal to build the New Manila International Airport in Bulakan, Bulacan received the original proponent status (OPS) in 2017, received conditional NEDA Board approval on April 26, 2018 subject to the resolution of pending issues, including the joint liability agreements between San Miguel Holdings, Inc. and its parent San Miguel Corporation. It received the final NEDA Board approval on December 21, 2018; it hurdled the Swiss challenge on July 31, 2019, was given by DOTr a Notice of Award (NOA) on August 14, 2019, and a Notice to Proceed (NTP) on September 18, 2019 after DOTr and SMC signed the concession agreement. This project can now be implemented by its private proponent. The project will build a new international airport on a 2,500 hectare-property with modern terminal buildings, four (4) runways accommodating 100 million passengers per year, including an 8.4 kilometer expressway connecting the airport to the Marilao, Bulacan entry of North Luzon Expressway. SMC also promises to implement a multimillion peso flood control program to mitigate the perennial flooding in Bulacan.

The NAIA Rehabilitation project obtained the OPS approval on

Table 5 . Implementation Status of Unsolicited PPP Airport Projects

Project	Proponent(s)	Cost	Duration	Date of Approval of Original Proponent Status	Status
1. New Manila International Airport	SMC	PhP 735 B	50 years	2017	Approved by NEDA Board on December 21, 2018, hurdled the Swiss challenge on July 31, 2019, was given a Notice of Award by DOTr on August 14, 2019, and was given the Notice to Proceed on September 18, 2019
2. NAIA Rehabilitation	Ayala Corporation Aboitiz Equity Ventures Alliance Global Group Filinvest Dev. Corp. Asia Emerging Dragon JG Summit Holdings, Inc. Metro Pacific Investments Corp.	PhP102 B	15 years	September 10, 2018	Approved by NEDA-ICC CabCom on September 27, 2019; approved by NEDA Board on November 29, 2019; a maximum 80-day negotiation period was imposed after NEDA Board approval
3. Davao Int'l Airport	Chelsea Logistics Holding Corporation	PhP 49 B	30 years	October 2018	Approved by NEDA-ICC CabCom on December 20, 2019
4. Laguindingan Airport	Aboitiz Infra Capital, Inc.	PhP 46 B	35 years	February 26, 2019	Approved by NEDA-ICC CabCom on December 20, 2019
5. Bohol-Panglao Int'l Airport	Aboitiz Infra Capital, Inc.	PhP 27 B	25 years	September 3, 2018	Approved by the NEDA Board on November 29, 2019
6. Sangley Point Int'l Airport	Cavite Provincial Gov't	PhP 506 B	25 years	N. A.	China Communications Construction Corp. (CCCC) and Lucio Tan's MacroAsia Corp. won the bidding on December 17, 2019 to build, develop, and expand the airport
7. Iloilo Int'l Airport	Prime Asset Ventures, Inc. (Villar Group)	Unknown	Unknown	May 28, 2019	Under review by NEDA-ICC CabCom
8. Puerto Princesa Airport	Prime Asset Ventures, Inc. (Villar Group)	Unknown	Unknown	May 28, 2019	Under review by NEDA-ICC CabCom

September 10, 2018. The project will rehabilitate, upgrade, expand, and maintain the Ninoy Aquino International Airport (NAIA) for fifteen years. It seeks to expand and interconnect the existing terminals of NAIA, upgrade its airside facilities, develop commercial facilities, increase airline and airport efficiencies, and enhance passenger comfort and experience. In October 2018, the government asked the NAIA proponent (the consortium composed of seven conglomerates) for additional revisions of its proposal, specifically stating that: (1) material adverse government action (MAGA) provision in the contract should not include local government, judiciary, and legislative branches of the government, and must pertain only to actions of the executive branch; and (2) the provision in the contract that states that the proponent will only start Phase 2 once the passenger service fee is adjusted from PhP 550 to PhP 750, a condition which in effect is a guarantee on the part of the government.

The revised proposal was accepted by DOTr on May 1, 2019 and was later submitted to the NEDA-ICC for review. However, the proposal was returned to the consortium on July 2019 following a new requirement to all unsolicited airport projects to pattern their concession agreements after the operation and maintenance (O&M) contract of the Clark International Airport (CIA). The consortium submitted to DOTr its revised proposal which followed the CIA template on the latter part of July 2019. The NEDA-ICC Cabinet Committee approved the revised proposal on September 27, 2019, and the NEDA Board approved the proposal on November 29, 2019, subject to a maximum negotiation period of 80 days. The consortium is still negotiating the final terms (as of January 27, 2020) with DOTr on the possible relief from real property taxes imposed by LGUs. This project illustrates the limited absorptive capacity of the government implementing agency.

Chelsea Logistics Holdings and Infrastructure Corporation obtained the OPS approval on its proposal to develop and expand the terminal building of Davao International Airport, construct parallel taxiways, install modern IT systems, and improve airside and landside facilities. On December 20, 2019, the NEDA-ICC Cabinet Committee approved the project. It now goes to the NEDA Board chaired by the President; for approval before being subjected to a Swiss challenge.

Aboitiz Infra Capital's OPS for the Laguindingan Airport was approved on February 26, 2019, and the NEDA-ICC Cabinet Committee approved the proposal on December 20, 2019. The proposal aims to upgrade, expand, and operate the Laguindingan Airport which is serving Cagayan de Oro City and neighboring towns. NEDA Board approval is the next regulatory hurdle.

Another Aboitiz Infra Capital unsolicited proposal is to upgrade, expand, and operate the New Bohol-Panglao International Airport. The OPS was approved on September 3, 2018, and the NEDA-ICC Cabinet Committee approved the proposal on November 6, 2019. The NEDA Board approved the proposal on November 29, 2019. It is now subject to the Swiss challenge.

The development and construction of Sangley Point International Airport was first proposed by a consortium composed of All Asia Resources and Reclamation Corporation of Solar Group, and Belle Corporation of SM Group. The consortium proposed a PhP 623 billion project to build two parallel independent runways, terminal buildings with a capacity to serve 120 million passengers a year; reclaim 2,500 hectares of land north of the Sangley peninsula to be used for airport infrastructure and commercial establishments; and rehabilitate the Danilo Atienza Airbase to be later used as general aviation airport to decongest NAIA terminals during project development stage. The Provincial Government of Cavite followed with its PhP 506 billion

proposal to build four runways and terminal buildings that can serve 135 million passengers annually, build a bridge connecting Sangley Point International Airport with Mall of Asia, and reclaim 1,500 hectares of land. DOTr has given the LGU proponent preference over the private proponent. Cavite Governor Juanito Remulla presented its Sangley Point airport plan to Pres. Rodrigo Duterte in Beijing on August 30, 2019. The Cavite provincial government was given a "no objection" clearance from DOTr to immediately implement the project. The Cavite provincial government issued a request for proposals (RFP) for the selection of a joint venture partner for the Sangley Point International Airport project. A consortium of Lucio Tan's MacroAsia Corporation and China's state-owned China Communications Construction Corporation (CCCC) won the bidding to develop the Sangley Point International Airport on December 18, 2019.

The last two other unsolicited airport proposals (see Table 5) are those to expand, develop, and operate projects for both Iloilo International Airport and Puerto Princesa Airport, respectively. The proponent is Prime Asset Ventures, Inc. (PAVI), a subsidiary of the Manuel Villar Group of Companies. Details of PAVI's unsolicited PPP proposals are still sketchy. However, on May 28, 2019, PAVI was granted the original proponent status (OPS) for both proposals.

DOTR has completed its PhP 486 million rehabilitation of the existing Danilo Atienza Airbase at Sangley. The rehabilitation includes its 2,300-meter runway, construction of the ramp and drainage system, four hangars with 1600 square meters each, 800 square meter passenger terminal building, and vehicular parking area. This rehabilitated airport is intended to serve general aviation and some commercial operations. After its November 29, 2019 completion, the transfer of general aviation to Sangley Airport is still voluntary because of its lack of accessibility to Metro Manila (see Table 6).

Table 6 . Government Funded Airport Projects

Project	Groundbreaking	Status
1. Clark Int'l Airport Terminal	December 20, 2017	Expected to be completed in August 2020
2. Bicol Int'l Airport	2005	57.4% complete as of April 2019
3. Sangley Point Airport Rehabilitation	N. A.	Rehabilitation of 2.4 km runway at a cost of PhP486 million; completed in November 2019

The well-implemented component of the BBB program is the Clark International Airport Terminal project which started construction immediately after its ground breaking on December 20, 2017. The project is expected to be completed by August 2020.[7] A consortium composed of Filinvest Development Corporation; JG Summit Holdings, Inc; Changi Airport Philippines Pte, Ltd; and Philippine Airport Ground Support, Inc. won the bidding on June 2019 to a 25-year contract to develop the commercial assets and operate and maintain CIA new terminal building. The consortium (called Luzon International Premiere Airport Development Corporation, LIPAD) signed the concession agreement with the government on January 22, 2019 and took over CIA operations on August 16, 2019.

The most delayed government-funded airport project is the Bicol International Airport whose construction was on-and-off since 2005. The passenger terminal building was only 8 percent complete as of November 30, 2018. DOTr's inspection team reported that the airport is now 57.4 percent complete (as of April 2019) with 100 percent for airside (airstrip, runway, taxiway, apron, and perimeter fence), but all the buildings, including the passenger terminal building, are still incomplete.

c) Roads, Bridges, Highways, and Tollways

Table 7 shows the status of roads, bridges, highways, and tollways projects in the Build, Build, Build program. The most prominent among these projects is the Metro Manila Skyway Stage 3 from Buendia, Makati City to Balintawak, Quezon City (it has an on-going 6-kilometer extension project from Alabang to Susana Heights that started in October 2019). This project started in April 2014 with four segments: (1) Buendia to Plaza Dilao, (2) Plaza Dilao to Aurora Boulevard, (3) Aurora Boulevard to Quezon Avenue, (4) Quezon Avenue to Balintawak. Segment 1 was opened on July 22, 2019. Segment 2 needs lots of work to be completed beyond the April 1, 2020 (All Fools Day) completion target date. Segment 3 needs to complete the exit ramp before Quezon Avenue, and Segment 4 is probably just 82 percent complete. It took five (5) years to complete just Segment 1.

The Karuhatan, Valenzuela City to Caloocan Interchange in C3 Road segment of the NLEX Harbor Spur Link was completed on February 28, 2019, but the shorter segment from C3 Road, Caloocan City to R10 in Navotas City remains to be completed.

The Merville to C5/SLEX segment of the C5 South Link Expressway was completed on July 23, 2019, but the longer segment from Cavitex to Mamplasan Exit in Biñan City, Laguna remains to be completed.

The Tarlac City to Pozorrubio, Pangasinan segment of the Tarlac-Pangasinan-La Union Expressway (TPLEX) was built more effectively than the remaining shorter segment from Pozorrubio, Pangasinan to Rosario, La Union which remains unfinished since 2017. The Pozorrubio to Sison segment still entails a lot of work before completion.

Southern Luzon Expressway Toll Road 4 (TR4) – from Sto. Tomas, Batangas to Lucena City, Quezon – had its seventh groundbreaking on March 26, 2019.

The Cavite-Laguna Expressway (CALAEX) started construction

in July 2017 and on December 23, 2019 opened for operation the 10 kilometer segment from South Luzon Expressway (SLEX) Mamplasan Interchange in Biñan City, Laguna to the Tagaytay City-Santa Rosa Interchange. The Cavite segment just started construction on March 27, 2019.

Several Ortigas-BGC Link projects are under construction such as the Sta. Monica-Lawton Bridge and the Lawton Avenue to Global City Viaduct.

Also under construction is the North-South Connector Road that started construction on November 16, 2019 on the portion from Grace Park, Caloocan City to España Street, Manila. The segment from España, Manila to PUP, Sta. Mesa is still waiting for a contractor to be selected.

Lastly, two projects, financed by grants from the Chinese government are under construction, namely, the Binondo-Intramuros Bridge and the Estrella-Pantaleon Bridge.

The DPWH has indicated that the projects listed on Table 7 (except for TPLEX, CALAEX, and TR4) are part of the Php 384 billion infrastructure projects to ease Metro Manila traffic. On the other hand, the DPWH has acknowledged that building new roads, bridges, highways, and tollways can only ease traffic to a certain extent because vehicle population also increases. Note that in California it found that the vehicle elasticity with respect to road expansion was 2.6 – meaning a 1 percent expansion of roads leads to a 2.6 percent increase in vehicle population. The long-run solution therefore to Metro Manila's traffic problem, as acknowledged by the DPWH, is the development and construction of the mass transit urban transportation system.[8] Roads, bridges, highways, tollways are network infrastructures and opening them by segment ("completion by instalment") will not really solve the traffic gridlock. Full completion is needed to reap the benefits of

network infrastructure. Consider the case of opening the Buendia to Plaza Dilao segment of Metro Manila Skyway Stage 3 on July 22, 2019. What it accomplished was to transfer the gridlock to the exit ramp at Plaza Dilao where traffic is practically at standstill.

As discussed earlier (see Table 4), the mass transit infrastructure projects (e.g. LRT-1 Cavite Extension, LRT-2 East Extension, MRT-7, Tutuban-Malolos Railway, Malolos-Clark Railway, and the Metro Manila Subway) are either too much delayed in completion or have not actually started the construction work. At best, long-term solutions to Metro Manila's traffic problem will not come before 2025.

d) What Does It All Mean?

Given the low level of efficiency in the construction of infrastructure projects, the completion of the projects started by the present administration will get to be completed in the future. Projects planned and started by the Aquino administration (such as NAIA Expressway, Mactan-Cebu International Airport Terminal Building, Bohol-Panglao International Airport, and Parañaque Integrated Terminal Exchange) have been inaugurated during the Duterte administration, and they might even be lucky if they have the chance to inaugurate before 2022 other major projects implemented or approved by the Aquino administration, such as Metro Manila Skyway Stage 3, MRT-7, LRT-2 East Extension, TEPLEX, CALAEX, and the North Harbor Spur Link Road.

In late 2016, the Duterte administration gave indications early in its term that the absorptive-capacity constraints will be addressed. Then Budget Secretary Benjamin Diokno (now Bangko Sentral ng Pilipinas Governor) promised a 24/7 construction schedule for major infrastructure projects, installing closed circuit TV in work sites that would livestream activities 24/7, strengthening of project

monitoring by geo-tagging, streamlining the approval process for major infrastructure project, simplifying the implementing rules and regulations (IRR) of the Procurement Reform Law, and revitalization of the PPP program. Unfortunately, three years later none of the above promises are visibly undertaken. Only nine (9) of the initial 75 flagship projects have private sector participation. The government revised the list of infrastructure projects from 75 flagship projects to 100 "less ambitious and more doable and feasible projects" in the BBB program which belatedly include unsolicited PPP projects such as SMC's New Manila International Airport in Bulacan, the seven conglomerates' NAIA Rehabilitation Project, Chelsea Logistics and Infrastructure Holdings' redevelopment-upgrade-operate proposal for the Davao International Airport, and Aboitiz Infra Capital, Inc.'s develop-upgrade-operate proposal for the Bohol-Panglao International Airport. In short, unsolicited PPP projects are the default preferred mode despite the superiority of solicited PPP projects over unsolicited ones. The latter's Swiss challenge does not effectively replicate a competitive bidding process. In addition, unsolicited projects lack transparency (it's done through closed-door negotiations), the criteria for awarding the original proponent status (OPS) are arbitrary, and it leaves room for corruption. Twenty-nine (29) of the 75 promised projects are now shelved from the original list and include connectivity projects such as Luzon-Samar Bridge and Leyte-Surigao Bridge. In contrast, it gives priority to a fourth Cebu-Mactan Bridge and the Guimaras-Panay-Negros Bridge. This time, policymakers made another promise that half of the 100 "feasible and doable" projects will be either completed or started during Pres. Duterte's term.[9]

Obviously, the belated declaration that some of the promised 75 flagship projects are no longer doable (due to prohibitive cost or non-availability of technologies) indicates that the list of flagship projects is

Table 7 . Status of Roads, Bridges, Highways and Tollways Projects

Project	Status
1. Metro Manila Skyway Stage 3 (18.68 kms)	
• From Buendia, Makati City to NLEX, Quezon City	All segments are delayed
• Buendia to Plaza Dilao segment	Accessible on July 22, 2019
2. NLEX Harbor Spur Link (8.4 kms)	
• Karuhatan, Valenzuela City to Caloocan Interchange in C3 Road (5.8 kms)	Completed February 28, 2019
• C3 Road, Caloocan City to R10, Navotas City (2.6 kms)	Ongoing and delayed
3. C5South Link Expressway (7.7 kms)	
• Cavitex-Mamplasan Exit in Biñan, Laguna	Under construction
• Merville to C5/SLEX (2 kms)	Accessible on July 23, 2019
4. Tarlac-Pangasinan-La Union Expressway (88.85 kms)	Started in 2010, but last 10 km portion delayed
• Tarlac City to Pozorrubio, Pangasinan (78.85 kms)	Completed
• Pozorrubio, Pangasinan to Rosario, La Union (10 kms)	Delayed since 2017
5. Southern Luzon Expressway Toll Road 4 (66.74 kms)	Groundbreaking on March 26, 2019, its seventh groundbreaking
• Sto. Tomas, Batangas to Lucena City, Quezon	
6. Cavite-Laguna Expressway (45 kms)	
• Cavite Section	Started on March 27, 2019
• Laguna Section	Started on July 2017
	The 10-km segment from South Luzon Expressway Mamplasan Interchange in Biñan City, Laguna to the Tagaytay City-Santa Rosa Interchange was opened for operation on December 23, 2019
7. Sta. Monica-Lawton Bridge (Ortigas-BGC Link)	Under construction
8. Lawton Avenue-Global City Viaduct (565 meters)	Under construction
9. North-South Connector Road (8 kms)	
• Grace Park, Caloocan City to España St., Manila (5 kms)	Groundbreaking: March 2019
	Construction: November 16, 2019
• España Street, Manila to PUP, Sta. Mesa, Manila (3 kms)	Contractor for this segment is still to be selected
10. Southeast Metro Manila Expressway (C6)-FTI, Taguig City to Batasan, Quezon City (34 kms)	Groundbreaking on January 8, 2018 and supposed to start construction in April 2018
11. Binondo-Intramuros Bridge (680 meters)	Under construction
12. Estrella-Pantaleon Bridge (506 meters)	Under construction

simply a "wish list." Project selection and evaluation were haphazardly done. The administration admitted that it put a number of "wrong" projects on the list. This means that administration officials found out that some of these projects were not feasible three years later.[10] Moreover, the International Air Transport Association (IATA) is sceptical about DOTr's Metro Manila multi-airport strategy: a free-market approach to building air gateways as long as they comply with the law and require no government guarantee or subsidy. IATA suggests that such an approach can be complicated without an aviation master plan for Metro Manila. DOTr should undertake adequate analysis and consultation, particularly with the airlines, on access, capacity and cost issues, and then develop an aviation master plan for Metro Manila. On the private participation in airport rehabilitation, upgrade, operation, and management, IATA advises that private companies can increase airport efficiency and bring expertise, but there are risks involved such as unnecessary investments, higher fees, and conflict of interest. It suggests that government make efforts to understand the risks that can occur in airport PPP projects in order to determine the appropriate regulatory framework.

In Pulse Asia's December 3-8, 2019 survey, 69 percent of respondents nationwide indicated that the current administration is better than the previous administration in developing infrastructure in the country. The Presidential Adviser on Flagship Projects boldly interpreted this survey result: "Very clearly, 69 percent of the entire country feel that we now have better infrastructure… this is a testament to what… DPWH, DOTr, and other agencies have implemented over the course of the past three years."[11] (See also Box 5: "Perception Management Amidst Sluggish Infrastructure Performance.")

Incidentally, Pres. Duterte observed the traffic problem in Metro Cebu when he attended the Sinulog Festival on January 19, 2020. He

suggested building a skytrain and elevated roads (to be finished in two years and possibly to be funded by Chinese loans) to ease Cebu City's traffic congestion. On the other hand, Chelsea Logistics and Infrastructure Holdings' unsolicited proposal to build a monorail was granted OPS approval by DOTr in 2019. The technical board of the NEDA-ICC is set to review and evaluate the proposed Cebu monorail project.

There is no doubt that President Duterte is very popular because he is perceived to have a strong political will. But this study is not an assessment of the performance of the Duterte administration. Neither is this study an assessment of the current administration's infrastructure performance versus that of the previous administration. Most likely this administration is perceived to be a better implementor of infrastructure projects (reinforced by public relations push and mass media exposure) vis-à-vis all the previous post-Marcos administrations. The ADB is inclined to support this view on the historical perspective that the BBB program can be considered "incredibly successful" in terms of achieving an all-time high public spending on infrastructure.[12] However, this study is an assessment of the BBB performance vis-à-vis its stated goals at the outset as well as vis-à-vis global infrastructure investment efficiency benchmark.

Comparing the infrastructure agencies' budget versus actual disbursement, it is shown that actual expenditures are below programmed expenditures. And comparing infrastructure efficiency indicators in the Asia-Pacific region, it can be deduced that to create the infrastructure stocks worth US$100 billion created in Hong Kong, Singapore, or South Korea at a reasonable time, the Philippines will have to invest US$250 billion and it will take a much longer time to build the same type of infrastructure stocks.

The current downgraded set of BBB projects will not achieve the so-called "Golden State of Infrastructure" until mass transit projects

are realized most likely beyond 2025. Neither is the BBB Program a "dismal failure." There are more resources poured on infrastructure spending because of the BBB program, and consequently, it stretched the absorptive capacity of both the implementing and coordinating agencies. Being able to complete leftover projects or start more projects than previous post-Marcos administrations creates some expectations as well as disappointments, but it does not make the BBB program a dismal failure.

Box 5 . Perception Management Amidst Sluggish Infrastructure Performance

Exact for the Clark International Airport Terminal Building project, all the projects from the list of 75 Build, Build, Build flagship projects already implemented are delayed versus their target completion dates. The time lag between identifying the project for inclusion and the "Build, Build, Build" Program and actual implementation is long and indefinite. Despite this reality, the government is actively engaged in perception management or managing in expectations:

"The government is inching closer to the golden age of infrastructure such that it will deliver the stage 3 of the Metro Manila Skyway project by April 2020"[1]

DPWH Sec. Mark Villar

"Construction of Area A of the Unified Grand Central Station, which c-1, would take 20 months and it will be fully operational by the fourth quarter of 2020."[2]

DOTr Sec. Arthur Tugade

"We end 2019 with substantial gains in our efforts to improve not just our highways but also our information superhighway."[3]

Cabinet Sec. Karlo Nograles

"With more public-private partnerships included under the updated Build, Build, Build program, the current list of 100 projects could expand even further based on closest coming from not only that implementing government agencies but also the private-sector proponents."[4]

BCDA President Vivencio Dizon

Sources: [1] *Lorenz Marasigan, "Golden Age of Infrastructure on Track - DPWH Chief," Business Mirror, November 13, 2019.*
[2] *Miguel Camus, "DOTr Signs P2.8-B Design and Building Deal for Portion Of Central Railway Hub," Philippine Daily Inquirer, February 14, 2019, page B-3*
[3] *Julie Aurelio, "Infrastructure Accomplishments to be Felt Beyond 2020," Philippine Daily Inquirer, January 1, 2020, page 9*
[4] *Ben de Vera, "Build, Build, Build" Seen Generating 200,000 Direct jobs," Philippine Daily Inquirer, January 2, 2020, page B-1.*

Conclusions and Recommendations

This study emphasized and illustrated that the pace of public investment acceleration cannot be sustained for a significant period because government officials may not have the capacity to select projects with high expected rates of return. It has been observed that as the pace of investment exceeds a certain threshold, a country does not have the capacity (skills, institutions, and management) to reap the benefit of additional public investment as the implementation of several infrastructure projects requires a varied set of technical and managerial expertise which cannot be expanded in the short-run. The study also highlights the importance of going beyond discussions of spending levels and to address issues of absorptive and institutional framework underpinning the provision of infrastructure. In particular, it suggests assessing the quality of project selection, appraisal, implementation, and post-evaluation to help identify the specific weaknesses that contribute to poor outcomes and guide appropriate institutional and technical remedies that could correct such undesirable outcomes. We have illustrated that to build US$100 billion worth of infrastructure stocks, the Philippines will spend 2.5 times what Hong Kong, Singapore, or South Korea will spend for the same quantity and quality of infrastructure.

The lessons learned from the experience of countries embarking on a "big push" in infrastructure programs are: (1) its expected gains from coordinated pushes in complementary infrastructures can only be attained if absorptive capacity exists, (2) reaping the benefits of greater investment in infrastructure requires an improvement in investment efficiency, and (3) private participation in infrastructure can increase efficiency and bring expertise, but possible risks that can occur must be understood in order to determine the appropriate regulatory framework.

The recommendations of the paper are the following:

1. DOTr should embark on building a "built-to-last" organization – one geared towards creating and assembling rules, procedures, systems, and core competence. This will instill a culture of work, skills, confidence, and continuity. A "built-to last" organization does its work regularly and effectively, irrespective of who is appointed to be the DOTr Secretary. The adage states that: "It is the organization, not the person, stupid." In such an organization, it does not need the so-called "Infrastructure Champion," it only requires that the DOTr Secretary is politically in the "same wavelength" as the appointive authority. It has been said that even if a monkey is appointed to head the "built-to-last" organization, it will still work effectively and deliver its expected outputs on time. Currently, DOTr is the weakest link among the infrastructure-implementing agencies. It is likewise the critical agency tasked towards building the mass transport system that is needed to address the traffic, congestion, mobility, and connectivity problems in the country.

2. Reinforce the DPWH's pool of human resources. It is widely known that the DPWH possesses technical competence and core technologies in planning and implementing projects on public works and highways. However, the unprecedented increase in public works and highways spending due to the BBB program stretched the resources of the DPWH beyond its absorptive capacity: "it chews more than it can swallow." Symptoms of the lack of absorptive capacity are revealed by the following statements: "the master plans of big ticket infrastructure projects take time as the feasibility for the master plan takes almost a year and detailed engineering can take six months" or "implementation of flagship projects requires pre-construction work such as right-of-way acquisition and community resettlement." In

particular, a "Right-of-Way Acquisition" unit at the DPWH as well as its "Regulatory Affairs and Governance" office (or its equivalent units) should be reinforced and strengthened. These are the crucial units responsible for addressing major problems that delayed DPWH's flagship projects.

3. NEDA needs to establish an integrated databank of infrastructure projects to facilitate efficient, coordinated, and evidence-based decision-making. NEDA may institute a system of requiring the input of an external or independent expert for each flagship infrastructure project. At present, NEDA's performance in the project screening and vetting process is awfully disappointing. For instance, it is currently reviewing 20 unsolicited proposals. But some of these proposals are waiting for NEDA's "holistic" and "rigorous" evaluation for three years already.[13] The review of the technical, financial, economic, social, and environmental aspects of the proposals and the succeeding round of negotiations between the government and the project proponents should have a reasonable time limit. NEDA should weigh the cost of rejecting/delaying the decision of a good proposal versus the cost of accepting a bad proposal. The infrastructure investment phase is already plagued with inefficiencies. Prolonging the project vetting and screening process prolongs the evaluation and implementation cycle of a major infrastructure project in the country. If NEDA needs reinforcement in its manpower roster, then it should include such requirement in their annual budget plan.

[1] Recently, the government is singing a different tune: it claims that the delayed congressional approval of the 2019 national budget was overcome by a carefully crafted catch-up expenditure plan that enabled the economy to recover in the third quarter of 2019 with a 6.2% growth rate. See "Catch-up Spending Plan Brings Growth Back on Track," Department of Finance website, January 12, 2020.

[2] Construction companies in the Philippines, dealing with government projects, allot between 15 to 35 percent on "other costs of doing business" which are used to pay off government officials and employees and prevent them from causing any further delay. See Bernie Cahiles-Magkilat, "Builders Endures 35% or More," Manila Bulletin, January 9, 2020, page B-1.

[3] Recent government pronouncements have acknowledged the need to address this problem: "The infusion of resources will enhance our ability to undertake project preparatory activities in a timely and efficient manner, while drawing on the best available expertise", said DOF Sec. Carlos Dominguez. See Ben de Vera, "PH Gets P50-M Korean Loan for Infra Project Preparation," Philippine Daily Inquirer, January 29, 2020, page B-6.

[4] GAA means general appropriations act; ODA means official development assistance; DBM means Department of Budget and Management; and DOF means Department of Finance. PPP means public-private partnership. Patalinghug (2018) describes the implementation status of various PPP projects in the Philippines.

[5] Julie Aurelio and Leila Salaverria, "Build, Build Booster: Palace OK with Giving DU30 Emergency Powers," Philippine Daily Inquirer, November 15, 2019, page 15.

[6] The bidders for Packages 1 to 3 include Acciona (Spain), Daelim (Korea), Dong Ah (Korea), EEI (Philippines), Hyundai (Korea), Italian-Thai (Thailand), Megawide (Philippines), PT Pembagunan Perumahan (Indonesia), PT Waskita Karya (Indonesia), PT Wajiya Karya (Indonesia), and Sumitomo-Mitsui (Japan). The bidders for Packages 4 and 5 include EEI, Acciona, GS Engineering and Construction (Korea), Posco Engineering and Construction (Korea), PT Waskita Karya Tbk, and PT Wijaya Karya Tbk.

[7] BCDA's PPP projects in New Clark City such as the Athletic Stadium, Aquatic Center, and Athletes' Village were also completed in record time (e.g. 18 months).

[8] DPWH Sec. Mark Villar has stated that even if new road networks are opened, the number of cars in Metro Manila will continue to grow. He said that the Duterte administration is bent on improving mass transit programs, which are the long-term solution to traffic. See Leila Salaverria, "'QC to Makati in 5 Minutes' Still Double Via EDSA, Says Villar," Philippine Daily Inquirer, January 23, 2020, page 1.

[9] The list of 38 projects completed or to be completed by 2022 includes Aquino-implemented projects such as Mactan-Cebu International Airport Terminal, Bohol-Panglao International Airport, NAIA Expressway and Parañaque Integrated Terminal Exchange; Leila Salaverria, "Govt Agencies Urged: Spend to Spur Growth", Philippine Daily Inquirer, October 27, 2019, page 2.

[10] Leila Salaverria, Jovic Yee and Marion Ramos, "DU30 Aide: Let Numbers Speak for 'Build, Build, Build'," Philippine Daily Inquirer, November 14, 2019, page 1.

[11] See Ben de Vera , "As 69% of Pinoys Think Duterte 'Better' than Aquino in Building Infra, Economic Team OKs 12 Projects Worth P626.1B", Philippine Daily Inquirer, December 20, 2019.

[12] This refers to the view expressed by Kelly Bird, ADB Country Director for the Philippines.

[13] Of the 75 flagship projects, NEDA Board approved only 37.

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