The Possible Effects of 'Build, Build, Build' Program to the Stock Price of D.M. Consunji, Incorporated

Erick Michael P. Angeles,[1] Julius Richel S. Manlutac,[1] Jann Michael B. Medenilla, [1] and John Anthony C. Jose[2]

Abstract—**As "Build, Build, Build" has been boasted as the prime vision of the current Philippine administration led by president Rodrigo Duterte. This paper wants to explore whether the said program have significantly improved the economic well-being of a construction company. We chose one of the leading construction company which is Don M. Consunji, Inc (DMCI) who also has a lot of large contracts awarded from the company. We then investigated on the effect by utilizing the publicly available stock price of DMCI as indicator of the economic well-being of the company. Afterwards, in order to learn the quantify the effect of the massive construction program, we have explored different key public events that could affect the field of construction. The study has shown that even though the said program has become well-known to the public, it had no correlation with the current stock price of the company.**

Index Terms—**Build, Build, Build Program, DMCI, Duterte administration, investment, stock price.**

I. Build, build, build program

Months after the Philippine president, Rodrigo Duterte, claimed his seat in the presidency, he had spoken a lot about his projected programs for the Philippines. One of these programs is the 'Build, Build, Build' (BBB) program [1]. He claimed that this program would provide solid support for the growth and development of our country through improvements and upgrades in infrastructures built in our country. Moreover, he claimed that it could connect more people and societies, which can lead to the rise of job openings. With all of his claims, this BBB program is projected as one of the most important projects our country is currently experiencing [2].

The following infrastructural projects are expected by our nation: (1) Subic-Clark Railway; (2) North-South Railway which connects Los Baños, Laguna, Tutuban, Manila, and Clark Freeport in Pampanga; and (3) expansion of Clark International Airport. With all of the president's projected infrastructural goals, he now ranks as the highest infrastructural spender amongst all Filipino presidents. He has 5.4 (% to GDP) ranking first, followed by Marcos with 3.2, and Aquino with 2.9 [3].

With this BBB Program, it has come to the researchers' attention on how this project can affect the stock price of a particular company. Hence, it can produce reliable insights on whether the BBB Program is affecting manufacturing companies such as the D.M. Consunji, Incorporated.

On April 10, 2018, President Rodrigo Duterte mentioned—in a speech at the opening ceremonies of the Boao Forum for Asia which was held in Hainan, China—his prospects and thoughts about his proposed project called Build, Build, Build Program. It was the first time he mentioned his plans, the purpose, and importance of the said project. His speech about the program surfaced in the media immediately and quickly informed a lot of Filipinos about the advantages of the project [4].

II. Stock Price

A. *Definition*

A common misconception when it comes to stock price is that you are only buying one part of a company's overall profit, but in reality, it is the price needed to own a company's stock. A stock is a share in the ownership of a company. It represents a claim on the company's assets and earnings [5]. This means that the more stocks you buy, your ownership stake in the company becomes greater [6]. To put simply, it is the company value per stock. A company's stock price reflects investor perception of its ability to

[1] Erick Michael P. Angeles, Julius Richel S. Manlutac, and Jann Michael B. Medenilla, Civil Engineering Department, De La Salle University, Manila, Philippines (e-mail:)

[2] John Anthony Jose, Civil Engineering Department, De La Salle University, Manila, Philippines (e-mail: john.anthony.jose@dlsu.edu.ph)

earn and grow its profits in the future, or in layman's term, th [2]e higher the stock price, the more optimism about the company's prospects [7].

B. Computation

The worth of a company is called market capitalization, or "market cap." This value is represented by the company's stock price multiplied by the number of shares outstanding [8]. Shares outstanding refers to a company's stock currently held by all its shareholders, including share blocks held by institutional investors and restricted shares owned by the company's officers and insiders [9]. Therefore, the stock price is equal to the market capitalization of a company divided by the shares outstanding of said company.

III. D.M. CONSUNJI, INCORPORATED

Founded on December 24, 1954, by Engineer David M. Consunji, the D.M. Consunji, Incorporated is said to be known as the Philippines' "builder of the landmarks" for it caters a top-quality service from its excellent engineering technology in the Philippine construction. [10]

The company is also known for its wide variety of infrastructure projects in the Philippines, from small and simple chapels to multi-story hotels and condominiums, irrigation dams, multi-kilometer-long concrete bridges, power plants, and electricity and communication transmission lines.

Some of DMCI's famous infrastructures are the Philippine International Convention Center, Cultural Center of the Philippines, Rockwell Center, SM Megamall, Roxas Triangle, Pacific Plaza, Manila Hotel, Hyatt Hotel, Oakwood, and Shangri-La Hotels.

Considering all stated details about DMCI, it can be acclaimed that this company has indeed manifested high-quality service for the Philippine construction industry.

IV. THE SIGNS OF THE BBB PROGRAM

The BBB program was introduced by Duterte in most of his speeches as soon as the first year he assumed the presidency. By June 22, 2018, he revealed in his speech that the projects in the provinces barely had any progress compared to the projects being implemented within Metro Manila [11]. Just after three days, the first "big-ticket project" included under the BBB program is the Davao City Bypass. It is a 44.6 km bypass road with a 2.28 km tunnel, which is expected to reduce travel time from Digos to Panabo by about 50% — from 1 hour and 44 minutes (via Pan-Philippine Highway) to only 49 minutes (via Davao By-Pass Road). The date June 25, 2018, then

became our basis to show the sign if the BBB program has an effect or not for it is one of the projects intended to be accomplished during the Duterte administration [11].

V. RELATIONSHIP OF BBB PROGRAM AND STOCK PRICE OF DMCI

The BBB Program is a medium-term goal to increase infrastructure spending. This increased budget allocation for infrastructure will allow multiple projects to be developed without worrying about pre-allocated capitals and immediate revenues. Thus, this will encourage infrastructure companies to keep accepting job offers given the allotted allowance given to them for the improvement or development of infrastructures. The increasing number of projects being developed and finished will then reach the masses in which it may encourage investment in the company for it is receiving more profit than before [12]. This will then affect the stock price by this condition—if the number of investments in the company increases, its stock price will also increase.

VI. DATA

A. 30 Days Before April 10, 2018:

TABLE I
30 DAYS BEFORE APRIL 10 (SOURCE: [13])

Date	Stock Price	Date	Stock Price
March 11	0	March 26	6983400
March 12	2696000	March 27	5855800
March 13	10606500	March 28	7112400
March 14	3507900	March 29	0
March 15	3382000	March 30	0
March 16	7571200	March 31	0
March 17	0	April 01	0
March 18	0	April 02	2617500
March 19	2100600	April 03	0
March 20	5335100	April 04	1158600
March 21	5355900	April 05	6511900
March 22	3215900	April 06	2448700
March 23	2728200	April 07	0
March 24	0	April 08	0
March 25	0	April 09	0

B. 30 Days After April 10, 2018:

TABLE II
30 DAYS BEFORE APRIL 10 (SOURCE: [13])

DATE	STOCK PRICE	DATE	STOCK PRICE
APRIL 11	7353100	APRIL 26	8234500
APRIL 12	3163900	APRIL 27	5666500
APRIL 13	2422200	APRIL 28	0
APRIL 14	0	APRIL 29	0
APRIL 15	0	APRIL 30	9517500
APRIL 16	4538500	MAY 01	0
APRIL 17	5994300	MAY 02	10815500
APRIL 18	3330000	MAY 03	12183000
APRIL 19	10020700	MAY 04	22506500
APRIL 20	3676000	MAY 05	0
APRIL 21	0	MAY 06	0
APRIL 22	0	MAY 07	6479100
APRIL 23	2177200	MAY 08	14548700
APRIL 24	2376700	MAY 09	7729800
APRIL 25	3333900	MAY 10	5818000

C. 30 Days Before June 25, 2018:

TABLE III
30 DAYS BEFORE JUNE 25 (SOURCE: [13])

Date	Stock Price	Date	Stock Price
May 14	0	June 4	2,597,700
May 15	7,838,700	June 5	9,590,700
May 16	9,238,200	June 6	0
May 17	3,851,000	June 7	32,254,500
May 18	3,360,100	June 8	5,933,800
May 21	2,196,600	June 11	2,302,300
May 22	3,497,500	June 12	0
May 23	3,732,700	June 13	11,510,400
May 24	6,596,100	June 14	24,212,700
May 25	13,945,700	June 15	0
May 28	5,071,700	June 18	6,981,300
May 29	7,242,400	June 19	7,600,900
May 30	3,642,000	June 20	0
May 31	18,838,200	June 21	10,578,300
June 1	4,688,400	June 22	12,272,200

D. 30 Days After June 25, 2018:

TABLE IV
30 DAYS AFTER JUNE 25 (SOURCE [13]

Date	Stock Price	Date	Stock Price
June 26	10,606,500	July 11	2,809,900
June 27	8,688,000	July 12	1,452,500
June 28	5,145,000	July 13	5,679,400
June 29	8,008,400	July 14	0
June 30	0	July 15	0
July 1	0	July 16	2,213,900
July 2	4,441,100	July 17	3,172,300
July 3	4,287,600	July 18	1,795,600
July 4	5,952,500	July 19	1,980,300
July 5	2,386,200	July 20	1,727,500
July 6	3,668,100	July 21	0
July 7	0	July 22	0
July 8	0	July 23	841,900
July 9	2,076,600	July 24	3,595,100
July 10	2,941,900	July 25	6,371,000

E. Representation of Data 30 Days Before (April 10, 2018 vs. June 25, 2018)
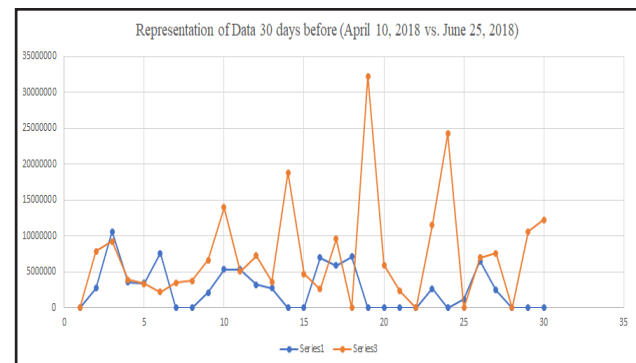
Fig. 1. April 10 vs June 25 before plot

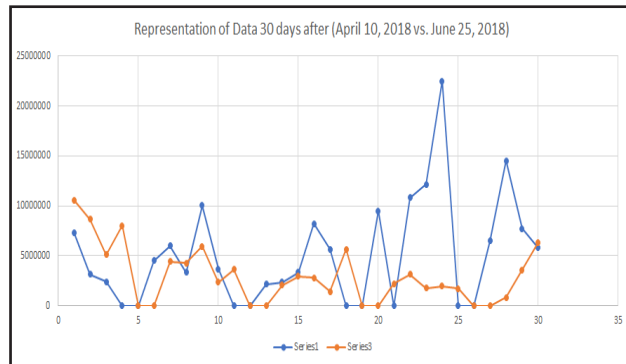### F.   Representation of Data 30 Days After (April 10, 2018 vs. June 25, 2018)

Fig. 2. April 10 vs June 25 after-plot

VII. DATA RESULTS

All analyses of data were done at a 95% confidence level.

A.   Relationship of the Sample Taken 30 Days Before the Total Population of 60 Days (April 10, 2018)

The null hypothesis was that the sample mean taken 30 days before April 10, 2018, is equal to the population mean of 60 days (H_o: $x\square = \mu$). The alternative hypothesis was that the sample mean taken 30 days before June 25, 2018 is not equal to the population mean of 60 days (H_A: $x\square \neq \mu$).

The test score of the sample mean 30 days before April 10, 2018 (with a z-score of $z = -2.21$, a critical value of 1.96 and p-value of 0.0136) revealed that there is enough evidence to reject the claim that it is equal to the population mean.

B.   Relationship of the Sample Taken 30 Days After the Total Population of 60 Days (April 10, 2018)

The null hypothesis was that the sample mean taken 30 days after April 10, 2018, is equal to the population mean of 60 days (H_o: $x\square = \mu$). The alternative hypothesis was that the sample mean taken 30 days before June 25, 2018, is not equal to the population mean of 60 days (H_A: $x\square \neq \mu$).

The test score of the sample mean 30 days before April 10, 2018 (with a z-score of $z = 1.25$, a critical value of 1.96 and p-value of 0.8944) revealed that there is not enough evidence to reject the claim that it is equal to the population mean.

C.   Relationship of the Sample Taken 30 Days Before the Sample Taken 30 Days After (April 10, 2018)

The null hypothesis was that the sample mean taken 30 days before April 10, 2018, is less than the sample mean taken 30 days after April 10, 2018 (H_o: $x\square < \mu$). The alternative hypothesis was that the sample mean taken 30 days before April 10, 2018, is greater than or equal to the sample mean taken 30 days after April 10, 2018 (H_A: $x\square \geq \mu$).

The test score of the sample mean 30 days before compared to the test score of the sample mean 30 days after (with a z-score of $z = 4.42$, a critical value of 1.00) did not have enough evidence to reject the claim that the sample mean 30 days before is less than the sample mean 30 days after.

D.   Relationship of the Sample Taken 30 Days Before the Total Population of 60 Days (June 25, 2018)

The null hypothesis was that the sample mean taken 30 days before June 25, 2018, is equal to the population mean of 60 days (H_o: $x\square = \mu$). The alternative hypothesis was that the sample mean taken 30 days before June 25, 2018, is not equal to the population mean of 60 days (H_A: $x\square \neq \mu$).

The test score of the sample mean 30 days before June 25, 2018 (with a z-score of $z = 0.30$, a critical value of 1.96 and p-value of 0.9292) revealed that there is not enough evidence to reject the claim that it is equal to the population mean.

E.   Correlation of the Sample Taken 30 Days Before the Date of Concern (April 10, 2018 vs. June 25, 2018)

The data bore a linear regression (equation is $y = a+bx$) in which a is equal to 8, 347, 227.156, b is equal to -0.3895. The Pearson correlation coefficient or r is equal to -0.1589 or -0.16. This bore the result that there is a very low negative correlation between the two data ranges, both observed before the dates of concern (1st mention of Build, Build, Build Program and opening of first 'big ticket' project under the Build, Build, Build Program). This means that the values are independent of one another, that there is a chance that as one value increases, the other decreases, and they are not directly proportional to each other.

F.   Correlation of the Sample Taken 30 days Before the Date of Concern (April 10, 2018 vs. June 25, 2018)

The data bore a linear regression (equation is $y = a+bx$) in which a is equal to 3, 017, 342.721, b is equal to -4.4507×10^{-3}. The Pearson correlation coefficient or r is equal to -8.2509×10^{-3} or -8.25×10^{-3}. This bore the result that there is a very low negative correlation between the two data ranges, both observed after the dates of concern (1st mention of BBB Program and opening of first big ticket project under the BBB Program). This means that the values are independent of one another, that there is a chance that as one value increases, the other decreases, and they are not directly proportional to each other.

G. Relationship of the Sample Taken 30 Days After the Total Population of 60 Days (June 25, 2018)

The null hypothesis was that the sample mean taken 30 days after June 25, 2018, is equal to the population mean of 60 days (H_o: $x\Box = \mu$). The alternative hypothesis was that the sample mean taken 30 days after June 25, 2018, is not equal to the population mean of 60 days (H_A: $x\Box \neq \mu$).

The test score of the sample mean 30 days after June 25, 2018 (with a z-score of $z = -0.73$, a critical value of 1.96 and p-value of 0.2327) revealed that there is not enough evidence to reject the claim that it is equal to the population mean.

H. Relationship of the Sample Taken 30 Days Before the Sample Taken 30 Days After (June 25, 2018)

The null hypothesis was that the sample mean taken 30 days before June 25, 2018, is less than the sample mean taken 30 days after June 25, 2018 (H_o: $x\Box < \mu$). The alternative hypothesis was that the sample mean taken 30 days before June 25, 2018, is greater than or equal to the sample mean taken 30 days after June 25, 2018 (H_A: $x\Box \geq \mu$).

The test score of the sample mean 30 days before compared to the test score of the sample mean 30 days after (with a z-score of $z = 1.47$, a critical value of 1.96) had enough evidence to reject the claim that the sample mean 30 days before is less than the sample mean 30 days after.

VIII. INTERPRETATION OF RESULTS

With the data observed after President Rodrigo Duterte first mentioned the BBB Program on April 10, 2018, the mean gathered 30 days before bore enough evidence to prove that it is not equal to the overall mean compiled within 60 days. The mean gathered 30 days after, however, did not bear enough evidence to prove that it is not equal to the overall mean compiled within 60 days. Therefore, we can say that there is a difference between the population mean of 60 days to the sample mean 30 days before and 30 days after. However, this does not mean that the mean 30 days before is exactly equal to the mean 30 days after.

Thus, another test was done between the relationship of the sample mean 30 days before and the sample mean 30 days after. This bore the result that there is a difference and that the sample mean 30 days after is actually greater than the sample mean compiled 30 days before.

With the data observed after the opening of the first big ticket project of the BBB Program on June 25, 2018, the mean gathered 30 days before did not bear enough evidence to prove that it is not equal to the overall mean compiled within 60 days. The mean gathered 30 days after also did not bear enough evidence to prove that it is not equal to the overall mean compiled within 60 days. Therefore, we can say that there is no difference between the population mean of 60 days to the sample mean 30 days before and 30 days after. However, this does not mean that the mean 30 days after is equal to the mean 30 days before. Thus, another test was done between the relationship of the sample mean 30 days before and the sample mean 30 days after. This bore the result that there is a difference and that the sample mean 30 days before is actually greater than the sample mean compiled 30 days after.

XI. INSIGHTS

Hence, with all of these results considered, the research can conclude that the BBB Program of President Rodrigo Duterte does not demonstrate effects on the increase or decrease of the stock price of D.M. Consunji, Incorporated.

One reason for this result is that stock prices do not solely rely on the performance of the company. It will all be merely the consumers' or the investors' perception if it is worth to invest in the company or not.

Also, another reason for this result is that D.M. Consunji, Incorporated is not the only leading manufacturing company in the Philippines that contributes to the government's infrastructure projects. There is the presence of Sta. Elena Construction and Development, Sumitomo Mitsui Construction Co. Ltd., Fluor Philippines, and other manufacturing and construction companies in the country.

Because the mean gathered 30 days before is greater than the mean gathered 30 days after, we can say that there is no difference between the observed stock price to the dates before and after the first big ticket project was opened. Thus, we can say that the BBB program did not affect the stock price after the completion of the first big ticket project.

REFERENCES

[1] A. M. Y. Lamentilla, "What is 'Build, Build, Build'?," Manila Bulletin, 23 March 2018. [Online]. Available: https://news.mb.com.ph/2018/03/23/what-is-build-build-build/. [Accessed 4 December 2018].

[2] "Build, Build, Build: The Duterte Administration's Infrastructure Plan," [Online]. Available: http://build.gov.ph. [Accessed 4 December 2018].

[3] "Build, Build, Build: The Solid Backbone for Growth," [Online]. Available: https://ppp.gov.ph. [Accessed 4 December 2018].

[4] N. Corrales, "Duterte: I need China to back my administration's projects," Inquirer, 9 April 2018. [Online]. Available: https://globalnation.inquirer.net/165528/duterte-need-china-back-administrations-projects. [Accessed 5 December 2018].

[5] The Motley Fool, "What is a Stock Price?," The Motley Fool, [Online]. Available: https://www.fool.com/knowledge-center/stock-price.aspx. [Accessed 4 December 2018].

[6]   C. Murphy, "Why Do Companies Care About Their Stock Prices?," Investopedia, [Online]. Available: https://www. investopedia.com/investing/why-do-companies-care-about-their-stock-prices/. [Accessed 3 December 2018].

[7]   A. Hayes, "Stock," Investopedia, [Online]. Available: https:// www.investopedia.com/terms/s/stock.asp. [Accessed 4 December 2018].

[8]   L. Kramer, "How is a company's stock price and market cap determined?," Investopedia, 16 January 2018. [Online]. Available: https://www.investopedia.com/ask/answers/ how-companys-stock-price-and-market-cap-determined/. [Accessed December 4 2018].

[9]   J. Chen, "Shares Outstanding," Investopedia, [Online]. Available: https://www.investopedia.com/terms/o/ outstandingshares.asp. [Accessed 4 December 2018].

[10]   David M. Consunji, Inc., "About," [Online]. Available: http://www.dmcinet.com/Abt_Overview.asp. [Accessed 3 December 2018].

[11]   R. I. Alama, "New bypass road opens in Davao City," Philippine Information Agency, 29 June 2018. [Online]. Available: https://pia.gov.ph/news/articles/1009703. [Accessed 4 December 2018].

[12]   V. Lopez, "Palace: Duterte wants swifter implementation of Build, Build, Build projects," GMA News Online, 26 June 2018. [Online]. Available: https://www.gmanetwork. com/news/news/nation/658235/palace-duterte-wants-swifter-implementation-of-build-build-build-projects/story/. [Accessed 4 December 2018].

[13]   Wall Street Journal, "Historical Price," 03 December 2018. [Online]. Available: https://quotes.wsj.com/PH/DMC/ historical-prices. [Accessed 04 December 2018].