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Editorial

Information Management and Business Review (IMBR) provides a unique platform for scholars around the world to share their knowledge and publish research work in the fields of information management, business, management and related disciplines. The work submitted for publication consideration in IMBR should address empirical and theoretical developments in the subjects related to the scope of the journal in particular and allied theories and practices in general. Scope of IMBR includes: subjects of finance, accounting, auditing, cost & management accounting, financial psychology, financial literacy, marketing, information management, human resource management, knowledge management, innovation, change management, enterprise management, e-commerce and information system. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal and that all listed authors approve its submission to IMBR. It is IMBR policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of IMBR comprises papers of scholars from Indonesia, Pakistan, Japan, Ghana and Malaysia. Evaluating Indonesia's Presumptive Tax Policy on Accountant Professional Services, COVID-19 Entwined the Dynamic Relationship between Stock Returns and Macroeconomic Variables, Consumer Loyalty and Brand Marketing Programs in an Emerging Economy and The Development of Growth Model with the Implication of Crisis Regime are some of the major practices and concepts examined in these studies. Journal received research submission related to all aspects of major themes and tracks. All the submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer-reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. The current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

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TABLE OF CONTENTS

Description	Pages
Title	I
Editorial	II
Editorial Board	III
Table of Contents	IV
Papers	V
Evaluating Indonesia's Presumptive Tax Policy on Accountant Professional Services Neni Susilawati, Raxel Edo Bramasta, Murwendah, Arfah Habib Saragih	1
COVID-19 Entwined the Dynamic Relationship between Stock Returns and Macroeconomic Variables Amina Malik, Babar Zaheer Butt, Haroon Aziz	11
Consumer Loyalty and Brand Marketing Programs in an Emerging Economy: Evidence from the Automobile Industry Sayibu Ibrahim Nnindini, Justice Boateng Dankwah	23
The Development of Growth Model with the Implication of Crisis Regime Mohd Shahrol Nizam, Norimah Rambeli	39

PAPERS

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Evaluating Indonesia's Presumptive Tax Policy on Accountant Professional Services

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Abstract: There is no disagreement about accountants' expertise in bookkeeping. Initially, the assumed tax policy was meant to alleviate bookkeeping requirements for small and medium-sized businesses that were unable to do so. However, why does the accounting profession benefit from not performing bookkeeping if it has a specific gross revenue? This issue encourages authors to evaluate Indonesia's presumptive tax regulations for accountants' professional services. The objectives of this research are to ascertain why accountants employ Net Income Calculation Norms to determine their income taxes, to assess presumptive tax policies through the perspective of tax collection principles, and to explore more suitable presumptive tax policies for the accounting profession. This study applies a qualitative method, collecting data through in-depth interviews. The findings indicate that the accounting profession's presumptive tax policy fulfills the concept of ease of administration for taxpayers but not the principle of substance over form or revenue productivity. The government should deregulate the policy of Net Income Calculation Norms for Accountant Professional Services so that it maintains consistency with the policy, the objective of providing presumptive taxation to taxpayers with a certain gross sale.

Keywords: *Presumptive tax, accountant, MSMEs, net income, ease of administration.*

1. Introduction

Presumptive taxation is a widely used tax policy in Indonesia to encourage individuals and micro, small, and medium-sized businesses (SMEs) to comply with their tax obligations. A large number of SMEs, business owners in Indonesia form the backbone of the country's people's economy, necessitates the government to give alternative means of quickly entering the tax system and exiting the shadow economic zone. Due to the limited ability of individuals and small businesses to perform bookkeeping, the government implemented a presumptive tax policy, an estimation approach for calculating income for tax purposes that eliminates bookkeeping requirements in favor of simply recording gross revenue or turnover. This taxation system has been successful in lowering tax compliance costs by making the tax base more acquainted with the calculation process and in lowering tax collection costs (Wallace, 2002, p. 1). There are two manifestations of Indonesia's presumptive tax policy: Net Income Calculation Norms (NICN) and Final Income Tax for SMEs. Both NICN and Final Income Tax are only intended for business units with a gross turnover of not more than IDR 4.8 billion in one year's tax. This gross income of IDR 4.8 billion is considered the threshold for categorizing a business activity or casual job as an SME. In general, SMEs have limited ability to organize bookkeeping under applicable financial accounting standards. Bookkeeping is the basis needed in determining the payable Income Tax. Therefore, the government provides simplicity and flexibility for this business sector.

By imposing only the obligation to record (no need for bookkeeping) so that there is still a basis for determining Income Tax. This research discusses specifically the NICN, which is intended for both individual Taxpayers and corporate with a gross income not exceeding IDR 4.8 billion with the type of business in the form of professional including professional accountant services. Accountants are certified professionals, who can provide accounting services to other parties who are their clients, including bookkeeping services. Therefore, it creates logical irregularities when the Taxpayers, a profession with expertise in bookkeeping, are encouraged by not doing bookkeeping. In reality, it shows that most accountants, especially private accountants or individuals, prefer to use recording rather than bookkeeping in calculating the amount of payable tax. If designed appropriately, the presumptive tax can alleviate the burden on people. This situation reflects the failure to implement a presumptive tax policy through NICN due to presumptive tax being a stepping stone for Taxpayers to enter the regular tax system (Wallace, 2002, p. 1). The presumptive tax method manifested by recording is only an option if the standard accounting method is unreliable (Thuronyi, 1996, pp. 12–2). This problem encourages the researchers to analyze Indonesia's presumptive tax policies for

professional accountant services based on basic tax principles and based on the accountants' perspective. In the end, researchers tried to provide an alternative policy for compulsory bookkeeping for accountants.

2. Literature Review

Presumptive Tax: In many countries, presumptive tax is used to tax Taxpayers' income, which is difficult to tax with a regular (hard-to-tax) tax administration system. This system calculates the tax base through readily available indicators or other methods, instead of relying on the Taxpayers' self-assessment (Wallace, 2002, p. 1). Therefore, presumptive tax is often seen as a stepping stone towards a regular tax system so that for a limited period, Taxpayers will be subject to this simplified regime. When it has become part of the regular tax system, Taxpayers' income, previously classified as hard-to-tax, can be taxed according to applicable tax laws (Wallace, 2002, p. 1). However, after becoming part of a simplified system, theoretically, the presumptive tax becomes difficult to "disappear" from tax administrators' viewpoint regarding the realm of taxation in the shadow or underground economy. The success of presumptive tax in combating tax avoidance in the last decade is also useful for large Taxpayers. In the end, the presumptive tax becomes a kind of essential requirement in the taxation system, especially in developing countries, which tend to be higher than in developed countries. Taxpayers who can carry out their tax obligations ideally as stipulated in the regular tax system are supposed to benefit both the Taxpayers themselves and the state.

Thuronyi states that presumptive tax is used to show that there is a legal opinion that the income of the Taxpayers is not less than the amount generated from the application of this indirect method (1996, p. 1). Referring to Thuronyi's opinion above, the total net income generated from calculating presumptive tax should be the minimum nominal of actual income. From the perspective of the state, when Taxpayers choose to do bookkeeping, the interests of state revenue are safeguarded due to the normative of Income Tax generated from the calculation in bookkeeping is greater than the Income Tax based on calculation results of norms or estimates. On the other hand, the use of bookkeeping in calculating income and Income Tax will necessarily reflect a higher degree of fairness for the Taxpayers. The Income Tax is imposed based on the Taxpayers' ability-to-pay, which is certainly a universal consensus that the principle of justice is a fundamental principle that must be maintained in collecting income tax (Lang, Melz and Kristoffersson, 20099). It was also emphasized in implementing the presumptive tax system. Two things must be ensured; first, small businesses that will develop later into large ones will "pass" and step into the standard tax system. Second, Taxpayers who have stepped into the standard tax system do not "immigrate" to the simplified tax system and pretend to be small business Taxpayers to protect themselves from taxes (Bird & Wallace, 2003, p. 6).

There are several critical points to remember when designing a presumptive tax to optimize its use, particularly (1) A presumptive tax can be designed to be based on turnover, income indications, or a standard lump-sum assessment (Dube, 2018, p. 2). (2) The presumptive tax design is also rebuttable, as the taxpayer can provide extensive evidence to the tax authorities demonstrating a lower tax burden (Bird & Wallace, 2003, p. 3). In order to achieve the goal of applying the presumptive tax, the threshold must be revised in a systematic (Bird & Wallace, 2003, p. 19). Additionally, changing the presumptive tax threshold requires genuine and correct data from representative respondents to acquire data that accurately reflects the unique characteristics of professional services and to develop an appropriate NICN formulation. The prerequisite for this representative respondent is to be able to contribute to the presumptive tax's success (Dube & Casale, 2017, p. 62) (Dube, 2018, p. 15). (4) Ensure that when the taxpayer's business expands and they are ready to carry out formal bookkeeping and tax duties, they can transition to the official tax system. (5) The taxpayer's use of the presumptive tax must be limited in time. (6) Tax authorities must assist and educate taxpayers who use presumptive tax to prepare them for the transition to the formal tax system (Ogembo, 2018, pp. 39–40).

Net Income Calculation Norms (NICN): NICN is one of the manifestations of the presumptive tax policy in Indonesia. According to Soemitro (1998), the calculation norm is another way, rather than bookkeeping, to determine net income/profit used as the basis for tax imposition. NICN is a fixed percentage for each business type to determine the taxpayer's net profit/income from the total annual turnover value. They are given the freedom to choose whether to use NICN or carry out standard calculations based on bookkeeping. The application of the NICN makes it simple and easy for Taxpayers who have a profession as a professional

service or professional in calculating taxes on their income. However, on the other hand, the application of the NICN has not provided justice in the tax collection process yet due to the amount of payable tax or the basis of calculating the payable tax if using the NICN is not under the Taxpayer's ability to pay. The amount of payable tax or the basis for the payable tax's imposition is more significant or less than the standard tax calculation based on books by using the NICN.

The advantage of the calculation norm is that it is easy because the Taxpayers do not have to do bookkeeping. On the other hand, the weakness is that the calculation of profit by applying the calculation norm is rough and mostly imprecise (Soemitro, 1998, p. 139). NICN will be successful if it meets these requirements (1) developed by experts who can set the appropriate income figures, (2) updated regularly to reflect the best current economic and financial conditions. (3) In updating, it must consult with industry associations and be announced and open to the public to avoid tax officials' misuse. It also can lead to stimulating Taxpayers who organize bookkeeping of their income, (4) unless the Taxpayers organize bookkeeping, Taxpayers must apply the NICN in calculating their taxable income (Mansury, 1992, p.196).

Principles of Tax Collection: Smith (1776) suggested four principles that must be considered in tax collection, known as four maxims or four canons: equality, certainty, convenience, and efficiency. Equality is the burden received by each tax subject supposed to carry out in a balanced manner following the tax subject's income received or obtained. Certainty is an assurance that must be given to the tax subject with the tax subject's aim to pay the tax clearly and not be delayed or negotiated (not arbitrary). Furthermore, this certainty includes four things: certainty about who the Taxpayers, the certainty of the tax object up to the amount to be paid, certainty regarding when the tax must be paid, and certainty regarding where the tax should be paid. Convenience is a concern in collecting taxes that the government is expected to pay attention to the best or possible time for the Taxpayers. One of the best times in collecting taxes is when Taxpayers receive income such as salaries, bonuses, dividends, royalties, and so on. Meanwhile, efficiency is that tax collection should be carried out economically, where the cost of tax collection does not exceed the tax collected. The tax collection system should be aligned with predetermined principles to create an ideal tax system. Here are some of the tax system's basic principles; (1) the revenue productivity principle related to the government's interests in collecting taxes as a source of state revenue. (2) The government must incorporate the equity or equality principle related to justice in the tax collection process. The tax collected must be under each taxpayer's economic capacity. (3) The ease of administration principle is related to ease of administration.

Which can affect public awareness in carrying out its tax obligations (Mansury, 1996). Zee (in Shome, 1995) stated that the problem of fairness in taxation is generally assessed from two complementary and offsetting matters, namely horizontal equity and vertical equity. Horizontal equity is the imposition of taxes that must be implemented in a general and equitable manner, meaning that all individuals with identical additional economic capacities must be subject to the same taxation. Meanwhile, vertical equity can be accomplished as individuals whose economic circumstances are not the same must be handled differently due to the inequality. According to Mansury (1996), vertical equity can be realized if it meets two conditions: unequal treatments for the unequal and progression. There are several indicators in the ease of administration principle, namely: certainty, stating that there must be certainty from the Taxpayers and the tax authorities regarding the tax subject, tax object, tax base, rates, and how the taxation procedure is. Efficiency can be seen from two sides: the tax authorities and the Taxpayers' side. From the tax authorities' side, the cost of collecting taxes must be lower than the taxes collected. In contrast, from the Taxpayers' side, the cost of carrying out taxation obligations (cost of taxation/compliance cost) should be relatively low. The convenience of Payment, taxes should be collected at the right time (pay as you earn); this is related to the due date of tax payments. Simplicity is easy to implement and straightforward.

3. Methodology

This study uses a qualitative method with in-depth interview techniques to understand the reasons for the informants who work as accountants of professional services when they decide to use the recording, to calculate their income tax, not bookkeeping. Interviewees are individuals or SMEs with a gross circulation of not more than IDR 4.8 billion in a year. Besides, we also interview some informants from the Directorate

General of Taxation and Fiscal Policy in Jakarta, Indonesia. Meanwhile, to analyze the review of taxation principles and alternative policies for applying compulsory bookkeeping for accountants of professional services, the researchers conducted more literature studies. This research was conducted on a small group of individual accountant informants who use the NICN system. The research results will be more comprehensive if carried out on groups of informants who use bookkeeping and represent each province in Indonesia.

4. Results

Why Presumptive Tax is Preferable by the Individual Accountants? The recording method (NICN) is the primary option in fulfilling their tax obligations prior to bookkeeping for the majority of professional services accountants with a gross turnover of not more than IDR 4.8 billion per year. Below are several reasons for this:

A. Recording (NICN) is Easier to Do than Bookkeeping: Ease of administration is the first reason for implementing the presumptive tax policy. This convenience takes the form of simplifying the compliance burden of Taxpayers with low gross turnover. It also relates to the appropriate administrative burden for auditing this class of Taxpayers (Thuronyi, 1996, pp. 12–2). The implementation of this policy is contained in the explanation of Article 14 paragraph 1 of the Income Tax Law, which generally states that the NICN policy is applied to assist Taxpayers who have not been able to organize bookkeeping to calculate net income. Taxpayers who use NICN only need to multiply the gross turnover amount by a certain percentage in the NICN related regulations to determine the amount of net income to calculate the amount of payable Income Tax. As illustrated by the schematic table below, assuming that there is no income other than business income:

Table 1: Income Tax Calculation Scheme with Norms

	Description	Amount
A	Gross Income	xxx
B	Percentage of Net Income (Norms)	xx%
C	Net income (a x b)	xxx
D	Zakat or religious donations	(xxx)
E	Compensation for losses	(xxx)
F	Personal Exemption	(xxx)
G	Taxable income (c-d-e-f)	xxx
H	Income Tax	xxx

Source: Primary Data (2021)

All informants in this study agreed that using NICN made it easier for them, which was the main reason for their decision to use NICN rather than bookkeeping. When using bookkeeping to determine net income, the Taxpayers must first identify the income that is the object of the Income Tax and then deduct with the allowable expenses to be deducted from the Income Tax provisions. This administrative effort requires more time and a longer process. It can dispute in determining the income and expenses, which has fiscal risks if an audit occurs. The scheme for calculating the Income Tax by bookkeeping is illustrated in the table below:

Table 2: Income Tax Calculation Scheme with Bookkeeping

	Description	Amount
a	Commercial Gross Income	xxx
b	Commercial Expenses	(xxx)
c	Commercial Net Income (a – b)	xxx
d	Fiscal Correction - Positive	xxx
e	Fiscal Correction - Negative	(xxx)
f	Fiscal Net Income (c +d – e)	xxx
g	Zakat or religious donations	(xxx)
h	Compensation for losses	(xxx)
i	Personal Exemption	(xxx)
j	Taxable income (f – g - h - i)	xxx

k	Income Tax	xxx

Source: Primary Data (2021)

According to the accountants who were the informants in this study, NICN is easy to understand so that the accountants can accept it. NICN is more straightforward and less complicated compared to bookkeeping. The use of NICN, which is more concise than bookkeeping, can reduce time and psychological cost; this method prefers to be used by Taxpayers and Tax Authorities. What about direct money costs? It depends on the condition of the actual financial statements. However, Thuronyi theorizes that presumptive tax is the minimum tax, where there is a legal opinion that the taxpayer's income is not less than the amount resulting from the application of this indirect method (Thuronyi, 1996, pp. 12–1). The three dimensions of compliance cost show that the NICN creates a comfort zone for Taxpayers with an inevitable gross turnover (under IDR. 4.8 billion). It is possibly causing Taxpayers to be reluctant to leave this comfort zone to not step into the regular zone. Presumptive tax is declared successful when small businesses grow into big ones; they will "pass" and enter the standard tax system. It must also be ensured that Taxpayers who have entered the standard tax system do not "immigrate" to a simplified tax system—also pretending to be small business Taxpayers to protect themselves from taxes (Bird & Wallace 122).

B. Opportunities to Legally Pay Lower Income Tax (Tax Avoidance?): The second reason for using the presumptive tax method is combating tax avoidance, which only works if the indicators on which to base estimates are more difficult to hide than those that form the basis for accounting records (accounting) (Thuronyi, 1996, pp. 12–2). Has this goal been achieved with the NICN? Not really. Some informants in this study said that compared to bookkeeping, the amount of Income Tax paid using NICN was lower, although others said it was higher. Besides being able to do bookkeeping, accountants Taxpayers can also compare payable Income Tax generated from the bookkeeping and NICN methods. Fair and economic behavior happens when they prefer a smaller income tax due to lower net income. It can be said that they are also consciously avoiding higher Income Tax, and it is legally valid. It represents one of the loopholes in the Income Tax provisions in Indonesia that must be “patched” immediately because net income should represent the ability to pay (Weston, 1903, p. 183). As stated above, the option to pay taxes lower than what it should be does not reflect the ideal NICN policy. Supposedly, the NICN policy was arranged to encourage Taxpayers to use the normal tax system (bookkeeping) by calculating profit that is greater than expected profit calculated by bookkeeping. This fact enables Taxpayers to take advantage of the NICN policy to carry out tax planning by tax avoidance.

Tax avoidance is carried out to minimize the tax burden by using real alternatives acceptable to the tax authorities. Tax avoidance is "tax affairs" manipulation which still within the framework of existing tax regulations (Suandy, 2008). In the end, this can undoubtedly affect revenue productivity or state tax revenue. An interesting thing was found from research subjects who claim to pay higher Income Tax because they use NICN. Nevertheless, it still does not encourage taxpayers to switch to bookkeeping. The research subjects did not mind paying a higher Income Tax. This tolerance is compensation for the convenience provided by the NICN. However, the researcher thinks that there are two reasons behind the tolerance for Taxpayers who pay this higher Income Tax. First, the relevant Taxpayers have not carried out the proper calculation using the bookkeeping method to be compared with the NICN because Taxpayers are accustomed to recording and implementing NICN. Honesty and tax awareness of Taxpayers are the issues that need to be explored more in-depth. Second, the NICN percentage amount does not reflect a close to the actual net income, so the tax burden is still considered relatively light. It becomes one of the weaknesses of NICN that Soemitro stated: the calculation of profit by applying NICN tends to be rough and mostly imprecise (Soemitro, 1998).

Presumptive Tax Policy for Accountants from Tax Principles Perspectives

A. Substance Over form Principle: If reviewed from the substance over principles form, accountant professional services should be exempted from professional services allowed to use NICN. The initial objective of the NICN policy was to ease the obligation of Taxpayers to do bookkeeping. It is certainly contrary to the condition of the accountant's ability to prepare financial reports. In terms of the equity principle, NICN, which is a form of presumptive tax policy, has been criticized for a long time because it does not reflect the ability to pay in factual that it is considered less in line with the principle of equity. The most

fulfilled principle by applying NICN is the ease of administration principle, both for Taxpayers and tax authorities. Professional services Taxpayers who apply NICN can easily determine their net income without worrying about getting into many disputes. The amount of payable tax is more specific, and the compliance costs are more efficient. The tax officer is also at ease to supervise or check Taxpayers' tax compliance. However, on the other hand, private accountants who prefer to use recording or NICN can reduce state revenue productivity because they pay lower taxes than bookkeeping. It becomes a long-term problem for state revenues when Taxpayers who use NICN feel comfortable keeping in the zone and do not intend to use bookkeeping and step in the regular tax system.

B. Equity Principle: In the Tax Policy Handbook (Shome, 1995), Zee stated that the problem of fairness in taxation is generally assessed from two complementary and offsetting matters, namely horizontal equity and vertical equity. Horizontal equity means equal treatment for the equals, meaning that the same amount of income is taxed at the same rate. For Taxpayers, including Accountants who choose to use the NICN policy in calculating the amount of payable tax, there is no difference in tax rates with Taxpayers who choose to use bookkeeping, which the tax rates are under Article 17 of the Income Tax Law. Therefore, horizontal equity can be fulfilled in this NICN policy. On the other hand, there is an issue of injustice in determining the amount of net income due to possible differences in the calculation of net income between Taxpayers using NICN policy and Taxpayers' bookkeeping. Even though the Taxpayers are in the same condition (both in the amount of income and expenses incurred), it can affect the amount of payable tax. It can be illustrated as follows: A and B are private accountants or individuals who both have a gross income of IDR 1,000,000,000. Accountants A and B both have a total tax-deductible amounting to IDR 450,000,000. Accountant A chooses to use bookkeeping while Accountant B chooses to use NICN (or recording) in calculating the amount of payable tax. The following is a comparison of the tax calculation payable between Accountant A and Accountant B:

Table 3: Comparison of Income Tax Calculation Scheme

No.	Description	Accountant A (Bookkeeping)	Accountant B (Norms 50%)
1.	Gross Income	1.000.000.000	1.000.000.000
2.	Deductible expenses	(400.000.000)	-
3.	Net Income	600.000.000	500.000.000
4.	Personal Exemption	(54.000.000)	(54.000.000)
5.	Taxable Income	546.000.000	446.000.000
6.	Income Tax	107.000.000	81.500.000

Source: Primary Data (2021)

Based on the illustration above, the Taxpayers Accountant still bears different income tax expenses due to differences in the net income calculation for the same subjective and objective conditions. Another issue of inequity in the NICN policy is that when a Taxpayers choose to use the recording, it means that the taxpayer is considered to be always profitable, even though, in reality, it is in a loss condition. The calculation is only based on gross income without considering costs. Unlike recording, when Taxpayers use bookkeeping, it will adjust the ability to pay Tax. When the Taxpayer is in a profit condition, it will be taxed, whereas if on the contrary, the Taxpayer is not taxed and can compensate the loss to the next tax year if he gets a profit. As an illustration, Accountant A and Accountant B are private accountants or individuals. Both within the last five years had gross income and deductible expenses with the same nominal value as follows:

Table 4: Sample: List of Gross Income & Deductible Expense in 5 Years

No.	Description	2015	2016	2017	2018	2019
1.	**Gross Income**	**1.000.000.000**	**500.000.000**	**800.000.000**	**550.000.000**	**950.000.000**
2.	Deductible Expenses	400.000.000	550.000.000	500.000.000	600.000.000	450.000.000

Source: Primary Data (2021)

Accountant A prefers to use bookkeeping, while Accountant B prefers to use NICN. The tax calculation between Accountant A and Accountant B can be illustrated as follows:

Table 5: Income Tax Calculation for Accountant A (Bookkeeping)

No	Description	2015	2016	2017	2018	2019
1.	Gross Income	1.000.000.000	500.000.000	800.000.000	550.000.000	950.000.000
2.	Deductible Expenses	400.000.000	550.000.000	500.000.000	650.000.000	450.000.000
3.	Net Income/Loss	600.000.000	(50.000.000)	300.000.000	(100.000.000)	500.000.000
4.	Loss Compensation	-	-	(50.000.000)	-	(100.000.000)
5.	Personal Exemption	(54.000.000)	-	(54.000.000)	-	(54.000.000)
6.	Taxable Income	546.000.000	-	196.000.000	-	346.000.000
7.	**Income Tax**	**107.000.000**	**-**	**24.400.000**	**-**	**56.500.000**

Table 6: Income Tax Calculation for Accountant B (Norms)

No.	Description	2015	2016	2017	2018	2019
1.	Gross Income	1.000.000.000	500.000.000	800.000.000	550.000.000	950.000.000
2.	Net income (50%)	500.000.000	250.000.000	400.000.000	275.000.000	475.000.000
3.	Personal Exemption	(54.000.000)	(54.000.000)	(54.000.000)	(54.000.000)	(54.000.000)
4.	Taxable Income	446.000.000	196.000.000	346.000.000	221.000.000	421.000.000
5.	**Income Tax**	**81.500.000**	**24.400.000**	**56.500.000**	**28.150.000**	**75.250.000**

Same conditions between Accountant A and Accountant B, both in the amount of income and the number of expenses incurred, the amount of payable Income Tax is different each year. The difference between the two calculations above is that Accountant B always pays taxes every year even though it suffered a loss in 2016 and 2018. It is because Accountant B uses recording (using NICN) to estimate the calculation based on gross income. Meanwhile, Accountant A, who used bookkeeping, did not pay taxes in 2016 and 2018 because they experienced a loss, and the loss could be compensated for in net income for the following tax year. Related to the vertical equity perspective, NICN still fulfills vertical equity. Vertical equity can be realized if it meets two conditions, namely unequal treatments for the unequal and progression (Mansury, 1996). Taxpayers Accountant who chooses to use NICN or bookkeeping will still calculate the amount of payable Income Tax by using the progressive rates contained in Article 17 of the Income Tax Law. Therefore, the accountants who have higher incomes will pay more taxes than accountants with lower incomes.

C. Ease of Administration Principle: There are four indicators in the ease of administration principle: certainty, convenience, efficiency, and simplicity (Rosdiana and Irianto, 2012). The accountant is obliged to organize bookkeeping in calculating the amount of payable tax. However, the accountant can calculate the payable tax by using the recording (NICN). Meanwhile, accountants who will record must meet specific criteria to clear the boundaries regarding bookkeeping and recording for accountants. The tax collection provisions on the accountant's income have met certainty principles. It must be seen from 2 sides to assess the principle of efficiency; are the tax authority and the Taxpayers' sides. Based on the tax authority side, tax collection is efficient if the cost of collecting taxes by the tax office is less than the amount of tax collected. Then, on the taxpayer's side, the tax collection system is efficient if the costs that must be incurred by the Taxpayers to fulfill their tax obligations can be as minimal as possible. In other words, tax collection can be said efficient if the cost of taxation is low. As quoted from Rosdiana and Irianto (Rosdiana and Irianto, 2012), Cedric Sandford argues that compliance costs consist of fiscal cost, time cost, and psychological cost.

These three things become a reference for researchers to analyze the compliance costs paid by Taxpayers, especially accountants, to meet tax obligations. In terms of fiscal cost, most accountants who choose to use recording can tolerate a fiscal cost that may be more significant than bookkeeping because they prefer the convenience offered when recording. In terms of time cost, calculating the tax payable amount will be faster than using bookkeeping if the accountant uses recording. The recording stages are shorter when compared to

more complex bookkeeping. Many accountants, especially private accountants or individuals, ultimately prefer to use recording rather than bookkeeping in calculating the amount of payable tax. From the psychological cost side, when choosing to use the recording, the accountant fulfilling his tax obligations is made easier by simplicity. So that the energy expended by the accountant is not too much compared to when doing bookkeeping, it will surely make the accountant's psychological burden become lighter when using the recording with not too much energy expended. The simplicity principle is one of the critical principles in tax collection.

With this principle, a regulation will be more particular, clear, and easily understood by Taxpayers. In calculating the amount of payable tax or fulfilling tax obligations and rights, it must be based on the simplicity principle to increase the Taxpayers' awareness in paying their taxes. The NICN policy fulfills it. Most accountants use the recording (NICN) more than bookkeeping due to the convenience offered by recording, which makes the process of calculating the amount of payable tax becomes more superficial and less complicated. When using the recording, Taxpayers do not need to identify their income type because all types become one total value, resulting in revenue or gross income. Furthermore, by recording, the Taxpayers do not need to identify what burdens are allowed or not allowed in taxes. These expenses are not taken into account in the tax calculation process. In other words, by recording, Taxpayers do not need to make complicated fiscal corrections.

D. Revenue Productivity Principle: Discussing the revenue productivity principle means discussing the government's interests, namely increasing State revenue. The revenue productivity principle is considered the most important principle because it is related to running the government, in which to carry out this requires adequate revenue. However, it hoped that the amount of tax collected would not be too high to hamper the people's economy in its implementation. Most informants in this study who chose to use the recording will pay higher taxes than when they used bookkeeping. On one side, this implies that the accountants who choose to use the NICN policy can increase state revenue productivity. It follows the NICN policy principles, which determine net income above normal net profit when using bookkeeping. However, this is not a severe problem for accountants because they can tolerate it with (NICN) registration convenience. On the other hand, there is a possibility that accountants will pay lower taxes when using recording compared to when using bookkeeping. Therefore, since accountants who use recording pay lower taxes than when they use bookkeeping, there is a potential to reduce state revenue productivity. It can be concluded that there are two possibilities for the use of NICN policies by accountants in influencing revenue productivity, namely increasing or reducing. Therefore, if the government still wants to implement NICN for accountants, it must be ensured that the applied NICN percentage does not allow Taxpayers to pay Income Tax lower than the Income Tax that is generated from bookkeeping. Thus, there must be an adjustment on the NICN percentage amount.

Discussion

What is the Critic? Regarding the convenience provided by the presumptive tax policy, researchers criticize Thuronyi's thought. Presumptive tax should not be used as a minimum tax, instead of as a maximum tax so that Taxpayers do not linger in their comfort zone because they pay lower taxes than they should. It is enough that this presumptive tax provides advantages in terms of time cost and psychological cost. Taxpayers also have to re-evaluate their direct money costs when the business is growing. In terms of encouraging this movement, it is necessary to apply a time limit (Ogembo, 2018, pp. 39–40) and/or additional prerequisites if Taxpayers can still apply NICN. The government has implemented time limits in using the presumptive tax mechanism through the regulation on the imposition of Income Tax for SMEs. It has other business types other than professional services in the service sector with a gross circulation not exceeding IDR 4.8 billion a year (often referred to as SMEs Final Income Tax. Thus, the government can also consider the NICN regulations for professional services in the service sector. However, other research that is accurate and more specific is needed to be done to determine the percentage of NICN that is close to the general range for the accountant professional service so that the maximum applicable figure can be obtained. As stated by Mansury, one of the conditions for NICN to be successful is that it must be developed by experts who can determine appropriate income figures and must be updated periodically to reflect the best current economic

and financial conditions. In updating the guidelines, industry associations should be involved in consultations (Mansury, 1992, p. 196).

Balancing the State and Taxpayers Interests: What would be the Better Way? Though most accountants, especially private accountants or individuals, prefer to use the recording, they can do bookkeeping. It is just that the convenience offered by recording causes accountants to prefer to use recording rather than bookkeeping ultimately. However, most accountants are ready to do this if required. This paper is focused on the discussion about the limitations of the Taxpayers' ability to do bookkeeping that accommodated by the presumptive tax policy, which will not be found in the accountant professional services profession. All informants stated that they were ready if required to do bookkeeping. It can be said that the search for a middle ground solution for the two sides of interest (government and Taxpayers) can be shifted further towards the interests of the government. Indeed, it is not easy to oblige accountants to use bookkeeping in the process of calculating the amount of payable tax. The regulations related to the NICN policy are regulated in the Law.

Precisely in Article 14 of the Income Tax Law. If we want to exclude an accountant from the NICN policy, we must also change the Law's provisions. It will be hard to be done because changing the Law requires a long deliberation and process. Also, suppose the NICN policy exception is applied to the accountant. In that case, it will result in inequity in tax collection, and indeed this will violate one of the principles of tax collection, namely tax collection must be fair (Kaho, 2007). It will affect the loss of the accountant's right to use the NICN policy. Except for accountants who cannot use the NICN, it will show a discriminatory tax collection system against a profession or professional services. One thing that might be done is to update the implementing regulations regarding the NICN policy that is currently regulated in PER-17/PJ/2015 due to Taxpayers being able to do tax avoidance that depends on how a country applies its tax regulations (Yuanita et al., 2020, p. 95). One of the critical points that need to be regulated in regulations related to NICN policy is to set a deadline for the use of NICN policies.

As previously explained, the NICN policy includes Taxpayers, which are classified as hard to tax into the taxation system and ultimately encourage them to use bookkeeping. However, in reality, Taxpayers have tended to continuously use the NICN policy without switching to the normal tax system. It occurs because the NICN policy does not regulate the time limit for using the policy, thus creating a separate comfort zone for Taxpayers to continue using the NICN policy. Therefore, it is necessary to update the regulations regarding NICN policies, especially those related to the time limit on using these policies described in the presumptive tax theory. It is not a drastic decision when the government makes regulatory adjustments to exempt the accounting profession from the list of professional services allowed to apply to the NICN. Alternatively, at least provide a maximum time limit (for example, 3-5 years for the transition period) until Taxpayers, along with an accountant of professional services, can apply normal bookkeeping.

5. Conclusion and Recommendations

Based on the explanation in the analysis and discussion section, this study can be concluded several things as follows:

a. Fulfillment of the ease of principle is the primary reason why accountants choose NICN over bookkeeping, despite the fact that they are professionals in bookkeeping. Additionally, NICN enables taxpayers to pay less income tax, implying that taxpayers engage in tax avoidance when meeting their tax obligations.

b. NICN for Accountants Taxpayers deserves to be written off based on the substance over form principle. The presumptive tax policy is not adequately targeted if given to a group of Taxpayers who do not have difficulties keeping records as required in the regular tax system.

c. When the NICN for Accountant Taxpayers is to be implemented, modifications to the percentage of net income required to reach the maximum tax that encourages Taxpayers to migrate to the regular tax system must be considered. Additionally, a time limit on the use of NICN should be introduced to ensure that

taxpayers do not remain in the NICN comfort zone, which does not fairly reflect their ability to pay. These two items may serve as fascinating research subjects for subsequent investigation.

d. The government should make periodic regulatory adjustments to NICN regulations relating to the set net income percentage, business type, and time limit to gradually and progressively encourage taxpayers to enter the normal tax system and eliminate potential tax avoidance taxpayers.

Researchers highly recommend other researchers in the future to complement this research with a more diverse number and types of informants. However, researchers believe that this study's main ideas are important thoughts that the government needs to consider to increase state revenues and the quality of targeted tax policies.

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References

Bird, R. M. & Wallace, S. (2003). Is It Really Hard to Tax The Hard-to-Tax? The Context and Role of Presumptive Taxes. International Tax Program, University of Toronto, 1–34.

Dube, G. (2018). The Design and Implementation of Minibus Taxi Presumptive Taxes. Service Industries Journal, no. May. doi:10.1080/02642069.2018.1471138.

Dube, G. and Daniela, C. (2017). Informal Sector Taxes and Equity: Evidence from Presumptive Taxation in Zimbabwe. Development Policy Review.

Kaho, J. R. (2007). Prospek Otonomi Daerah Di Negara Republik Indonesia. Jakarta: PT Grafindo Persada.

Lang, M., Melz, P. & Kristoffersson, E. (2009). Value Added Tax and Direct Taxation: Similarities and Differences. Amsterdam: IBFD.

Mansury, R. (1992). The Indonesian Income Tax, A Case Study in Tax Reform of A Developing Country. Singapore: Asian-Pacific Tax and Investment Research Centre.

Mansury, R. (1996). Pajak Penghasilan Lanjutan. Ind-Hill Co.

Ogembo, D. (2018). Are Presumptive Taxes a Good Option for Taxing Self-Employed Professionals in Developing Countries ? Are Presumptive Taxes a Good Option for Taxing Self-Employed Professionals in Developing Countries ? Available at: http://eureka.sbs.ox.ac.uk/7253/1/WP1814.pdf.

Rosdiana, H. & Irianto. (2012). Pengantar Ilmu Pajak: Kebijakan dan Implementasi di Indonesia. Jakarta: Rajawali Pers.

Shome, P. (1995). Tax Policy Handbook. International Monetary Fund.

Smith, A. (1776). An Inquiry Into the Nature and Causes of the Wealth of Nations.

Soemitro. (1998). Asas Dasar Perpajakan. Jakarta: PT Eresco.

Suandy, E. (2008). Hukum Pajak. Edisi Kedu. Jakarta: Salemba Empat.

Thuronyi, V. (1996). Presumptive taxation, in Tax Law Design and Drafting. *International Monetary Fund,* (1), 401–433. DOI: 10.1080/14631370601008456.

Wallace, S. (2002). Imputed a Presumptive Taxes: International Experiences and Lessons for Russia, International Studies Program, Andrew Young School of Policy Studies, Georgia State University, International Studies Program Working Paper Series AYSPS, GSU, 2002, 16 pp. Georgia. Available at: https://www.researchgate.net/search.Search.html?type=researcher&query=presumptive tax.

Weston, S. F. (1903). Principles of Justice in Taxation. New York: Columbia University.

Yuanita, D. W., Devi, N. C., Susilo, Z. A. and Kusharyanti, K. (2020). Foreign investor's interest and tax avoidance: contingency perspectives depending on country's protection level and law systems, *Gadjah Mada International Journal of Business*, 22(1), 74–98.

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COVID-19 Entwined the Dynamic Relationship between Stock Returns and Macroeconomic Variables

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Abstract: The state of any stock market is dependent on the economic and financial conditions prevailing in the country and can be used to see the mirror image of collective disposition in financial and economic terms. Therefore, this study examines the dynamic relationship between macroeconomic variables and stock prices in Pakistan in the COVID-19 pandemic scenario. For this purpose, monthly data has been taken from Jan 2019 to June 2021 and divided into Pre-COVID, COVID and overall periods. Data related to economic variables and stock prices have been retrieved from various sources including Statistical Reviews & Bulletins of State Bank of Pakistan, Karachi Stock Exchange and Pakistan Economic Survey. To assess the relationship between economic variables and stock prices, Cointegration, Granger-causality and Impulse Repose Function Tests have been applied on three data series. The results of the study reveal that there is a long-term equilibrium relationship between all economic variables and stock prices in the Pre-COVID period. However, most of the economic variables do not have such a relationship during the COVID period and the pattern of the relationship is almost the same in the overall period. Even the short-run dynamic relationship between economic variables and stock returns is affected by the pandemic. The results show that economic variables affect stock returns differently in the COVID situation than in the Pre-COVID scenario and it also affects the short-run relationship in the overall period. This research study provides imminent findings on the linkage between macroeconomic variables and stock prices in the Pakistani context. It helps investors and regulators in customizing their decisions and macroeconomic regulations respectively to improve the financial and economic stability of the country in the wake of the pandemic. Keeping in view the findings and implications of this study, investors and stakeholders need to weigh the uncertainty associated with COVID-pandemic before making investment decisions.

Keywords: *Macroeconomic Variables, Karachi Stock Exchange, Granger Causality, Pakistan.*

1. Introduction

COVID-19 initially reported in Dec 2020 in Wuhan, China. It surged chaos and economic uncertainty across the globe with its impact on every sphere including businesses, economies and individuals (Baker, Bloom, Davis, & Terry, 2020). The severity of the pandemic was equally stern as of the great depression; as it affected the global stock markets naming a few including Europe, Australia, America and Asia. The great depression was endogenous in nature due to the bad decisions of stakeholders. Whereas, COVID-19 is exogenous in nature as it has affected the real economies and stock indexes (Li, Su, Altuntaş, & Li, 2021).

Stock market returns are susceptible to announcements and uncertainties (Hillier & Loncan, 2019). Moreover, stock markets also reacted to earlier outbreaks of contagious diseases including SARS, Ebola and MERS (Ichev & Marinč, 2018). Keeping in view these factors and news effects, stock markets are indicators of the financial health of stock markets (Younis, Longsheng, Basheer, & Joyo, 2020). Above all, financial and macroeconomic indicators also influence the stock market returns. Industrial production index and interest rates contribute to almost fifty percent of annual movements in stock prices (Peiro, 2016). Moreover, stock market returns are also affected by pandemic (Engelhardt, Krause, Neukirchen, & Posch, 2020).

In order to handle the adversities of the pandemic and its impact on the economy, countries have taken various measures including social distancing, lockdowns as well as vaccination drive(Kartal, Ertuğrul, & Ulussever, 2021). Due to the uncertainty in the business arena and lack of clear visibility, the choices of investment decisions are extremely dicey. In order to mitigate these challenges, policy interventions in the shape of conducive policies as well as enabling a business environment are highly required.

The Pakistani Stock Market has been considered among the best performing exchanges in the world as it has undergone an intense transformation. To facilitate all stakeholders including investors, the government had taken a number of initiatives including liberal policies which have instigated foreign investment in the country and flourished the Pakistani stock market in the recent past. Further, it has become quite an attractive investment opportunity for local and international investors. However, COVID has affected world stock markets. Now, it has also become imperative to study whether COVID Pandemic has affected the performance of the Pakistani stock market.

This research study significantly adds to the existing literature by examining whether the macroeconomic variables affect stock prices in Pakistan in the wake of the worldwide COVID-19 pandemic. This study particularly focuses on Consumer Price Index (CPI), Karachi Interbank Offered Rate (KIBOR), Bank Spread (BS), Industrial Production Index (IPI), Exchange Rate (ExR), Money Supply (MS), Foreign Direct Investment (FDI) and Stock Value of KSE 100 Index in Pakistan with a concentration on Pre and COVID pandemic period. Earlier studies have examined the association among macroeconomic variables and stock exchanges in developed countries (Bhuiyan & Chowdhury, 2020), symmetrical cointegrating relationship between economic variables and KSE index in the wake of global financial crises (Sheikh, Asad, Israr, Tabash, & Ahmed, 2020). Whereas, the focus of this study is particularly on Pakistan due to the unpredictable characteristics of the Karachi stock exchange (Sheikh et al., 2020). This study provides imminent findings for investors, regulators and researchers on the linkage among macroeconomic variables and Stock Prices in the Pakistani context and shall offer useful information to amplify their returns in the presence of an ongoing pandemic situation.

The research paper is organized as follows. Section 2 describes the literature review, theoretical postulates and hypotheses development. Section 3 presents the research design which includes sample period and data selection, estimation strategy and method. Empirical results are discussed in section 4. Section 5 concludes the study.

2. Literature Review, Theoretical Postulates and Hypotheses Development

Arbitrage Pricing Theory

This research study is anchored based on Arbitrage Pricing Theory (APT) to explain the relationship between macroeconomic variables and stock returns. APT was postulated by Ross (Ross, 1976) and it was improved as compared to Capital Asset Pricing Model(CAPM), which was hypothesized by Sharpe (Markowitz, 1968). CAPM is loved for its simplicity and criticized due to its unrealistic application. APT assumes that return is not only dependent on current and future market risk but also other macroeconomic factors. Suffice to say that APT return on assets is dependent on economic features whereas, in CAPM, market risk is the underlying factor affecting the returns(Dada, Mokuolu, Alabi, & Miracle, 2021).

Empirical Literature on Macroeconomic Variables and Stock Returns

Many empirical research studies have validated the relationship between macroeconomic variables and stock returns in the context of developed and developing countries. Most of the studies posit that there is a long-term association between macroeconomic variables and stock returns. The recent study on macroeconomic variables and stock markets in the US and Canada context from 2000 to 2018 revealed that there is a long-term association among money supply, industrial production, long-term interest rate and sectoral indices (Bhuiyan & Chowdhury, 2020).

Consumer Price Index (CPI) and Stock Returns

Inflation is termed as an increase in the prices of the goods and services that are purchased by households. We have used the Consumer Price Index (CPI) as an indicator of inflation in this study. The study on the impact of macroeconomic variables as well as financial indicators on the stock index has found that the Thai stock market index has a long-run association with the Consumer Price Index, exchange rate and broad money supply(Chaengkham & Wianwiwat, 2021). Moreover, the study on the impact of macroeconomic variables on the stock market in the United Kingdom, also showed that inflation Granger causes the stock market return of the UK (Neifar et al., 2021). Likewise, inflation Granger causes the return of Swedish stock market index OMXS30 study on macroeconomic variables (Cengiz & Holmer, 2021).

Interest Rate, Bank Spread, Industrial Production and Stock Returns

The economic growth of a country is dependent on the stock index as well as on interest rate, which has ultimate implications on monetary and government policies, financial instruments in the financial markets and institutions (Alam & Uddin, 2009). Further, the Industrial production index and interest rates contribute to almost fifty percent of annual movements in stock prices (Peiro, 2016). Therefore, Karachi Interbank Offer Rate (KIBOR) has been taken as an independent variable in this study as a proxy of interest rate. It has been preferred over other indicators of efficiency due to its usage as the policy indicator, simplicity and availability of the data. The study on the impact of macroeconomic variables on the Swedish stock market index OMXS30 showed a bidirectional relationship between interest rate and the return of OMXS30 (Cengiz & Holmer, 2021). Therefore, we also expect a causal relationship between interest rate and stock return as the high interbank rate triggers investors by switching investments from banks to the stock market, which gives rise to business and ultimately results in better stock returns.

Changes in the bank spread affect the economy as well as stock markets as the borrowing becomes expensive for the individuals as well as for the business person. The investments in stock surge due to a reduction in interest rate, whereas the rise in interest rate negatively affects stocks (Torbira & Agbam, 2017). A study conducted on the impact of macroeconomic factors on stock return in the Nigerian stock market from 1998 to 2019 has found that industrial production has a positive and significant impact on stock return (Pole & Cavusoglu, 2021). Moreover, another research regarding the linkage between macroeconomic factors and the stock market in Pakistan from 2011 to 2017, also revealed that industrial production positively affects the fluctuations of stock market returns (Aziz, Marwat, & Mustafa, 2021).

Exchange Rate and Stock Returns

The stock market and exchange rate have a significant role in global businesses and financial markets. A recent study on the impact of macroeconomic variables and financial indicators on the stock index has found that the Thai stock market index has a long-run relationship with the exchange rate(Chaengkham & Wianwiwat, 2021). Moreover, the study conducted on the impact of macroeconomic factors on stock return in the Nigerian stock market from 1998 to 2019 has found that the exchange rate has a negative impact on stock return (Pole & Cavusoglu, 2021). Whereas, another study on the causal relationship between Pakistan stock exchange market and exchange rate from January 2015 to December 2019, findings reveal that there is a positive relationship between exchange rate and stock price and they are dependent on each other (Amarkhil, Hussain, & Ayoubi, 2021).

Money Supply, FDI and Stock Return

Monetary policy also affects stock returns, as the expansionary policy shore up the growth and development, whereas tightened policy has a negative impact. Further, most of the countries also used monetary policy tools to handle the pandemic situation (Kartal et al., 2021). Moreover, a study on the association between macroeconomic variables and the stock market showed that money supply has a direct relationship with the stock prices in the Lithuanian market (Pilinkus & Boguslauskas, 2009). Further, a recent study on the impact of macroeconomic variables and financial indicators on the stock index has found that the Thai stock market index has a long-run relationship with the broad money supply (Chaengkham & Wianwiwat, 2021). Stock markets are also affected due to flows of foreign portfolios, especially in a pandemic situation. All countries are affected due to pandemic but the developing and emerging countries are more affected due to their dependence on FDI (Kartal et al., 2021).

Empirical Literature on Macroeconomic Variables and Stock Returns in COVID

The findings of the recent study on the impact of the COVID-19 pandemic on emerging stock markets have revealed that pandemic impact has gradually decreased and started to taper off by mid-April 2020 (Topcu & Gulal, 2020). World stock markets have shown different degrees of volatility in the COVID-19 pandemic situation. The study has been conducted by using data of thirty developed and emerging markets and the results reveal that country economic factors, characteristics and policies like monetary policy, financial development, corporate governance, economic resilience and sound health system can play a positive role and mitigate the negative impacts of the pandemic on stock market returns (Uddin, Chowdhury, Anderson, & Chaudhuri, 2021).

3. Research Design and Sample Selection

Variable Selection and Data Period

This research study has incorporated Consumer Price Index (CPI), Karachi Interbank Offer Rate (IR), Bank Spread (BS), Industrial Production Index (IPI), Exchange Rate (ExR), Money Supply (MS) and Foreign Direct Investment (FDI) to determine the association between macroeconomic variability and stock returns in Pakistan in Pre-COVID, COVID and overall period, by utilizing the times series monthly data from January 2019 to June 2021. The data has been collected from various sources including Statistical Reviews & Bulletins of State Bank of Pakistan, Karachi Stock Exchange and Pakistan Economic Survey issued by Finance Division of Government of Pakistan.

The sample period has been classified into Pre-COVID, COVID and overall period that enables to determine whether the impact of macroeconomic variables on stock prices remains the same during different types of scenarios. If the pandemic has affected the relationship during OVID, in contrast to the pre-COVID regime then consideration of this particular time frame is more significant and implies that pandemic has affected the set pattern of relationship between macroeconomic variables and stock exchange returns.

Estimation Methods

To study the association of macroeconomic variables which represents the economic and financial aspects and stock returns in Pakistan in pre-COVID, COVID pandemic and overall period, the following tests have been applied:-

Descriptive Statistics

We have estimated the stochastic properties of the data series using descriptive statistics which include the mean, skewness and kurtosis.

Augmented Dickey-Fuller Test-ADF

We have examined the stationary of the data by using Augmented Dickey-Fuller Test. ADF test was applied both at the level and differenced data.

Johansen Cointegration Test

Johansen Cointegration Test has been applied to assess the long-term equilibrium relationship between non-stationary time series. VAR-based cointegration test was applied using the methodology developed in Johansen (1991, 1995) and Johansen & Juselius, 1994.

$$y_t = a_0 + a_1 y_{t-1} + \dots\dots\dots a_p y_{t-p} + B_{xt} + e_t \qquad (1)$$

Where yt is a k-vector of non-stationary I(1) variables, xt is a d -vector of deterministic variables, and e_t is a vector of innovations

Granger Causality

Granger Causality Test has been applied to determine the short-run dynamic relationship between stock returns and economic variables of this study. We have carried out a pairwise Granger causality Test.

$$y_t = a_0 + a_1 y_{t-1} + \dots\dots\dots a_1 y_{t-1} + b_1 x_{t-1} + \cdots \dots\dots b_1 x_{t-1} + e_t \qquad (2)$$

$$y_t = a_0 + a_1 y_{t-1} + \dots\dots\dots a_1 y_{t-1} + b_1 x_{t-1} + \cdots \dots\dots b_1 x_{t-1} + u_t \qquad (3)$$

Impulse Response Function

We have estimated the Impulse response function for stock returns by using Choleski decomposition on a VAR model. It was applied to get quantitative figures regarding the impact period and its return to equilibrium. An impulse response function traces the effect of a one-time shock to one of the innovations on the current and future values of the endogenous variables.

4. Empirical Results

The results have been divided into sub-sections. The first section covers descriptive statistics and data normality. The second section includes the results of unit root testing. The third section is about the results of

co-integration. The fourth section is about the results of the pairwise Granger-causality Test. The fifth section is about the results of the Impulse Response Function.

Descriptive statistics:
We have estimated the descriptive statistics of the key macroeconomic variables and stock returns in the pre-COVID, COVID and overall period. Table 1 reports descriptive statistics results that include the mean, Skewness and Kurtosis of all the variables used in the study.

Table 1: Descriptive Statistics

Variables	Mean			Skewness			Kurtosis		
	Pre-COVID	COVID	Overall	Pre-COVID	COVID	Overall	Pre-COVID	COVID	Overall
KSE	36128	41631	38880	-0.34	-0.43	-0.07	1.83	2.02	2.16
CPI	10.11	8.59	9.35	0.41	-0.46	0.93	1.99	6.10	3.59
IR	12.4	7.37	9.89	-0.62	2.46	0.25	1.64	7.65	1.33
BS	5.08	4.61	4.84	-0.02	0.26	0.68	1.36	3.23	2.48
IPI	143.15	140.20	141.68	0.31	-0.74	-0.62	1.49	3.17	3.55
ExR	148.67	160.45	154.56	-0.29	-0.20	-0.78	1.26	2.72	2.52
MS	17732	21231	19482	-0.15	-0.47	-0.03	2.46	3.13	1.63
FDI	192.27	158.20	175.23	1.85	0.39	2.07	6.09	5.05	8.80

Table 1 reports descriptive statistics of the variables used in this study. Monthly observations of macroeconomic variables and the KSE index have been utilized from January 2019 to June 2021.

Table 1 shows the descriptive statistics of all variables used in the study in comparative form. It includes the mean and the measures of skewness & kurtosis. The result shows that the values of skewness for all series are not significantly different from zero hence data series are not seriously departing from normality in pre-COVID, COVID and overall scenario. Moreover, the kurtosis values shown in Table 1, indicate that most of the variables are platykurtic with lower than normal kurtosis in pre-COVID and overall period. However; most of the series are leptokurtic with higher than normal kurtosis in COVID situations. A leptokurtic return means that risks are coming from outlier events i.e. COVID situation.

Unit Root Testing:
This research study has employed the Augmented Dickey-Fuller Test (ADF) for the identification of stationarity and to avoid spurious regression of variables used in the study.

Table 2: Augmented Dickey-Fuller tests (ADF) Test for Unit Root

Variables	Pre-COVID		COVID		Overall	
	T-Statistics	p-value	T-Statistic	p-value	T-Statistic	p-value
KSE	-3.4345	0.0386	-3.2524	0.0402	-4.7724	0.0006
CPI	-4.1062	0.0083	-4.9366	0.0020	-6.3311	0.0001
IR	-5.4332	0.0008	-3.6344	0.0401	-2.7713	0.0749
BS	-8.0861	0.0001	-3.1359	0.0358	-8.9157	0.0000
IPI	-3.2879	0.0108	-3.5239	0.0407	-4.1046	0.0035
ExR	-3.4386	0.0366	-2.5782	0.0657	-3.7797	0.0078
MS	-4.6592	0.0032	-4.9299	0.0023	-6.0615	0.0003
FDI	-3.1803	0.0328	-5.1977	0.0015	-7.7811	0.0001

Table 2 describes the results of Augmented Dickey-Fuller (ADF). The test has been applied on all the variables both at the level and at first difference. The null hypothesis in the case of ADF state that data is having a unit root or is non-stationary. Overall, the results reveal that all the variables are stationary at their first difference, which implies that all are integrated at the same order one i.e. I (1). Hence, the null hypothesis of the unit root has been rejected.

Cointegration Test:

Johansen Cointegration Test has been applied to check the long-term equilibrium relation between non-stationary time series. The results of cointegration are given below:

Table 3: Results of Cointegration Tests

Variables	Pre-COVID	COVID	Overall
CPI	37.04 (0.00)**	16.18 (0.04)**	14.38 (0.07)*
IR	21.13 (0.01)**	11.12 (0.20)	14.59 (0.07)*
BS	27.69 (0.01)**	9.45 (0.32)	11.93 (0.16)
IPI	28.96 (0.00)**	16.48 (0.04)**	10.48 (0.25)
ExR	38.63 (0.00)**	16.17 (0.04)**	20.45 (0.01)**
MS	34.83 (0.00)**	12.36 (0.14)	6.34 (0.65)
FDI	22.79 (0.01)**	12.69 (0.13)	11.15 (0.20)

Trace Statistics (Prob.), 5% Critical Value 15.49, **(*) denotes rejection of the null hypothesis at 5% and 10% significance level

Table 3 summarizes the results of the cointegration test of pre-COVID, COVID and overall periods. The T-statistic determines the level of cointegration between the variables. From table 3 it is evident that there is co-integration between stock prices and all economic variables in the pre-COVID period as the trace values of all macroeconomic variables used in this study are greater than the critical value of 15.49. However, the pattern is different in the COVID period as there is a long-run relationship between KSE and CPI, IPI and ExR only. Likewise, the COVID has also affected the relationship in the overall period as KSE has the only relationship with CPI, IR and ExR. Thus, based on the results, there is evidence of cointegration as well as a long-run relationship between macroeconomic variables and stock prices of the KSE 100 Index. However, the pattern of relationship is different in the pre-COVID and COVID periods.

Granger-causality Tests:
The results of the pairwise granger causality test are enumerated below:-

Table 4: Results of Pair Wise Granger-Causality Tests

Null Hypothesis	Pre-COVID	In-COVID	Overall
CPI does not Granger Cause KSE	2.45 (0.09)*	0.08 (0.92)	0.71 (0.50)
KSE does not Granger Cause CPI	1.01 (0.41)	0.07 (0.93)	0.11 (0.91)
IR does not Granger Cause KSE	0.58 (0.57)	3.79 (0.07)*	2.47 (0.09)*
KSE does not Granger Cause IR	2.43 (0.09)*	3.46 (0.08)*	6.30 (0.01)**
BS does not Granger Cause KSE	4.29 (0.04)**	0.53 (0.61)	0.90 (0.42)
KSE does not Granger Cause BS	1.12 (0.37)	0.26 (0.77)	2.51 (0.08)*
IPI does not Granger Cause KSE	0.82 (0.47)	3.84 (0.07)*	10.89 (0.00)**
KSE does not Granger Cause IPI	0.82 (0.48)	1.79 (0.23)	1.99 (0.16)
ExR does not Granger Cause KSE	0.68 (0.53)	0.17 (0.84)	0.71 (0.51)
KSE does not Granger Cause ExR	0.84 (0.47)	0.92 (0.44)	0.03 (0.97)
MS does not Granger Cause KSE	0.22 (0.81)	2.86 (0.09)*	0.35 (0.71)
KSE does not Granger Cause MS	0.01 (0.99)	1.38 (0.31)	0.36 (0.71)
FDI does not Granger Cause KSE	0.02 (0.98)	0.72 (0.52)	2.41 (0.09)*
KSE does not Granger Cause FDI	3.71 (0.07)*	0.61 (0.57)	0.22 (0.81)

F-statistics (Prob.) ** (*) denotes rejection of null hypothesis at 5% (10%) significance level.

Table 4 presents the results of the bivariate Granger causality test. The results show that stock returns do not have bidirectional causality with economic variables in the pre-COVID scenario. Whereas, CPI and BS have unidirectional causality with KSE and KSE uni-directionally granger cause IR and FDI. The same is supported by an earlier study on the impact of macroeconomic variables on the stock market in the United Kingdom, which also shows that inflation Granger causes the stock market Return of the UK (Neifar et al., 2021). CPI unidirectional causality with KSE is also supported by the Swedish stock market index OMXS30 study on macroeconomic variables, where inflation Granger causes the return of OMXS30 (Cengiz & Holmer, 2021).In pre-COVID, change in the behavior of the Consumer price index and bank spread to produce a change in stock and stock market affect the interest rate and foreign direct investment.

During COVID, only bidirectional causality exists in KSE and IR. The result is in line with recent research on the impact of macroeconomic variables on the Swedish stock market index OMXS30, whose Granger Causality test showed a bidirectional relationship between interest rate and the return of OMXS30 (Cengiz & Holmer, 2021). Whereas, IPI and MS unidirectional Granger cause KSE. The result of money supply unidirectional causality is in line with the results of an earlier study on the association between macroeconomic variables and the Lithuanian stock market, which also showed that money supply has a direct association with the stock prices(Pilinkus & Boguslauskas, 2009). This implies that interest rate affects stock return and vice versa during COVID. Whereas, macroeconomic variables including MS and IPI produce a change in stock returns in the COVID scenario.

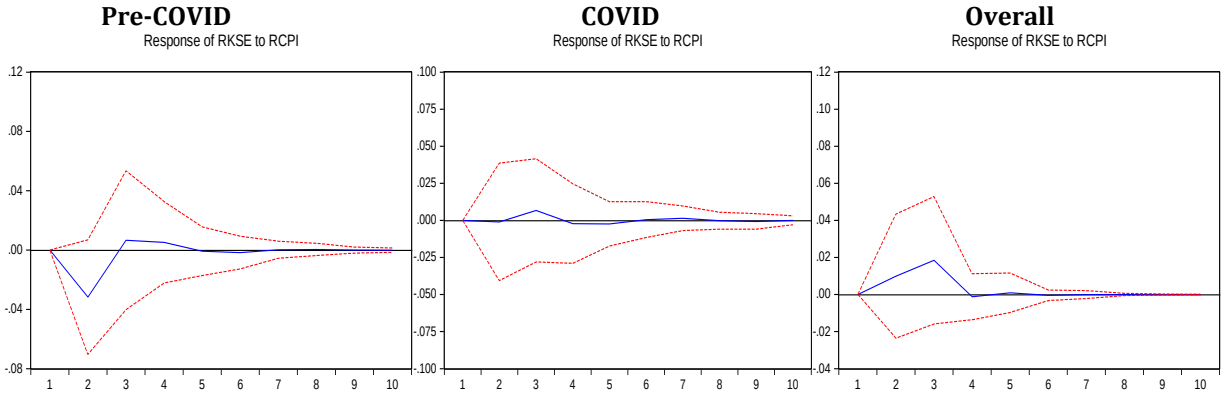
The results of the overall period also show bidirectional causality between KSE and IR. This shows that interest rate produces a change in the stock returns and stock returns also affect the interest rate. Whereas, IPI and FDI Granger cause KSE unidirectionally and KSE Granger cause BS. The overall result regarding IPI granger cause KSE is supported by earlier research regarding the linkage between macroeconomic factors and the stock market in Pakistan from 2011 to 2017 revealed that industrial production positively impacts the fluctuations of stock market returns (Aziz et al., 2021). The results also reveal that interest rate is used as an important tool of monetary policy, which has a significant short-run impact on stock returns during COVID.

Impulse Responses Function
The impulse response function posits that a shock to the i-th variable not only directly affects the i-th variable but is also sent to all of the other endogenous variables through the dynamic (lag) structure of the VAR. Moreover, an impulse response function also traces the effect of a one-time shock to one of the innovations on

current as well as future values of the endogenous variables. Using a Choleski decomposition on a VAR model, we have calculated the following impulse response functions for the stock returns. The results of the impulse response function of each macroeconomic variable applied to three different data series are given below where the continuous line represents the estimated response function and the dotted line shows the confidence interval of the two standard deviations surrounding the estimate.

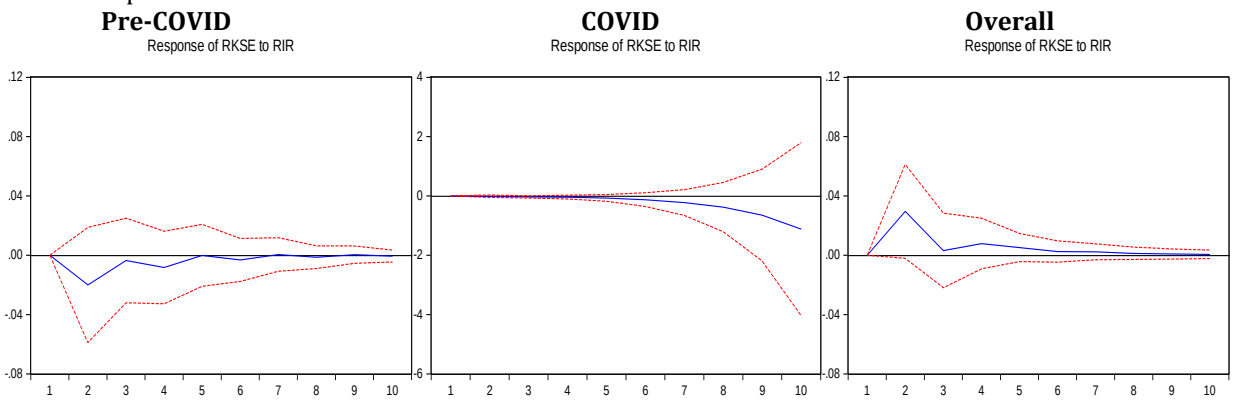
Consumer Price Index Impulse Response Function

A one standard deviation shock to the inflation rate decreases the stock returns in the Pre-COVID period. However, stock returns increase slightly during the COVID and there is a visible increase in the overall period against shock to the inflation rate. The effect remains significant for 2 months and then stock returns came back to their previous value after 3-4 months.



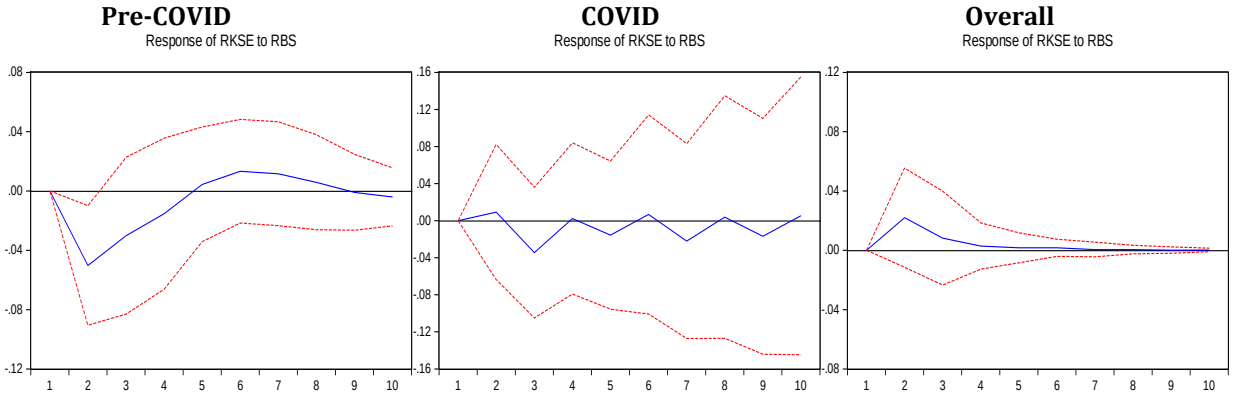
Interest Rate Impulse Response Function

A one standard deviation shock to the interest rate decreases the stock returns in the Pre-COVID period and the effect dissipates after 5 months. However, it does not affect stock returns initially during the COVID period; the effect becomes significant after 4-5 months and stock returns decrease consistently. The pattern is completely different in the overall period where stock returns increase for 2 months against the shock and effect dissipates after 3 months.



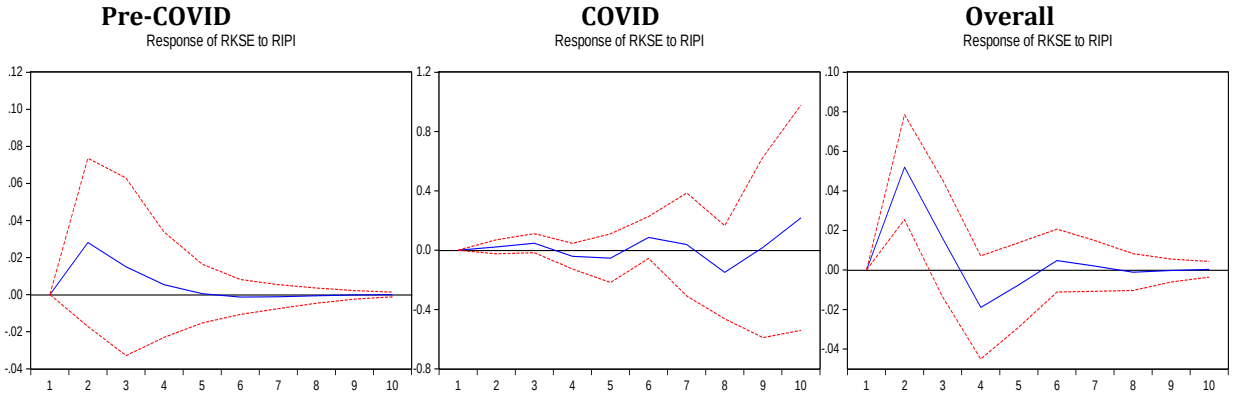
Bank Spread Impulse Response Function

A one standard deviation shock to the BS significantly decreases the stock returns initially for 2 months and then it attains its previous value after 5-6 months in the Pre-COVID period. It creates a continuous pattern of ups and down in stock returns during COVID. Whereas it increases the stock returns initially and then the effect dissipates after 4 months.



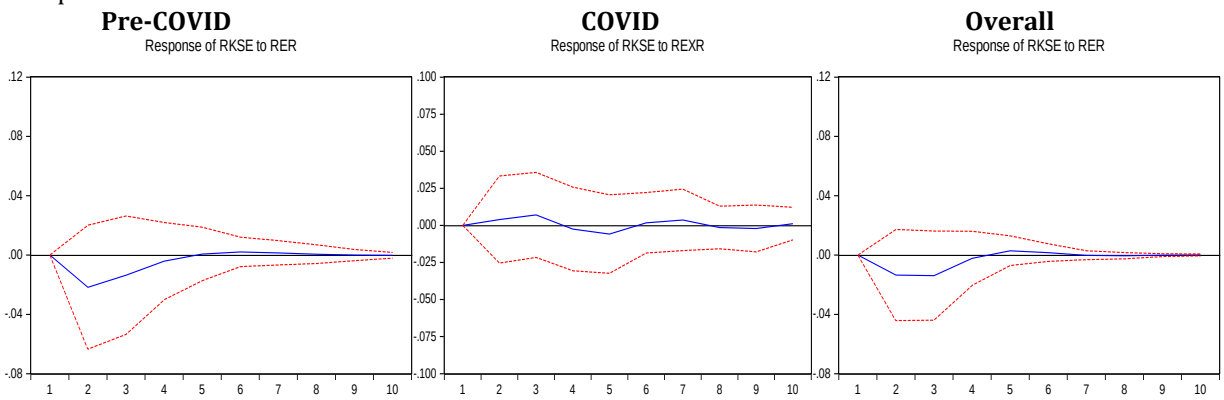
Industrial Production Index Impulse Response Function

A one standard deviation shock to the IPI increases the stock returns in the Pre-COVID and Overall period. The effect remains significant for 2 months and then stock returns decrease and become unresponsive after 4-5 months. However, it does not affect the stock returns initially during COVID. The effect becomes significant after 9 months and there is an upward trend in stock returns.



Exchange Rate Impulse Response Function

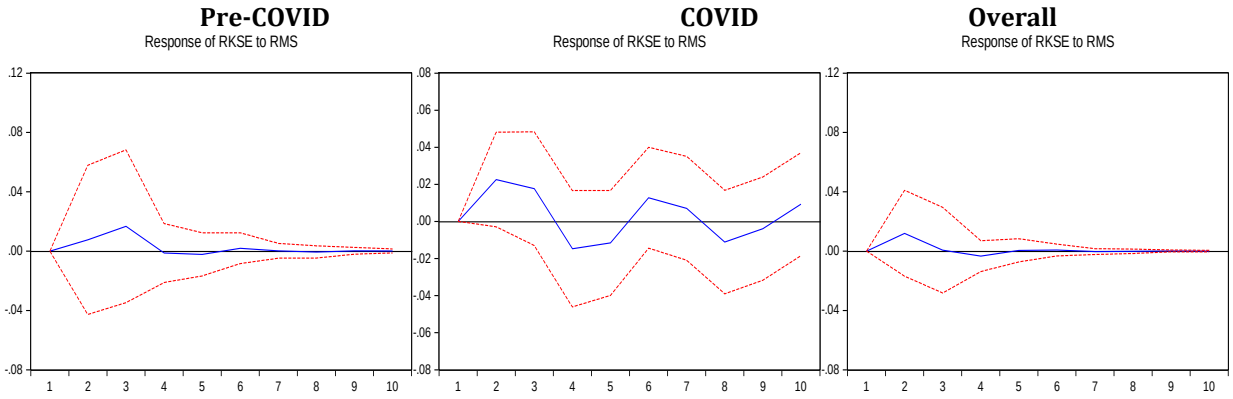
A one standard deviation shock to the exchange rate decreases the stock returns for 2-3 months in Pre-COVID and the Overall period and effect dissipates after 4-5 months. However, during the COVID period, it slightly increases the stock returns for the first 2-3 months and then a slight decrease in stock returns and the effect dissipates after 5-6 months.



Money Supply Impulse Responses Function

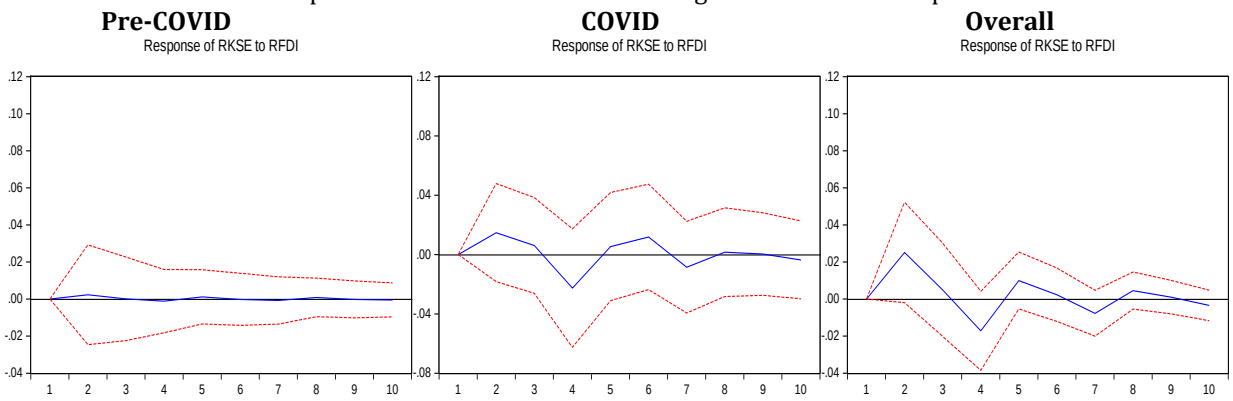
A one standard deviation shock to the MS increases the stock returns initially for 2-3 months in both Pre-COVID and Overall period, however, the impact dissipates after 4 months. However, initially, stock returns

significantly increase for 2 months in the COVID period, and then it decreases for 2 next months and this pattern continues.



Foreign Direct Investment Impulse Response Function:

A one standard deviation shock to the FDI does not affect the stock returns in the Pre-COVID period. However, it slightly increases the stock returns for 2 months, then there is a decrease for the next couple of months and the effect dissipates after 7-8 months both during COVID and Overall period.



The results of the impulse response function are not much different from the results of the other tests applied on 3 data series. It reveals that the relationship between economic variables and stock returns has been affected by the COVID pandemic and the response of stock returns to changes in economic variables during COVID is much different from the Pre-COVID period.

5. Conclusion and Recommendations

This study has been conducted to assess the impact of the dicey ongoing global COVID pandemic situation and association among macroeconomic variables and stock returns of the Karachi stock exchange of Pakistan. The results of the tests reveal that there is a long-term equilibrium relationship between all economic variables and stock prices in the pre-COVID period. However, most of the economic variables do not have such a relationship during the COVID period and the pattern of the relationship is almost the same in the overall period. It means that COVID has a certain effect on the relationship of economic variables with stock prices.

Correlation does not portray causation in any meaningful sense. The relationship is spurious or meaningless. Therefore, the Granger Causality test and Impulse Response Function have been applied to the pre-COVID, COVID and overall data sets. The results show that only some of the economic variables have a short-run relationship with stock returns in comparison to the cointegration test where all economic variables have a relationship with stock prices. In the pre-COVID period, changes in economic variables produced a change in stock returns in a predicted pattern supported by earlier studies on the subject. However, the reaction of stock returns is different against changes in macroeconomic variables like CPI, IR, IPI, MS and FDI during

COVID. Therefore, the results revealed that economic variables affected stock returns differently in the COVID situation than in the Pre-COVID scenario and it also affects the short-run relationship in the overall period.

From the results, it is quite evident that the COVID pandemic has changed the set pattern of association between economic variables and stock returns both in the short-run and long run. Therefore both policymakers and investors should revisit their strategies regarding financial markets. The regulators should formulate both fiscal and monetary policies keeping in view the new dynamic relationships between economic variables and investors must look at the signals of the economic outlook in the emerging scenarios of the COVID regime. Keeping in view the implications of the findings of this study, investors and stakeholders need to weigh uncertainty associated with COVID-pandemic before making investment decisions. The tools of fiscal and monetary policy like interest rate, taxes and money supply must be handled by regulators differently during COVID. Since it may affect the investors' decision and availability of funds for the capital market. Further, this research study also provides ground for extending the impact of the COVID pandemic on money and bond markets, commodities as well as foreign exchange, which might also offer insightful findings for stakeholders.

References

Alam, M., & Uddin, G. (2009). Relationship between interest rate and stock price: empirical evidence from developed and developing countries. *International Journal of Business and Management (ISSN 1833-3850), 4*(3), 43-51.

AMARKHIL, D. K., HUSSAIN, J., & AYOUBI, M. (2021). Effect of Exchange Rate on Stock Return. *JournalNX, 7*(1), 297-310.

Aziz, T., Marwat, J., & Mustafa, S. (2021). Macroeconomic Uncertainty and Stock Market Uncertainty: Some Further Evidence From Pakistan. *Review of Pacific Basin Financial Markets and Policies*, 2150014.

Baker, S. R., Bloom, N., Davis, S. J., & Terry, S. J. (2020). COVID-induced economic uncertainty: National Bureau of Economic Research.

Bhuiyan, E. M., & Chowdhury, M. (2020). Macroeconomic variables and stock market indices: Asymmetric dynamics in the US and Canada. *The Quarterly Review of Economics and Finance, 77*, 62-74.

Cengiz, T., & Holmer, D. (2021). Macroeconomic variables and their impact on the Swedish stock market.

Chaengkham, S., & Wianwiwat, S. (2021). The impacts of macroeconomic and financial indicators on the stock market index: evidence from Thailand. *International Journal of Trade and Global Markets, 14*(2), 197-205.

Dada, S. O. K., Mokuolu, F. T., Alabi, J. O., & Miracle, K. (2021). Robust Application of the Arbitrage Pricing Theory and the Test for Volatility in the Stock Market: Evidence from Nigeria.

Engelhardt, N., Krause, M., Neukirchen, D., & Posch, P. (2020). What drives stocks during the corona crash? News attention vs. rational expectation. *Sustainability, 12*(12), 5014.

Granger, C. W. J. (1986). *Developments in the study of cointegrated economic variables.* Paper presented at the Oxford Bulletin of economics and statistics.

Hillier, D., & Loncan, T. (2019). Political uncertainty and stock returns: Evidence from the Brazilian political crisis. *Pacific-Basin Finance Journal, 54*, 1-12.

Ichev, R., & Marinč, M. (2018). Stock prices and geographic proximity of information: Evidence from the Ebola outbreak. *International Review of Financial Analysis, 56*, 153-166.

Johansen, S. (1995). *Likelihood-based inference in cointegrated vector autoregressive models*: Oxford University Press on Demand.

Johansen, S., & Juselius, K. (1994). Identification of the long-run and the short-run structure an application to the ISLM model. *Journal of Econometrics, 63*(1), 7-36.

Kartal, M. T., Ertuğrul, H. M., & Ulussever, T. (2021). The Impacts of Foreign Portfolio Flows and Monetary Policy Responses on Stock Markets by Considering COVID-19 Pandemic: Evidence from Turkey. *Borsa Istanbul Review*.

Li, C., Su, C.-W., Altuntaş, M., & Li, X. (2021). COVID-19 and stock market nexus: evidence from Shanghai Stock Exchange. *Economic Research-Ekonomska Istraživanja*, 1-14.

Markowitz, H. M. (1968). *Portfolio selection*: Yale university press.

Neifar, M., Dhouib, S., Bouhamed, J., Ben Abdallah, F., Arous, I., Braiek, B., & Mrabet, D. (2021). The impact of macroeconomic variables on the Stock market in the UK.

Peiro, A. (2016). Stock prices and macroeconomic factors: Some European evidence. *International Review of Economics & Finance, 41*, 287-294.

Pilinkus, D., & Boguslauskas, V. (2009). The short-run relationship between stock market prices and macroeconomic variables in Lithuania: an application of the impulse response function. *Inžinerinė ekonomika* (5), 26-34.

Pole, H., & Cavusoglu, B. (2021). The Effect of Macroeconomic Variables on Stock Return Volatility in the Nigerian Stock Exchange Market. *Asian Journal of Economics, Finance and Management*, 32-43.

Ross, S. (1976). The arbitrage theory of capital asset pricing, 'Journal of Economic Theory': Elsevier, Amsterdam.

Said, S. E,& Dickey, D. A.(1984). Testing for unit roots in autoregressive-moving average models of unknown order+. *Biometrika, 71*, 599-607.

Sheikh, U. A., Asad, M., Israr, A., Tabash, M. I., & Ahmed, Z. (2020). Symmetrical cointegrating relationship between money supply, interest rates, consumer price index, terroristic disruptions, and Karachi stock exchange: Does global financial crisis matter? *Cogent Economics & Finance, 8*(1), 1838689.

Topcu, M., & Gulal, O. S. (2020). The impact of COVID-19 on emerging stock markets. *Finance Research Letters, 36*, 101691.

Torbira, L. L., & Agbam, A. S. (2017). Macroeconomic Risk Factors and Stock Returns: The arbitrage pricing approach. *Journal of Finance, Banking and Investment, 4*(1), 41-71.

Uddin, M., Chowdhury, A., Anderson, K., & Chaudhuri, K. (2021). The effect of COVID–19 pandemic on global stock market volatility: Can economic strength help to manage the uncertainty? *Journal of Business Research, 128*, 31-44.

Younis, I., Longsheng, C., Basheer, M. F., & Joyo, A. S. (2020). Stock market comovements among Asian emerging economies: A wavelet-based approach. *PloS one, 15*(10), e0240472.

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Consumer Loyalty and Brand Marketing Programs in an Emerging Economy: Evidence from the Automobile Industry

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Abstract: The study examined the relationship between brand marketing programs and brand loyalty of automobile users in an emerging economy context. Adopting a positivist paradigm, a quantitative approach was employed. Using a cross-sectional survey, data was collected from 700 respondents. Scales of measures were evaluated using exploratory and confirmatory factor analysis after which consumer loyalty segments were created using cluster analysis. Logistic regression was carried out to evaluate the effect of brand marketing programs on consumer loyalty. The study revealed a positive and significant association between brand marketing efforts and consumers' purchase decisions and loyalty to automobile brands. Four brand marketing efforts were also found to be significantly associated with the two segments (high and low involvement) at varying degrees.

Keywords: *Consumer loyalty, Brand Marketing Programs, IMC, Emerging Economies, Automobile.*

1. Introduction

The mainstream marketing literature is replete with studies conducted on brand loyalty. These studies have churned out different and varied results in developed and developing economies context, with a majority of scholars postulating several precursors of marketing programs for brands as well as factors that influence consumers' emotional attachments to particular brands (Lee et al., 2015; Odoom, 2016). Nonetheless, the finding reported in these studies cannot be generally applied as a result of the differences that exist in the preferences and requirements of consumers across different geographical regions (Bishnoi & Kumar, 2016) often with different and unique environmental settings (Aksoy et al., 2015; Odoom, 2016). The current study sought to examine brand marketing efforts and consumers in the automobile sector. By recognizing different levels of loyalty, the study assesses the degree of importance of the brand marketing programs on high and low loyalty consumer segments within an emerging market context. With consumers exhibiting varied behavioral patterns in different geographical contexts, researchers in the field of branding have acknowledged the existence of gaps in the concept of brand loyalty and therefore call for further studies to explore the subtleties of consumer brand loyalty in different economic and geographical contexts and also with different brand categories (Bishnoi & Kumar, 2016; Odoom, 2016). Besides, much has not been achieved in marketing literature in acknowledging the fact that brand loyalty exhibited.

Consumers are at varying degrees (for example high or low involvement) and also dependent on the product category (Bishnoi & Kumar, 2016). Consequently, the majority of studies on loyalty rarely consider the nuances that exist in the brand loyalty spectrum when carrying out analysis and reporting findings on brand loyalty. Furthermore, a greater number of studies that are focused on consumer and brand loyalty often rely on constructs that have been used over time (Odoom, 2016). Furthermore, the dependence on continuous weights/measures is not likely to paint an accurate picture of the degree of loyalty consumers exhibit towards brands under predetermine predictors. The use of dual or multiple measures by this study would help reveal 'true' loyalty acts. Therefore, there is a call for more interrogation of the effects of consumers' involvement on different nuances of loyalty in different sectors (Ahn & Back, 2018; Behnam et al., 2020; Foroughi et al., 2019). It is for this reason that Odoom (2016) advocates for further studies in this sphere focusing on finding solutions to the aforementioned issues, lest these gaps continue to the mainstream marketing literature. Odoom (2016) further warned that if the conceptualization on context-based marketing issues is not established researchers in the field of marketing risk being susceptible to leaky quirks. Also, the literature suggests that most of the studies conducted on consumer choice regarding automobiles have largely been carried out in advanced economies (Odoom, 2016; Tang et al., 2011).

There is therefore dearth of studies on consumer behavior in the automobile industries in emerging market particularly sub-Sahara Africa (Ghana) (Narteh et al., 2012) hence this study. The study sought to achieve three objectives; thus, to examine; (1) the effect of specific brand marketing programs on brand loyalty of automobile users in Ghana, (2) the degree of influence of brand marketing efforts on consumers in both high or low loyalty segments and finally (3) to examine the significance of selected brand marketing activities in predicting the probability of consumers becoming more loyal to their preferred car brands. This study makes two significant contributions; first, the study contributes to the literature on marketing programs and brand loyalty through the application of the Theory of Reason Action (TRA) and the complexity theory in a unique and underrepresented context, sub-Sahara Africa (Ghana). Also, the study validates Keller's (2013) rarely examined view of marketing efforts' impact on customers' loyalty in an underrepresented context; the automobile industry in an emerging economy. Second, the study has the potential to offer practitioners within the automobile industry in Ghana insight through empirical evidence on the nuances and the relationship that exists between their marketing efforts and the expected outcome. The rest of the paper is grouped into 5 sections: literature review, theoretical review, conceptual framework and hypothesis development, methodology, results and implications.

2. Literature Review

The concept of brand loyalty is one of the widely researched concepts in the discipline of marketing in the last forty years (Loureiro, Sarmento & Le Bellego, 2017). As a result of its popularity among researchers and practitioners, several attempts have been made to define the concept. According to Oliver (1999, p.34), brand loyalty can be explained as "a deeply held commitment to rebuy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same-brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." In other words, brand loyalty is a manifestation of the positive relationship that is created between customers and brands that results in customers showing commitment to the brand and the willingness to engage in repeat purchases in the future (Li, Teng & Chen, 2020; Putra, 2019). There are different typologies and classifications of loyalty. Dick and Basu (1994), for instance, delineated loyalty into four typologies, namely, true loyalty, spurious loyalty, latent loyalty and no loyalty. Day (1969) suggests two indicators, action and affection for brand loyalty and divided brand loyalty into true brand loyalty and spurious brand loyalty. In addition, Oliver (1999) also classifies loyalty into four types: cognitive, affective, conative and action.

To others, loyalty could either be genuine loyalty (Arnold & Reynolds, 2003) or unauthentic (Iglesias, Singh & Batista-Foguet, 2011). Unauthentic loyalty is influenced by other factors such as cost and availability (Iglesias et al., 2011). Genuine loyalty on the other is based on emotional attachment for the brand that is developed as a result of a positive experience with the brand over a period of time (Lin, 2010). However, with time, two main brand loyalty dimensions have developed – attitudinal loyalty (measuring consumers' purchase intention and overall feelings about brands) and behavioral loyalty (often considered synonymous with repeat purchase behavior). These two types of loyalty appear to capture all existing categorizations of the construct (Kuikka & Laukkanen, 2012; Dawes et al., 2015). Inherent in all these conceptualizations is the view that consumers' level of loyalty could be either high or low in most cases. There is consensus in the extant literature (Loureiro, et al., 2017) about the benefits companies could derive from brand loyalty including word of mouth advocacy (Nawaz & Usman, 2011; Saini & Singh, 2020; Sutikno, 2011), growth in market share (Aaker, 1996; Gounaris & Stathakopoulos, 2004; Nawaz & Usman, 2011), low marketing expenses (Chaudhuri & Holbrook, 2001; Pupo, 2010), increased bottom line (Kabiraj & Shanmugan, 2011; Loureiro, et al., 2017) and competitive edge (Iglesias et al., 2011).

According to Behnam et al. (2020), Koenigstorfer and Wemmer (2019) the ability for companies to attract and maintain customers is a function of meeting customers' expectations through sustained delivery of quality service, which is a key predictor of customer satisfaction. Aaker (1996) contends that brand loyalty could be a tool for measuring the overall success of a company's marketing, strategy. When loyal customers become advocates for brands less effort is required for customer education which results in reduced marketing costs (Pupo, 2010). It also offers companies an advantage in negotiations with suppliers and distribution channels. Previous studies suggest that brand loyalty is influenced by varied factors including brand image (Marliawati & Cahyaningdyah, 2020; Mabkhot et al., 2017), product quality (Angga et al., 2017),

brand association (Odoom, 2016; Romaniuk & Nenycz-Thiel, 2013), brand trust (Utomo, 2017), positive brand experience (Marliawati & Cahyaningdyah, 2020) brand awareness (Utomo, 2017), socio-economic elements (Puspita et al., 2017) and country of origin effect (Bakar et al., 2017; Monica et al., 2019). It is established that contemporary consumers' aspirations go beyond the core product functions to include the added value dimensions of brands such as unique experience and convenience (Mostafa & Kasamani, 2020). The brand experience could be enhanced by creating the right brand atmosphere and effective marketing communication strategy for the brand (Ong et al., 2018).

Theoretical Review: Consumer brand loyalty could be explained from different theoretical perspectives (Corley and Gioia, 2011; Miles, 2012). The theory to be adopted in explaining consumer brand loyalty is largely influenced by the objective of the study. Hence, scholars have proposed different theories that could be used to explain brand loyalty (Rather, Tehseen, & Parrey, 2018; Odoom, 2016). For instance, Russo et al. (2016) proposed the use of complexity theory in explaining consumer brand loyalty. Russo et al. (2016) further argue that brand loyalty is essentially about the behavior and attitudes of consumers, which is deemed to be complex; it will therefore require a framework like the complexity theory to better explain the phenomenon. Perhaps, the proponents of the complexity theory are mindful of the fact that constructs relationships might not be linear in real life due to several intervening factors. Hence one cause can generate distinct results in different settings. Others like Lyong Ha (1998) on the other hand, prefer to use the theory of reasoned action (TRA) in explaining the phenomenon of consumer brand loyalty. Lyong Ha (1998) contends that, brand loyalty is multifaceted and that TRA is appropriate in explaining it. This theory was propounded to explain the consumer purchase decision-making process (Fishbein, 1980). As suggested by Lyong Ha (1998), attitude toward purchasing and external factors (subjective norm) are the antecedents of purchase or re-purchase. We find the TRA pertinent to this study, and argue that a person's loyalty to a particular brand could also be influenced by attitude and external factors such as brand marketing programs.

Hypothesis Development and Conceptual Framework

Brand Marketing Effort: Strong brands have been noted by marketing scholars as the key source of competitive advantage for firms (Aaker, 1996; Hoeffler and Keller, 2003). When a consumer decides to purchase a brand, the consumer is not only buying the brand but also identity in the process (Rather, Tehseen and Parrey, 2018; Wilson and Gilligan 2012). As part of choosing and purchasing a car brand, for example, consumers usually compare brand features such as quality, price and design, engine capacity and durability (Odoom, 2016). The marketing strategies of brands adopted by marketing professionals in persuading consumers about the superiority of the brand attributes is a significant step towards attaining consumer loyalty (Odoom, 2016).

Brand Identities and Brand Loyalty: Brand identification provides an elaborate conceptualization of the special relationship between consumers and brands (Rather, 2017; So et al., 2017; Tuskej & Podnar, 2018). Brand identities (also known as elements) play vital roles in differentiating companies offering from that of competition. According to Shirazi et al. (2013) brand confers on products' distinctive features which makes it stand out in the marketplace and resonate with a section of customers. Brand elements that align with the beliefs and personality of consumers have been suggested to positively influence the self-esteem and confidence of the consumers (Rather, Tehseen & Parrey, 2018). Hence consumers purchase brands not only for their functional performance but the value the brands add to building the confidence of the consumer (So et al., 2017). Carefully selected brand elements could therefore facilitate the acknowledgment and brand review by customers in an environment where there are numerous competing alternatives (Sonnier & Ainslie, 2011). The brand element whether a name, symbol or image has the potential to influence the consumer buying decision process positively. In light of this, it is hypothesized that;
H1: Brand identity has a positive relationship with consumer loyalty to automobile brands.

Marketing Programmes and Brand Loyalty: Marketing programs of brands today are focused on fostering relationships between the consumer and the brand (Kitchen, 2017). Marketing programs are about sharing information with customers that stimulate cognitive activities resulting in the consumer-brand relationship (Kumar, Dash & Malhotra, 2018). A brand achieves prominence only when the brand elements selected elicit the right associations. Nonetheless, for a brand to attain prominence and stay at the top of the memory of

consumers, the brand ought to be visible to customers via marketing programs such as advertisement and promotion. Laran et al. (2011) assert that consumers are more likely to purchase brands that are visible and in the top memory of consumers. It is therefore imperative that companies pay attention to marketing strategies that can propel their brands to consumers' evoke set. Machado et al. (2012) contend that all kinds of brands require some marketing activities and programs to escalate their prominence. Previous studies (Hynes, 2009) have reported that marketing programs could be used to keep brands in consumers' memory and induce affective reactions. Keller and Lehman (2006) also report that marketing practitioners often adopt a multiplicity of communication techniques that are blended to promote brand value and promise. This is often done through mediums such as electronic media, print and outdoor advertisement. The increase in popularity of the new media has presented marketing professionals with an additional medium through which important information about brands is communicated (Mitic & Kapoula, 2012). Kumar, Dash and Malhotra (2018) argue that marketing programs could strengthen the loyalty of consumers to brands. Based on this, it is hypothesized that;
H2: Marketing programs have a positive relationship with consumer loyalty to automobile brands.

Secondary Brand Associations and Brand Loyalty: Aaker (1991) describes brand association as "anything linked in memory to a brand". The best description of consumers' minds would be a battlefield where competing brands struggle for attention. According to Gagnon and Lexchin (2008), companies expend a lot of resources to acquire a space in the consumer's mind. The consumer buying decision-making process is an intense mental activity (Laran et al., 2011). Hence becoming loyal to a brand is a process where a customer develops a special emotional attachment to the brand (Fastoso & González-Jiménez 2018; Shimul et al., 2019). It is at this point that companies strategize by using brand associations to influence the consumer buying decision-making process. According to Keller (2003), a critical element of building strong brands is creating effective brand association which positively impacts brand equity.

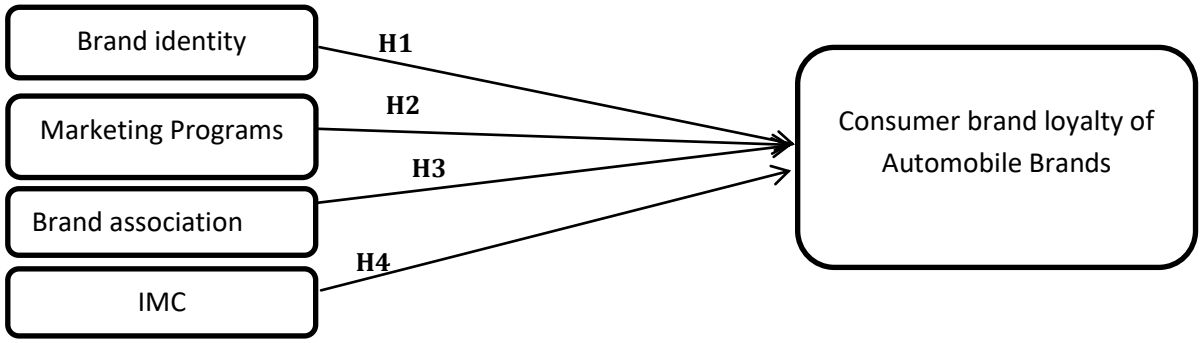
This is a view shared by other scholars who contend that secondary associations serve as cues that remind consumers of particular brands when consumers make purchase decisions (Odoom, 2016; Romaniuk & Nenycz-Thiel, 2013). It is argued that brand association is a technique used by companies to foster a good bond between brands and consumers to provoke the appropriate response from consumers (Koll & von Wallpach, 2014). Equally, Brown et al. (2006) observed that secondary associations are signs and symbols used by companies to create awareness about their brands with the ultimate goal of establishing a mutually beneficial relationship between the brand and consumers. Professional views taken together with the findings of empirical research suggest that effectively deployed brand association could result in the desired outcome, that is, loyalty (Odoom, 2016; Thomas, 2015). It is therefore hypothesized that;
H3: Secondary brand association has a positive relationship with consumer loyalty to automobile brands**.**

Integrated Marketing Communication and Brand Loyalty: As stated early on, strong brands are those that are supported with effective integrated marketing communication (IMC). Oluwafemi and Adebiyi (2018) describe IMC as a communication tool that ensures a two-way flow of information between consumers and brands. Effective marketing communication is customer-centered – thus reflecting the aspirations and expectations of consumers (Hänninen & Karjaluoto, 2017; Oluwafemi & Adebiyi, 2018). Currently, the effectiveness of marketing communication is considered a key tool in building strong brands (Keller, 2009). Perhaps this is because firms have realized that IMC has the potential to influence consumer purchase decisions positively. For instance, previous studies suggest that IMC could have a direct and indirect impact on various shades of consumer behavior particularly loyalty to brands (Aaker, 1997; Oluwafemi & Adebiyi, 2018). For a company's IMC to succeed in delivering a consistent message and achieve strategic positioning in the consumers' minds, the IMC elements have to be effectively integrated (Keller, 2009). Businesses today are broadening the communication mix to include the new media.

Firms use social media to drive sales and consumer loyalty by encouraging consumers to share their brand experience and purchases online to influence behaviors and attitudes among friends (Bilgin, 2018; So, et al., 2017). Considering that most consumers are likely to develop emotional attachment or loyalty to brands that are easily accessible to them to patronize (Uncles et al., 2003), the tactics used in promoting, distributing and selling brands (via marketing channels) can significantly impact sales turnover rate of a brand (Kapferer, 2012). Previous studies have found elements of marketing communication mix (Yeshin, 2012) to have the

ability to drive and instigate strong customer-brand relationships which eventually could lead to loyalty (Keller, 2009; Schultz et al., 2014). As a result of the wide array of marketing communication channels, it has become necessary to coordinate and harmonize these channels with a uniform message (Payne, Peltier & Barger, 2017). Previous studies (see Luxton et al., 2017; Porcu et al., 2012; Seric et al., 2014) have suggested a positive relationship between IMC and consumer brand loyalty. In view of this, it is hypothesized that;
H4: IMC has a positive relationship with consumer loyalty to automobile brands.0

Figure 1: Conceptual Framework



Source: Authors' construct.

3. Methodology

Research Instrument: The Questionnaire was the main tool used for data collection in this study (Malhotra & Birks, 2007). The instrument was structured in three parts. The first part had questions on demographic features of the respondents, covering the age, gender, educational level, number of cars owned, primary car brand and how long a respondent has used their preferred car brand. The second section contained 21 statements on brand marketing efforts adapted from Odoom (2016) and was measured with a Likert scale which ranges from 1=not at all, through to 4=neutral, to 7=extremely important. The third and final section of the questionnaire dealt with statements on brand loyalty, adapted from (Odoom, 2016, Brakus et al., 2009). These were measured on a 7-point Likert scale where 1=extremely unlikely, 4=neutral and 7=extremely likely.

Sample, Data Collection and Analysis: In preparing for the data collection, the researchers contacted car dealerships and garages in Accra and Kumasi (the two largest cities in Ghana) requesting customers' information. The criteria for the selection of the car dealerships and garages was based on whether a garage deals in at least one of the four car brands the study focused on and also had at least current and up-to-date contact information on customers they transacted business with. In all, seven car dealerships were found useable– four from Accra and three from Kumasi, who shared their customer contact information with the researchers. Purposively selected respondents were contacted on phone for an appointment for questionnaire administration. The respondents were selected based on their usage of at least one of the four car brands (Toyota, Nissan, VW, BMW) the study focused on. The data collection exercise lasted for 8 weeks. As part of the data analysis process various test was conducted. To begin with, the validity and reliability of the measurement scales were determined by carrying out EFA and CFA tests. Next was the extraction was PC factors from the varimax rotation in the EFA which represented the brand marketing effort in the ANOVA test, which was carried out to assess the effect of the selected brand marketing efforts on consumer loyalty in the two segments (high and low). A logistic regression analysis was carried out to evaluate the impact of a brand marketing effort on predicting car users' loyalty towards their primary car brand.

4. Data Analysis and Results

Profile of Respondents: The respondents' demographic characteristics as displayed in Table 1 show that majority of the participants in the survey were male representing 53.08 percent while 46.92 percent were females. concerning the ages of respondents, the majority (37.08) of the respondents were in the cohort of 36 years to 45 years, 31.23 percent were in the age category of 46-55, while 16.92 were in the age group of 25-

35 and those above 55 years made up of 14.77 percent of the sample. This demonstrates that most car users in Ghana are within the economically active year groups. With the educational qualification, 47.08 percent had education up to postgraduate level, 22.15 percent were degree holders, 15.08 percent were diploma holders while 8.9 percent were Ph.D. holders and 6.80 percent were SHS graduates. About the number of cars used by respondents, it was revealed that the majority (59.23 to be exact) use a single car while 40.77 use multiple cars. A further probe about primary car revealed that 44.00 percent of respondents use Toyota as a primary car, Nissan is a primary car for about 25.85 percent of the respondents whereas 16.30 percent use VW as a primary car 13.85 use BMW as a primary car.

Table 1: Characteristics of Respondents

Characteristics	n	%
Gender		
Male	345	53.08
Female	305	46.92
Total	650	100
Age of respondents		
25 – 35	110	16.92
36 – 45	241	37.08
46 – 55	203	31.23
Above 55	96	14.77
Total	650	100
Educational qualification		
SHS	44	6.80
Diploma	98	15.08
Degree	144	22.15
Postgraduate	306	47.08
PhD	58	8.9
Total	650	100
Number of cars used		
One	385	59.23
Multiple	265	40.77
Total	650	100
Primary car brand		
Toyota	286	44.00
Nissan	168	25.85
VW	106	16.30
BMW	90	13.85
Total	650	100
Years with primary car brand		
1-2	122	18.77
3-4	156	24.00
5-6	203	31.23
7-8	83	12.77
9-10	53	8.15
Above 10 year	33	5.08
Total	650	100
Note: n = 650		

Validity and Reliability of Measurement Scales: The validation of the measurement scales of brand marketing programs was done in 2 phases. First, Exploratory Factor Analysis (EFA) was carried out using principal components extraction and orthogonal varimax rotation techniques. Before the extraction of factors, the Bartlett test of Sphericity showed (Approx.: Chi-square ¼ 8,124.383, df. 753, sig. 0.000) and that Kaiser–Meyer–Olkin statistic (KMO) showed sample adequacy (value of 0.831). This indicated that the variables being measured were significantly correlated to merit the application of EFA. Factors selection was based on eigenvalue being equal to or greater than one (Malhotra & Birks, 2007). Furthermore, variables selected for the analysis were those whose loadings exceeded 0.5 as well as factors that met suggested reliability criteria of 0.7 (Nunnally, 1978). With regards to consistency internally, Cronbach's α values for the four variables as illustrated in Table II ranged from 0.743 to 0.893 as well as corrected item-to-total correlations all recording values beyond the suggested limit of 0.50. The second part of the analysis under this section involved confirmatory factor analysis on brand marketing programs and brand loyalty with the help of AMOS.

The fitness of the model was calculated using the Chi-square index (χ^2/df), the goodness of fit index (GFI) and the comparative fit index (CFI). Next was the Tucker–Lewis index (TLI), normed fit index (NFI) and the root mean square error of approximation index (RMSEA) proposed by Anderson and Gerbing (1988). Based on these indices of fitness, the CFA resulted in χ^2/df = 2.181, GFI = 0.955, CFI = 0.962, TLI = 0.968, NFI = 0.947 and RMSEA = 0.058. As illustrated in Table II the results showed that the five constructs' composite reliabilities were in the range of 0.754 to 0.911 which are all above the 0.7 requirements (Nunnally, et al., 1978). Furthermore, the coefficients of the composites relative to the manifest indicators were all significant (see *t*-values > 2.0). Also, the discriminant validity as illustrated in Table 3 was arrived at by juxtaposing the shared values of average variances extracted of pairs of constructs with their squared phi correlations. The results show that all the constructs have AVE values greater than the shared squared phi correlations related to all the constructs and this gives credence to the constructs' discriminant validity. The rest of the descriptive statistics and correlations resulting from the discriminant validity test are displayed in Table 3.

Table 2: EFA and CPA Results

Variables	EFA Components				CPA				
	1	2	3	4	CITTC	A	Standard Loading	t-value	CR
Integrated marketing communications						0.869			0.878
Advertising campaigns deployed by the brand	0.652	0.439	0.119	0.360			0.972	Fixed	
Sponsored events by the brand	0.746	0.253	0.344	0.237	0.712		0.821	19.317	
Activities associated with the brand	0.687	0.278	0.463	0.354	0.739		0.767	18.686	
Brochures encouraging me to buy the brand	0.542	0.295	0.089	0.273	0.713		0.763	15.395	
Consumers promotions on the brand	0.678	0.270	0.436	0.153	0.727		0.662	18.339	
					0.598	0.893			0.868
Brand identities	0.261	0.792	0.364	0.256			0.782	Fixed	
The name of the brand	0.276	0.775	0.329	0.245			0.673	14.805	
Brand features and quality	0.319	0.619	0.097	0.271	0.578		0.743	16.758	
	0.439	0.680	0.232	0.128	0.651		0.650	14.700	
Logos and symbols of brand	0.471	0.6850.614	0.372	0.233	0.601 0.647		0.736	16.945	
Slogans associated with brand	0.371		0.406	0.238	0.647		0.696	15.882	
Animated characters					0.682	0.789			0.861

representing the brand		0.411							
Packaging of the brand	0.463	0.084	0.774	0.178			0.761	Fixed	
	0.337		0.762	0.329			0.730	15.533	
Marketing program		0.087			0.547				
Favorable reviews and	0.289		0.549	0.208	0.650		0.663	14.751	
opinions from users		0.278							
Reasonable pricing of	0.387		0.567	0.265	0.682		0.662	14.712	
brand									
Easily accessible					0.615	0.743			0.754
channels to obtain the		0.337							
brand	0.188	0.265	0.371	0.779			0.707	Fixed	
Availability of brand in	0.499	0.169	0.118	0.661			0.716	15.239	
my geographical	0.015		0.138	0.597	0.607		0.742	16.658	
location					0.533				
					0.618				0.911
Secondary associations							0.849	Fixed	
Celebrities/popular									
people using and							0.823	17.321	
endorsing the brand		2.413							
Country of origin of the	8.841		1.395	1.099					
brand							0.816	16.442	
The company of the									
brand							0.799	18.031	
Brand loyalty							0.752	16.993	
Buy this brand again									
Recommend this brand to others									
Not buy other brands if this brand is available in the store									
In future, I will be loyal to this brand									
Brand will be first choice in future									
Eigenvalue of EFA									

Note: Total variance explained for four factor solutions =65.975 percent, CITTC = corrected item-to-total correlation. CR= composite reliability, CFA model fit indices: χ^2 =728.45; df = 350; GFI = 0.945; CFI = 0.972; TLI = 0.964; NFI = 0.944; RMSEA = 0.052. All t-value estimates significant with ρ<0.001.

Table 3: Discriminant Validity of Constructs

Construct	Mean	SD	1	2	3	4	5
Integrated marketing communication	5.21	1.33	(0.536)				
Brand identities	5.07	1.62	0.456**	(0.512)			
Marketing programs	4.79	1.54	0.625**	0.387	(0.702)		
Secondary associations	4.83	1.28	0.422**	0.521**	0.423**	(0.516)	
Brand loyalty	5.92	1.37	0.505**	0.425**	0.385**	0.351**	(0.618)

Note: **Correlation is significant at the 0.01 level (two-tailed); AVE values are on diagonals in brackets.

Cluster Analysis: In furtherance of the aim of the study, it was imperative to assess the level of loyalty of the sampled consumers of the automobile industry. To accomplish this, Ward Algorithm and K-means cluster analysis were adopted for the preliminary analysis which involved the classification of participants into two loyalty segments (high and low). Cluster analysis involves the assigning of cases to predetermined sets (clusters) whose features are usually determined by variables assigned to them by the researcher(s). Hence the consumers were clustered based on the 5 loyalty measures adopted by this study. One of the benefits of

this approach is that it is insensitive to outliers in the data since its categorization is based on several reiterations (Odoom, 2016). Two clusters emerged after the iteration and were saved for each case. Following this, it was revealed that 390 consumers had high loyalty levels while 260 consumers had low loyalty levels. On the whole, it was found that all the 5 loyalty measures made significant contributions to the categorization process (F= 1,856.902, ρ<0.001). The F=statistics showed substantial distinctions among respondents with regards to repeat purchase of the brand (*F* =532.585***); recommending a brand to others (*F* =358.435***); not buying other brands (*F* = 655.601***); being loyal to a brand in future (*F* = 286.465***) and brand being the first choice (*F* =364.602***). The rest of the results of the cluster analysis which illustrates the final clustering centers can be found in Table IV.

Table 4: K-Means Cluster Results

	Clusters Centers Loyalty Level				
Loyalty Measures	**High (n=390)**	**Low (n=260)**	**Total n = 265**	**F-Value**	**Significance**
Buy this brand again	6.23	3.36	4.73	532.585	0.000
Recommend this brand to others	5.72	4.75	4.83	357.435	0.000
Not buy other brands if this one is available at the store	5.74	3.63	4.88	655.601	0.000
In future, I will be loyal to this brand	5.85	4.05	5.02	286.465	0.000
Brand will be first choice in the future	5.98	3.98	5.00	365.602	0.000

Notes: *1= extremely unlikely, 7= extremely likely.

ANOVA Test: An ANOVA test was carried out to ascertain the significance of brand marketing efforts vis-à-vis the two-consumer loyalty group. The ANOVA test results as displayed in Table 5 show that there is a significant distinction between the two consumers (low and high loyalty) with the four key brand marketing efforts (ρ < 0.001). Among the four brand marketing effort measures, "the name of the brand" is found to be the highest differentiator (*F* = 282.292) and the least differentiator was "celebrities/popular people using/endorsing the brand" (*F* = 121.983). The test results also indicate that the cumulative mean values of the two segments – high and low loyalties favored "favorable reviews/opinions from users" (*mean* = 5.14) being the highest among the four brand marketing efforts, while "celebrities and popular people endorsing the brand" recorded the lowest mean value (mean = 4.92). Using the scale measures anchor, it is to be noted that a brand marketing effort is considered to be important to consumers if their mean values are equal or greater than the mid-mean value of (4). The results as displayed in Table 5 shows that all the mean values of brand marketing efforts in the high loyalty customer segment are higher as compared to the mean values of the low loyalty customer segment.

Table 5: ANOVA Test Result

	Loyalty of Consumer				
Brand Marketing Efforts[a]	**High n= 390**	**Low n= 260**	**Total n= 265**	***F*- Value**	**Significance**
Celebrities/popular people using/ endorsing brand	5.46	4.37	4.92	121.983	0.000
Favourable reviews/opinions from users	5.48	4.17	5.14	239.220	0.000
The name of the brand	5.39	4.24	4.96	282.292	0.000
Events sponsored by the brand	5.66	4.29	5.10	177.626	0.000

Note: 1 **=** not at all important, 5 = extremely important.

Logistic Regression Analysis: To ascertain the brand-specific among the sampled consumers' loyalty and also to determine the predictive ability of the marketing of the brand, a multi-group logistic regression test was carried out. The four items used in the PCA are selected as predictor variables in each model. It is important to note that the dependent variable for this analysis was the two consumer segments (high and low binary) loyalty. As illustrated in Table 6, the model consisting of all the predictors and car brands was found to be statistically significant, thus χ^2 = 400.737, df = 4, value ρ value < 0.001. The variances in loyalty as accounted for in the model ranges between 33.0 percent (Cox and Snell *R*2) and 44.1 percent (Nagelkerke *R*2)

while a total extrapolative accuracy of 78.6 percent of all cases was recorded. This suggests that the model indeed was able to make a distinction between the two segments of the consumer.

The four car brands (Toyota, Nissan, VW and BMW) were used to ascertain specific brand loyalty probabilities. Each of the four selected car models – Toyota (χ^2 = 187.223, df = 5, ρ-value < 0.001): Nissan (χ^2 = 123.411, df = 7, ρ-value < 0.001); VW (χ^2 = 142.121, df = 3, ρ-value < 0.001) and BMW (χ^2 = 156.341, df = 4 ρ-value < 0.001) were all significant. It is worthy of note that all the models were drawn from high loyalty consumer' groups, this was so because those of the low loyalty consumers' groups were considered as dummies in the logistic regression analysis. The model reveals a predictive accuracy rate of 78.8 percent. The results also indicate that three of the brand marketing effort "events sponsored by the brand" (Wald = 52.687, *p*-value < 0.001), "name of brand" (Wald = 36.164, *p*-value < 0.001) and "favorable reviews and opinions from users" (Wald = 32.742, *p*-value < 0.001), all significantly contributed to the model. Furthermore, the odds ratio suggests that any increase in events sponsorship by the brand would see a likely increase in Toyota users' high loyalty to the brand by 2.891 times; 2.196 likelihood of consumers becoming highly loyal as a result of the brand name, and 1.686 likelihood that brand users reviews and opinions would influence consumers to become highly loyal to the brand. The second model recorded a cumulative predictive accuracy of 77.9 percent in all cases.

The results indicate that all four brand marketing efforts, thus "events sponsored by the brand" (Wald = 48.446, *p*-value < 0.001), "name of the brand" (Wald = 26.011, *p*-value < 0.001), "celebrities and popular people, endorsing the brand" (Wald = 10.021, *p*-value < 0.05) and "favourable reviews and opinions from users" (Wald = 11.598, *p*-value < 0.05), significantly contributed to the model. Controlling all other predictors, the odds ratio revealed that users of Nissan are 3.607 times likely to show high loyalty towards the brand when a unit increase in "events sponsored by the brand" occurs; 2.105 chances of becoming a high loyal consumer because of the brand name and 1.567 likelihood of becoming high loyal consumer as a result of the unit "endorsement by celebrities and popular people". The results, however, indicate that there is a 0.620 chance of respondents becoming low loyal consumers to the brand due to "reviews and opinions from other users." With the third model, the total prediction accuracy of 84.7 percent in all cases was recorded. The test results suggest that three brand marketing efforts including "name of brand" (Wald = 27.834, *p*-value < 0.001), "celebrities and popular people endorsing the brand" (Wald = 15.323, *p*-value < 0.001) and "favorable reviews and opinions from users" (Wald = 8.251, *p*-value < 0.05) all significantly contributed to the model. With all other predictors under control, the odds ratio results indicate that there is a 1.616 likelihood of VW customers showing high loyalty to the brand.

Because of the brand name; 1.582 likelihood of consumers would exhibit high loyalty towards the brand if there is a unit more celebrities and popular people endorsement of the brand and 1.291 likelihood of consumers showing high loyalty to the brand as a result of favorable reviews and opinions from other users. With the last model, the cumulative predictive accuracy of 81.5 percent was recorded. The results demonstrate that all four brand marketing efforts thus "events sponsored by the brand" (Wald = 33.643, *p*-value < 0.001), "name of brand" (Wald = 42.342, *p*-value < 0.001), "celebrities and popular people endorsing the brand" (Wald = 45.142, *p*-value < 0.05) and "favourable reviews and opinions from users" (Wald = 23.670, *p*-value < 0.05), significantly contributed to the model. With all other predictors under control, the odds ratio results indicate that there is 2.645 likelihood of BMW customers showing high loyalty to the brand because of the brand name; 2.067 likelihood of consumers showing high loyalty to the brand if there is a unit more celebrities and popular people endorsement of the brand; 1.865 likelihood of consumers showing high loyalty to the brand, as a result, favorable reviews and opinions from other users and 2.782 likelihood of consumers showing high loyalty to the brand when there is a unit increase in events sponsored by the brand.

Table 6: Logistic Regressions with Likelihood Ratio Tests on Loyalty

Car	Brand Marketing Effort	B	Wald	Significance	Odds
Toyota	Celebrities/popular people using/endorsing brand	-0.018	0.045	0.891	0.987
	Favourable reviews and opinions from users	0.567	20.742	0.000	1.686
	The name of the brand	0.782	36.164	0.000	2.196
	Events sponsored by the brand	1.029	44.687	0.000	2.891
Nissan	Celebrities/popular people using/endorsing brand	0.465	10.021	0.002	1.567
	Favourable reviews and opinions from users	-0.483	11.598	0.001	0.620
	The name of the brand	0.753	26.011	0.000	2.105
	Events sponsored by the brand	1.410	48.446	0.000	3.607
VW	Celebrities/popular people using/endorsing brand	0.397	15.323	0.000	1.582
	Favourable reviews and opinions from users	0.363	8.241	0.007	1.291
	The name of the brand	0.574	27.834	0.000	1.616
	Events sponsored by the brand	0.162	1.758	0.177	1.139
BMW	Celebrities/popular people using/endorsing brand	0.654	45.142	0.002	2.067
	Favourable reviews and opinions from users	0.546	23.670	0.001	1.865
	The name of the brand	0.563	42.342	0.000	2.645
	Events sponsored by the brand	0.243	33.643	0.000	2.782

Note: Selection category = high loyalty.

Discussion of Findings

The study found that brand marketing effort has a significant impact on consumers' purchase decisions and loyalty to automobile brands. In addition, the study sought to assess the degree to which identified brand marketing effort predicted consumers' propensity to exhibit high loyalty towards their primary car brand. The results of the study largely corroborate that of Odoom (2016). Hence the findings of this study contribute to the broadening of the frontiers of both theoretical and empirical research on brand loyalty in several ways. One of such significant contributions of this paper is that it fortifies the significant importance of the concept of branding and how it could help companies stimulate sales and ultimately achieve loyalty if effectively utilized. In consonance with previous studies (Odoom, 2016) and theory advancement; the study consolidates the view that brand marketing effort could positively influence a brand's performance in the marketplace. Furthermore, the study illuminated the levels of importance of brand marketing efforts and their specific effects on consumer loyalty segments and customer loyalty for specific brands. In addition, the results of this study support similar findings in the literature that highlighted the importance of brand elements as vital components of brand marketing programs.

As companies seek to influence consumer buying behavior (Aaker & Joachimsthaler, 2012; Brakus et al., 2009; Odoom, 2016). Previous studies in the literature (Odoom, 2016; Kapferer, 2012; Tong & Hawley, 2009) have found that IMC tools such as brand endorsement and sponsorships are vital in courting customer loyalty, a view supported by this study. The findings of this study are also in consonance with the view in literature (Keller, 2009; Schultz et al., 2014; Yeshin, 2012) that effectively deployed IMC tools could lead to consumers developing loyalty towards the company's brands. In sum, this study shares the view espoused by Odoom (2016) that effective utilization of brand associations such as celebrity endorsement and reviews of products could positively influence consumer brand relationships leading to loyalty. Odoom (2016) argues that secondary associations have not been given the credit and attention it deserves in the mainstream marketing literature probably because of the high cost involved in deploying such tools. The findings of this study affirm this assertion as it reveals that the importance of secondary associations cannot be overemphasized particularly in developing economies where consumers' purchase decisions are influenced by the opinions of close relations, associates and influential people (Narteh et al., 2012; Odoom, 2016).

Theoretical Implications: This study makes modest but significant inputs to the literature and development of the concept of brand loyalty and the marketing literature as a whole. First, it corroborates the basic assumptions of TRA and complexity theory, as the empirical evidence from the study demonstrates that brand loyalty is multifaceted and could churn out different dimensions under different settings (Urry, 2005). This suggests that the marketing activities of global brands could be assessed using theories developed in the developed economies. Second, the technique adopted in examining the loyalty levels in this study is quite different from the approaches adopted in similar studies in the past. For instance, whereas previous studies have largely used a continuous measurement approach, this study distinctively integrated lowly rated responses with highly rated responses. This approach coupled with the use of high loyalty segment in selecting the items in the logistic regression made it possible to distinguish real loyalty from "lower loyalty" responses. Third, the study also contributes to the empirical development of the rarely tested theory (brand marketing effort) of Keller (2013).

Managerial Implications: The findings of this study have some significant implications for the brand manager and general marketing professionals in the automobile industry as a whole. The importance of the findings for companies in the automobile sector stems from the uniqueness of consumer behavior to the geographical context, hence studies conducted in Europe or other developed market contexts would be substantially different from that of a developing market. Equally worthy of note, is the use of four different brands in the same product category which has churned out varied drivers of consumer loyalty across the various brands. The findings present important cues to decision-makers in the automobile industry regarding the marketing effort in support of their brands. For instance, Toyota could increase their budget for events sponsorship in response to the empirical evidence produced by this study which suggests that an increase in events sponsorship by the brand would result in consumers exhibiting high loyalty towards the brand. Besides, marketing professionals and brand managers could be guided by the findings of this study to design marketing strategies that would drive sales and generate loyalty in the emerging market context. Another aspect, of the findings that deserve the attention of practitioners, is consumers' reviews and opinions about the brand as the findings suggest a strong correlation between it and consumer brand loyalty.

5. Conclusion and Recommendations

The object of the study was to assess the impact of brand marketing efforts on consumer loyalty at two levels – low and high loyalties among car users. This paper was inspired by the theoretical views of Keller (2013) and the work of Odoom (2016). This study adopted measures of brand marketing program and consumer loyalty from Odoom (2016). The study revealed a positive and significant association between brand marketing efforts and consumers' purchase decisions and loyalty to automobile brands. Four brand marketing efforts were also found to be significantly associated with the two segments (high and low involvement) at varying degrees. These findings reinforce the significant importance of the concept of branding and how it could help companies stimulate sales and ultimately achieve loyalty if effectively deployed.

Limitations and Directions for Future Studies: This study like any literary work is not without limitations. As conceded in the discussions of the findings, consumers' behavior varies based on geographical location hence the findings of this study ought to be interpreted in context and should not be generalized. It would be a useful academic exercise to replicate this study in multiple country contexts to validate the findings of the current study. Moreover, the variables of the study were adopted from the work of Odoom (2016), the discourse on brand marketing efforts would be enhanced if future studies were to identify and use different variables in examining marketing efforts and brand loyalty. Also, the study did not examine the effect of demographic features (age, gender, educational background, etc) on the models tested, it would therefore be interesting to find out how these demographic features could impact and vary the findings of future studies.

References

Aaker, D. A. (1996). Measuring brand equity across products and markets. *California Management Review*, 38(3), 102-120.

Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing Research,* 34(3), 347–356.

Aaker, D. A. (1991). Managing Brand Equity: Capitalizing on the Value of a Brand Name, the Free Press. New York, NY, 247-248.

Aaker, D. A. & Joachimsthaler, E. (2012). Brand Leadership. Simon and Schuster.

Ahn, J. & Back, K. J. (2018). Influence of brand relationship on customer attitude toward integrated resort brands: a cognitive, affective, and conative perspective, *Journal of Travel and Tourism Marketing,* 35(4), 449-60.

Aksoy, L., Keiningham, T. L., Buoye, A., Larivière, B., Williams, L. & Wilson, I. (2015). Does loyalty span domains? Examining the relationship between consumer loyalty, other loyalties and happiness. *Journal of Business Research,* 68(12), 2464-2476.

Arnold, M. J. & Reynolds, K. E. (2003). Hedonic shopping motivations. *Journal of Retailing,* 79, 77–95. doi:10.1016/S0022-4359(03)00007-1

Bakar, H. A., Samsudin, S. N. A., Hassan, N. A. & Abdullah, N. N. B. (2017). Relationship between Country of Origin, Brand Association, Brand Awareness, Brand Loyalty and Perceived Quality. *Advanced Journal of Technical and Vocational Education*, 1(2), 3.

Behnam, M., Doyle, J. P. & Delshab, V. (2020). The impact of consumer knowledge on profitable consumer loyalty through perceived service quality and psychological involvement in non-profit sports clubs. *International Journal of Sports Marketing & Sponsorship*, 22(2), 407-427.

Bilgin, Y. (2018). The effect of social media marketing activities on brand awareness, brand image and brand loyalty. *Business & Management Studies: An International Journal*, 6(1), 128-148.

Bishnoi, V. K. & Kumar, A. (2016). Aaker's brand personality scale is not universal– explanation and reasons for bikes in India. *Journal of Marketing Analytics,* 4(1), 14-27.

Brakus, J. J., Schmitt, B. H. & Zarantonello, L. (2009). Brand experience: what is it? How is it measured? Does it affect loyalty? *Journal of Marketing,* 73(3), 52-68.

Brown, T. J., Dacin, P. A., Pratt, M. & Whetten, D. (2006). Identity, intended image, construed image, and reputation: an interdisciplinary framework and suggested terminology. *Journal of the Academy of Marketing Science,* 34(2), 99–106.

Chaudhuri, A. & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affects to brand performance: The Role of Brand Loyalty. *Journal of Marketing,* 65, 81–93. doi:10.1509/jmkg.65.2.81.18255

Corley, K. G. & Gioia, D. A. (2011). Building theory about theory building: what constitutes a theoretical contribution? *Academy of Management Review,* 36(1), 12-32.

Dawes, J., Meyer-Waarden, L. & Driesener, C. (2015). Has brand loyalty declined? A longitudinal analysis of repeat purchase behavior in the UK and the USA. *Journal of Business Research*, 68(2), 425-432.

Day, G. S. (1969). A two-dimensional concept of brand loyalty. *Journal of Advertising Research*, 9, 29-35.

Dick, A. S. & Basu, K. (1994). Customer loyalty: toward an integrated conceptual framework. *Journal of the academy of marketing science*, 22(2), 99-113.

Fastoso, F. & González-Jiménez, H. (2018). Materialism, cosmopolitanism, and emotional brand attachment: The roles of ideal self-congruity and perceived brand globalness. Journal of Business Research. https ://doi.org/10.1016/j.jbusr es.2018.12.015.

Fishbein, M. (1980). A Theory of Reasoned Action: Some Application and Implications, NE Symposium on Motivation. University of Nebraska Press.

Foroughi, B., Iranmanesh, M., Gholipour, H. F. & Hyun, S. S. (2019) Examining relationships among process quality, outcome quality, delight, satisfaction and behavioral intentions in fitness centers in Malaysia, *International Journal of Sports Marketing and Sponsorship,* 20(3), 374-89.

Gagnon, M. A. & Lexchin, J. (2008). The cost of pushing pills: a new estimate of pharmaceutical promotion expenditures in the United States. *Plos Medicine*, 5(1), e1.

Gounaris, S. & Stathakopoulos, V. (2004). Antecedents and consequences of brand loyalty: An empirical study. *Journal of Brand Management,* 11, 283–306. doi: 10.1057/Palgrave

Hänninen, N. & Karjaluoto, H. (2017). The effect of marketing communication on business relationship loyalty. *Marketing Intelligence and Planning,* 35(4), 458–472.

Hoeffler, S. & Keller, K. L. (2003). The marketing advantages of strong brands. *The Journal of Brand Management,* 10(6), 421-445.

Huang, Y. A., Phau, I. & Lin, C. (2010). Consumer animosity, economic hardship, and normative influence: how do they affect consumers' purchase intention? *European Journal of Marketing,* 44(7/8), 909-37.

Hynes, A. (2009). Bridging the trust gap, *The Public Relations Strategist*, 15(4), 22.

Iglesias, O., Singh, J. J. & Batista-Foguet, J. M. (2011). The role of brand experience and effective commitment in determining brand loyalty. *Journal of Brand Management,* 18(8), 570–582. doi:10.1057/bm.2010.58

Kabiraj, S. & Shanmugan, J. (2011). Development of a conceptual framework for brand loyalty: A euromediterranean perspective. *Journal of Brand Management,* 18(4), 285–299. doi:10.1057/bm.2010.42

Kapferer, J. N. (2012). The New Strategic Brand Management: Advanced Insights and Strategic Thinking. Kogan Page Publishers.

Keller, K. L. (2003). Brand synthesis: The multidimensionality of brand knowledge. *Journal of Consumer Research*, 29(4), 595-600.

Keller, K. L. & Lehmannn, D. R. (2006). Brands and branding: research findings and future priorities. *Marketing Science,* 25(6), 740–759.

Keller, K. L. (2009) Building strong brands in a modern marketing communications environment. *Journal of Marketing Communications*, 15(2/3), 139-155.

Keller, K. L. (2013) Strategic Brand Management: Global Edition, Pearson Higher Ed, NJ.

Kitchen, P. J. (2017). Integrated marketing communications. Evolution, current status, future developments. *European Journal of Marketing*, 51(3), 394-405.

Koenigstorfer, J. & Wemmer, F. (2019). What makes sports clubs successful at recruiting and retaining members from the perspective of managers? Results from a random forest analysis, Journal of Global Sport Management. doi: 10.1080/24704067.2019.1701952.

Kuikka, A. & Laukkanen, T. (2012). Brand loyalty and the role of hedonic value. *Journal of Product and Brand Management*, 21(7), 529-537.

Koll, O. & von Wallpach, S. (2014). Intended brand associations: Do they really drive consumer response? *Journal of Business Research,* 67(7), 1501-1507.

Kumar, R. S., Dash, S. & Malhotra, N. K. (2018). The impact of marketing activities on service brand equity. *European Journal of Marketing,* 52(3/4), 596-618.

Laran, J., Dalton, A. N. & Andrade, E. B. (2011). The curious case of behavioral backlash: Why brands produce priming effects and slogans produce reverse priming effects. *Journal of consumer research*, 37(6), 999-1014.

Li, M. W., Teng, H. Y. & Chen, C. Y. (2020). Unlocking the customer engagement-brand loyalty relationship in tourism social media: The roles of brand attachment and customer trust. *Journal of Hospitality and Tourism Management*, 44, 184-192.

Loureiro, S. M. C., Sarmento, E. M. & Le Bellego, G. (2017). The effect of corporate brand reputation on brand attachment and brand loyalty: *Automobile sector, Cogent Business & Management*, 4(1), 1360031. DOI: 10.1080/23311975.2017.1360031

Luxton, S., Reid, M. & Mavondo, F. (2017). IMC capability: antecedents and implications for brand performance. *European Journal of Marketing*, 51(3), 421-444.

Lyong Ha, C. (1998). The theory of reasoned action applied to brand loyalty. *Journal of Product and Brand Management,* 7(1), 51-61.

Mabkhot, H. A., Shaari, H. & Salleh, S. M. (2017). The influence of brand image and brand personality on brand loyalty, mediating by brand trust: An empirical study. *Jurnal Pengurusan*, 50(8), 71-82.

Machado, J. C., Vacas-de-Carvalho, L., Costa, P. & Lencastre, P. (2012). Brand mergers: examining consumers' responses to name and logo design. *Journal of Product & Brand Management*.

Malhotra, N. K. & Birks, D. (2007). Marketing Research, an Applied Approach, European Edition.

Marliawati, A. & Cahyaningdyah, D. (2020). Impacts the Brand of Experience and Brand Image on Brand Loyalty: Mediators Brand of Trust. *Management Analysis Journal*, 9(2), 9. https://doi.org/10.15294/maj.v9i2.36945

Miles, J. A. (2012). Management and Organization Theory: A Jossey-Bass Reader. John Wiley and Sons.

Mitic, M. & Kapoulas, A. (2012). Understanding the role of social media in bank marketing. *Marketing Intelligence & Planning*, 30(7), 668-686.

Monica, D. A., Rini, E. S., Karina, B. & Sembiring, F. (2019). The Effect of Country of Origin, Price and Quality Perception on Customer Satisfaction and Loyalty at Della Collection Store Medan. *International Journal of Research and Review*, 6(11), 79-85.

Mostafa, R. B. & Kasmani T. (2020). Brand experience and brand loyalty: is it a matter of emotions? *Asia Pacific Journal of Marketing and Logistics,* 33(4), 1033-105. DOI 10.1108/APJML-11-2019-0669

Nawaz, N. & Usman, A. (2011). What makes customers brand loyal: a study on telecommunication sector of Pakistan. *International journal of business and social science*, 2(14), 213–221.

Narteh, B., Odoom, R., Braimah, M. & Buame, S. (2012). Key drivers of automobile brand choice in sub-Saharan Africa: the case of Ghana. *Journal of Product and Brand Management,* 21(7), 516-528.

Nunnally, J. C. (1978). Psychometric theory (second edition). McGraw-Hill.

Odoom, R. (2016). Brand marketing programs and consumer loyalty – evidence from mobile phone users in an emerging market*. Journal of Product & Brand Management,* 25(7), 651-662.

Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing*, 63(4_suppl1), 33-44.

Oluwafemi, A. J. & Adebiyi, S. O. (2018). Customer Loyalty and Integrated Marketing Communications among Subscribers of Telecommunication Firms in Lagos Metropolis, Nigeria. *Journal of Competitiveness,* 10(3), 101–118.

Ong, C.H., Wei Lee, H. & Ramayah, T. (2018). Impact of brand experience on loyalty. *Journal of Hospitality Marketing and Management,* 27(7), 755-774.

Payne, E. M., Peltier, J. W. & Barger, V. A. (2017). Omnichannel marketing, integrated marketing communications, and consumer engagement: A research agenda. *Journal of Research in Interactive Marketing, 11*(2), 185-197.

Porcu, L., Barrio-García, S. D. & Kitchen, P. J. (2012). How Integrated Marketing Communications (IMC) works? A theoretical review and an analysis of its main drivers and effects. *Communication and Society,* 25(1), 313-348.

Pupo, R. (2010). America's Service Meltdown: Restoring Service Excellence in the Age of the Customer: Restoring Service Excellence in the Age of the Customer. ABC-CLIO.

Puspita, R. & Yunus, M. (2017). Pengaruh faktor sosial, citra merek dan kualitas produk terhadap kepercayaan merek serta dampaknya pada loyalitas pelanggan telepon selular (studi kasus pada pengguna samsung di kota banda aceh). *Jurnal Magister Manajemen*, 1(1), 46-58.

Putra, B. A. (2019). Pengaruh Citra Merek Dan Persepsi Kualitas Terhadap Loyalitas Merek. *Journal of Chemical Information and Modeling*, 53(9), 4.

Rather, R. A., Tehseen, S. & Parrey, S. H. (2018). Promoting customer brand engagement and brand loyalty through customer brand identification and value congruity. *Spanish Journal of Marketing-ESIC,* 22(2), 321-339.

Rather, R. A. (2017). Investigating the impact of customer Brand identification on hospitality Brand loyalty: a social identity perspective. *Journal of Hospitality Marketing and Management,* 27(5), 487-513.

Romaniuk, J. & Nenyez-Thiel, M. (2013). Behavioral brand loyalty and consumer brand associations. *Journal of Business Research,* 66(1), 67-72.

Russo, I., Confente, I., Gligor, D. M. & Autry, C. W. (2016). To be or not to be (loyal): is there a recipe for customer loyalty in the B2B context? *Journal of Business Research,* 69(2), 888-896.

Saini, S. & Singh, J. (2020). A link between attitudinal and behavioral loyalty of service customers. *Business Perspectives and Research*, 8(2), 205-215.

Schultz, D. E., Block, M. P. & Viswanathan, V. (2014). Brand preference being challenged. *Journal of Brand Management,* 21(5), 408-428.

Šerić, M., Gil-Saura, I. & Ruiz-Molina, M. E. (2014). How can integrated marketing communications and advanced technology influence the creation of customer-based brand equity? Evidence from the hospitality industry. *International Journal of Hospitality Management*, 39, 144-156.

Shimul, A. S., Phau, I. & Lwin, M. (2019). Conceptualizing luxury brand attachment: Scale development and validation*. Journal of Brand Management,* 1, 2–8. https ://doi.org/10.1057/s4126 2-019-00158 -6.

Shirazi, A., Zeynvand, L. H. & Karimi, M. A. (2013). Investigating the effects of brand identity on customer loyalty from a social identity perspective. *Iranian Journal of Management Studies,* 6(2), 153 -178.

Simon, B. & Reed, J. (2007). Foreigners steer US luxury market, from: http://us.ft.com/ftgateway/superpage.ft?new s_idfto091820071630013971 (accessed August 16, 2011).

So, K. K. F., King, C., Hudson, S. & Meng, F. (2017). The missing link in building customer Brand identification: the role of Brand attractiveness. *Tourism Management*, 59, 640-651.

Sonnier, G. & Ainslie, A. (2011). Estimating the value of brand-image associations: The role of general and specific brand image. *Journal of Marketing Research*, 48(3), 518-531.

Sutikno, B. (2011). Does consumers' brand identification matter: The marketing roles of brand loyalty. *The International Journal of Interdisciplinary Social Sciences,* 6(3), 1833–1882. doi:10.18848/1833-1882/CGP/v06i03/51695

Tang, Z., Lou, J. & Xiao, J. (2011). Antecedents of intention to purchase mass customized products. *Journal of Product & Brand Management,* 20(4), 316-26.

Thomas, R. J. (2015). Out with the old and in with the new: a study of new kit sponsorship and brand associations in the Barclays Premier League. *Journal of Product & Brand Management,* 24(3), 229-251.

Tong, X. & Hawley, J. M. (2009). Measuring customer-based brand equity: empirical evidence from the sportswear market in China. *Journal of Product and Brand Management,* 18(4), 262-271.

Tuskej, U. & Podnar, K. (2018). Consumers' identification with corporate brands: Brand prestige, anthropomorphism and engagement in social media. *Journal of Product and Brand Management,* 27(1), 3-17.

Uncles, M. D., Dowling, G. R. & Hammond, K. (2003). Customer loyalty and customer loyalty programs. *Journal of Consumer Marketing,* 20(4), 294-316.

Urry, J. (2005). The complexity turn. *Theory Culture and Society*, 22*(*5), 1-14.

Utomo, I. W. (2017). Pengaruh Brand Image, Brand Awareness, dan Brand Trust Terhadap Brand Loyalty Pelanggan Online Shopping (Studi Kasus Karyawan Di BSI Pemuda). *Jurnal Komunikasi*, VIII(1): 7-8.

Wilson, R. M. & Gilligan, C. (2012). Strategic Marketing Management, Routledge.

Yeshin, T. (2012). Integrated Marketing Communications, Routledge.

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The Development of Growth Model with the Implication of Crisis Regime

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Abstract: This conceptual paper aims to develop the theory of growth proposed by Keynes by considering crises or events that occur as well as incorporating interaction variables into the model to be studied simultaneously. Studies related to growth theory have been conducted before. However, previous studies have ignored crises or important events that affect economic growth. Although the Keynesian theory has been used to achieve the objectives of the study, past studies have proven that Wagner's Law may exist in some situations. Therefore, the opinions of these two economic figures related to the theory of government expenditure and economic growth should be given attention. The main objective of this conceptual paper was to assess the relationship between interactional variables and dummy variables of structural change in three regimes or different crises occurring simultaneously and the effects on economic growth in Malaysia for the long-term and short-term periods. The Autoregressive Distributed Lag (ARDL) method will be used to ascertain long-term and short-term relationships between endogenous and exogenous variables. Then, the results from previous studies are included in the findings section of the study.

Keywords: *Government expenditure, economic growth, Autoregressive Distributed Lag (ARDL), Keynesian theory, Wagner's law.*

1. Introduction

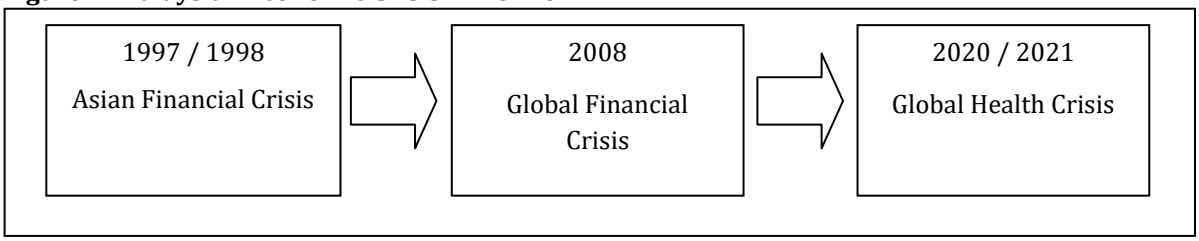
Malaysia has experienced economic crises or structural changes that resulted from external factors such as the open economic policy is practiced. Some other crises that occurred were the 1985 Commodity Price Drop, the 1991 Fuel Price Decline, the 1997-1998 Asian Financial Crisis, the 2008 Global Financial Crisis and the 2020/2021 Global Health Crisis. Of all the crises, 2020/21 Global Health Crisis has affected the economic growth of not only Malaysia but also other nations around the world. Nonetheless, Malaysia has managed to overcome the crisis via specific policies. For example, the implementation of an expansionary fiscal policy can both restore and increase the country's GDP. This has been proven when the country faced the Asian Financial Crisis and the Global Financial Crisis (Kaharudin et al., 2017). John Maynard Keynes was an economist who put forward the Keynesian theory regarding the law of demand and supply. Then came Adolph Wagner, who introduced Wagner's Law. Keynes has clearly presented an equation for looking at the relationship between dependent and independent variables.

Unlike Keynes, Wagner did not provide a specific formula for measuring the relationship between these two variables and was only based on the view that there is a natural tendency to increase government spending when economic growth occurs. Further implications from the study of Wagner's Law have given rise to various versions of the law. Additionally, many empirical studies and dynamic relationships have been conducted to answer the questions that arise, especially about the role of government spending itself on economic growth. Modifications to the original theory put forward by Keynes aim to study the dynamic relationship between selected macroeconomic variables and economic growth based on different structural changes (crises) and interaction terms in the long and short term simultaneously. Meanwhile, Gross Domestic Product (GDP) is regarded as an endogenous variable. Exogenous variables included government expenditure, population, foreign direct investment, net exports, dummy variables, and interactional variables.

2. Crisis during the Study Period

A crisis is defined as an uncontrollable or unstable economic situation that can bring a negative effect (Kamus, 2005). As mentioned previously, Malaysia has faced a crisis which gives a negative effect on the economy and the effects can still be felt to this day. The present study involved the formation of a dynamic relationship model based on structural change or shocks whereby each model formed was divided into a few phases of structural change. As such, this section would explain the three series of main crises or shocks which occurred during the study period.

Figure 1: Malaysian Economic Crisis Timeline



1997/1998 Asian Economic Crisis: The Asian economic crisis started in Thailand. This happened when speculators caused the Thai national currency to collapse and led to a massive outflow of capital. In January 1998, the value of the Thai currency was 56 Baht to 1 US Dollar. Previously, the value was 25 Baht from 1986 to July 1997 (Sharma, 2003). This crisis gave a negative effect on Malaysia whereby its economic growth had reached a negative value in 1998. Other Asian countries were also affected by this crisis which was described as the worst crisis at that time. It also affected the currency value in countries such as South Korea. Additionally, this situation also affected other macro-economic variables such as international investment, service, and trade. This is because the economies of other countries also had a close relationship with the economies in Asian countries. To overcome this crisis, two mechanisms had been implemented which was by increasing the government expenditure for certain sectors and pegging the ringgit value to the US Dollar at the rate of RM3.80 per dollar (Bank Negara Malaysia, 1998). The fall of the ringgit was also related to the depreciation of shares (World Bank, 2018).

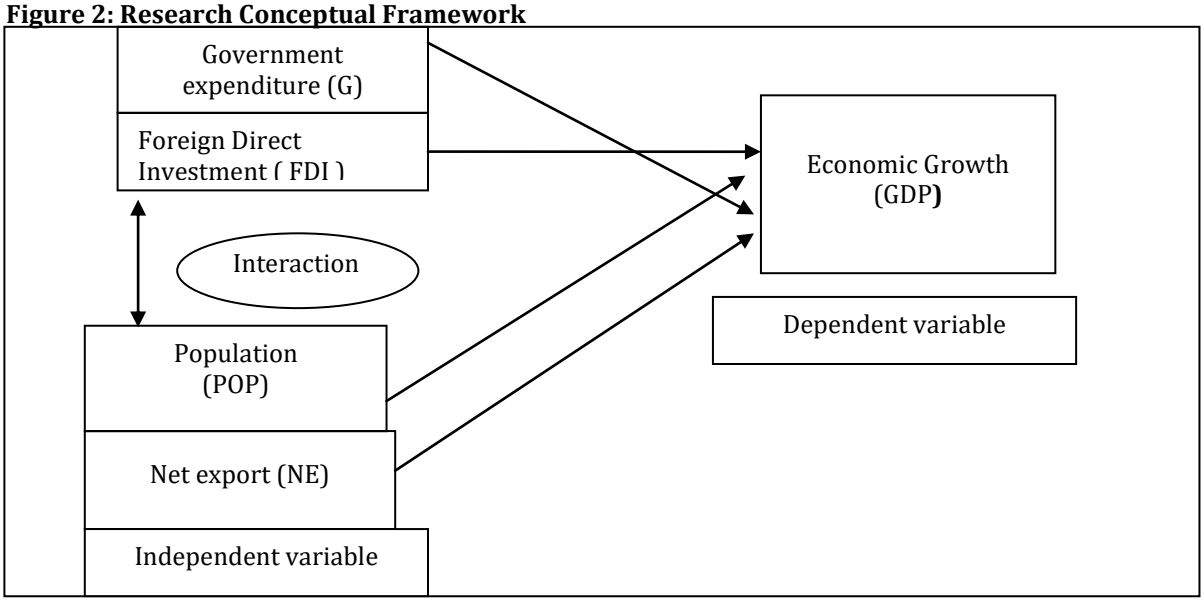
The Global Economic Crisis of 2008: Although the Malaysian economy managed to recover in the following year as indicated from the GDP increase from 6.1 percent in 1999 to 8.9 percent in 2000, Malaysia was again affected by the Global Economic Crisis. In 2009, the Malaysian economy experienced a decline of 2.5 percent caused by the 2008 crisis. However, the GDP managed to rise in 2010. This was made possible due to the mechanism in increasing government expenditure via the expansionary fiscal policy. In line with the budget allocated for 2010, the expenditure was specified for management and development spending. The Overnight Policy Rate Adjustment (OPR) was also adopted to avoid financial imbalance, disproportionate risks, prevent the financial transmission process and long-term growth capabilities from being affected (Wijaya, Noorasiah & Liew, 2011). Malaysia was not directly affected by the crisis; nonetheless, the effects were evident as the signed Free Trade Agreement involved imports and exports between Malaysia and the United States.

The Global Health Crisis of 2020/2021: Malaysia's economic growth recorded negative growth in 2020 at -5.6 percent. This was contrasted with the economic growth in 2019 at 4.3 percent (Bank Negara Malaysia, 2020). The negative growth was like the global economic crisis which occurred in 2008, and this led Malaysia to record economic growth of -6.2 percent. The reason for this severe economic shock was the Covid 19 pandemic which caused a global economic response at an unprecedented scale. This response was significant for preventing far worse deterioration in global economic activities. The response was focused on recovery measures to support the household income, to maintain companies' cash flow, to decrease the number of closed-down and bankrupt companies and to preserve jobs and decrease the long-term economic risks. A total of RM 530 billion had been spent by the government for 8 economic stimulus packages such as Prihatin, Prihatin PKS Tambahan, Penjana, Kita Prihatin, Permai, Pemerkasa, Pemerkasa Plus and Pemulih. This amount had an increase of RM 280 billion compared to the initial amount announced in March 2020 which was 250 billion to provide immediate assistance for people who had been affected by this pandemic. From the amount, some RM 305 billion had been spent which was 22.7 percent of the nation's GDP in 2020. This was considered one of the biggest rates globally compared to the stimulus package implemented in Indonesia, South Korea, and the United States. Thus, it can be concluded that the crises which occurred affected the economic situation in Malaysia. It was also clear that government expenditure was a variable that successfully alleviated economic growth. The crises which happened also affected other macroeconomic variables such as investment, international trade, and labor market components.

Conceptual Framework: This conceptual framework contains causal factors to the phenomenon being studied, variables, theories that form the basis of the study and how other elements are related to each other. It also describes the inter-relationships of elements that ultimately lead to the main objective of the study.

This conceptual framework could be described as the initial description of the inter-relationships of the whole elements. Whether the relationship is proven true or otherwise depends on the study findings. The following is the conceptual framework for this study.

Figure 2: Research Conceptual Framework



Theoretical Foundation

Based on the macroeconomic theories, good economic growth is one of the important aspects of a country's development. This occurs when there is an increase in per capita income from year to year (Jespersen, 2005). This study was based on two major economic theories which are the Keynesian theory and Wagner's Law. The main function utilized was based on the Keynesian Theory of Demand and Supply. Additionally, the study was based on previous studies such as Rambeli et al. (2016). These selected macroeconomic variables were included in the model based on their importance and contribution towards economic growth. The hypothesis pioneered by Wagner shows that the general functional relationship between government spending and economic growth (GDP) in a country can be described as the following equation:

G = f (GDP).....(1)

Where:

G = Government expenditure

GDP = Gross Domestic Product

In contrast, there is a different interpretation of government expenditure and growth according to the Keynesian view. According to the theory, the nation's income composition is made up of this equation:

Y = C + I + G + Xn……(2)

Where:

Y = Economic growth (GDP)

C = Consumption

I = Investment

Xn = Net export (Export minus import)

Nonetheless, this study was also based on other studies such as the one by Rambeli et al. (2016). As such, the basic function used for the Keynesian study would be:

GDP = f (I,X,M)…….....(3)

Where:

GDP= Gross Domestic Product (proxy to economic growth)

I = Investment (Domestic and Foreign)

X = Export

M = Import
However, function 3 showed that the economic growth from the actual GDP was prone to shocks or crises (Choong, Zolkarnain & Liew, 2010).
As such, function 3 was modified (function 4) to represent a specific economic crisis by including the dummy variable (DUM) in which the zero value was utilized before and after the crisis period and the value of one (1) was utilized during the crisis period. The function could be written as such:
KDNK = f (GE,POP,NE,FDI,DUM)……(4)
Where:
GDP = Gross Domestic Product (Proxy to Economic Growth)
GE = Government expenditure
POP = Population
NE = Net export
FDI = Foreign Direct Investment
DUM = Dummy for Structural Change

The empirical model for the assumption after including the interactional variable would be:
KDNK = f (GE,POP,NE,FDI,DUM,POP*NE)……(5)
Where:
GDP = Gross Domestic Product (Proxy to Economic Growth)
GE = Government expenditure
POP = Population
NE = Net export
FDI = Foreign Direct Investment
DUM = Dummy for Structural Change
POP*NE = Multiplication of Population and Net Exports

4. Study Findings

Previous Studies: Norazarin (2018) studied the dynamic relationship between interactional variables and international trade in two different models and the inclusion of structural change dummy towards economic growth. The findings indicated that there was a two-way relationship between economic growth for long-term and short-term periods using the *Vector Error Correction Model (VECM).* A study by Kahrudin et al. (2017) included a structural change dummy by considering two important events which occurred in 1997 and 1998 as well as 2007 and 2008 which were related to the Asian Financial Crisis and the Global Financial Crisis. The study which utilized the *Structural Vector Autoregressive (SVAR)* analysis in Malaysia aimed to assess the fiscal policy effects on the expenditure of private firms. Antonakakis et al. (2017) utilized interactional variables of oil dependency and quality of political institutions towards economic growth variables. In the study by Moradbeigi & Law (2017), the researchers utilized interactional variables of oil abundance and financial development towards economic growth. The empirical study was conducted to answer whether Financial Development moderates the negative impact of natural resources, especially oil production. There was also research conducted to ascertain the difference in study findings by utilizing the interaction term or otherwise. These studies were conducted by Hakimah et al. (2014) by utilizing the interactional variables.

Between Foreign Direct Investment (FDI) and Stock Market Development Quality. Some studies utilized the dummy variable as an interactional term with other variables. Rosli, et al. (2014) were researchers who conducted such studies. Analysis was carried out on the indicators of efficiency and productivity of firms related to Syariah-compliant and non-compliant consumer products at the Kuala Lumpur Stock Exchange (KLSE). The findings showed that a firm's Syariah-compliant factor and sales factor must work together to influence the company's efficiency. Three basic models were formed which were the Level Transition Model, Level Transition Model with the trend and the Regime Transition Model in the study conducted by Kogid et al. (2012) to assess the cointegration relationship in long-term and short-term periods as well as the dynamic interaction between the stock market and economic activities. The important dates mentioned as the transition function were included as dummy variables. Verma & Arora (2010) utilized the structural change dummy towards the growth of government spending. The structural change here referred to two different

phases which were the initial liberalization phase and the intensive liberalization phase in India. The impact of economic reform in the intensive liberalization phase was significant towards the growth of government spending and not towards the initial liberalization phase. Additionally, the change of coefficient of elasticity in the sub-period phase was also seen as important.

Findings from the study by Toh et al. (2010) titled Inflation Threshold and Economic Growth in Malaysia showed that there was a change in the direction of the cause for both variables. The period before and after the crisis would influence the inflation rate whereby the average inflation rate before the crisis would be much higher compared to the period after the inflation. Additionally, the inflation variable in the model was not significant in influencing the economic growth but at the level of the inflation horizon value, the dummy variable was significant in negatively influencing economic growth. Empirical findings from the study by Samudram, Nair & Vaithilingam (2008) in Malaysia found that structural change caused by the Asian Financial Crisis of 1997 / 1998 was significantly related to the government expenditure towards other macroeconomic variables such as administration and health. The study was conducted to test the Keynesian theory and Wagner's Law. A two-way relationship was found as evidence that the Keynesian theory and Wagner's Law existed in Malaysia. The findings from the study above were in line with the findings from Sarel (1996), whose study involved 87 nations in a study period from 1970 to 1990. The latter study showed that inflation was not significant in influencing economic growth but there was a negative relationship between inflation and economic growth in situations where inflation exceeded the inflation horizon value. The following table is a summary of previous studies relevant to this study:

Table 1: Summary of Articles Included in Study Findings Based on Structural Change Dummy and Interactional Variable

Title / Authors/ Year	Theory / Model	Methodology	Time Period	Variables	Results
Dynamic Relationship Between Interactional Variable and International Trade Toward Economic Growth in Malaysia Norazrin (2018)	Demand Model & Aggregate Supply by Keynes	Vector Error Correction Model (VECM)	January 1979 – December 2017	Real Gross Domestic Product Export Import Real Effective Exchange Rate Structural Change Dummy Interactional Variables	According to the empirical study, international commerce, which functions as an endogenous variable in the long-term system of equations, has been proven to play a vital role in producing economic growth. Furthermore, the findings revealed long-term and short-term bidirectional causality between interaction variables and economic growth. As a result, fluctuations in the exchange rate have a significant impact on international trade. As international trade is such a large source of national income, any exchange rate shocks can still be mitigated by using

					the interaction variable.
The Effect of Fiscal Policy on Private Expenditure: A SVAR Analysis in Malaysia Kaharudin, et al. (2017)	Classical Theory & Keynesian Theory	Structural Vector Autoregressive (SVAR)	January 1991 – March 2016	World Oil Price Foreign National Income Government Tax Revenue Government Expenditure Interest Rate Private Investment Private Consumption Domestic Income Real Effective Exchange Rate Structural Change Dummy	The key findings revealed that government spending shocks were found to crowd out private investment while having a beneficial effect on private consumption. For government revenue shocks, the same results were found, which indicated that private investment had a negative effect, whereas government consumption had a positive effect.
Oil Dependence, Quality of Political Institutions and Economic Growth: A Panel VAR Approach. Antonakakis et al (2017)	Keynesian Theory	Panel Vector Autoregressive (PVAR)	1980-2012	Gross Domestic Product Oil Dependence Quality of Political Institutions Exogenous Control Variables Interactional Variables	While increases in oil prices driven by real aggregate demand and oil-market specific demand shocks have long-term repercussions for economic policy uncertainty in the United States, supply-side oil shocks have little impact in the US. The findings suggest that making the resource curse hypothesis believable requires considering the quality of political institutions, notably executive limits.
The Role of	Basic Empirical	Common	1980 -	Real Gross	Empirical findings

Financial Development in the Oil-Growth Nexus Moradbeigi & Law (2017)	Panel	Correlated Effect Mean Group (CCEMG)	2010	Domestic Product Oil Abundance Indicator Financial Development Indicator Other Control Variables for Economic Growth Interactional Variables	revealed that oil abundance had an impact on output growth rates based on the degree of financial market development. To put it another way, improved financial development mitigated the negative effects of abundant oil on economic growth.
Foreign Direct Investment, Economic Growth and Quality of Stock Market Development – Panel Analysis Hakimah et al. (2014)	Based on previous studies by Azman Saini et al. (2010)	Generalized Method of Moments (GMM) Estimator	1999 - 2009	Gross Domestic Product Foreign Direct Investment Quality of Stock Market Development Interactional Variables	The findings suggested that stock markets with superior development quality, as measured by market liquidity and pricing efficiency, were better equipped to benefit from the growth advantages of foreign direct investment (FDI). In a larger perspective, this research introduced a new type of absorptive capacity by demonstrating that the quality dimension of stock market development was a key factor in determining the impact of FDI on economic growth.
Analysis of Determinants of Efficiency and Productivity of Product Companies Syariah Compliant and Non - Syariah	Index Malmquist Model (Non-parameter Method)	Panel Data Regression	2006 - 2011	Technical Efficiency Total Sales of Company Total Assets of the Company Interactional Variables	The findings suggested that consumer companies' performance was more influenced by changes in technical efficiency than by technological progress. Only ten consumer product businesses did not

Compliant Consumers on the Kuala Lumpur Stock Exchange (KLSE) Rosli et al. (2014)					achieve a total factor productivity change (TFPC) of more than one, and eight did not achieve any total factor productivity change at all (TFPC).
Long-Term Relationships and Dynamic Interactions between Stock Markets and Economic Activities in Malaysia Kogid et al. (2012)	Based on previous studies by Balvers, Cosimano & McDonal (1990) & Nasseh & Strauss (2000)	Autoregressive Distributed Lag – Error Correction Model (ARDL-ECM) Toda-Yamamoto	January 1990 – November 2011	Kuala Lumpur Composite Index Industrial Production Index Structural Change Dummy	The Toda-Yamamoto and Autoregressive Distributed Lag–Error Correction Model (ARDL-ECM) techniques revealed a one-way Granger causal link between economic activity and the stock market in Malaysia. This provided a broad review of how economic activity could be used as an indicator and essential variable in forecasting future stock market behavior.
Does the Indian Economy Support Wagner's Law? An Econometric Analysis Verma and Arora (2010)	6 versions of Wagner's Law	Error Correction Mechanism (ECM)	1950/1951 – 2007/2008	Government Expenditure Government Consumption Expenditure Gross Domestic Product Population Structural Change Dummy	According to research, the first structural break given during the mild-liberalization period created minimal changes in the growth elasticity of public expenditure. On the other hand, the observed change in elasticity because of the second phase of extensive liberalization, on the other hand, was statistically significant. Despite this, given a large drop in elasticity, Wagner's rule was nevertheless upheld throughout the intensive phase of

					liberalization. The existence of any relationship between economic growth and the size of government expenditure was refuted by empirical evidence on short-run dynamics.
Inflation Threshold and Economic Growth in Malaysia Toh et al. (2010)	Based on previous studies by Hansen (2000), Khan & Senhadji (2001)& Mubarik (2005) TAR (Threshold Autoregressive Model)	Granger Causality Test	First Quarter 1991 – Fourth Quarter 2009	Gross Domestic Product Inflation Rate Gross Fixed Capital Formation Term of Trade Rates Structural Change Dummy	The findings suggested that inflation rates above the threshold had a detrimental influence on economic growth, with the yearly inflation threshold value being roughly 3 percent or 0.8 percent for each quarter. These findings served as a foundation for defining an inflation target that did not jeopardize the stability of economic growth.
Keynes and Wagner on Government Expenditures and Economic Development: The Case of Developing Economy Samudram et al. (2008)	Keynesian Theory & Wagner's Law	Autoregressive Distributed Lag (ARDL)	1970 - 2004	Gross National Product Administrative Expenditure Health Expenditure Education Expenditure Defense Expenditure Development Expenditure Structural Change Dummy	The findings also revealed that, following the structural break in 1998, the long-run causality for Gross National Product (GNP) and administrative and health expenses was bi-directional, validating both Keynes' and Wagner's theories. The long-term causation for all other expenditure categories was from GNP to expenditures, which supported Wagner's Law.
Nonlinear Effects of	Classical Economic Theory	Ordinary Least Square	1970-1990	Population	The study uncovered indications of a major

Inflation on Economic Growth Sarel (1996)	Threshold Model	Regression (OLS)	Gross Domestic Product Term of Trade Real Exchange Rates Government Expenditure Consumer Price Indices Investment Rates Inflation Rate Structural Change Dummy	fundamental breach in the function that connected economic growth and inflation. When the inflation rate reached 8 percent, a break was expected to occur. Inflation had little effect on growth below that pace and probably showed a modest positive effect. The article also showed that when the structural break was neglected, the anticipated impact of inflation on growth was skewed by a factor of three.

Source: Derived from previous studies for model development purposes.

3. Methodology

Time Series Data: Time series data were utilized to achieve the study objectives which were to examine the dynamic relationship between various variables in the system of equations formed in the long-term and short-term on economic growth. According to Sahlan (2021), economic analysis suggests that the variables involved in the economic theory under consideration have a long-run relationship or balance. To estimate these long-run correlations, users of econometric analysis frequently make the implicit assumption that the classical assumptions, i.e., mean and variance values, remain constant and independent across time. In the case of time series variables, however, empirical research has demonstrated that constant mean and variance values do not occur in most cases. As a result, traditional tests like the t-test and F-test assume that constant mean and variance values are no longer acceptable. It is expected that economic indicators such as gross domestic product, exports, imports, and other factors will be observed throughout time.

These variables are random in nature and cannot be predicted correctly, thus their value cannot be determined until they are observed. A stochastic or random process is the economic model generated by this time series variable, and the realization of the stochastic process is the sample observation for the value of this time series variable. This is one of the various approaches to the stochastic process. Gross domestic product (GDP), aggregate government expenditure (GE), population (POP), foreign direct investment (FDI) and net exports (NE) for a period of 42 years 3 months in monthly form from 1980Q1 to 2021Q3 were collected from various sources for time series analysis such as the Department of Statistic Malaysia (DOSM), Bank Negara Malaysia (BNM) and Ministry of International Trade and Industry (MITI).

Estimation Method: In analyzing data, many tests have been utilized to obtain accurate findings. For example, Sari and Kaluge (2017) utilized Multiple Linear analyses. Granger Causal Tests in Vector Error Correction Model (VECM) were utilized by (Salwindi & Seshamani, 2016; Furuoka & Harvey, 2014; Dada & Adewele, 2013; Abdullah & Maamor, 2010). Meanwhile, Afonso & Alves (2016) utilized Seemingly Unrelated Regression (SUR). Mohammadi & Ram (2015) utilized Gregory Hansen's Cointegration Test and Pedroni Test. The Autoregressive Distributed Lag (ARDL) test was utilized by (Yudistira et al., 2014; Kumar et al., 2012). Some studies combined more than one test to acquire more accurate and specific findings. For example, Furuoka & Harvey (2014) utilized the Three Stage Procedure, Ordinary Least Square (OLS) Regression Model, and the Vector Error Correction Model (VECM). Meanwhile, Sinha (2007) utilized the Toda-Yamamoto, Autoregressive Distributed Lag (ARDL) and the Ng-Perron test. Studies involving structural change were

conducted by Verma & Arora (2010) and Samudram et al. (2008). This study applied the Autoregressive Distributed Lag (ARDL) method as suggested by Pesaran et al. (2001) to analyze the relationship between Government Expenditure (GE), Population, (POP), Net Export (NE), Foreign Direct Investment (FDI) and Gross Domestic Product (GDP). Other tests conducted were the Unit Root Test and Granger Causality Test to assess the dynamic relationships between the interactional variables and selected macroeconomic variables towards economic growth in Malaysia in short-term and long-term periods.

The ARDL is an econometric method that allows model estimation to be done regardless of whether a time series variable reaches stationary at level $I(0)$ or differential $I(1)$ or a combination of time series variables that reach stationary at $I(0)$ and $I(1)$. An advantage of using the Autoregressive Distributed Lag (ARDL) is that the method does not require the stationary test to be conducted on time series data. As such, the cointegration test was conducted to assess if long-term and short-term relationships were feasible. The cointegration relationship could be ascertained easily in small sample sizes involving 30 to 80 years of observation. It allows the cointegration relationship to be identified for variables with different optimum lags. The estimation from the model was also consistent and had a normal distribution. The ARDL model is an Infiniti Distributed Lag model that is more flexible and parsimonious. This model is an alternative to the Koyck Scattered Lag model and the Polynomial Scattered Lag model. Koyck's Scattered Lag Model is faced with a serial correlation problem that leads to estimation using OLS not only being biased but even becoming inconsistent. The Polynomial Distributed Lag Model provides a solution to this problem, but this method requires strong assumptions related to the structure of the deferred weights as well as the appropriate deferred selection. The ARDL model framework will be used in constructing boundary tests to test the existence of cointegration in the variables used. The ARDL model is a linear time series model in which both the dependent and independent variables are related not only to the current period but also cover values in the past (deferred) time. Using this method, the data analysis could provide evidence to support the study (Rizaudin Sahlan, 2021).

4. Suggestions

Policy Implications: When Wagner's Law is successfully proven, then the government needs to be careful with increasing spending and use that spending as a policy planning tool (Salih, 2012). Moreover, increased government spending relative to economic growth, in the long run, will reduce funds or allocations for more beneficial spending when such spending is followed by debt (Grullon, 2014). Therefore, if Wagner's Law can also be proven, then the government needs to reduce spending that has less impact on economic growth, such as subsidies (Srinivasan, 2013). If the Keynesian Theory is proven, then this thing is good for economic growth. However, this increase in government spending is necessary for important sectors or components such as infrastructure, education, and health that can boost economic growth in the long run. It can be concluded that when Wagner's Law can be proved, this shows that government spending is passive and if the Keynesian Theory is successfully proved, then such government spending is active. If there is a two-way relationship, then the government must decide on the policy implications. If the results of the study are neutral, this indicates that government spending is not a contributor to economic growth (Dogan and Tang, 2006). Finally, a developing country like Malaysia needs a lot of spending to stimulate economic growth.

5. Conclusion

This study can guide policymakers, especially the government, in planning the national budget and continuing to improve the country's economic growth. Each macroeconomic variable is vulnerable to any shocks that occur, and specific measures can be implemented to deal with crises of economic turmoil and recession. Apart from focusing on spending, the government also needs to be sensitive to any variables related to international trade, such as imports and exports, as Malaysia is a country that is dependent on the sector. Furthermore, the effect of the interaction between the two variables can provide an idea of whether the two variables support economic growth or not. This is because an increase in growth can drive the development of a more sustainable and competitive country in the future.

References

Abdullah, H. & Maamor, S. (2010). Relationship between national product and Malaysian government development expenditure: Wagner's law validity application. *International Journal of Business and Management,* 5(1).

Afonso, A. & Alves, J. (2016). Reconsidering, Wagner's law: Evidence from the functions of the government. Lisbon School of Economics and Management, 1466-4291.

Antonakakis, N., Cunado, J., Filis, G. & Fernando, P. D. G. (2017). Oil dependence, *quality of political institutions and economic growth*, 53, 147–163.

Bank Negara Malaysia. (1998). Bank Negara Malaysia annual report 1998.

Bank Negara Malaysia. (2020). Perkembangan ekonomi, monetari dan kewangan pada tahun 2020. Bank Negara Malaysia.

Choong, C. K., Baharumshah, Z. A., Yusop, Z. & Habibullah, S. M. (2010). Private capital flows, stock market and economic growth in the developed and developing countries: A comparative analysis. *Japan and the World Economy*, 22, 107-117.

Dada, M. A. & Adewale, O. A. (2013). Is Wagner's law a myth or a reality? Empirical evidence from Nigeria. *International Journal of Development and Economic Sustainability,* 1, 123-137.

Dogan, E. & Tang, T. C. (2006). Government expenditure and national income: Causality test for five south-east Asian countries. International Business & Economics Research Journal, 5.

Furuoka, F. & Harvey, H. (2014). Wagner's law in Brunei: New findings. *Malaysian Journal of Business and Economics,* 1, 89-102.

Grullon, S. (2014). National income and government spending: Co-integration and causality results for selected Latin American countries. *International Journal of Economics, Commerce and Management,* 2, 1-9.

Hakimah, N. Nor, M., Low, L. S. W. & Mohd Nor, S. A. (2014). Foreign direct investment, economic growth, and quality of stock market development – panel analysis. Proceeding of PERKEM 9TH (pp. 571–581). Universiti Kebangsaan Malaysia.

Jespersen, J. (2005). Introduction to macroeconomic theory. Djoef Publishing London.

Kaharudin, H. I., Abd Karim, Z. Zaidi, S. A. & Ismail, A. M. (2017). The effect of fiscal policy on private expenditure: A SVAR analysis in Malaysia. *Malaysian Journal of Economics,* 51, 89-106.

Kamus, D. (2005). Dewan Bahasa dan Pustaka.

Kogid, M., Mohd Nor, S. A., Sarmidi, T. & Loganathan, N. (2012). Long-term relationship and dynamic interactions between stock markets and economic activities in Malaysia**.** *Journal of Management,* 36, 149-160.

Kumar, S., Webber, D. & Fargher, S. (2012). Wagner's law revisited: Cointegration and causality test for New Zealand. Applied Economics, 607-616.

Mohammadi, H. & Rati, R. (2015). Economic development and government spending: An exploration of Wagner's hypothesis during fifty years of growth in east-Asia. *Economies 2015,* 3,150-160.

Moradbeigi, M. & Law, S. H. (2017). The role of financial development in the oil-growth nexus. *Resources Policy,* 53, 164-172.

Norazrin, A. S. (2018). Hubungan dinamik antara pemboleh ubah interaksi dan perdagangan antarabangsa terhadap pertumbuhan ekonomi di Malaysia. Tesis Sarjana. Universiti Pendidikan Sultan Idris.

Pesaran, M. H., Shin, Y. & Smith, R. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics,* 16, 289-326.

Rambeli, N., Dayang, A. A. M. & Emilda, H. (2016). The effect of foreign direct investment, export, and employment on economic growth model. *International Journal of Academic Research in Business and Social Sciences,* 6(11).

Ramlan, K. W., Sulaiman, N. & Liew, C. S. (2011). Pertumbuhan ekonomi dan pengurangan kemiskinan di Malaysia: Satu pendekatan dinamik. *Proceeding of PERKEM VI,* 1, 482-491.

Rosli, R., Abdul Talib, B. & Mohd Noor, A. M. (2014). Urus tadbir ekonomi yang adil: Ke arah ekonomi berpendapatan tinggi. The 9th Malaysian National Economic Conference. Kuala Terengganu.

Sahlan, R. (2021). Ekonometrik moden dengan aplikasi stata. Penerbit Universiti Utara Malaysia.

Salih, M. A. R. (2012). The relationship between economic growth and government expenditure: Evidence from Sudan. *International Business Research*, 5, 40-46.

Salwindi. N. & Seshamani. V. (2016). The relevance of Wagner's law to Zambia. *International Review of Research in Emerging Markets and the Global Economy (IRREM),* 2, 808-822.

Samudram, M., Nair, M. & Vaithilingam. S. (2008). Keynes and Wagner on government expenditure and economic development: The case of a developing economy. *Empir Econ,* 36, 697-712.

Sarel, M. (1996). Nonlinear effects of inflation on economic growth. *IMF Staff Papers*, 43, 199–215.

Sari, A. C. P. & Kaluge, D. (2017). Analisis faktor-faktor yang mempengaruhi pertumbuhan ekonomi ASEAN member countries pada tahun 2011-2016. *Jurnal ilmiah Bisnis dan Ekonomi Asia,* 11, 24-29.

Sharma, S. D. (2003). The Asian Financial Crisis: Crisis, reform, and recovery. Manchester University Press.

Toh, K. S., Jusoh, M. & Sarmidi, T. (2010) Inflation threshold and economic growth in Malaysia. *5th Malaysian National Economic Conference,* 1, 83–97.

Sinha. P. (2007). Does the Wagner's law hold for Thailand? A time-series study. Munich Personal RePec Archive (MPRA), 2560.

Srinivasan, P. (2013). Causality between public expenditure and economic growth: The Indian case. *International Journal of Economics and Management*, 7, 335-347.

Verma, S. & Arora, R. (2010). Does the Indian economy support Wagner's law? An econometric analysis. *Eurasian Journal of Business and Economics,* 3, 77-91.

World Bank. (2018). World Development Indicators. World Bank. https://www.data.worldbank.org/

Yudistira, H. P. & Gek, S. M. J. W. (2014). Testing the existence of Wagner's Law and government expenditure volatility in Indonesia post-reformation era. *Journal of Economics and Sustainable Development,* 5, 130–140.