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RESEARCH ARTICLE

# Developing Market Integration among Developed Economies: A way forward towards the Economic Growth

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**Abstract:** The purpose of this study is to study the impact of real GDP, inflation, and exchange rates on China's market development during the period from 2000 to 2021. In order to get the sustainable development and economic growth, the country's market development plays a vital role. This premise sets the ground to check the impact of economic growth variables on market development of China. For this purposes, various econometric techniques have been done to examine the relationship among the study variables. Multivariate vector autoregressive (VAR) models are used to look at the long-term relationship between market development, growth, and other important growth factors in a high-dimensional system that is based on theory. The tests of over-identifying restrictions are used to find co-integrating vectors. The empirical results show that there is a one-way relationship between economic growth and market development, which is different from what the previous studies found. The findings of the study indicated that real GDP and exchange rate are positively correlated with market development while on the other side; the inflation has found negative relationship with market development of the China.

**Keywords:** Market development; Exchange rate; Inflation; Economic Growth
**JEL Classification Codes:** Q32, P51, P46

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# 1 Introduction

People in China have seen a lot of growth in the economy since the early 1980s, when the country started to reform (J. Li, Tang, Tenkorang, & Shi, 2021). Factor accumulation and productivity improvement has been the subject of many theoretical and empirical studies (Areghan, Alexander, Mathias, Deborah, & Yvonne, 2021; Iqbal, Najam, Majeed, & Abbas, 2018; Iqbal et al., 2021). The debate is mostly about which source, factor accumulation or productivity improvement, and is the most important one for economic growth (Sohibien, Laome, Choiruddin, & Kuswanto, 2022). There have been a lot of people who haven't paid attention to how market development affects economic growth until recently. The market sector has a big impact on the real world, and it can't be overstated how important it is (Husain, Tiwari, Sohag, & Shahbaz, 2019). On the other hand, it can be hard to look into different aspects of the finance-growth nexus because cross-country studies often only look at the correlations between the variables (Al-Qudah, Hamdan, Al-Okaily, & Alhaddad, 2022). This can lead to false conclusions because of a number of limitations in the cross-sectional method. Besides, it is well known that correlations don't tell us anything about cause. On the other hand, other researches (X. Li et al., 2017; Sahay et al., 2020) that used only bivariate causality tests between indicators of market development and growth variables also had the omitted variables bias, which could lead to incorrect causal inferences. Very few studies (Liu, Molyneux, & Nguyen, 2012; Mohsin et al., 2021; Sadiq, Nonthapot, Mohamad, Ehsanullah, & Iqbal, 2021) have used multivariate causality tests to examine at the link between development and economic growth.

In a theoretically based multivariate VAR model, it is necessary to examine the long-term relationship between market development and economic growth. We discovered that there was a two-way relationship between market development and economic growth in all of the nation's we included in the study by examining the finance growth nexus in a co-integrating framework through tests of over-identifying limitations. Additionally, consider the long-term association between market expansion and economic expansion using a multivariate VAR framework. In a panel-based VAR model (VECM), this is accomplished through panel unit root tests and panel co integration analyses. Buallay (2019) discovered a direct connection between market depth and growth for all of the developing nations included in their research. These studies' weaknesses include that the framework solely counts capital formation as a growth element. Additionally, this study doesn't adequately address the stock-flow issue in the indicator measurement of market development. Additionally, it makes sense to concentrate on a single nation rather than a collection of nations because the econometric results may be connected to the nation's current institutional setup.

Market development is seen as a significant macroeconomic problem in developing nations (Husain et al., 2019). The three most important macroeconomic drivers of economic development are inflation, economic growth, and the market development rate (Najam, Abbas, Álvarez-Otero, Dogan, & Sial, 2022; Najam & Malik, 2021; Olalere, Islam, Yusof, Ariffin, & Kamruzzaman, 2021). The macroeconomic indicators presented are substantially intertwined and associated with one another, either directly or indirectly. For example, a high inflation rate causes the local currency to devalue against the US dollar, reducing the buying power of nominal cash holdings. As a result, real cash balances decline in value, and consumers purchase fewer goods with the same amount of cash on hand. An inflation rate of about 2-3 percent is generally regarded as helpful for long-term economic development in emerging nations; however, a greater inflation rate is totally detrimental to an economy's health (Liang, Chiu, Li, Guo, & Yun, 2020). Consumers typically choose to purchase fewer goods for consumption in the marketplace during times of high inflation. As a result, unsold goods stay with sellers, reducing the profit margin of production units and, as a result, raising the Market development rate in the economy.

Every economy, established or emerging, seeks to achieve price stability, decreased Market development, and long-term economic progress via the creation and execution of appealing macroeconomic policies (Lee & Lee, 2022; Tong, Chiappetta Jabbour, Belgacem, Najam, & Abbas, 2022; Xie et al., 2022). Furthermore, the exchange rate is a key macroeconomic indicator for assessing an econ-

omy's success. Overall revenue in China almost doubled in fiscal year 2011 to reach $400 billion, but has subsequently fallen to approximately $385 billion in 2019, resulting in a modest growth rate of around 1.5 percent. The performance of the China economy is attributable to industry's sluggish development in output volume and the government's supply of insufficient job opportunities for the population. Market development is considered as one of the most serious problems confronting any economy in the globe (Pham, Do, Doan, Nguyen, & Pham, 2021). However, in China, this severe problem is especially acute, and the country's economy needs continuous development to quickly decrease the high Market development rate now in place. China's Market development rate was 29.0 percent in the second quarter of the year (Jiang, Wang, & Liu, 2021).

According to the Nawaz et al. (2021), inflation and market development have a negative relationship, which has been validated by research. The short-term link between Market development and inflation rate is negative; nevertheless, both reported variables are unrelated in the long run. In the empirical macroeconomics literature, however, there are varied results when it comes to the link between Market development and the exchange rate. Some empirical studies (Chowdhury, Haque, & Masih, 2017) have found an inverse relationship between Market development and the exchange rate.

As a result, this is the first research to look at the economic effects of high Market development on China's economic performance, as well as how Market development affects these factors in various ways. The main goal of this study is to look at how Market development affects China's economic development, inflation rate, and exchange rate in the long run.

The rest of this article will go like this: Section 2 discusses the literature review, Section 3 discusses the model specification and the econometric approach used, Section 4 discusses the empirical results in detail, and Section 5 discusses the conclusion and policy implications.

## 2 Literature Review and Hypotheses Development

In the accessible macroeconomics literature, there is a variety of studies (Al-Qudah et al., 2022; Husain et al., 2019) evaluating the economic influence of key macroeconomic variables on Market development for both developing and existing nations. Wang, Sun, Wang, Zhang, & Zou (2018) used time series data from 2000 to 2015 to investigate the effect of real GDP, exchange rate, and inflation rate on Market development in Bangladesh's economy. The researchers observed that inflation has a positive outcome on Market development, but economic growth and the exchange rate have a negative impact, using the usual linear regression model. To improve the economy's development, the writers advocated for an equitable allocation of money across various socioeconomic classes. Researchers (Paramati, Shahzad, & Doğan, 2022) tried a similar study on the effect of financial development and inflation rate on Market development in Sri Lanka using time series data from 1990 to 2019. Real GDP and inflation, according to the statistics, have a mostly indirect impact on Market development. The Granger causality test also revealed a bidirectional relationship between inflation and Market development, but a one-way relationship between real GDP and inflation rate.

Granger causality research by Khan, Chenggang, Hussain, & Kui (2021) found no bidirectional connection among the variables, but unidirectional causation between certain pairings, such as Market development to GDP growth rate and Market development to exchange rate. Between 2006 and 2011, Salem (2014) looked at the link between Market development and economic advancement in Arab countries. Despite the fact that GDP and Market development had a significant link, they concluded that the rapid growth rate and constant decrease in the Market development rate were signs of a highly hopeful trend toward advancement. Furthermore, Grange causality experiments shown that inflation and economic growth have a one-way causal link. Imhanzenobe (2019) examined the impact of the exchange rate in four Latin American economies: Mexico, Brazil, Argentina, and Chile, in order to investigate the relationship between Market development and the exchange rate. The authors came to the conclusion that the real exchange rate in these countries influenced Market development significantly. In a similar empirical investigation on the influence of exchange rate variations on Mar-

ket development in the Taiwanese and South Korean economies, researchers (Sahay et al., 2020; R. Wang, Liu, & Luo, 2021) found that the two variables were connected in the long run. According to the study, exchange rate changes have a short-term impact on Market development. Tenzin, on the other hand, discovered no indication of a link between the exchange rate and Market development in Iran. The empirical literature review presented here emphasizes the relevance of the macroeconomic variables under consideration and their interrelationships in the context of various economies throughout the globe. However, there are major inconsistencies in the study's findings on the link between these macroeconomic variables, particularly the exchange rate and Market development rate pair. No other study found the relationship among the variables together in the perspective of China here this is research gap while reviewing the previous studies. Hence on the basis of above discussion, the study hypotheses are;

H1: The real GDP is a significant predictor of market development of China.

H2: The currency exchange rate is a significant predictor of market development of China.

H3: The inflation rate is a significant predictor of market development of China.

# 3 Methodology

The dataset utilized in this research covers the years 2000 to 2021. It contains annual information on the China economy's market development, real GDP growth, inflation rate, and exchange rate for the period 2000 to 2021. The natural log of GDP and exchange rate has been taken in this study. The benefit of utilizing logarithmic transformations is that parameter estimates may be treated as direct elasticity's, which is useful in certain situations (Eladly, 2022). For the most part, market development and inflation rates are expressed as percentages rather than in logarithmic form. The WDI (World Development Indicators) database is primarily used to get secondary information on the growth of the China economy. The VAR (p) model by Ghaemi Asl & Rashidi (2021) is used to examine the effects of stated variables on Market development in the economy of China. As a result, these variables are solely chosen based on macroeconomic theory and actual data. The importance of the relationship between these factors has been recognized and highlighted in macroeconomic theory. Equation 1 may be used to specify the linear-logarithmic regression model, which is as follows:

$$MDP_t = \beta_0 + \beta_{rgdp} lnRGDP_t + \beta_{inf} INF_t + \beta_{ex} lnEX_t + \varepsilon_t \quad (1)$$

Under the VAR system, the research variables are considered endogenous variables, and there are no external variables. The capacity of the VAR model to capture the combined dynamics of many time series is one of its strongest features (Chai, Chu, Zhang, Li, & Abedin, 2022). However, in modern applied macroeconomics, such models have shown to be one of the most significant empirical tools. Assume $Y_t$ is a vector in the VAR (p) system with a value of n variables at the sample period t:

$$Y_t = [Y_{1,t}, Y_{2,t}, Y_{3,t}, \ldots, Y_{n,t}] \quad (2)$$

$$Y_t = G_0 + G_1 Y_{t-1} + G_2 Y_{t-2} + G_3 Y_{t-3} + \ldots\ldots + G_p Y_{t-p} + e_t \quad (3)$$

Where:

$G_0$=(n*1) vector of constants

$G_i$=(n*n) matrix of coefficients

$e_t$=(n*1) vector of white noise innovations

## 3.1 Testing Stationarity

In a time series analysis, the first step is to ensure that the variables are stationary. The stationarity feature of a time series is crucial to the design of a VAR analysis since statistics such as correlations

and averages would be inadequate to establish the applicability of a time series model in the existence of a unit root (S. A. R. Khan, Yu, Belhadi, & Mardani, 2020). To examine for the existence of unit roots among the variables, the well-known ADF approach is utilized. In this testing technique, the null hypothesis is that the time series under consideration is non-stationary; whereas the alternative hypothesis is that the series is stationary at level.

## 3.2 Criteria for Lag Specification

Using extremely short delays (p) may result in auto correlated error terms, according to Baloch, Ozturk, Bekun, & Khan (2021) ; as a consequence, the recommended econometric model will be poorly characterized. However, if the number of delays (p) is very big, too many degrees of freedom are lost. The quantity of delays in the VAR model should be sufficient for the residuals from the estimate to create distinct white noises when using stationary variables.

## 3.3 The VAR Model's Development

According to the general specification of the VAR model used in the development of multivariate time series. The following is an example of a generalized VAR model with four endogenous variables:

$$MDP_t = \beta_o + \Sigma_{i=1}^{k}\alpha_i lnGDP_{t-i} + \Sigma_{j=1}^{k}\beta_j INF_{t-j} + \Sigma_{n=1}^{k}\phi_n lnEX_{t-n} + u_{1t} \quad (4)$$

$$lnRGDP_t = \beta_{RGDP} + \Sigma_{i=1}^{k}\alpha_i MDP_{t-i} + \Sigma_{j=1}^{k}\beta_j lnRGDP_{t-j} + \Sigma_{m=1}^{k}\psi_m INF_{t-m} + \Sigma_{n=1}^{k}\phi_n lnEX_{t-n} + u_{2t} \quad (5)$$

$$INF_t = \beta_{INF} + \Sigma_{i=1}^{k}\alpha_i MD_{t-i} + \Sigma_{j=1}^{k}\beta_j lnRGDP_{t-j} + \Sigma_{m=1}^{k}\psi_m INF_{t-m} + \Sigma_{n=1}^{k}\phi_n lnEX_{t-n} + u_{3t} \quad (6)$$

$$lnEX_t = \beta_{EX} + \Sigma_{i=1}^{k}\alpha_i MD_{t-i} + \Sigma_{j=1}^{k}\beta_j lnRGDP_{t-j} + \Sigma_{m=1}^{k}\psi_m INF_{t-m} + \Sigma_{n=1}^{k}\phi_n lnEX_{t-n} + u_{4t} \quad (7)$$

## 3.4 Variance Decomposition

Using the variance decomposition, researchers (Diebold & Yilmaz, 2012) may determine how much of an endogenous variable's change is due to the endogenous variable. If a variable change due to its own shock, the bulk of the change is traceable to the shock itself. But once the influence of delayed variables is factored in and time is taken into account, the proportion of the result of other novelties increases with time. It is possible to assess the financial implication as a percentage difference between the prediction error for a variable sum to unity and the actual prediction error using the variance decomposition (or 100 percent). The orthogonalization approach used by the VAR system decomposes the variance of the prediction error. Consider the following notation for such purposes when using the VMA representation of the conventional VAR model:

$$X_t = \bar{X} + \Sigma_{i=0}^{\infty}\phi_i\varepsilon_{t-i} \quad (8)$$

$$X_{t+1} = \bar{X} + \Phi_0\varepsilon_{t+1} + \phi_1\varepsilon_t + \phi_2\varepsilon_{t-1} + \phi_3\varepsilon_{t-2} + ... \quad (9)$$

$$E_t X_{t+1} = \bar{X} + \Phi_1 \varepsilon_t + \phi_2 \varepsilon_{t-1} + \phi_3 \varepsilon_{t-2} + ... \tag{10}$$

The 1-period forecast error is:

$$X_{t+1} - EX_{t+1} = \phi_0 \varepsilon_{t+1} \tag{11}$$

The 2-period forecast error is:

$$X_{t+2} - EX_{t+2} = \phi_0 \varepsilon_{t+2} + \phi_1 \varepsilon_{t+1} \tag{12}$$

The 3-period forecast error is:

$$X_{t+3} - EX_{t+3} = \phi_0 \varepsilon_{t+3} + \phi_1 \varepsilon_{t+2} + \phi_2 \varepsilon_{t+1} \tag{13}$$

$$X_{t+n} - EX_{t+n} = \phi_0 \varepsilon_{t+n} + \phi_1 \varepsilon_{t+n-1} + \phi_2 \varepsilon_{t+n-2} + ... + \phi_{n-1} \varepsilon_{t+1} = \Sigma_{i=0}^{n-1} \varepsilon_{t+n-i} \tag{14}$$

# 4 Data Analysis and Results

## 4.1 Stationary Test Results

VAR model can only be used to time series that are stationary at levels or after their initial difference.

$$\Delta Y_t = \alpha_0 + \gamma Y_{t-1} + \Sigma_{i=1}^{p} \beta_i \Delta Y_{t-i} + u_t \tag{15}$$

All variables under consideration are non-stationary at levels, but become stationary at the first difference, according to the ADF test results. As a consequence, for the VAR analysis, all variables have been differenced once to make them stationary. The findings of the recommended ADF test variants are summarized in Table 1.

Model: $\Delta Y_t = \alpha_0 + \gamma Y_{t-1} + \alpha_2 t \Sigma_{i=1}^{p} \beta_i \Delta Y_{t-i} + u_t; H_0 : \gamma = 0; H_a : \gamma > 0$

**Table 1: ADF unit root test results**

| ADF tests at levels | | | ADF tests at first differences | | | |
|---|---|---|---|---|---|---|
| Variables | Constant | Constant \& trend | Constant | Constant trend | \& | Decision |
| $MDP_t$ | 1.053655 | 1.23786 | 5.032216* | 5.225253* | | I (1) |
| $LnRGDP_t$ | 0.551555 | 2.511722 | 2.570607* | 2.697066* | | I (1) |
| $INF_t$ | -0.778207 | -1.075108 | -2.959268** | -5.228161* | | I (1) |
| $LnEX_t$ | 2.182791 | 2.857992 | 2.532003* | 2.698363* | | I (1) |

Note: ***p < 0.001, **p < 0.05, *p < 0.1

## 4.2 Results of Lag Length Selection

We identified the optimum lag length as one utilizing different lag selection criteria after establishing stationary of all-time series via first differencing. This is not an unexpected conclusion, given that we are using yearly time series data for estimate in this research, and the proper lag length of one is recommended in the Time Series Econometrics literature. The first lag was shown to be related with the lowest AIC and HQ stated values in Table 2, whereas the zero-lag was found to be associated with the minimal SC criteria value. As a result, we've found that one is the best lag duration for VAR model estimation. Table 2: Results of Lag Length Selection

**Table 2: Results of Lag Length Selection**

| VAR Lag Order Selection Criteria | | | | | | |
|---|---|---|---|---|---|---|
| Lag | LogL | LR | FPE | AIC | SC | HQ |
| 0 | -31.054 | 5.3567 | 9.53E-05 | 5.061983 | 5.531555* | 5.153555 |
| 1 | -9.3307 | 37.03993* | 6.66e-05* | 1.755951* | 5.65378 | 5.035117* |
| 2 | -5.5167 | 10.03556 | 0.000119 | 5.565687 | 3.881833 | 5.816839 |
| 3 | 15.3781 | 18.39933 | 0.000135 | 5.3307 | 3.665133 | 3.156809 |
| 4 | 53.8937 | 15.51659 | 0.00055 | 5.535606 | 5.588357 | 3.576675 |

Note: (*) shows lag order selected by the criterion

## 4.3 Results of the VAR model estimation

Different lag lengths were utilized to estimate VAR models in order to determine the optimum VAR model for the endogenous variables that were provided. It took several rounds of the estimation technique until the VAR (1) model was selected and estimated for all endogenous variables. This was accomplished by finding the optimal lag length of one (p=1) for all endogenous variables. It was decided to apply the OLS estimation approach throughout the whole estimating operation. Using the VAR (1) model as an example, Table 3 presents the parameter estimates for the endogenous variables.

**Table 3: VAR Model Results**

| VAR Estimation Output | | | | |
|---|---|---|---|---|
| | D(MD) | D(lnGDP) | D(INF) | D(lnEX) |
| | -0.090887 | 0.000564 | -0.08144 | -0.005899 |
| D(MD (-1)) | -0.97665 | -0.00195 | -0.21616 | -0.01365 |
| | [-0.06706] | [0.28961] | [-0.40315] | [-0.43224] |
| | -99.08668 | 0.282028 | 55.39096 | 1.239657 |
| D(lnGDP (-1)) | -96.8769 | -0.14478 | -16.0718 | -1.01481 |
| | [-0.86766] | [1.94797] | [3.44647] | [1.22157] |
| | -0.607497 | -0.001933 | -0.246118 | -0.019225 |
| D(INF (-1)) | -0.97067 | -0.00147 | -0.16354 | -0.01033 |
| | [-9.958784] | [-1.31194] | [-1.50491] | [-1.86169] |
| | 5.997467 | -0.054818 | 9.401952 | 0.47476 |
| D(lnEX (-1)) | (6..56857) | -0.02852 | -3.16571 | -0.19989 |
| | [6.77868] | [-1.92223] | [2.96993] | [2.37512] |
| | 0.606967 | 0.017678 | -2.203021 | 0.009015 |
| Constant (C) | -0.45079 | -0.00508 | -0.56389 | -0.0356 |
| | [0.44878] | [3.48188] | [-3.90686] | [0.25319] |

## 4.4 Results of Variance Decomposition Analysis

It is the most often utilized way for understanding the recommended VAR (1) model. Table 4 demonstrates that the variable accounts for 100% of the prediction error in variance decomposition. In the long run, however, Market development accounts for 38.19 percent of the variance in prediction error,

and the influence of real GDP on Market development has consistently increased over time, from 1% to 6%. In addition, inflation has a significant influence on Market development in China, ranging from 5% to 26% over time. In contrast, the exchange rate has a significant impact on Market development.

**Table 4: Variance Decomposition**

| Variance Decomposition of Market development: | | | | | |
|---|---|---|---|---|---|
| Period | Standard Error | *MD* | *lnGDP* | *lnEX* | *INF* |
| 1 | 1.419511 | 100 | 0 | 0 | 0 |
| 2 | 1.994151 | 91.1693 | 0.80969 | 3.86193 | 6.16306 |
| 3 | 1.141191 | 96.6165 | 3.3367 | 8.66388 | 13.487 |
| 4 | 1.198155 | 63.4863 | 3.96307 | 14.9394 | 18.6133 |
| 5 | 1.541519 | 61.4392 | 6.31436 | 30.6406 | 33.9169 |
| 6 | 1.951191 | 43.6664 | 6.30994 | 34.9368 | 36.189 |
| 7 | 1.951919 | 38.1969 | 6.98935 | 38.3093 | 36.6064 |
| Variance Decomposition of Real GDP: | | | | | |
| Period | Standard Error | *MD* | *lnGDP* | *lnEX* | *INF* |
| 1 | 1.119481 | 3.98632 | 99.3137 | 0 | 0 |
| 2 | 1.119149 | 1.41939 | 89.3943 | 3.16663 | 8.03065 |
| 3 | 1.115111 | 0.83393 | 98.0014 | 6.66441 | 16.6114 |
| 4 | 1.141815 | 0.83601 | 90.8841 | 6.63936 | 31.6637 |
| 5 | 1.151511 | 1.09643 | 66.3369 | 6.96982 | 36.9988 |
| 6 | 1.155551 | 1.44904 | 60.9397 | 6.36946 | 31.447 |
| 7 | 1.151111 | 1.99364 | 66.9134 | 6.91864 | 36.9967 |
| Variance Decomposition of Exchange Rate: | | | | | |
| Period | Standard Error | *MD* | *lnGDP* | *lnEX* | *INF* |
| 1 | 1.115148 | 6.69088 | 4.39164 | 90.0697 | 0 |
| 2 | 1.151411 | 3.1607 | 3.63639 | 84.3166 | 9.08661 |
| 3 | 1.181511 | 3.43845 | 3.99993 | 96.664 | 19.1399 |
| 4 | 1.118415 | 3.31961 | 3.33939 | 68.6637 | 36.8835 |
| 5 | 1.118589 | 3.36433 | 1.8686 | 63.3439 | 33.6344 |
| 6 | 1.145191 | 3.40634 | 1.63496 | 69.36 | 36.919 |
| 7 | 1.158999 | 3.43667 | 1.4911 | 66.1693 | 39.9339 |
| Variance Decomposition of Inflation Rate: | | | | | |
| Period | Standard Error | *MD* | *lnGDP* | *lnEX* | *INF* |
| 1 | 1.151191 | 0.03639 | 3.64649 | 14.1469 | 83.3813 |
| 2 | 1.594911 | 0.481 | 3.31686 | 13.6349 | 83.6984 |
| 3 | 1.911118 | 1.04096 | 3.06494 | 11.3493 | 84.6469 |
| 4 | 1.811415 | 1.38396 | 3.89314 | 10.917 | 84.8091 |
| 5 | 1.899419 | 1.60335 | 3.81334 | 11.145 | 84.6409 |
| 6 | 1.915595 | 1.49337 | 3.80005 | 11.9999 | 83.91 |
| 7 | 1.991819 | 1.44108 | 3.83304 | 13.6493 | 83.0867 |

Cholesky Ordering: MD lnGDP lnEX INF

Market development has a variety of effects on economic growth, including an increase in investment and more effective capital allocation. A high level of market development should be a strong predictor of high economic growth, according to the endogenous growth literature.

# 5 Conclusion

Using yearly time series data spanning the sample period 2000-2021, this research paper investigated the economic link between numerous macroeconomic indicators such as Market development, economic growth, exchange rate, and inflation rate for the China economy. To confirm that the estimated endogenous variables' link was valid, the VAR (1) model, as well as other relevant econometric approaches and tests, were utilized to analyze the dynamic relationship between the endogenous variables in question. At the 5% level of significance, the results of the paired Granger causality provide considerable evidence of bidirectional causation in China from financial development to Market development, exchange rate to Market development, and inflation to market development. The findings are supported by Pham et al. (2021), which show that one macroeconomic measure influences another macroeconomic statistic in two ways. Furthermore, the Granger causality findings show that economic growth, as well as inflation and exchange rate, are unidirectional causative. This thing shows that if inflation increases, China's local currency would depreciate, implying that economic growth is the only thing that counts. However, there has been no evidence of a causal link between inflation and real GDP, corroborating the neutrality hypothesis. As a consequence, any significant change in China's real GDP will have only a little impact on the country's inflationary tendency. Furthermore, spontaneous responses suggest that, despite a long-term negative link between the exchange rate and Market development and inflation have an uneven relationship over time. Similarly, impulse responses support the concept that one system variable has a major impact on the other, and that they powerfully anticipate each other's future behavior.

## 5.1 Policy Implications

The results of this research contribute to the present macroeconomic literature and provide sufficient information to policymakers to assist the China government in meeting its higher economic growth objectives and addressing the economy's basic problem of Market development. The China government should offer incentives to businesses to modify their human resource policies, educate youngsters in job-readiness skills, and provide different subsidies to such training program in order to increase youth employment. In addition, the China government should offer young people with demand-driven training and stimulate the employment of skilled professionals. Furthermore, the China government should support small enterprises by offering a variety of incentives, including interest-free loans to the country's young. People will be able to start modest companies near local marketplaces and make a reasonable living using such strategies. Finally, the China government should establish policies to encourage young people to work. Furthermore, the government must serve as a coordinator, aiding key players in guiding economic activity toward the common objective of decreasing both young and general Market development rates in the economy. The current study is limited to stated variables. Further research can be done by taking the other factors in market development mechanism along with other emerging countries.

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