-RESEARCH ARTICLE-

IMPACT OF QUANTITATIVE EASING POLICY ON THE ECONOMIC GROWTH: EVIDENCE FROM THE JAPANESE ECONOMY

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─**Abstract**─

Policies of quantitative easing have been seen as a substantial contributor to economic growth, and this phenomenon requires the focus of new studies. Consequently, the current research explores the effect of quantitative easing policies, such as those relating to loan expansion and security purchases, on Japan's economic growth (EG). Inflation, exports, and foreign direct investment (FDI) were used as control variables in the model of the present study. From 1991 to 2020, secondary data were collected from the Central Bank of Japan and World Development Indicators (WDI) databases. To examine the relationship between variables, the Autoregressive Distributed Lag (ARDL) model was utilized in the present study. According to the findings, quantitative easing policies, such as policies relating to loan expansion and security purchases, have a favorable effect on

the EG in Japan. In addition, the results revealed that control variables such as FDI, inflation, and exports have a positive relationship with EG in Japan. This article assists policymakers in constructing effective EG policies through the implementation of quantitative easing initiatives.

Keywords: Quantitative easing policies, loan growth, security to assets, economic growth, inflation, exports

1. INTRODUCTION

The financial crisis has been getting worse over the past few decades. The developing and developed nations are the effects of the global financial crisis. Regardless of the origins of these crises, they have forced the economies to think outside the box in order to overcome them. The banking industry in the United States is one of the industries most severely impacted by any type of financial crisis. In 2008, one of the largest banks in the United States was affected by the financial crisis, indicating that the crisis touched the entire nation despite the country's position. Financial control policies in a country are formulated by its government. These policies are executed by the central bank of the country in question. (Lima, Vasconcelos, Simão, & de Mendonça, 2016). The most common benefits of quantitative easing (QE) policy are 1) It is an additional tool introduced by the central bank to control the monetary flow, 2) the QE results in an increase in money supply in the market which reduces the inflation rate and has a positive effect on the country economy, 3) prevents unemployment, 4) QE also helps to drain the toxic assets, 5) QE results in better controlling of the government on the country financial system, 6) one of the reasons the central banks prefer the QE that it produce the immediate results. On the other hand, it also has some disadvantages like 1) QE results in more fluctuations in interest rates which affect the banking industry consumers, 2) critics believe that this QE worsens the business cycle of the country, 3) QE usually creates a bubble situation in the stock market (Al-Slehat, Zaher, Fattah, & Box, 2020; Shkodina, Melnychenko, & Babenko, 2020). These disadvantages urge us to investigate this QE issue, particularly in Japan, one of the most stable economies in the world.

Japan witnessed a real-time financial asset bubble in the second half of the 1980s. A vicious loop of rising asset values, higher collateral value, and more bank lending created this boom. The increasing rivalry among commercial banks due to financial reforms that reduce the bank's profit margin is commonly mentioned as one of the elements that generated this asset bubble. As a result, banks began to engage in riskier operations, such as lending to real estate and construction businesses and non-bank financial entities. The Japanese financial industry's unique financial structure (Keiretsu) obscured the actual economy's mounting challenges. A further aspect was that banks were required to concentrate primarily on lending activities due to severe financial laws. In 2008, the financial markets in the United States and other developed economies collapsed, resulting in a credit crunch. During this time, Japan's economy was in a rebound. The

Bank of Japan-BOJ launched the second round on August 4, 2011, even though the first round of quantitative easing (QE) did not meet expectations.

In contrast to the 1990s, when the Ministry of Finance was unable to expand public expenditure due to budgetary worries, this later QE program was followed by other government expansion measures and labeled an "Abenomics" phase in contemporary literature. Therefore, the Bank of Japan-BOJ was compelled to provide economic stimulation. The administration has opted to implement the QE program to restore economic equilibrium and bolster the economy. This forces us to study the impact of QE on Japan's economic growth. The Japan EG is shown in Figure 1.
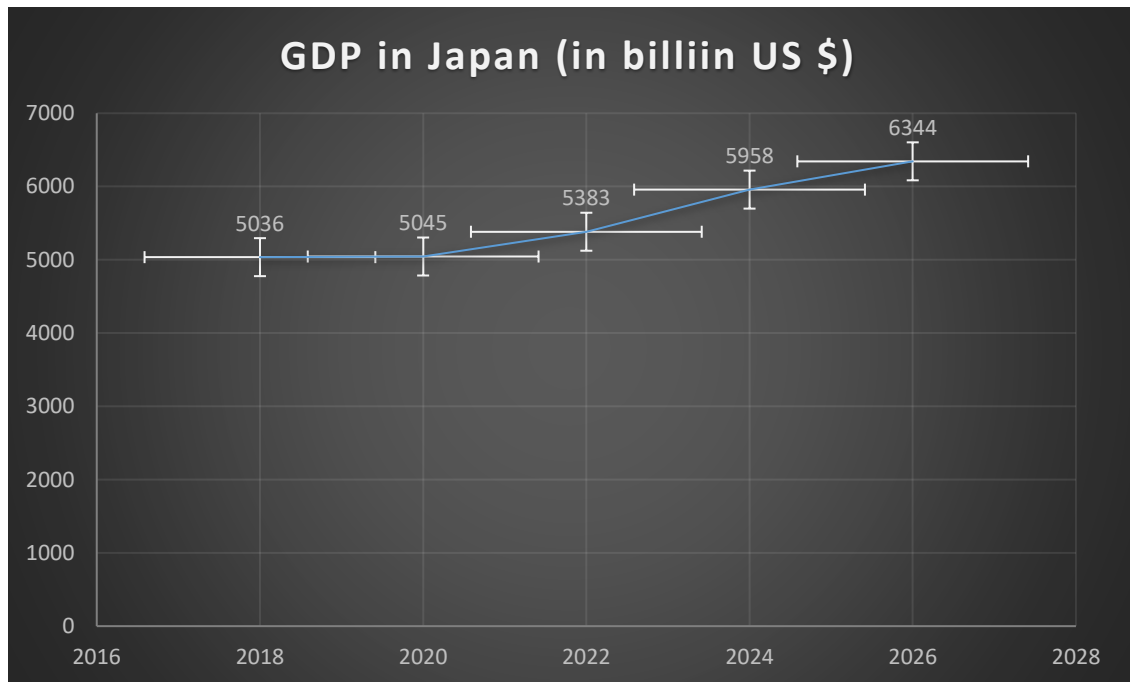
Figure 1: The Economic Growth in Japan

The present study will address several gaps in the literature, such as 1) the relationship between quantitative easing policy and economic development in the Japanese context, which has been extensively studied but has not yet achieved its zenith due to many new elements. 2) Matousek, Papadamou, Šević, and Tzeremes (2019a) examined the effectiveness of the quantitative easing program in Japan. In contrast, the current study will examine the quantitative easing policy concerning economic development in Japan, keeping in mind the growing significance of this nexus. 3) Lima et al. (2016) examined whether quantitative easing affected the U.S., British, and Japanese stock markets, but the current analysis replaces the stock market with economic development in Japan using an updated data set. 4) Shkodina et al. (2020) examined the impact of QE policy on the world economy, whereas the present study attempted to examine the relationship

between QE policy and economic development in Japan using the most recent sample data. 5) The present study model includes quantitative easing policy elements such as gross domestic product growth (GDPG) in addition to loan growth, security to total assets, inflation, exports, and foreign direct investment (FDI) that have never been examined in the Japanese economy (in recent times) Consequently, the present study will examine the equation from the standpoint of the Japanese economy using a new data set. 6) Bartkiewicz (2018) conducted a literature analysis on the influence of quantitative easing policy, whereas the present study attempted to investigate the relationship between quantitative easing policy and economic development in Japan. 7) Rebucci, Hartley, and Jiménez (2022) examined the influence of quantitative easing policy from a banking perspective in the Covid results, whereas the present study attempted to examine quantitative easing policy in Japan from an economic development perspective. The significance of the study is that 1) it will highlight the importance of quantitative easing policy for the economic development of any country, particularly Japan; 2) it will assist economic professionals in improving their quantitative easing policies to support the economic development of the Japanese economy, and 3) it will assist researchers in identifying additional aspects of quantitative easing policies and economic development.The study structure is divided into five phases. The first phase will present the introduction. In the second phase of the study, the evidence regarding gross domestic product growth (GDP), loan growth, security to total assets, inflation, exports, and foreign direct investment (FDI) will be discussed in light of past literature. The third phase of the study will shine the spotlight on the methodology employed for collecting data regarding domestic product growth (GDP), loan growth, security to total assets, inflation, exports, and foreign direct investment (FDI) and its validity will be analyzed. In the fourth phase, the study results will be compared with the pieces of evidence reviewed from the literature. In the last phase, the study implications and the conclusion and future recommendations will be presented, concluding the paper.

2. LITERATURE REVIEW

There have been numerous global crises during the past several decades. One of the primary objectives is to stabilize the economy. Whether it is a mature or developing economy, countries are concerned with achieving economic stability. The nations use various methods to get their economies back on track. The economy of any nation is dependent on the number of industries, but the financial sector, which includes banking and other financial institutions, plays a crucial role in the stability and growth of the economy. The ultimate objective of improving the economy of any nation is to increase the per capita income of the average citizen. There, financial institutions such as banking play a crucial role. Poverty is one of the world's most pressing problems. By supplying financial resources, the financial instructions aid both the society and the nation in overcoming this problem and eradicating poverty. The only objective of the financial institution is to profit from the loans made to both businesses and individuals.

Dang (2019) explored whether or not loan growth affects the performance of the banking industry. The sample data from 2006 to 2017 was utilized for the analysis. According to the study's findings, the expansion of loans has a substantial positive effect on the performance of the banking system in Vietnam. The study further addressed risk and corporate governance to mitigate the risks connected with lending activity. Other elements, including capitalization, credit risk, inflation, etc., are also related to the loan and affect the country's economy. The Islamic or conventional form of the banking system influences loan growth and economic activities. The Islamic banking system is favored above the traditional financial system in Islamic countries. Sobarsyah et al. (2020) examined whether loan growth, capitalization, and credit risk affect the Islamic banking sector. As a sample for examination, data from 29 Islamic nations were selected. According to the study's findings, the Islamic banking system in Islamic economies is influenced by loan growth and other criteria, such as capitalization and credit risk. The government or the banking system's oversight is crucial in this regard. The government or the banking system has enacted policies that affect the whole financial sector.

Kupiec, Lee, and Rosenfeld (2017) studied whether banking supervision affects the growth of loans inside the banking system. A sample of 17-year-olds was gathered and evaluated. The investigation suggested that the banking industry's supervision mechanism significantly impacted loan growth. The firms' financial positions play a vital role in the company's development. These companies in the business sectors collectively support the country's economy in a good manner. The financial sectors, i.e., the banking industry, are usually considered a backbone of the country's economic development. Many factors are reflected in the firm's financial reporting, which strongly influence the firm, such as the assets section. The better the position of assets in any firm financial statement, the more the chances the company will grow. Investments are a critical factor in the economic development of the firm. In this context: Ruiz (2018), investigated whether the financial development of firms affects EG or not? The data of 25 years collected from the World Bank was used as a sample and analyzed. The investigation results proposed that financial development is the key player in the country's economic development. The firms with a better financial position in terms of assets position are the real contributor to the country's economy. Sethi and Acharya (2018), investigated whether financial inclusion affects EG in this context.

The panel casualty test collected and examined six years' worth of data from 31 economies. According to the investigation's findings, financial inclusion, such as the asset position of businesses, plays a crucial role in the country's economic growth (EG). A stronger asset position improves the company's performance, which adds positively to the nation's economy. Mehmet and İSLAMOĞLU (2019) examine whether there is a correlation between asset size, economic progress, and the loan system. The data from thirteen years were collected and evaluated using regression analysis.

According to the study's findings, the asset size influences both the EG and the lending system. The organizations pay great attention to preserving the assets liability ratio, one of the most critical business decisions. This decision determines the company's future. In this regard, Al-Slehat et al. (2020) examine the effect of asset structure on the firm's value. Eight years of Jordan's industrial sector data were collected and analyzed using E-Views. The study results proposed that the asset structure strongly affects the firm value. The study further suggested that the better the assets position, the more the company will grow and contribute to the country's economy. The firm assets strength is, up to some extent, based on the investment done by the external stakeholders. Usually, the public limited firm's assets are based on the investment received from shareholders. In this context: Sukharev (2020), investigated whether an investment in the financial assets affects the country's EG. The investigation results proposed that the investment in the financial assets has a substantial impact on the EG of the country.

The economy of any country is derived from several factors like inflation, monetary policy, exports, external investment. Out of those: many of the factors have a strong effect on society's bottom line. The present study aimed to check the inflation factors' effect on the EG. Adaramola and Dada (2020), investigated whether inflation affects the EG of Nigeria. The data of 38 years were selected and collected. The data was analyzed by employing the ARDL approach. The study results proposed that an increase in inflation results in a decrease in the EG of Nigeria. The study further recommended that the regulatory authorities ensure better policy to control inflation. Azam and Khan (2020) examined the impact of inflation on EG in industrialized and developing nations. The data of 27 economies, including both developed and developing nations, was collected and analyzed over 43 years. The data was analyzed using the FGLS technique. Whether the country is developed or developing, the analysis revealed a negative correlation between inflation and the economy's growth rate (EG). Economic growth is the backbone of the country EG. The country's economic growth is highly dependent on its inflation rate. Asteriou and Spanos (2019) investigated whether inflation being part of economic development affects the EG of the country. The data of 26 years was collected as a sample and tested by employing the ARDL approach. The studystudy results proposed that inflation as part of financial development affects the EG of the country. Dinh (2020) checked the inflation response to the EG of the country is. The data of 22 years was collected and tested by employing the VAR model. The study results proposed that the inflation and EG of the country walk in the opposite direction. The more the inflation rate accelerates in the country, the more it will bring the increase in price, which will affect the society and overall the EG of the country.

For a nation to get its economy back on track, achieving a trade balance is the primary objective. The greater the disparity between a country's imports and exports, the greater the likelihood that its economy will be adversely damaged and finally fail. Whether a country's economy is developed or developing, exports are the most critical factor in its

wealth. The higher the country's export rate, the more investment it will attract, which will increase the country's EG. In this context, Kabaklarli, Duran, and Ücler (2018) studied whether an increase or decrease in exports impacts economic growth (EG). The data from 26 years of OECD economies have been compiled and analyzed. The data was evaluated using the PC model. According to the investigation's findings, an increase in exports reduces the country's trade imbalance, which impacts the country's economic growth. Athanasia S. Kalaitzi and Cleeve (2018) studied whether export results in the EG for the UAE once again in this context. The data from the past 33 years was examined and tested. The UR test was used to assess the data. According to the findings of the investigation, exports and EG are favorably correlated in UAE. The importance of exports to the economy is receiving considerable emphasis.

The increase in exports has a dual effect. On the one hand, it creates more business or employment options for the community, and on the other, it increases the flow of capital into the country, which has a favorable impact on the EG. Priyankara (2018) explored the relationship between the country's exports and its economic growth. The study was done in Sri Lanka over a thirty-year data collection. The VAR model was utilized to examine the data. According to the investigation, the country's exports are favorably correlated with EG. Frequently, the effect of inflation can vary according to the type of industry. In this context: Osabohien et al. (2019), industry-based exports impact the country's economic growth. The twenty-year data collection was analyzed using the ARDL method. The investigation suggested that industry-based exports, i.e., agricultural exports, also contribute to Nigeria's economic growth.

The globe has evolved into a community. This globalization has created business opportunities for both developed and developing nations. Foreign investment in the country is one of the most significant repercussions of this business interaction due to globalization. This foreign investment has a good effect on the economy of the nation. Malik et al. (2020) explored whether foreign direct investment affected Pakistan's economic growth. The ARDL method was used to collect and evaluate data spanning 45 years. The investigation suggested that foreign direct investment is directly related to Pakistan's economic growth. In addition, Rao, Sethi, Dash, and Bhujabal (2020) examined the relationship between foreign direct investment and the EG of South-East Asian economies. The data from the past 36 years was collected and evaluated. Whether the country is developed or emerging, the investigation suggested that increasing foreign direct investment leads to economic growth.

There are numerous reasons for the increase or decline in FDI, including the country's social, economic, and political factors. Typically, countries with a stable socioeconomic and political status attract a great deal of foreign direct investment. In this context, Adedoyin, Bekun, Driha, and Balsalobre-Lorente (2020) examined whether FDI impacts the country's economic growth. From 1981 to 2017, 37 years of data were collected and

analyzed using the ARDL method. Consistent with the literature, the results of this analysis indicate that FDI and the country's EG are positively correlated.

3. RESEARCH METHODS

The study investigates the impact of quantitative easing policies such as policies related to loan growth and security purchases, FDI, exports, and inflation on the EG in Japan.

The researchers have gathered the secondary data from the databases of the Central bank of Japan and WDI from 1991 to 2020. The present study has applied the ARDL model to test the linkage among variables. The equation with understudy constructs is given below:

$$GDPG_t = \alpha_0 + \beta_1 LG_t + \beta_2 SA_t + \beta_3 INF_t + \beta_4 EXP_t + \beta_5 FDI_t + e_t \qquad \textbf{(1)}$$

Where;

GDPG	=	Gross Domestic Product Growth
t	=	Time Period
LG	=	Loan Growth
SA	=	Security to Total Assets
INF	=	Inflation
EXP	=	Exports
FDI	=	Foreign Direct Investment

The article has taken the EG as the dependent construct and measured it as the GDP growth annual percentage. In addition, quantitative easing policies have been taken as the independent variable and calculated as the loan growth (percentage growth in loan) and the ratio of security to total assets. Finally, the present research has also taken the inflation measured as the consumer price (annual %), exports measured as the exports of goods and services (% of GDP), and FDI measured as the FDI net inflows (% of GDP) as the control variables in the model. These measurements of the variables are given in Table 1.

Table 1: Variables with Measurements

S#	Variables	Measurement	Sources
01	Economic Growth	GDP Growth annual percentage	WDI
02	Quantitative Easing Policy	Loan growth (percentage growth in loan) The ratio of security to total assets	Central Bank Central Bank
03	Inflation	Consumer price (annual %)	WDI

04	Exports	Exports of goods and services (% of GDP)	WDI
05	Foreign Direct Investment	FDI net inflows (% of GDP)	WDI

The article has applied descriptive statistics that exposed the mean value, maximum values, standard deviation, minimum values, and total observation used in the study. Moreover, the correlation matrix has also been applied to check the directional association among variables. In addition, the research also runs the Augmented Dickey-Fuller (ADF) test to check the unit root among the variables to apply the appropriate model. The equation is given as under:

$$d(Y_t) = \alpha_0 + \beta t + Y Y_{t-1} + d(Y_t(-1)) + \varepsilon_t \tag{2}$$

The characteristic of the ADF test is that it checks the unit root among the variables individually. Thus, the personal equation for each construct is given as under:

GDP Growth

$$d(GDPG_t) = \alpha_0 + \beta t + Y GDPG_{t-1} + d(GDPG_t(-1)) + \varepsilon_t \tag{3}$$

Loan Growth

$$d(LG_t) = \alpha_0 + \beta t + Y LG_{t-1} + d(LG_t(-1)) + \varepsilon_t \tag{4}$$

Security to Total Assets

$$d(SA_t) = \alpha_0 + \beta t + Y SA_{t-1} + d(SA_t(-1)) + \varepsilon_t \tag{5}$$

Inflation

$$d(INF_t) = \alpha_0 + \beta t + Y INF_{t-1} + d(INF_t(-1)) + \varepsilon_t \tag{6}$$

Exports

$$d(EXP_t) = \alpha_0 + \beta t + Y EXP_{t-1} + d(EXP_t(-1)) + \varepsilon_t \tag{7}$$

Foreign Direct Investment

$$d(FDI_t) = \alpha_0 + \beta t + Y FDI_{t-1} + d(FDI_t(-1)) + \varepsilon_t \tag{8}$$

The present article has applied the ARDL model because the significant characteristic of the ARDL model is that it is the suitable model when some constructs have no unit root at I(0) and some constructs have no unit root at I(1) (Alhodiry, Rjoub, & Samour, 2021). In addition, the ARDL model has the feature of providing both long and short-run associations among the constructs. Finally, the ARDL model can control the effects of heteroscedasticity and auto-correlation (Munir & Riaz, 2019). The ARDL equation is given as under:

$$\Delta GDPG_t = \alpha_0 + \sum \delta_1 \Delta GDPG_{t-1} + \sum \delta_2 \Delta LG_{t-1} + \sum \delta_3 \Delta SA_{t-1} + \sum \delta_4 \Delta INF_{t-1} + \sum \delta_5 \Delta EXP_{t-1} + \sum \delta_6 \Delta FDI_{t-1} + \varphi_1 GDPG_{t-1} + \varphi_2 LG_{t-1} + \varphi_3 SA_{t-1} + \varphi_4 INF_{t-1} + \varphi_5 EXP_{t-1} + \varphi_6 FDI_{t-1} + \varepsilon_1 \tag{9}$$

In equation (9), δ_1, δ_2, δ_3, δ_4, & δ_5 show "short-run coefficients. While φ_1, φ_2, φ_3, φ_4, φ_5, & ε_1 show the "long-run coefficients" and the error term.

4. FINDINGS OF THE STUDY

The article uses descriptive statistics to reveal the study's mean value, maximum values, standard deviation, minimum values, and the total number of observations. The study utilized thirty observations, as indicated by the findings. In addition, the results revealed that the median value of GDPG was 0.752%, whereas the median value of LG was 3.031%. In addition, the research showed that the average value of SA was 0.372%, while the average value of inflation was 0.370%. In addition, the results revealed that the average value of EXP was 13.259%, and the average value of FDI was 0.244%. Table 2 emphasizes the results of the descriptive statistics.

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GDPG	30	0.752	2.054	-5.693	4.098
LG	30	3.031	1.017	1.027	6.190
SA	30	0.372	0.429	0.109	0.541
INF	30	0.370	1.041	-1.353	3.251
EXP	30	13.259	3.287	8.816	18.329
FDI	30	0.244	0.293	-0.052	1.240

Moreover, the correlation matrix has also been applied to check the directional association among variables. The results indicated that the quantitative easing policies, such as policies related to loan growth and security purchases, positively impact the economic growth in Japan. The results also exposed that the control variables such as FDI, inflation, and exports positively associated with EG in Japan. Table 3 highlights the correlation matrix results.

Table 3: Matrix of Correlations

Variables	GDPG	LG	SA	INF	EXP	FDI
GDPG	1.000					
LG	0.519	1.000				
SA	0.262	0.453	1.000			
INF	0.159	0.621	0.201	1.000		
EXP	0.090	0.273	0.342	0.053	1.000	
FDI	0.454	0.102	0.522	-0.060	0.537	1.000

In addition, the research employs the ADF test to determine the unit root among the variables so that a suitable model may be used. GDPG and EXP were shown to be stationary at a level, while LG, SA, INF, and FDI were stationary at the initial difference. Table 4 summarizes the ADF's test findings.

Table 4: Unit Root Test

Augmented Dickey-Fuller Test (ADF)	Level	t-statistics	p-values
GDPG	I(0)	-3.101	0.019
LG	I(1)	-6.920	0.000
SA	I(1)	-5.913	0.000
INF	I(1)	-6.549	0.000
EXP	I(0)	-2.512	0.034
FDI	I(1)	-5.472	0.000

Additionally, the ARDL bound test analyzed the model's co-integration. The results revealed that the computed f-statistics value (5.72) exceeds the critical levels, indicating the existence of exposed co-integration. Table 5 highlights the test findings for ARDL. The results of the ARDL model indicated that the quantitative easing policies, such as policies related to loan growth and security purchases, have a positive impact on the EG in Japan in the short run. The results also exposed that the control variables such as FDI, inflation, and exports positively associated with EG in Japan in the short-run. Finally, the R square 0.534 indicated that 53.4% of the changes in GDPG was due to the LG, SA, INF, EXP, and FDI. Table 6 highlights the ARDL short-run association results.

Table 5: ARDL Bound Test

Model	F-statistics	Lag	Level of Significance	Bound test critical values	
				I(0)	I(1)
GDPG/(LG,SA,INF,EXP,FDI)	5.72	4	1%	6.23	6.54
			5%	5.11	5.63
			10%	4.13	4.92

Table 6: Short Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LG)	1.920	0.463	4.147	0.002
D(SA)	0.874	0.102	8.569	0.000
D(INF)	4.532	1.765	2.568	0.024
D(EXP)	1.229	0.453	2.713	0.020
D(FDI)	1.932	0.499	3.872	0.011
CointEq(-1)*	-1.212	0.392	-3.092	0.019
R-squared	0.534	Mean dependent var		-0.052
Adjusted R-squared	0.432	S.D. dependent var		2.232

The results 0f the ARDL model indicated that the quantitative easing policies, such as policies related to loan growth and security purchases, positively impact the EG in Japan. The results also exposed that the control variables such as FDI, inflation, and exports positively associated with EG in Japan. Table 7 highlights the ARDL long-run association results.

Table 7: Long Term Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LG	1.382	0.282	4.901	0.000
SA	3.729	1.433	2.602	0.020
INF	1.652	0.380	4.347	0.000
EXP	3.410	0.518	6.583	0.000
FDI	2.733	0.522	5.236	0.000
C	0.987	0.305	3.236	0.004

5. DISCUSSIONS

According to the findings, quantitative easing policies related to loan expansion have a favorable relationship with EG. These findings are reinforced by FerreiraLopes, Linhares, Martins, and Sequeira (2022), who demonstrate that central banks are regarded as an economy's financial supervisors. They have the jurisdiction to regulate the circulation of currency. When central banks determine that more significant investment is required for economic stimulation and development, they implement a quantitative easing program by providing commercial banks with loans. In this way, they release additional funds into the equity market, assist in boosting the debt capital of commercial banks, and stimulate the creation of money and the productivity of various economic sectors. In this manner, the deployment of quantitative easing policy through loan expansion increases the country's EG. These findings are also corroborated by Reisenbichler (2020), who demonstrates that the quantitative easing program through

loan distribution increases the money supply. After borrowing money, all businesses have the potential to improve their company processes and expand into more prominent sectors due to the influx of additional funds into the market. As a result, the output of products and services in the economy rises, and the economy develops further.

The results showed that quantitative easing policy related to security purchasing positively describes EG. These results align with Ryou, Baak, and Kim (2019), which examine the influences of quantitative easing policy adopted by central banks on economic development. The study suggests that when the central bank, also known as the government bank, detects a shortage of cash in the economy and desires to produce quantitative easing, it decides to purchase assets from the market. Thus, a higher amount of money is available on the market, enabling business enterprises to make swift judgments in pursuit of business effectiveness and expansion. The improvement in individual businesses' performance adds to the country's EG. Hence, the quantitative easing policy related to security purchasing, if effectively implemented, enhances EG. These results are also supported by Matousek, Papadamou, Šević, and Tzeremes (2019b), highlighting that the additional investment trend increases in the economy when the quantitative easing policy is implemented. This investment helps bring technological advancements and innovation in the business practices like transportation, infrastructure, business operations, and production procedures. This encourages an increase in the production volume and quality improvement. This enhances the GDP of a country.

The findings suggested that inflation has a favorable relationship with a nation's EG. These findings are reinforced by Hoang, Thi, and Minh (2020), who investigate the effect of inflation on the acceleration of a country's EG. This study demonstrates that central banks actively issue money into the market during periods of inflation. Though the dearness is upward in the economy, because of the more money in circulation, the government has excessive financial resources to utilize in implementing developmental and constructive plans within the country for the public's welfare. The increase in the demand for goods and services due to developmental and constructive practices enhances the country's productivity and employment rate. Thus, inflation triggers EG. These results also agree with Olamide, Ogujiuba, and Maredza (2022), which throws light on the contribution of inflation to EG. This claims that more expansion and progress opportunities arise when there is inflation and more investment is made in the country's developmental and constructive works. The increase in opportunities enhances production for the country and the country's EG.

The findings suggested that exports had a favorable relationship with a nation's EG. These findings are consistent with Athanasia S. Kalaitzi and Chamberlain's (2020) conclusion that export promotion is necessary to generate foreign currency that is of tremendous importance to governments and economists. For a nation to increase its exports, its people, physical resources, and technologies must be specialized to better the

production of those specific commodities and services in demand on the worldwide market. Thus, the production of these goods and services increases, contributing to the country's gross domestic product. These results are also corroborated by Zhu, Ahmad, Draz, Ozturk, and Rehman (2022), which indicates that efforts are being made to boost exports by increasing the productivity of production elements. Consequently, EG accelerates as the production performance of individual businesses improves.

The results suggested that FDI contributes positively to economic growth. These results concur with Adedoyin et al. (2020). They found that when a nation successfully develops relationships with foreign entities and convinces them to enter a contract for an investment in an economic project within the government, it encourages the implementation of consistent economic practices. The efficient financial procedures increase and sustain the nation's entire output. The country"s ability to maintain its position in the global economy is facilitated by the government's sustained output growth. These findings are also consistent with Malik et al. (2020), which indicate that when domestic and commercial entities attract foreign investment, the financial resources available for economic operations increase production levels within the country and enhance global marketing. Consequently, an increase in FDI increases a country's economic growth (EG).

6. IMPLICATIONS

The current study has both theoretical and empirical implications. This study makes a significant contribution to the economic-based literature. The study examines quantitative easing policy's influences on loan growth and security purchasing, inflation, exports, and FDI on EG. Many past studies have been written about EG. Some of these studies have talked about the impacts of the quantitative easing policy adopted by the central bank. But these studies have dealt with the quantitative easing policy as a complete term while analyzing EG. The study removes the literary gap, which measures the quantitative easing approach with two proxies, such as loan growth and security purchasing for EG analysis. In the past studies, the influences of quantitative easing policy related to loan growth and security purchasing, inflation, exports, and FDI on EG have been examined for a short time. The present study considers the same relationship for an extended period. The present article is also significant in practical life as the financial resources availability and money circulation in marketing are crucial factors in the economy. The study provides a guideline to the government, state banks representing the government in financial matters, and the economists. This article helps policymakers develop EG policies by implementing effective procedures related to quantitative easing. The study guides the government and economists informing policies and strategies to boot quantitative easing policy related to loan growth and security purchasing, effectively manage inflation, enhance exports, and encourage FDI on EG. Similarly, the study guides the central bank to effectively implement quantitative easing policy related to loan growth and security purchasing to accelerate EG.

7. CONCLUSION AND LIMITATIONS

The study aims to analyze the effects of quantitative easing policy on loan growth and secure purchases on EG and the influence of inflation, exports, and FDI on EG. The Japanese economy was surveyed to examine the quantitative easing policy related to loan growth and security purchasing, inflation, exports, foreign direct investment (FDI), and economic development (EG), as well as the relationship between a quantitative easing policy related to loan growth and security purchasing, inflation, exports, and FDI and EG. The results suggested that the quantitative easing program had a favorable effect on loan growth and security purchases, inflation, exports, and FDI. The results indicated that when central banks implement a quantitative easing policy by granting loans to candidates with lenient terms and purchasing securities available on the market, businesses can acquire more financial resources, increasing business efficiency and expanding the business reach. Consequently, there is an improvement in the country's EG. In addition, the study indicates that the rise in inflation inside the nation does not let enterprises experience a lack of financial resources. A robust financial position promotes economic practices and contributes to the country's Economic Growth (EG). The study indicates that the rise in exports and FDI, along with the expansion of economic activity and increased productivity, contributes to the enhancement of EG.

Additionally, the present study has several limitations. In the future, it is expected that these constraints will be removed from the literature by some adjustments. The paper examines the effects of quantitative easing on EG regarding loan growth and security purchases, inflation, exports, and FDI. Every nation needs to increase its economic growth rate, and numerous factors influence the EG rate. Therefore, authors must concentrate on a wider variety of EG variables. This study evaluates the short-term effects of quantitative easing on loan growth and security purchases, inflation, exports, and foreign direct investment. Future authors must give an extended investigation of the link between these parameters.

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