Impact of Macroeconomic Variables on Performance of Pension Funds: An Econometric Analysis

Neha Mangla[1] and Kavita Indapurkar[2]
[1]*Vivekananda Institute of Professional Studies – TC, Delhi, India*
[2]*Amity School of Economics, Amity University Noida, India*

Keywords: Retirement Planning, Macroeconomic Variables, Time Series Analysis, Successful Ageing.

Abstract: Retirement is a natural phase of life when after a certain age individual's cease to work or reduce their work hours. Retiring successfully can be ensured if one attains self-sufficiency in terms of wealth by the time of retirement. Retirement planning is the process of making your money work for you in order to help you achieve your goals and maintain your quality of life in later years. Like many other developing countries, there is no social security system in India to protect the elderly from financial deprivation. The pension system in India relies on employer and employee participation and contribution. Investing in Pension plans provide financial support and stability to retirees when they cease to have a steady source of income. The returns on pension funds are thus a key determinant of who enrolls in these schemes and how much money is generated for retirement. This study investigates the impact of select macroeconomic variables, Gross Domestic Product (GDP), exchange rate, money supply, inflation and unemployment on pension fund returns in India using time series analysis. The study shows that changes in GDP significantly impact returns on pension funds especially post the COVID-19 lockdown. While changes in exchange rate significantly impact returns on state government pension funds, changes in inflation is a significant factor impacting returns on equity driven pension funds.

1 INTRODUCTION

With rising life expectancy and increasing proportion of elderly in the age structure, there is growing concern about ensuring adequacy of retirement resources. Appropriate retirement planning during the working age can be one of the most effective tools for easy transitioning to retirement and ensuring wellbeing during the retirement years.

In 2004, India switched to a defined contributory scheme under the National Pension System, shifting the burden of financial well-being during retirement to individuals. Since 2009, NPS is provided to all citizens of the country on a voluntary. Retirement benefits in defined-contribution plans are dependent on the performance of the pension fund scheme, and the risk of investment in the pension plan is completely borne by the pension plan member. During the Pandemic, there have been significant changes in the macroeconomy that have an impact on the returns of these pension funds.

Pension plans provide financial security and stability to retirees who cease to have a steady income flow. Retirement planning enables people to maintain their standard of living even as they transition into retirement. These funds are managed by professional investment managers and comprise of contributions from both the employees and employers. The money in these funds is invested in a diversified portfolio of assets such as government securities, equity, bonds, and real estate, in order to grow the fund over time. When any pension plan member retires, the fund provides them with a regular stream of income that is based on the value of their pension plan account. The stream of income depends on the fund accumulation till retirement, that in turn depends on the returns generated on the pension fund.

Globally, countries are working hard to reform their pension systems. Given the increased burden on government funds, rising life expectancy, and changing age structure, the focus has shifted to privately funded pension programmes managed by the private sector. Across the globe, there has been substantial increase in assets under retirement savings plans. However, when compared to GDP, the amount of assets remain low in some large and rapidly

Mangla, N. and Indapurkar, K.
Impact of Macroeconomic Variables on Performance of Pension Funds: An Econometric Analysis.
DOI: 10.5220/0012502800003792

In *Proceedings of the 1st Pamir Transboundary Conference for Sustainable Societies (PAMIR 2023)*, pages 739-748
ISBN: 978-989-758-687-3

developing countries like India and China. Pension funds are expected to become more important in the future as people around the world become increasingly concerned about saving for their retirement years (OECD, 2021).

The interlinkage between the equity returns, mutual fund returns, and macroeconomic variables has been in focus of academicians. However, even though there is an increased focus on retirement saving plans and pension fund investments, an analysis of the dynamics of returns on these funds has not been studied particularly.

Pension funds have a long-term horizon and very stringent rules regarding premature withdrawal, which distinguishes them from other types of funds. This gives pension funds a lot of leeway in selecting investments, but it also means that subscribers expect much better returns from their pension fund managers. The present study studies the dynamics of pension fund returns by analyzing the impact of macroeconomic variables on pension fund returns in India.

2 REVIEW OF LITERATURE

According to the World Population Prospects (2022), global life expectancy increased to 72.8 years in 2019 and is projected to increase to an average of around 77.2 years in 2050. In India too, better health and sanitation conditions have resulted in increased life expectancy, and thus the number of post-retirement years. Retirement planning has become essential in today's time given the increasing cost of living, inflation and the rising life expectancy. The National Pension System (henceforth NPS) was implemented in India on January 1, 2004. On May 1, 2009, NPS was made available to all Indian citizens on a voluntary basis, as a step towards India's endeavor to develop an efficient and a sustainable pension system. The contributions made by government employees are invested in schemes of three public sector Pension Fund Managers (PFMs). Each PFM invests majority of the contributions in fixed income securities (85 percent) and the remaining 15 percent in stocks (Sane & Thomas, 2014). The non-government employees have a choice between three asset classes: G-government bonds, C-fixed income instruments, and E-equity market instruments for investment of their voluntary NPS contributions.

Despite the government's efforts to make NPS attractive, it has been criticized on many grounds. According to an online survey conducted by ET Wealth (Zaidi, 2018), no assured returns, lower returns on the annuity, availability of better investment plans such as mutual funds, Public Provident Fund, Equity linked saving schemes, etc. are some reasons for criticizing the NPS investment for retirement planning. The NPS has seen a lukewarm response so far, with majority of subscribers being central and state government employees, for whom the scheme is mandatory (Sanyal et al., 2011a). Investments in NPS till retirement do not even guarantee a minimum pension after retirement, thus defeating its 'welfare' orientation (Sanyal et al., 2011b).

In this backdrop, it is important to analyze the performance of pension fund schemes and the factors that impact their performance. Therefore, this study shall broadly examine how the macroeconomic factors, exchange rates, unemployment rate, money supply, GDP and inflation impact the returns on pension funds.

While attempting to find out the determinants of stock returns and mutual fund returns, macroeconomic variables have been paid special attention to (Nguyen et al., 2020; Qureshi et al., 2019; Verma & Bansal, 2021; El Abed & Zardoub, 2019). Rahman et al. (2009) used the Vector Autoregressive Model (VAR) and the Vector Error Correction Model (VECM) to analyze the interaction between selected macroeconomic variables and stock prices in Malaysia and concluded that Malaysian stock market index does have a cointegrating relationship with changes in interest rates, exchange rate and money supply. Yu Hsing (2014) studied the interaction between the stock market and macroeconomic factors in Estonia and concluded that while gross domestic product impacts the index positively, the exchange rate and the expected rate of inflation affect the index negatively. Nguyen et al. (2020) used the Auto Regressive Distributed Lag (ARDL) model to conclude that money supply, exchange rate and inflation rate significantly influence stock market returns in the long run in Vietnam. In a study on stock market returns in Germany, El Abed and Zardoub (2019) using the ARDL model conclude that exchange rate and money supply have a positive but no significant impact on stock return, while CPI has a positive and a significant impact on the stock returns. In the study on Asian developing economies, Qureshi et al. 2019 conclude that there is a boom in stock market returns when the economy is thriving whereas the opposite holds true for bond returns. Khan (2019) conclude that exchange rate has a negative and significant influence on the stock returns of Shenzhen stock exchange. In another study using Panel data analysis Purwaningsih (2019) in their study on

Indonesia conclude that interest rates, exchange rates, GDP and inflation significantly impact the returns of equity mutual fund. Unemployment is related to the business cycle and to fluctuations in the stock market, and thus it may also have an impact on mutual fund flows and returns (Geske & Roll,1983; Flannery & Protopapadakis, 2002; Bali et al., 2014).

The objective of this paper is to model the dynamic relation between pension fund returns and macroeconomic variables in India using time series analysis. A study of pension fund returns can help to identify the driving factors in determining the performance of pension funds, and can provide insights into how changes in these factors may impact pension returns in the future.

The rest of the paper is organized as, Section 3 explains the data and variables; Section 4 summarizes the methodology; Section 5 discusses the empirical results and interpretation, and Section 6 presents the conclusions.

3 DATA AND VARIABLES

There are many kinds of pensions schemes offered under the National Pension System. Based on targeted individuals there are schemes specifically for government sector employees (like Central Government and State Government Schemes) and other schemes open to all citizens of India (Tier 1 and Tier 2 schemes). Basis asset allocation there are schemes that invest the funds primarily in fixed income securities (like Central and State Government Schemes and Scheme G in Tier 1 and Tier 2), and others that invest heavily in equity markets (like Scheme E in tier 1 and tier 2).

As a representation of the different kinds of schemes, the study analysis the performance of two specific pension fund schemes; the State Government Scheme and the Scheme E in Tier 1. The State Government Scheme has the highest asset allocation under the schemes open for public sector employees and it invests majority of the funds in fixed income securities. On the other hand, the Tier 1 Scheme E with Fund Manager HDFC is open to all citizens of India and has the highest asset allocation. It invests majority of funds in equity markets. HDFC Pension Fund offered the highest average return of 16.84% in Tier I and is identified as the best pension fund manager with the highest ratios as per all the three risk-adjusted performance measures, i.e., the Treynor, Sharpe and Jensen alpha (Murari, 2020).

Overall, positive macroeconomic developments are expected to boost market returns and flow of funds in the economy, and vice versa. The GDP growth rate is the primary indicator of macroeconomic conditions (Jank, 2012; Chatziantoniou et al., 2013; Bali et al., 2014). Apart from GDP other macroeconomic indicators used in this study are: change in inflation rate; money supply growth rate; change in Rs./$ exchange rate; and unemployment rate. Data from June 2017 to August 2022 was compiled for all the variables under study. Table 1 gives the details of the variables used; definition, source and summary statistics.

Table 1: Description of Variables.

Variable	Variable Name	Definition	Source	Mean	Std. Dev.
Returns on State Government Pension Scheme	Ret_sgs	3-month returns calculated on a monthly basis. Average returns for the three fund managers (SBI, HDFC and UTI) were calculated	National Pension System Trust	0.019	0.020
Returns on Tier 1 Scheme E (HDFC PF)	Ret_Sche	3-month returns calculated on a monthly basis.	National Pension System Trust	0.034	0.086
Inflation	CPI	Consumer Price Index	RBI	0.004	0.006
Exchange Rate	Exrt	Rate of change in exchange rate (Rs./U.S Dollar); monthly	FRED	0.003	0.014
GDP	GDP	Change in monthly GDP index	FRED	0.001	0.019
Money Supply (M3)	Ms	Rate of change in money supply (M3); monthly	FRED	0.008	0.008
Unemployment Rate	Un	Monthly Unemployment Rate	CMIE	0.075	0.031

Source: Author's own compilation using Eviews 12 SV

4 METHODOLOGY

Choosing the appropriate method for time series analysis is crucial as any misspecification or using the wrong method gives biased and unreliable estimates. The choice of methodology primarily depends on the stationarity of the series by checking the unit root. If all the series of interest are stationary, ordinary least square (OLS) or VAR models can provide unbiased estimates (Shrestha & Bhatta, 2018).

The times series for all variables were tested for stationarity using the Augmented Dickey Fuller (ADF) test, the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test and the Phillips-Perron (PP) test. Contrary to the other unit root tests, the presence of a unit root is the alternative hypothesis in the KPSS test. Sometimes, data tends to reject the null hypothesis, so testing for stationarity using all the tests helps to test if the null is rejected in all the tests despite different null hypothesis. In our data, all the tests showed that all the series are stationary at level. Accordingly, long run static model using ordinary least squares method is estimated using the following model specification for the two types of pension funds:

$$Ret\_sgs_t = \alpha + \beta_1 CPI_t + \beta_2 Exrt_t + \beta_3 GDP_t + \beta_4 Ms_t + \beta_5 Un_t + \varepsilon_t$$

$$Ret_{sche_t} = \alpha + \beta_1 CPI_t + \beta_2 Exrt_t + \beta_3 GDP_t + \beta_4 Ms_t + \beta_5 Un_t + \varepsilon_t$$

5 EMPIRICAL RESULTS AND INTERPRETATIONS

Table 2 reports the results of unit root tests applied to determine the order of integration of the time series data. ADF, PP and KPSS tests were employed to test if the series has a unit root (series is not stationary). Basis the ADF and PP test with the null hypothesis; series has a unit root, the p-values for all the series were significant at 5% level of confidence thus rejecting the null. This indicates that all the series are stationary at level or integrated at level. The KPSS test, that tests the null; series is stationary, had the LM stat value less than the critical value at 5% confidence, for all the variables, thus accepting the null. The KPSS test also indicates that all the series are stationary or integrated at level.

Table 2: Unit Root Tests.

Variable	ADF Test Statistic	PP Test Statistic	KPSS Test Statistic	Final Decision
Ret_SGS	(3.006413)*	(3.320006)*	0.167919	I(0)
Ret_Sche	(2.982738)*	(3.358908)*	0.110098	I(0)
CPI	(5.963184)*	(5.608603)*	0.094482	I(0)
Exrt	(6.996219)*	(6.996219)*	0.055920	I(0)
GDP	(6.517648)*	(3.799529)*	0.054377	I(0)
Ms	(8.688854)*	(9.484461)*	0.087092	I(0)
Un	(4.352836)*	(3.484874)*	4.417547	I(0)

Source: Author's own compilation using Eviews 12 SV

*Note: * represent significant at 5% level of significance; () represent negative values.*

Final decision has been made based on individual stationarity tests

Since all the series are stationary at level, only the long run static model (without lags) is estimated using OLS.

Table 3 shows the results of the regression model with returns on the state government pension scheme as the dependent variable and all the macroeconomic variables as the independent variables.

Table 3: Regression results for returns on state government scheme.

Variable	Coefficient	Std. Error
CPI	0.226692	0.386329
Exrt	-0.478893	0.180685**
GDP	0.358255	0.162793**
Ms	-0.085375	0.317164
Un	0.192409	0.099132*
C	0.00629	0.008072

Source: Author's own compilation using Eviews 12 SV
, **, * indicates significance at the 90%, 95%, and 99% level, respectively.*

The results indicate that in the long run changes in exchange rate and GDP significantly impact the returns on state government pension scheme at 5% significance level. A one percent increase in the Rs./$ exchange rate decreases the pension returns on state government scheme by .47 percent. Also, a one percent increase in GDP increases the return on state government scheme by .35 percent. Changes in unemployment rate impact returns on state government scheme at a 10% significance level. Changes in inflation and money supply do not have a significant impact on the returns on state government scheme. The model is significant as reflected in the value of the F-statistic (3.384773) being significant at 5% significance level.

To check the stability of the coefficients and to check for any structural breaks in the data, the CUSUM square test is used. The test confirms that the coefficients are stable (Figure 1).

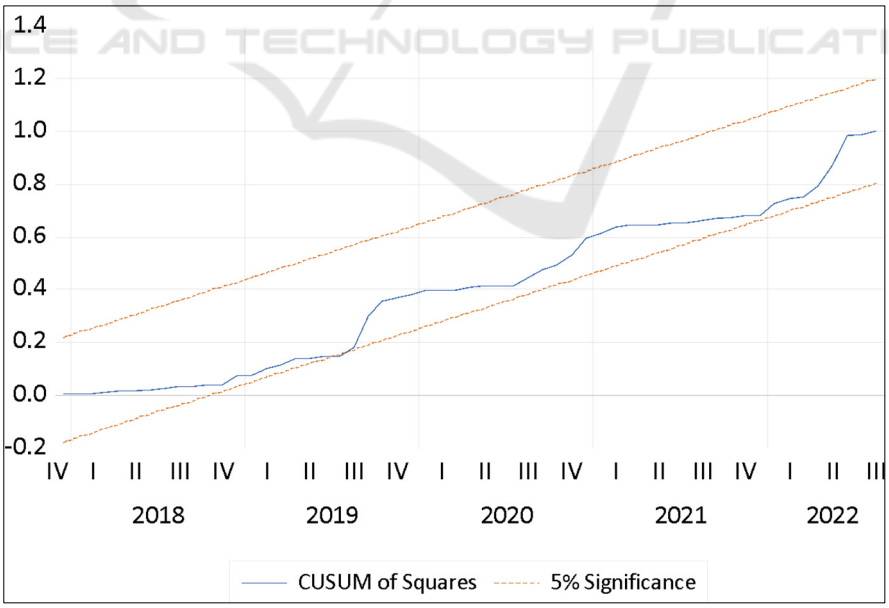

Figure 1: CUSUM Square Test.

Next, we analyse the returns on Tier 1 Scheme E (HDFC PF). Table 4 shows the results of the regression model with returns on the Tier 1 Scheme E (HDFC PF) as the dependent variable and all the macroeconomic variables as the independent variables.

Table 4: Regression results for return on Tier 1 Scheme E (HDFC PF).

Variable	Coefficient	Std. Error
CPI	0.999576	1.446423
Exrt	-1.549711	0.676487**
GDP	2.293429	0.609502***
Ms	-0.942381	1.187468
Un	0.014875	0.371151
C	0.04116	0.030221

Source: Author's own compilation using Eviews 12 SV
, **, * indicates significance at the 90%, 95%, and 99% level, respectively.*

The results from the regression show that the changes in exchange rate and GDP significantly impact the returns on Tier 1 Scheme E (HDFC PF). While increases in GDP positively impact the returns, an increase in the exchange rate impacts the returns on Tier 1 Scheme E negatively. The overall significance of the model is reflected in the F-statistic (3.384773) being significant at 5% significance level. The CUSUM square test for stability of the model (Figure 2) shows that the results are not stable and there exists a structural break in the series. The test shows that the there is a digression outside the 5% significance level boundary at 2020 month IV.

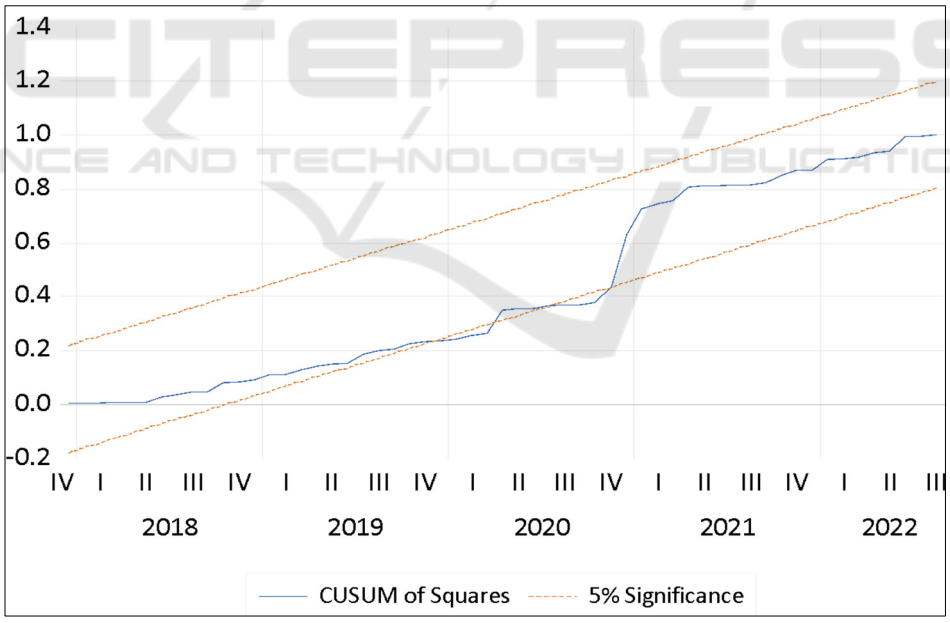

Figure 2: CUSUM Square Test.

To confirm the structural break, the Chow Break point test for employed. The results from the Chow Test (Table 5) confirm the presence of a structural break at the fourth month of 2020. The F-statistic is significant at 5% significance level, thus rejecting the null; no breaks at specified break points. Structural break occurs when an event distorts the movement in a time series. April 2020 was the month when the country was under a complete lockdown due to the COVID-19 Pandemic and the economic activity came to a standstill.

Table 5: Chow Break Point Test.

F-statistic	3.114477	Probability	0.0112
Log likelihood ratio	19.66773	Probability	0.0032
Wald Statistic	18.68686	Probability	0.0047

Source: Author's own compilation using Eviews 12 SV

To account for the structural break, a revised regression for returns on Scheme E Tier 1 is done. The data is divided in two parts; till April 2020 and post April 2020. Separate regressions were run to check if there is a change in the factors that impact the returns on Scheme E pension funds pre and post the structural break[1].

Table 6 shows the results of the regression model with returns on the Tier 1 Scheme E (HDFC PF) as the dependent variable and all the macroeconomic variables as the independent variables including the data from June 2017 to April 2020.

Table 6: Regression results for return on Tier 1 Scheme E (HDFC PF) – June 2017 to April 2020.

Variable	Coefficient	Std. Error
CPI	4.296811	1.815105**
EXRT	-1.365153	0.685897***
GDP	1.969318	1.616761
MS	-1.737495	1.237123
UN	-0.302359	0.853247
C	0.040569	0.056277

Source: Author's own compilation using Eviews 12 SV
, **, * indicates significance at the 90%, 95%, and 99% level, respectively.*

The model is overall significant reflected in the F-statistic (6.687051) being significant at 5% significance level. Changes in inflation rate significantly impact the returns on the Scheme E pension fund. Changes in exchange rate impact returns on Scheme E funds but only at a 10% significance level. GDP, which was one of the key impact factors for the state government scheme does not impact the returns on Scheme E significantly during the pre-COVID times. The CUSUM square test (Figure 3) confirms the stability of the model.

[1]The results of difference-in-difference method was also in line with the results from the two separate regressions. Residual diagnostics have been performed and found robust.

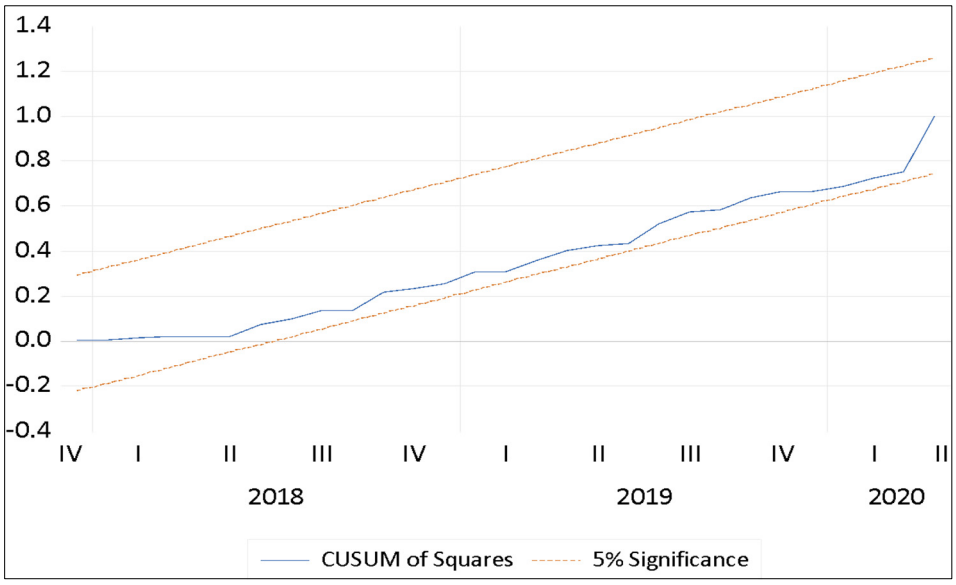

Figure 3: CUSUM Square Test.

Next, we analyse the returns post the structural break i.e., April 2020. Table 7 shows the results of the regression model with returns on the Tier 1 Scheme E (HDFC PF) as the dependent variable and all the macroeconomic variables as the independent variables including the data from April 2020 to August 2022.

Table 7: Regression results for return on Tier 1 Scheme E (HDFC PF) – May 2020 to August 2022.

Variable	Coefficient	Std. Error
CPI	-2.966947	2.346576
EXRT	-1.524814	1.416957
GDP	2.162815	0.833436**
MS	0.976743	2.183324
UN	-0.513548	0.588774
C	0.107379	0.055316***

Source: Author's own compilation using Eviews 12 SV
, **, * indicates significance at the 90%, 95%, and 99% level, respectively.*

The model is overall significant with the F-statistic (2.927130) significant at 5% significance level. Though changes in GDP did not affect returns on Scheme E Tier 1 pension scheme before the pandemic, post the pandemic changes in GDP significantly impact the return on Scheme E pension fund. The CUSUM square test (Figure 4) confirms the stability of the model.

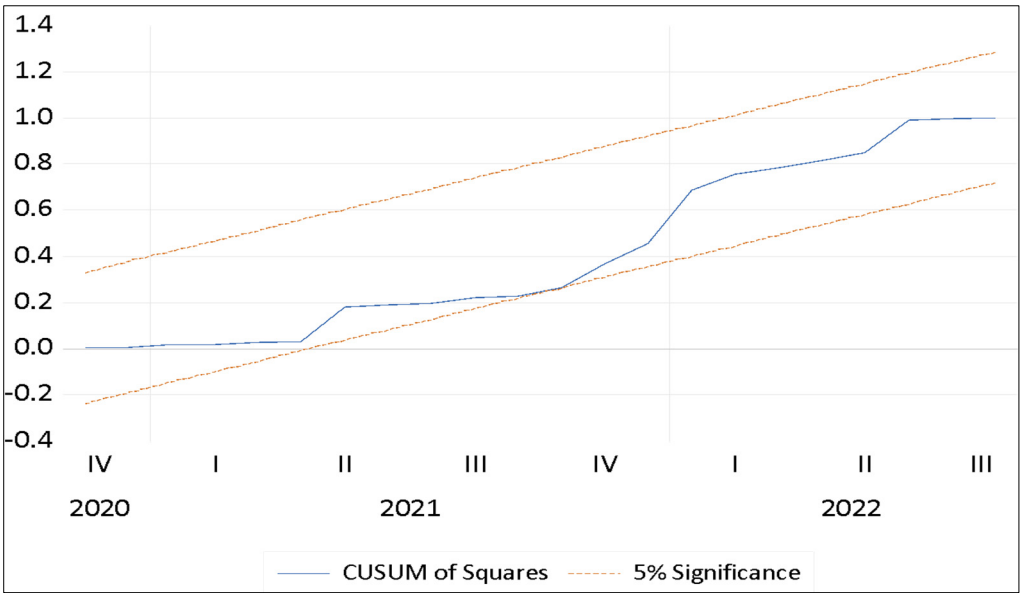

Figure 4: CUSUM Square Test.

6 DISCUSSION AND CONCLUSION

The present study is an attempt to examine the dynamic interaction between macroeconomic variables and pension fund returns in India using monthly time series data for the period June 2017 to August 2022. The period under consideration has specific relevance because of the economic shock, the COVID 19 pandemic. The entire analysis was done with two broad objectives, first, to see how in general macroeconomic variables impact the returns from pension funds and second, to analyse if economic shocks like to COVID 19 pandemic distort returns from different pension funds.

For the first objective, out of the macroeconomic indicators studied, changes in exchange rates and changes in GDP significantly impact the returns on state government scheme. While changes in exchange rate have a negative impact, the GDP has a positive impact on the returns. Many factors may corroborate the observed results. An increase in exchange rate implies depreciation of the rupee which negatively impacts investor sentiments and increases the exposure of the economy to exchange rate risks thus impacting the returns negatively. GDP is a measure of economic growth and is reflective of the overall health of the economy. An increase in the GDP may result in increased fund flows and positive investor sentiments thus increasing the returns. Additionally, though changes in inflation do not impact the returns on the state government schemes, it does impact the returns on Tier 1 Scheme E prior to the lockdown period.

For the second objective, the results of the Chow Test confirm that the lockdown during COVID-19 distorted the returns of the Tier 1 Scheme E. In terms of the impact of the macroeconomic variables as well, though GDP was not a significant factor impacting the returns during the pre lockdown period, it does become a significant factor impacting Scheme E returns post the lockdown. Some of the reasons explaining the same can be stated as increased market volatility, economic lockdown and loss of businesses and changed investor behaviour post the economic shock. Since Scheme E specifically invests in stocks, its returns were distorted because of the economic shock. On the other hand, the results show that the economic lockdown did not have an impact on the returns of state government pension scheme.

The importance of the macroeconomic variables studied in this research can be useful for pension fund managers and policymakers, as it can help them to make more informed investment and policy decisions.

REFERENCES

Bali, T. G., Brown, S. J., & Caglayan, M. O. (2014). Macroeconomic risk and hedge fund returns. *Journal of Financial Economics*, *114*(1), 1-19.

Chatziantoniou, I., Duffy, D., & Filis, G. (2013). Stock market response to monetary and fiscal policy shocks: Multi-country evidence. *Economic modelling*, *30*, 754-769.

El ABED, R., & Zardoub, A. (2019). Exploring the nexus between macroeconomic variables and stock market returns in Germany: An ARDL Co-integration approach. *Theoretical & Applied Economics*, *2*(2).

Qureshi, F., Kutan, A. M., Ghafoor, A., Khan, H. H., & Qureshi, Z. (2019). Dynamics of mutual funds and stock markets in Asian developing economies. *Journal of Asian Economics*, *65*, 101135.

Flannery, M. J., & Protopapadakis, A. A. (2002). Macroeconomic factors do influence aggregate stock returns. *The review of financial studies*, *15*(3), 751-782.

Geske, R., & Roll, R. (1983). The fiscal and monetary linkage between stock returns and inflation. *The journal of Finance*, *38*(1), 1-33.

Jank, S. (2012). Mutual fund flows, expected returns, and the real economy. *Journal of Banking & Finance*, *36*(11), 3060-3070.

Khan, M. K. (2019). Impact of exchange rate on stock returns in Shenzhen stock exchange: Analysis through ARDL approach. *International Journal of economics and management*, *1*(2), 15-26.

Murari, K. (2022). Risk-adjusted performance evaluation of pension fund managers under social security schemes (National Pension System) of India. *Journal of Sustainable Finance & Investment*, *12*(4), 1217-1231.

Nguyen, T. T., Mai, H. T., & Tran, T. T. M. (2020). Monetary Policy and Stock Market Returns: Evidence from ARDL Bounds Testing Approach for the Case of Vietnam. *Asian Economic and Financial Review*, *10*(7), 758-777.

OECD (2021), Pension Markets in Focus 2021,www.oecd.org/finance/pensionmarketsinfocus.htm

Purwaningsih, S. S. (2019, October). An Analysis of Influence of Interest Rates, Rupiah Exchange Rates, Gross Domestic Product (GDP), Inflation, and Indonesia Composite Index (ICI) on the Performance of Mutual Funds Using Panel Data Methods. In *International Conference On Applied Science and Technology 2019-Social Sciences Track (iCASTSS 2019)* (pp. 105-108). Atlantis Press.

Rahman, A. A., Sidek, N. Z. M., & Tafri, F. H. (2009). Macroeconomic determinants of Malaysian stock market. *African Journal of Business Management*, *3*(3), 95.

Sane, R., & Thomas, S. (2014). The way forward for India's National Pension System. *Indira Gandhi Institute of Development Research.(Available online at: http://www. igidr. ac. in/pdf/publication/WP-2014-022. pdf)*.

Sanyal, A., Gayithri, K., & Erappa, S. (2011). National pension scheme: For whose benefit?. *Economic and Political Weekly*, 17-19.

Sanyal, A., Gayithri, K., & Erappa, S. (2011). Indian Civil Servants Pension Liability Projections: An Alternative Framework. *The IUP Journal of Public Finance*, *9*(2), 7-29.

Shrestha, M. B., & Bhatta, G. R. (2018). Selecting appropriate methodological framework for time series data analysis. *The Journal of Finance and Data Science*, *4*(2), 71-89.

United Nations Department of Economic and Social Affairs, Population Division (2022). *World Population Prospects 2022: Summary of Results*. UN DESA/POP/2022/TR/NO. 3.

Verma, R. K., & Bansal, R. (2021). Impact of macroeconomic variables on the performance of stock exchange: a systematic review. *International Journal of Emerging Markets*, *16*(7), 1291-1329.

Hsing, Y. (2014). Impacts of macroeconomic factors on the stock market in Estonia. *Journal of Economics and Development Studies*, *2*(2), 23-31.

Zaidi, B. (2018, Dec 27). 5 Reasons Why Investors Stay away from NPS. But should you?. *The Economics Times*. https://economictimes.indiatimes.com/wealth/invest/5-reasons-why-investors-stay-away-from-nps-but-should-you/articleshow/61890679.cms?from=mdr