

# Impact of Macroeconomic Factors on Initial Public Offer: An Analytical Study of Investor's Decision

Veerendra Kumar<sup>1</sup>, Pramod Kumar<sup>2</sup>

<sup>1</sup>Research Scholar, Department of Accountancy and Law, Faculty of Commerce, Dayalbagh Educational Institute (Deemed to be), Agra

<sup>2</sup>Professor and Head of Department Accountancy and Law, Faculty of Commerce, Dayalbagh Educational Institute (Deemed to be), Agra

## Abstract

The financial performance and economic stability of any listed company in India will be measured using various financial and accounting methods. The premise of such matters starts with IPOs (Initial Public Offerings) being issued at the right time and suitable period. Before launching any IPO, a particular company will study a lot of macro and micro economic factors of the concerned region and their impact on IPO success rate. An IPO is a giant leap for a company as it gives access to raising colossal capital. This enhances the ability of a company to expand exponentially. This paper attempted to study several macroeconomic factors that impact Uttar Pradesh's state in the Agra division districts (Agra, Firozabad, Mathura, and Mainpuri) and the investor purchase behavior of different IPOs. Additionally, the research examines four factors namely GDP, Unemployment, Inflation, and Interest rates that are comparatively more significant in a long-run relation. This research found that GDP, inflation rate, and interest rate substantially impact IPO purchase decisions. However, the rate of unemployment has been discovered to have no significant effect on investors' IPO purchase decisions.

**Keywords:** Inflation, Interest Rates of banks, GDP, Stock Market, IPO purchase decisions.

## Introduction

Analysis of the impact of the IPO market cycle on the initial public offering process is related to the study of the connection between critical internal and external factors affecting the decision to hold an IPO. Previous studies determined the relationship between the IPO timing (based on IPO data of 10 companies) and the key indicators such as the stock market index adjusted for inflation and GDP growth rate. He found a positive relationship between the number of IPOs and the stock market price levels. However, it could not identify any positive correlation with the phases of the economic cycle. Eminent research suggests that many IPOs have a positive correlation with high equity indices and favorable conditions for business. However, they tend to underestimate the issuing company. The assumption that there are connections between macroeconomic fundamentals and equities returns can be supported by a strong and easily understandable argument. However, we still lack the necessary empirical evidence to substantiate this claim. Macroeconomic variables encompass indicators that represent overall economic circumstances, variables related to monetary policy and interest rates (MP),

factors about pricing levels, and variables connected to international activities. General economic circumstances encompass factors such as the industrial output index and the unemployment rate. Interest rate, term spread, default spread, and money supply are some of the variables that are associated with monetary policy and interest rates. On the other hand, the general price level index and the inflation rate are characteristics of variables related to the price level.

Studies have examined many macroeconomic variables to evaluate which factors have the most significant influence on stock returns. Examples of variables involving international activity include exchange rates and foreign direct investments (FDI). An area of research in economics that is widely studied is the examination of the variables that influence the performance of stocks. According to the fundamental stock valuation model, the variables that influence the price of a stock are the anticipated cash flows generated by the stock and the necessary rate of return based on the stock's level of risk. A macroeconomic indicator affects the cash flows of a company and impact risk-adjusted discount rates. The risk-free rate and the asset's risk measurement are included in the needed rate of return. The real interest rate and anticipated inflation are two factors that affect this nominal risk-free rate.

Initial public offerings (IPOs) in 2022 have helped investors make better money than the previous two years, with 17 of the 22 listings currently trading above their issue price amid sharp swings in the stock market. Some IPOs, such as Adani Wilmar, Veranda Learning, Venus Pipes, and Campus Activewear, have doubled the issue price. At the same time, another dozen has returned between 15% and 80% over the issue price.

### **Macroeconomic Factors:**

A macroeconomic factor refers to a pattern, trait, or condition that arises from or is connected to a larger element of an economy, rather than a specific population. A characteristic refers to a notable economic, environmental, or geopolitical occurrence that has a broad impact on a regional or national economy. Factors like

- GDP.
- Interest Rates
- Inflation
- Unemployment

### **Review of Literature:**

**Aidrous & Glavino (2020)** studied the connection between the number of IPOs and macroeconomic factors, a relatively underdeveloped area of the IPO process study. The question of the applicability of the research results to the modern global both the IPO market and the market for the GCC region, in particular, remains open and requires verification. Most studies refer to macroeconomic variables' impact on the number of IPOs, not considering the effect on the total amount of funds raised. The size of the IPO market is determined not only by the number of IPOs but also by the amount of raised capital.

**Kumar K & Bhawan (2016)** mentioned a nexus between the Indian stock market and considered macroeconomic indicators by conducting necessary analyses addressing long- and short-term relationships. The research uses Granger causality tests and Johansen's co-integration analysis on monthly data from July 2001 to July 2015. The findings are stimulating and valuable for comprehending the relationship between macroeconomic factors and stock returns. The findings of the

analysis support the presence of a single co-integrating vector between the Sensex and the money supply, exchange rate, WPI, and rate of treasury bills, among other macroeconomic variables. In addition, the study notes that three out of four elements (namely, WPI, money supply, and T-bill) have a greater level of significance in a long-term relationship. According to the analysis, there is short-term bidirectional causality between the Sensex and the currency rate. Inflation and money supply show a positive and significant relation to stock returns. The Interest Rate (IR) has a negative and statistically negligible correlation with stock market performance. The Indian capital markets exhibit market inefficiency due to the combination of stock returns and macroeconomic indices.

**Naik and Puja (2012)** examined the Indian stock market by analyzing the BSE Sensex and macroeconomic variables such as the money supply, the Wholesale Price Index (WPI), the Index of Industrial Production (IIP), and T-bill rates as measures of interest and currency rates. The monthly data from April 1994 to June 2011 is analyzed. Johansen's co-integration and VECM are applied to run for long-run approximation relationships. Stock prices have a positive correlation with both money supply and IIP while displaying a negative correlation with inflation. Exchange rates and short-term interest rates have been determined to have no meaningful impact on the explanation of stock returns.

**Ameer, R. (2012)** established a negative relationship between the interest rate level and IPO volumes. The paper proved a positive correlation between industrial production and the number of IPOs in the Malaysian emerging market. That study confirmed the impact of macroeconomic factors on the number of IPOs in the developing and developed capital markets. As a result of studying the dependence of the IPO market of Poland on the macroeconomic factors, Meluzin, T.

**Zincecker, M. Lapinska, J. (2014)** found the relation between the percentage year-to-year change of GDP and changes of WIG (Warszawski Indeks Giełdowy) of the Warsaw Stock Exchange. However, their study only analyzed the dependence of the number of IPOs on macroeconomic factors, not considering the amount of capital raised during the IPO.

**Tetlock, P. (2007)** explained that the stock exchange index is the leading indicator of the stock market, which is composed of securities groups that reflect the price dynamics of the market. Stock markets worldwide are connected via communication channels, and the information can be quickly distributed among investors. The stock exchange index changes over time and indicates the general direction of price movement. The pessimistic mood in the market causes a decrease in quotations and contributes to a low volume of trade on the stock market and lower incomes.

**Flannery and Protopapadakis (2002)** conducted an estimation of a GARCH model for daily stock returns. The model takes into account 17 macro data releases and their associated conditional volatility. The estimation period spans from 1980 to 1996. Three key economic indicators, namely the consumer price index (CPI), producer pricing index (PPI), and a measure of the money supply are analysed. Additionally, three important economic elements, namely the Balance of trade (BoT), Employment Report (ER), and Housing Starts (HS), are taken into account. Conventional indicators of economic activity, such as industrial production or Gross National Product (GNP), are not regarded as reliable since actual GNP did not have a substantial impact on the volatility of conditional returns or trade volume the results, six among the seventeen macro indicators are considered crucial variables for risk factors. The two-inflation metrics, CPI (Consumer Price Index) and PPI (Producer Price Index), only impact the magnitude of market returns. The variables that have a direct impact on the conditional volatility of returns include the balance of Trade, employment/unemployment, and housing.

**Objectives of the study:**

1. To study different macroeconomic variables that impact IPO purchase decisions by investors in Uttar Pradesh.
2. To explore IPO purchase decision factors by investors and concern issues and challenges.

**Hypothesis of the study:**

- H<sub>01</sub>: There is no significant impact of the GDP growth rate on the IPO purchase decision.  
 H<sub>02</sub>: There is no significant impact of the Inflation Rate (IR) on the IPO purchase decision.  
 H<sub>03</sub>: There is no significant impact of the Unemployment Rate (UR) in the country on IPO purchase decisions.  
 H<sub>04</sub>: There is no significant impact of Interest Rates (IR) of various banking institutions on IPO purchase decisions.

**Research Methodology**

**Sample & Sample Size:**

The present research is the present research is “descriptive” in nature. The sample consists of stock market traders by brokerage institutes and individual investors from Uttar Pradesh in the Agra division districts (Agra, Firozabad, Mathura, and Mainpuri) who have been actively involved in share market activities for more than 3 years.

A sample of 100 such respondents’ opinions was captured with the help of a questionnaire consisting of macroeconomic-related issues to measure their views in this regard.

**Data Collection:**

Data were gathered via a questionnaire that included various macroeconomic variables like- Inflation Rate (IR), GDP Growth Rate, Interest Rates (IR), Unemployment Rate (UR), etc, and respondents requested a 7-point scale from strongly agree to disagree.

Factor Analysis (Influenced Microeconomic Factors)

**Table 1 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.892
Bartlett's Test of	Approx. Chi-Square	8664.555
Sphericity	df	28
	Sig.	.000

The researcher first tested the data's eligibility by checking KMO- Bartlett's test, which measures sampling adequacy. The KMO value is 0.892 >0.6. Bartlett's Test of Sphericity indicates a measure of the multivariate normality of a set of variables (Sig. value is less than 0.05 means multivariate normal and acceptable for factor analysis).

**Table-2 Total Variance Explained**

Compo next	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.420	90.875	90.875	4.420	90.875	90.875
2	3.284	5.431	96.306	3.284	5.431	96.306

3	.143	1.851	98.157			
4	.043	.597	98.754			
5	.034	.423	99.177			
6	.029	.361	99.538			
7	.021	.265	99.803			
8	.016	.197	100.000			

Extraction Method: Principal Component Analysis.

The variance matrix indicates 90% (statistically 65% variance valid) variance on a tested variable, i.e., 10 % of other factors influence the purchase IPO.

The below table displays the principal component matrix, which has been to the varimax rotation technique resulting in the rotated component matrix. Rotating factors enhance the comprehension of factors. Given that the initial factor in the rotated component matrix exhibits a significant loading with the policy-choosing factors. The principal component matrix extracted only the three most influencing factors whose eigenvalue is more than one among the tested 08 factors.

**Table-3 Rotated Component Matrix**

	Component	
	1	2
GDP growth rate	.342	<b>.763</b>
Interest Rates	<b>.652</b>	.063
Inflation	.461	-.261
Unemployment	<b>.848</b>	.100
Monetary Policy	.054	-.094
Exchange Rates	.460	.239
Political Factors	<b>.734</b>	.413
Trade Barrier	-.474	.282

The table revealed that the unemployment rate in the country, Interest rate, political factors, and GDP growth rates are the most popular influencing factors for IPO purchase buyers’ decision parameters. The investor always thinks in this direction before purchasing any IPO in the market.

H<sub>01</sub>: There is no significant impact of the GDP growth rate on the IPO purchase decision.

**Table-4 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	94.125 <sup>a</sup>	10	.000
Likelihood Ratio	105.428	10	.000
Linear-by-Linear Association	45.119	1	.000
N of Valid Cases	100		

a. 15 cells (65.0%) have an expected count of less than 5. The minimum expected count is 1.62.

The above chi-square test indicates a significant value is less than 0.05 (0.000); hence, the Hypotheses are **Rejected**. i.e., the GDP growth rate will not be affected by the IPO purchase decision by investors.

The respondents opined that they won't consider the GDP growth rate before opting for any market IPO.

H<sub>02</sub>: There is no significant impact of the Inflation Rate (IR) on the IPO purchase decision.

**Table-5 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	99.873 <sup>a</sup>	12	.000
Likelihood Ratio	105.288	12	.000
Linear-by-Linear	43.016	1	.000
Association			
N of Valid Cases	100		

a. 13 cells (65.0%) have an expected count of less than 5. The minimum expected count is 1.60. The above chi-square test indicates a significant value is less than 0.05 (0.000); hence, the Hypotheses are **Rejected**. i.e., the Inflation Rate (IR) will not be influenced by the IPO purchase decision by investors.

H<sub>03</sub>: There is no significant impact of the Unemployment Rate (UR) in the country on IPO purchase decisions.

**Table-6 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	48.704 <sup>a</sup>	4	<b>.076</b>
Likelihood Ratio	53.196	4	.000
Linear-by-Linear	31.955	1	.000
Association			
No. of valid Cases	100		

a. 16 cells (64.0%) have an expected count of less than 5. The minimum expected count is 1.66. The above chi-square test indicates the significant value is greater than 0.05 (0.076). Hence, the Hypotheses are **Accepted**. i.e., as per the respondents' opinions, the unemployment rate in a region certainly will hurt investors' purchase decisions of an IPO. First, they will focus on livelihood rather than investments.

H<sub>04</sub>: There is no significant impact of Interest Rates (IR) of various banking institutions on IPO purchase decisions.

**Table-7 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	148.658 <sup>a</sup>	16	.000
Likelihood Ratio	146.892	16	.000
Linear-by-Linear	33.397	1	.000
Association			
No. of valid Cases	100		

- a. 16 cells (64.0%) have an expected count of less than 5. The minimum expected count is 1.66.

The above chi-square test indicates a significant value is less than 0.05 (0.000); hence, the Hypotheses are **Rejected**. i.e., the Interest Rate of different banking institutes will not significantly impact IPO purchases in the Uttar Pradesh state.

### Discussion of Results:

Allocating funds to an initial public offering (IPO) can be a very effective method for accumulating financial assets. You have the opportunity to advance alongside the organization. There have been occurrences where a corporation has demonstrated both great and horrible performance. It is essential to undertake comprehensive research and take into account several considerations before investing in an IPO, which is a prudent approach. IPO analysis can help make a wise investment decision.

The findings are exciting and helpful in recognizing the dynamic relationships between purchase decision-making and macroeconomic variables. The study supports the existence of one co-integrating vector between the investment environment and macroeconomic indicators, viz., GDP: inflation, Exchange Rate (ER), Money Supply (MS), WPI, and treasury bill rate. Further, the research study notes four factors- GDP, Unemployment, Inflation, and Interest rates are comparatively more important in a long-run relationship.

The research found a reciprocal causality relationship between index return and exchange rate in short-run relations. Inflation and Money Supply (MS) show a positive and significant relation to stock returns. Interest rate shows a negative and minor relationship with market returns. The Indian capital markets exhibit market inefficiency due to the co-integration observed between stock returns and macroeconomic variables. Interest rate is another essential macroeconomic variable that significantly impacts stock returns. Decreasing interest rates lowers borrowing expenses, motivating companies and boosting their stock values. Therefore, there must be an inverse correlation between interest rates and stock returns.

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