Trend, Growth, and performance of components of Foreign Exchange Reserve in India

Kaleeshwari.S, Dr.M. Jegadeeshwaran

Ph.D. Research Scholar, Assistant Professor

Department of Commerce

Bharathiar University

Coimbatore-641046

Abstract

Indian total foreign exchange reserve stands at around 634.28 billion, the biggest contributor to this reserve is foreign currency assets followed by the gold, SDR, and reserve with the international Monetary Fund. Foreign exchange reserves are assets held on reserve by a central bank in foreign currencies. These reserves are used to back liabilities and influence monetary policy. It includes any foreign money held by a central bank, such as the U.S.federal reserve bank. The rising forex reserve is seen as an element of comfort for the government and the reserve bank of India by helping it manage its external and internal financial issues. The surging rising reserve help to cover its import bill and also aid the rupee to strengthen against the dollar. The foremost advantage of the forex serves is in meeting the international financial obligations including sovereign and commercial debts, financing of imports. It helps in boosting the confidence of the market in the ability of a country to meet its external obligations. Taking this note this becomes vital to know the importance of components of foreign exchange reserve and its trend and growth of components and its performance in contributing to the rise in foreign exchange reserve with the use of Descriptive statistics along with trend and growth analysis and it can be concluded as components are the major contributors in rising and maintaining forex in country.

Keywords: Forex reserve, Components, Trend, Growth, and Performance

Introduction

Foreign exchange is the trading of different national currencies or units of account.it is important because the exchange rate, the price of one currency in terms of another, helps to determine a nation's economic health and hence the well-being of all the people residing in it. The Reserve bank of India is the custodian of the country's foreign exchange reserve and is vested with the responsibility of managing its investment. The legal provisions governing the management of foreign exchange reserves are laid down in the reserve bank of India Act,1934. The foreign exchange reserve market where the currencies of different countries are bought and sold is called a foreign exchange market the structure of the foreign exchange market constitutes central banks, commercial banks, brokers, exporters and importers, immigrants, investors, and tourists. And it serves two main functions, there convert the currency of one country into the currency of another and provide some insurance against foreign exchange risk. The country's exporters deposit foreign currency into their local banks, and they transfer the currency to the central bank. To increase the value of their currency, countries could try several policies. Sell foreign exchange assets, purchase own currency, raise interest rates (attract hot money flows), reduce inflation (make exports more competitive and supply-side policies to increase long-term competitiveness.

Review of Literature

Poongothai. K and Kalaipriya.S (2017)[82] The study is an attempt to analyze the impact of the Foreign Exchange Reserve holdings on Inflation (both consumer price index and wholesale price index) in India. The variables taken for analysis are based on earlier studies of various nations including the IMF. Conclusion based on results shows the better influence posed by the Foreign Exchange Reserves on inflation.

Saha Abid, Neelam Jhawar (2017)[83] In simplest terms foreign exchange reserves are the foreign currencies that are held by the central bank to support liabilities on the issued currency and also a way to influence the monetary policies of the country. It includes government securities, bonds, banknotes, bank deposits, and treasury bills. Regardless of the size of the economy, almost all countries the economy hold significant foreign exchange reserves most of them are held in U.S.Dollars which is the most traded currency. Other currencies in reserves are the British pound sterling, euro, Chinese Yuan, and Japanese Yen. Theorists believe that holding reserves in currencies which is not immediately connected on their own is the best policy. The central institution can exert some control over exchange rates by retaining the option to shove reserves from another currency into the market.

Chen and Narala (2017)[84] analyzed forecasting of the foreign exchange rate of the Indian rupee by the Feedforward Backpropagation Neural Network (FBNN) model. They have used monthly data of foreign exchange rates of the Indian rupee and the US dollar for the period 2001 to 2014 and prognosticated the foreign exchange rate for 2015. By using the six major factors which affect exchange rate and six neural networks they have concluded that prediction was great for the first seven months of the year 2015 but in the

latter five months the deviation was significant, which shows that forecasting was good enough in the short-run than in long run.

Chojnowski and Dybka (2017)[85] worked to improve the prediction of the foreign exchange rate forecasting by including the unobserved fundamentals (UNF) (credit–market, financial-market, and price-market sentiments) along with observable fundamentals (OF). They have extracted these unobserved fundamentals from Google Trends. Observing monthly data on the exchange rate for Polish zloty (Poland) and Euro from 2004 to 2016 and including UNF in an extended form of the VAR (Vector Autoregressive) model, found that including the market sentiments improved forecasting capabilities.

Shaveta Gupta, Neha Kalra, and Rajesh Bagga(2019)[87] This paper examines the impact of Foreign Investment inflows on the Indian stock market. The paper finds the long-run relationship between Foreign investment and the stock exchange barometer index SENSEX by extracting the data on monthly basis, for both the SENSEX and the FDI and FPI from January 2001 to February 2012. Using Regression Model, it was found that an increase in FDI significantly influences the fluctuations in the stock market in India, in tandem with the results of similar studies examined in the literature.

Statement of Problem

A foreign exchange reserve is the conversion of one country's currency into another. In a free economy, a country's currency is valued according to the two laws of supply and demand. A currency's value can be pegged to another country's currency, such as the U.S, dollar, or even to a basket of currencies. There are four components of foreign exchange reserve such as gold, special drawing rights, foreign currency, and reserve tranches. They all together form the composition of the forex. They play a major role in the creation of the forex, it becomes necessary to know the performance, trend, and growth of the components of the foreign exchange reserve to analyze how these components are contributing to the growth and rise of the forex in a country so this study focuses on the trend and growth of components along with their performance in uplifting the volume of forex.

Objectives of the study

To measure the performance, trend, and growth forecast of components of the Foreign Exchange Reserve.

Research Methodology

The study is analytical.

Source of Data

The data are a secondary source of information that is collected from the official website the of world bank and the reserve bank of India.

Tools used for the study

Various statistical tools have been used such as descriptive statistics with trend and growth analysis

Analysis and Interpretation

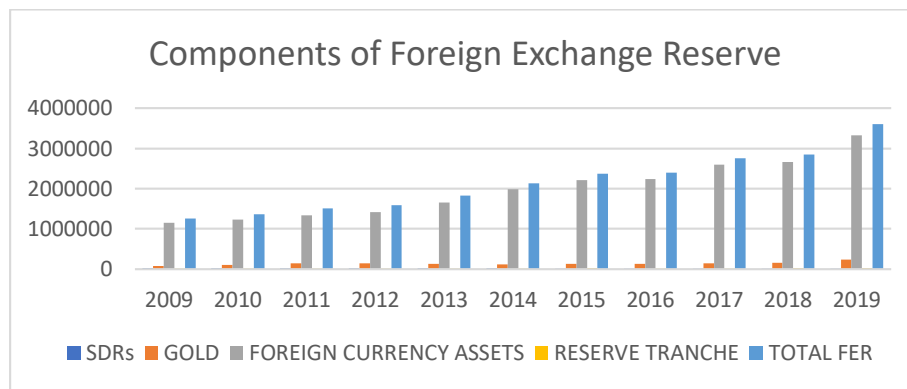**1.1 Statistical Analysis of Performance of Components of Foreign Exchange Reserve in India**

Table 1.1

Descriptive statistics of components of Foreign Exchange Reserve for the period 2009-2019

(Rs in Billions)

Year	Special Drawing Rights	Gold	Foreign Currency Assets	Reserve Tranche	Total FER
2009-10	22596	81188	1149650	6231	1259665
2010-11	20401	102572	1224883	13158	1361013
2011-12	22860	138250	1330511	14511	1506130
2012-13	23540	139740	1412630	12510	1588420
2013-14	26830	129620	1660910	11020	1828380
2014-15	24940	119160	1985460	8080	2137640
2015-16	9960	133430	2219060	16290	2378740
2016-17	9380	128830	2244940	15050	2398200
2017-18	10020	139740	2597570	13520	2760850
2018-19	10076	159585	2664464	20657	2855882
2019-20	10800	230527	3333815	27013	3602155
Mean	1.740	1.366	1.983	1.436	2.152
St.Deviation	7.215	3.744	7.010	5.711	7.309
Skewness	-0.59	1..454	.539	.948	.612
Std.Error	.661	.661	.661	.661	.661
Kurtosis	-2.192	4.126	-.524	1.559	-.236
Std.Error	1.279	1.279	1.279	1.279	1.279

Source: compiled and computed from secondary data through SPSS

Table 1.1 presents the descriptive statistics of components of foreign exchange reserves. It is observed that over the sample period, a high mean of 2.152 is given by the total foreign exchange reserve. It means that the components of foreign exchange reserve such as Special Drawing Rights, Gold, Currency Assets, and Reserve Tranche have contributed to the overall rise in mean value. It is followed by the currency assets ah a mean value of 1.983 which can be understood that currency assets have highly contributed largely to the rise in the total foreign reserves of India. And the second highly contributing component with a mean value of 1.740. The highest standard deviation of 7.309 is found in the foreign exchange reserve which shows that it is highly volatile. The skewness of the Gold, Currency Asset, and Reserve Tranche are highly skewed and SDRs are negatively skewed.

Chart 1.1 Components of Foreign Exchange Reserve in India for the period 2009-2019

1.2 Analysis of Trend Forecast and Growth Forecast of Components of Foreign Exchange Reserve

Table 1.2

Special Drawing Rights as a component of foreign exchange reserve for the period 2009-2019

(Rs in Billions)

Year	SDRs	Trend Forecast	Growth Forecast
2009	22596	25763.45	27281.02
2010	20401	24090.81	24501.90
2011	22860	22418.18	22005.90
2012	23540	20745.54	19764.15
2013	26830	19072.90	17750.78
2014	24940	17400.27	15942.51
2015	99600	15727.63	14318.44
2016	93800	14055.00	12859.82
2017	10020	12382.36	11549.79
2018	10076	10709.72	10373.22
2019	10800	9037.09	9316.50
2020	-	7364.45	6245.09
2021	-	5691.81	4472.85
2022	-	4019.18	2700.61
2023	-	2346.54	928.370
2024	-	673.900	-843.870
2025	-	-998.720	-2616.11
2026	-	-2671.36	-4388.35
2027	-	-4344.00	-6160.59
2028	-	-6016.63	-7932.84
2029	-	-7689.27	-9705.08
2030	-	-7689.27	-9705.08

Source: compiled and computed from secondary data through SPSS

Table 1.2 shows the trend and growth forecast of special drawing rights. It is observed over the sample period, that there is a rising trend in the initial period and slowly shows a decreasing trend in 2019-20. And the growth rate is also reflected based on the trends. This means that special drawing rights are not been highly used as an exchange for Indian currency to make emergency loans or to offset the balance of payment deficit as a gold or currency reserve used. Based on the trends and growth forecast the Special drawing rights have been forecasted for the upcoming ten years, which is evident that the trend will be negative with a decreasing trend value of -7689.27 increase in the year 2030. Followed by the growth forecast with a decrease in growth of special drawing rights with a negative value in 2030.

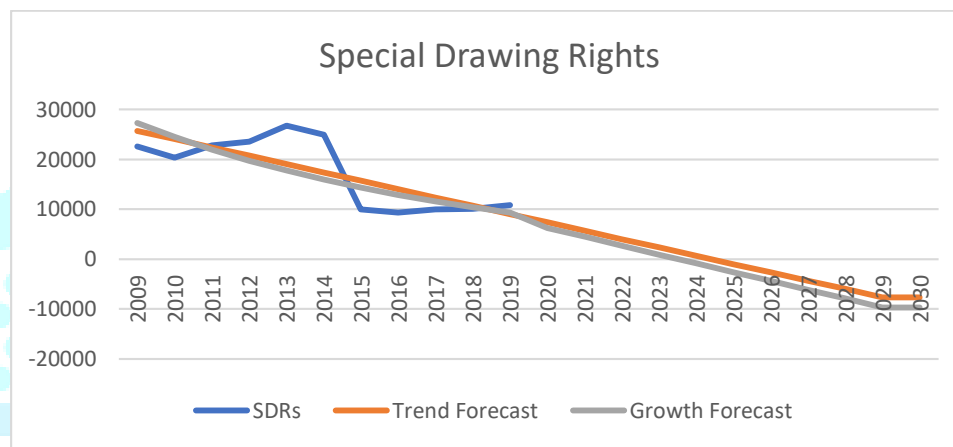**Chart 1.2 Special Drawing Rights as a Component of Foreign Exchange Reserve for 2009-2019**

Table 1.3

Gold as a Component Foreign Exchange Reserve for the period 2009-2019

(Rs in Billions)

Year	Gold	Trend Forecast	Growth Forecast
2009	811880	92912.59	96840.81
2010	102572	101650.8	103095.5
2011	138250	110389.1	109754.2
2012	139740	119127.3	116842.9
2013	129620	127865.6	124389.5
2014	119160	136603.8	132423.5
2015	133430	145342.1	140976.3
2016	128830	154080.3	150081.6
2017	139740	162818.6	159775.0
2018	159585	171556.8	170094.5
2019	230527	180295.0	181080.4
2020	-	189033.3	185340.6
2021	-	197771.5	193725.3
2022	-	206509.8	202110.1

2023	-	215248.0	210494.8
2024	-	223986.3	218879.5
2025	-	232724.5	227264.3
2026	-	241462.8	235649.0
2027	-	250201.0	244033.7
2028	-	258939.3	252418.5
2029	-	267677.5	260803.2
2030	-	276415.7	269187.9

Source: compiled and computed from secondary data through SPSS

The above table 1.3 reveals the trend forecast and growth forecast of gold. It is observed that their constant increase trend value of gold reserve over the period. There is an increasing trend along with the increasing growth over the study period. It is noticeable that an increase in the gold reserve will assist against hyperinflation or severe economic circumstances. Based on the study period, the forecast results show an increasing trend, and the growth forecast also shows an increasing growth rate which is constructive for the Indian economy in handling se of global economic crisis.

Chart 1.3 Gold as a Component of Foreign Exchange Reserve for 2009-2019
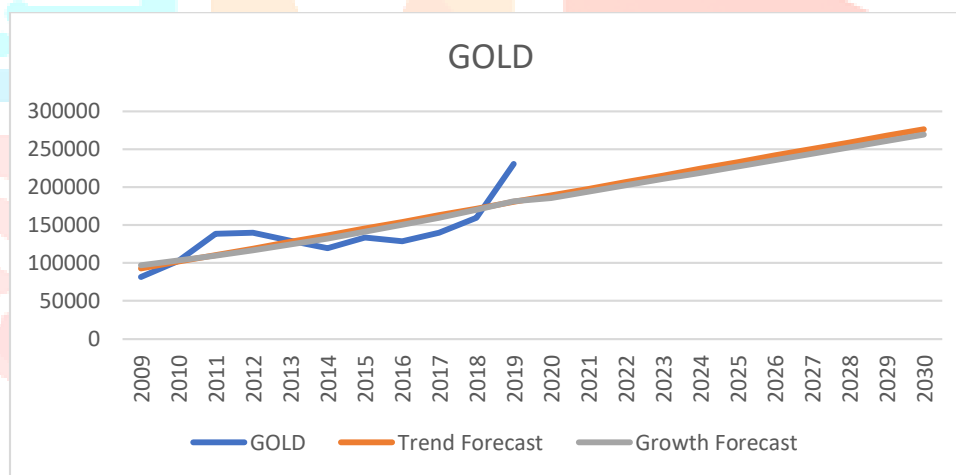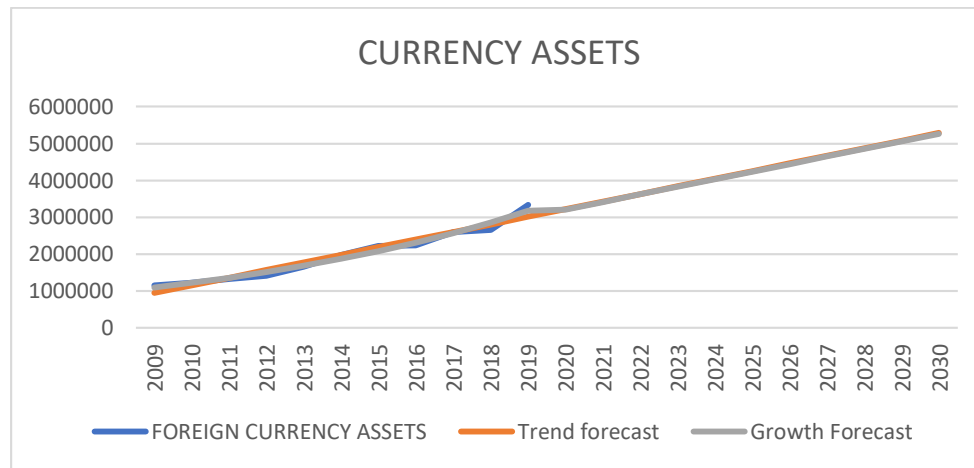
Table 1.4

Foreign Currency Assets as a Components of Foreign Exchange Reserve for the period 2009-2019

(Rs in Billions)

Year	Foreign Currency Assets	Trend Forecast	Growth Forecast
2009	1149650	952031.4	1103507
2010	1224883	1158423	1226849
2011	1330511	1364815	1363977
2012	1412630	1571207	1516433
2013	1660910	1777598	1685928
2014	1985460	1983990	1874369
2015	2219060	2190382	2083873
2016	2244940	2396774	2316793
2017	2597570	2603166	2575747
2018	2664464	2809557	2863645
2019	3333815	3015949	3183723
2020	-	3222341	3213108
2021	-	3428733	3418401
2022	-	3635125	3623694
2023	-	3841516	3828987
2024	-	4047908	4034280
2025	-	4254300	4239574
2026	-	4460692	4444867
2027	-	4667083	4650160
2028	-	4873475	4855453
2029	-	5079867	5060746
2030	-	5286259	5266039

Source: compiled and computed from secondary data through SPSS

The above table 1.4 shows the increasing trend forecast of the foreign currency assets from 3015949 in 2019 to 5286259 in 2030 through the trend results. According to the growth forecast results, there is an increasing growth from 2019 to 2030 from 3183723 to 5266039. An increase or raise in the foreign currency assets is a positive sign which would assist in managing the price of one currency in place of another in determining the economic health and well-being of people residing in it. High the currency assets high the rise in wealth of the country's currency in balancing the current account balances.

Chart 1.4 Foreign Currency Assets as a Components of Foreign Exchange Reserve 2009-2019

Table 1.5

Reserve Tranche as a Component of Foreign Exchange Reserve for the period 2009-2019

(Rs in Billions)

Year	Reserve Tranche	Trend Forecast	Growth Forecast
2009	6231	7945.318	8611.757
2010	13158	9229.709	9404.477
2011	14511	10514.1	10270.17
2012	12510	11798.49	11215.55
2013	11020	13082.88	12247.95
2014	8080	14367.27	13375.39
2015	16290	15651.66	14606.6
2016	15050	16936.05	15951.16
2017	13520	18220.45	17419.48
2018	20657	19504.84	19022.96
2019	27013	20789.23	20774.04
2020	-	22073.62	21130.67
2021	-	23358.01	22335.79
2022	-	24642.4	23540.91
2023	-	25926.79	24746.03
2024	-	27211.18	25951.15
2025	-	28495.57	27156.27
2026	-	29779.96	28361.39
2027	-	31064.35	29566.5
2028	-	32348.75	30771.62
2029	-	33633.14	31976.74
2030	-	34917.53	33181.86

Source: compiled and computed from secondary data through SPSS

Table 1.5 indicates an upward trend forecast for Reserve Tranche, from 20789.23 in 2019 to 34917.53 in 2030. The growth forecast of reserve tranches also shows an increasing forecast which means the volume of reserve tranches is keep on increasing each year. It has increased from 20774.04 in 2019 to 33181.86 in 2030. So, a member country's quota in the reserve tranche can be withdrawn free of charge at its discretion. A raise in the reserve tranche can highlight the wealth and health of a country.

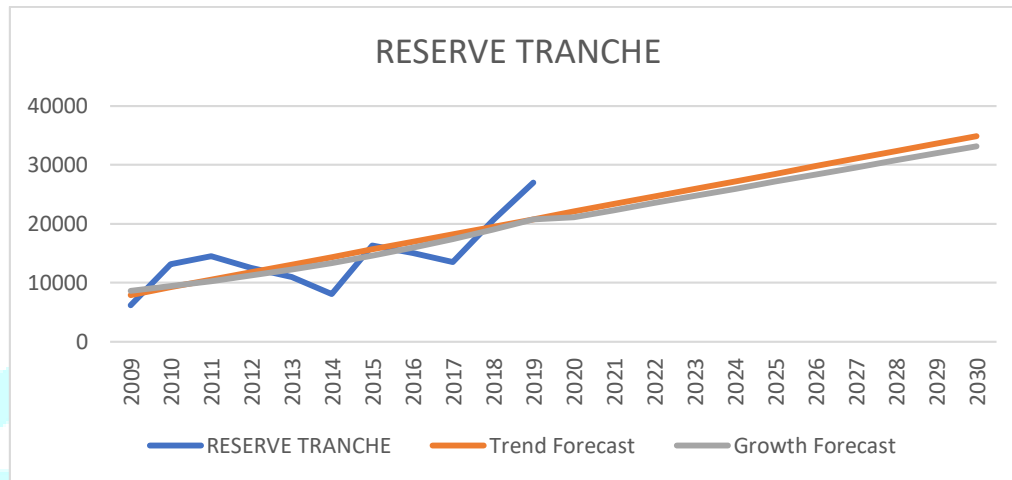**Chart 1.5 Reserve Tranche as a Component of Foreign Exchange Reserve for 2009-2019**

Table 1.6

**Total of Foreign Exchange Reserve for the period 2009-2019**

(Rs in Billions)

Year	Total	Trend forecast	Growth forecast
2009	1259665	1078552	1232632
2010	1361013	1293334	1363795
2011	1506130	1508116	1508914
2012	1588420	1722898	1669476
2013	1828380	1937679	1847123
2014	2137640	2152461	2043672
2015	2378740	2367243	2261137
2016	2398200	2582025	2501741
2017	2760850	2796807	2767948
2018	2855882	3011589	3062481
2019	3602155	3226371	3388356
2020	-	3441153	3427698
2021	-	3655934	3640689
2022	-	3870716	3853680
2023	-	4085498	4066671
2024	-	4300280	4279662

Year		Trend Forecast	Growth Forecast
2025	-	4515062	4492653
2026	-	4729844	4705644
2027	-	4944626	4918635
2028	-	5159408	5131626
2029	-	5374189	5344617
2030	-	5588971	5557608

Source: compiled and computed from secondary data through SPSS

The above table 1.6 of the total foreign exchange reserve as a combination of all the four components. The trend forecast proclaims the surge in the forthcoming years from 3226371 in 2019 to 5588971 in 2030. Same as the growth forecast also proclaims a surge in the looming years that becomes evident from an increase of 3388356 in 2019 to 5557608 in 2030. An increased foreign exchange reserve will aid in maintaining the competitive price of export and can use the reserve in liquid form in case of a crisis

Chart 1.6 Total Foreign Exchange Reserve for 2009-2019
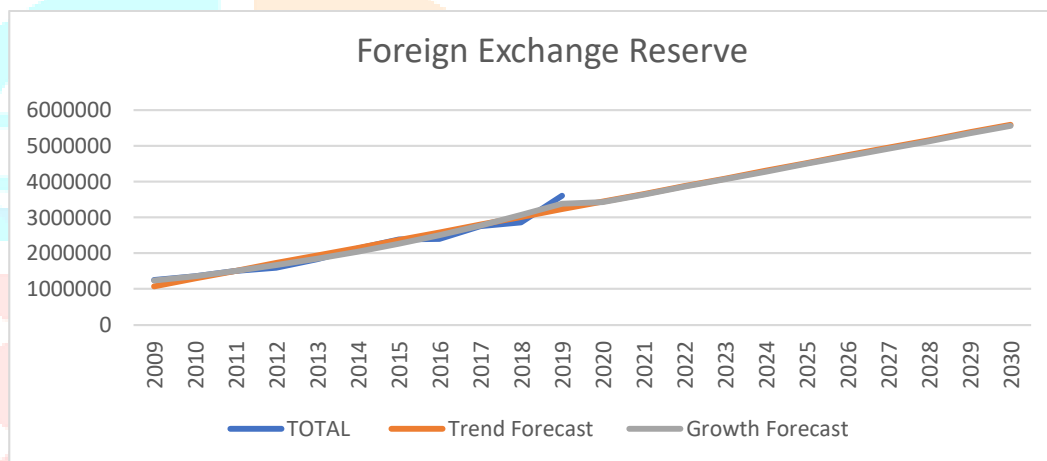
Findings of the Study

- There is a rising trend in the special drawing rights over the initial period and a slowly decreasing trend is found, this shows that it has not been highly used as an exchange for the Indian currency.

- There is an increasing trend and increasing growth forecast for gold, which is clear that an increase in the gold reserve will assist against hyperinflation.

- There is an increase in foreign currency. This means would assist in managing the price of one currency in place of another.

- The trend and growth forecast for reserve tranches reveal to be increasing, it is identified that tranches can be withdrawn for free.

- Foreign exchange reserve as a whole shows an increasing trend and growth will aid in maintaining the competitive price of export.

- Foreign exchange reserve has the highest mean value of 2.152, which is followed by currency assets with a value of 1.983 which is the highest contributing component in FER, and the secondly contributing component for the overall rise in FER.

Suggestions based on a study

- The decrease in special drawing rights is a sign that SDRs is used in place of freely usable currencies, which decrease their holdings, and the country will make more interest payment than it receives, to balance between SDRs India can trade freely usable currencies for SDRs, which will increase the holdings above the allocation position and country will then receive more interest than it pays out.
- Maintaining a high reserve as per precautionary, speculative, and transactional motives of the nations, the excess reserves can be turned towards the capital formation projects and rural development projects which can boost unemployment and bring a balance between the poverty level.
- Nation's foreign exchange reserve can be increased export (to any country willing to trade in US dollars). Foreign investors investing in Indian business will help in the appreciation of the Indian currency in the market.

Conclusion

As per the study and the result, the outcome concludes that overall foreign exchange reserve is increasing, which is also evident that there is an increasing trend and the growth rate of special drawing rights, gold, foreign currency, and reserve tranches are continuously over the period, hence they become the highest contributors in forming the forex reserve and the composition of forex reserve are mainly due because of these components. To maintain liquidity in case of an economic crisis. The central bank supplies foreign currency to keep the market steady. To ensure that a country meets its foreign obligations and liabilities. An increase in foreign exchange reserve raises both liquid and total debt while shortening debt maturity. To the extent that forex interest rates are low, increased foreign reserves will cause a permanent decline in consumption as well as move labor from the non-tradable to the tradable sector. So, the importance of forex is vital and this is done as a whole because of the components of forex as a combination.

Reference

[1] **Saba Abid & Neelam Jhawar**, An Analysis of Foreign Exchange Reserves in India since 2001-2016. IOSR Journal of Economics and Finance, (2017, Mar-Apr) (IOSR-JEF), 8(2), 70-74.

[2] **Chen, Y., Peng, L., & Abraham, A.,** Exchange Rate Forecasting Using Flexible Neural Trees. In Advances in Neural Networks,(2017), pp. 518–523.

[3] **Cheung, Y.-W., Chinn, M. D., & Marsh, I. W.,** How do UK-based foreign exchange dealers think their market operates? International Journal of Finance & Economics, (2017), 9(4), 289–306.

[4] **Sharma, D. K., Hota, H.S., & Handa R.** Prediction of Foreign Exchange Rate Using Regression Techniques. Review of Business and Technology Research, (2017), 12 (1), 29-33.

[5] **Shaveta Gupta et. Al., the** impact of foreign investment on stock market volatility: evidence from the Indian stock market. Ludhiana management association (2013).

[6] **DoaaWafik Nada, Assem Tharwat,** investigate how changes in exports, remittances and FDI and their impacts on reserves after currency floating (case study: turkey), international journal of recent technology and engineering (IJRTE), (2019), ISSN:2277-3878, volume-7, Issue-6 S4.