

An Analysis of Relationship Between EXIM Bank's Financial Assistance and Export-Import Performance: Case of India

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Abstract

This paper aims to understand the contribution of EXIM Bank's financial assistance to the growth of India's export-import (EXIM) and the relationship between EXIM Bank's financial assistance and EXIM performance. The published reports of the union government, Ministry of Commerce and Industry, economic survey, RBI annual report, and annual reports of EXIM Bank of India are used to achieve the objective and address the gap. EXIM Bank's basic financial assistance and export-import data of Indian GDP are used for further analysis and discussion. The descriptive and inferential techniques are used in data analysis. The results reveal that the absolute value of the disbursement amount was always lesser than the sanctioned amount in all the phases, and unused fund was always higher than optimum norms in all the phases. In the case of export and import, the import value was always higher than export which is shown through negative net-export in all the phases. The impact of exports is lower on EXIM Bank financial assistance which shows negative signals for the Indian economy and increasing GDP in coming years, the government has to make such a policy for financial assistance to boost the EXIM-B disbursement for exports. Even after many ups and downs in external financial and trade sectors, the EXIM Bank has been playing an important role in export-import growth in the Indian economy.

Keywords: *Export Import Bank of India, EXIM Bank, Export Import of India, Foreign Trade Policy of India.*

JEL: *F13, F14, G20, G21.*

I. Introduction

The work aims to discuss the relationship between the financial assistance of the EXIM Bank of India (EXIM-B) and the performance of Export-Import (EXIM) of the Indian economy. All commercial banks, EXIM Bank, and a few financial institutions engaged in financing facilities to the firms engaged in export-import business. The EXIM Bank is an exclusive specialized financial institution providing financial assistance for infrastructure and resource development to boost export-import earnings as well as giving term loans to individual exporters and importers for export and import of goods and services. Here in this work financial assistance from EXIM-Bank is the only database of development finance for the external sector of the Indian economy. The EXIM Bank's prime business consists of Lines of Credit Commercial Lending, Overseas Investment Finance, Trade Assistance Programme, Bank Guarantees, and Marketing Advisory Services. The development finance for export-import was started all over India from 1989-90 after the declaration of EXIM Bank as All India Financial Institution. The Export-Import Bank of India has a greater role in financing the external sector. The financial assistance database of EXIM-Bank is divided into four phases based on certain rationales, and the same database of EXIM Bank is aligned with EXIM to understand the relationship between EXIM-B and EXIM. The data on financial assistance and export-import has a span of thirty-four years which is rationally divided into four phases.

The first phase comprises from 1989-90 to 1995-96, the declaration of EXIM-B as an All-India Financial Institution by RBI, Economic Reforms of 1991, EXIM Policy passed in 1991, Current Account Convertibility (CAC- Current A/c partial convertibility) in 1992 for the period 1992-1993 followed by full convertibility of CAC by 1993-1996, formation of WTO in 1995, and other smaller changes were taken placed. All these initiatives and events have given various opportunities and challenges to EXIM-B and export-import of India. Among all these changes the effect of WTO was higher on export than import of goods and services, although there was not any direct impact of WTO on EXIM-B. The second phase of EXIM-B is rationalized for the period 1996-97 to 2003-04. In this period the EXIM-B faced the Asian Financial Crisis 1996-97, Economic Sanctions Aftermath Pokhran-II 1998, Capital Account Convertibility (partial convertibility) 1997-2006, EXIM Policy 2002-07, Foreign Trade Policy 2004-09, Foreign Exchange Management Act 1998, Prevention of Money

Laundering Act 2002, Coemption Act 2002, CAC full convertibility (2006-2011), and other smaller changes. Among all these factors, Trade Policy, CAC, and FEMA have impacted the demand and supply of money from EXIM-B. However, the economic sanctions after Pokhran-II impacted export-import, especially the import.

The third phase of EXIM-B is rationalized for the period 2004-05 to 2013-14. In this period Foreign Trade (FT) Policy 2004-09, the Formation of BRIC in 2006, FT Policy 2009-14, MSME Act 2006-07, and Global Financial Crisis of 2008, and other smaller events influenced the demand and supply of money from EXIM-B. The fourth phase of EXIM-B is rationalized for the period 2014-15 to 2022-23. During this period the changes in the union government 2014, FT Policy 2015-20, Merchandise Export from India Scheme, Star Export House provision (up to 5 stars), Make in India Mission, and EPCG Scheme (Foreign Trade Policy, 2015), Vocal for Local, incentives for exporters, and additional capital inducement by EXIM-B for boosting EXIM of India have positively impacted the demand and supply of money for export and import.

II. Review of Literature

The article is based on the published reports of the Reserve Bank of India (RBI), Annual Reports of the EXIM Bank of India, Economic Survey, and a few scholarly articles related to EXIM Bank and Export-Import of India. The database covers thirty-four years of Export-Import data on the Indian economy and financial assistance sanctioned & disbursed by the EXIM Bank of India. The exact or very close data is not available from either source. The bibliometric data of SCOPUS and Web of Science are also unable to provide relevant data. The keywords used to search the data are “exim AND bank AND of AND india”, “contribution AND of AND exim AND bank AND in AND export AND import AND growth AND case AND of AND india”. Few articles are available with the SCOPUS, Web of Science, Google Scholar, and JSTOR database on the keywords EXIM Bank and Export-Import in the Indian context reviewed. Apart from that, I have used the available sources of government reports for the proposed paper.

Panagariya (1995) suggested that export is the most important key to economic growth, other countries must take lessons from China. In the case of China, foreign direct investment and provision of infrastructure facilities have played vital role in accelerating export. The country for which the Chinese experience is most relevant is India due to various economic, geographical, and social similarities especially highly populous countries and large economies. Chadha (2000) emphasized the alignment of the new EXIM policy with WTO and additional facilities like Export Promotion of Capital Goods, SEZ, EPZ, and so forth. Chanana (2009) discussed the financial assistance of EXIM Bank of India to other countries (Nepal, African Development Bank, and Afghanistan) through Operative Line of Credits (LOCs) for the amount of \$ 2.963 billion as of March 2008 to boost multilateral and bilateral economic relations which is a part of investment strategy and joint venture in foreign nations. Mallik (2005) discussed the growth trend of exports and the way forward of export and exchange rate tradeoffs, subsidies for export, and other policy interventions and facilities to boost exports. Hansavivek (1987) concluded that the EXIM bank was performing better by sanctioning loans to various government and private sector firms to boost Exports during 1986. The EXIM bank earned profit and distributed dividends to the union government also. Rangarajan and Mishra (2013) expressed concern over the current account deficit, exchange rate volatility, exchange rate and export trend, and capital flow for export. Veeramani (2012) focused on India's merchandise export growth during 1993-94 to 2010-11 during which the country faced the Asian Financial Crisis of 1996-98 and the Global Financial Crisis of 2008. During 1993-2002 the export growth rate was at 8 percent which was lower than expected, but during 2002-03 to 2010-11, the export growth was 21 percent which showed the confidence of India's foreign trade. Verghese (1982) emphasized the contribution of EXIM bank in the off-shore banking business and reduced the burden of IDBI and ICIC by participating in financial assistance. Wadhwa (1998) focused on the impact of the Pokhran II Nuclear Test on India's foreign trade after the action of economic sanctions by developed and emerging nations including the G-7. Just after the economic sanctions, the imports from developed nations especially from G7 declined, on the other side the export trend was greater than pre-Pokhran-II. In all the scholarly articles none of the scholarly work focused on the relationship between EXIM Bank and Foreign Trade. Chanana (2009), Hansavivek (1987), and Verghese (1982) have expressed the indirect role of EXIM Bank in EXIM support. No doubt all these have been discussed majorly on foreign trade issues, trends of foreign trade, and so forth. But gap observed on account of the relationship between EXIM-B and EXIM has not been addressed and allowed me to work on these issues.

III. Research Gap and Objective

Research Gap:No research work discussed the phase-wise contribution of EXIM Bank to the growth of export and import as well as the impact of export and import on the demand for financial assistance from EXIM Bank. The published reports and a few scholarly articles helped to solve the identified gap.

Research Objective: The objective of this paper is to understand the contribution of EXIM Bank's financial assistance for the growth of export-import of India as well as understand the relationship between EXIM Bank's financial assistance and export-import performance. Further, the study examines the impact of export and import performance on EXIM-B assistance and the impact of E-Bank assistance on demand of money for export & import.

IV. Methodology and Data

There are two basic databases viz the dataset of financial assistance of EXIM Bank and the dataset of Export-Import of Goods and Services of the Indian Economy. The first dataset consists of financial assistance sanctioned (S), disbursed (D), and unused funds of EXIM bank; while the second dataset consists of export, import, and net export of goods and services. The average growth rate of assistance sanctioned, assistance disbursed, unused funds, export, import, and net export is a relative data of basic datasets. In addition to absolute data and relative data (growth rate) of EXIM-B and EXIM, the average performance and ratio of disbursement to the sanctioned amount of EXIM-B, and Export to Import ratio (in times) are also discussed. The 34 years of data (EXIM-B and EX-IM) are rationally classified into four phases in Tables 1 through 5. A simple descriptive and inferential analysis is also conducted to know the actual direction of EXIM-B and EXIM performance. The association among the indicators of EXIM-B and EXIM is examined with the help of the correlation coefficient of the absolute value and correlation coefficient of the relative value (growth rate) based on the financial assistance indicators of EXIM Bank, and Export-Import indicators of GDP at the significant level of 1 and 5 percent.

The functional relationship between the EXIM-B and EXIM and vice-versa is examined using simple regression, and multiple regression followed by identification of the problem of multicollinearity if any. The functional relationship between the export and import of goods and services (part of GDP) with the financial assistance of EXIM Bank is examined. In equation (i) shown below, the financial assistance of EXIM Bank of India depends on the demand for money for the EXIM, or say the financial assistance of EXIM Bank depends on the demand for money for/by the external sector. The Average Growth Rate (AGR) of assistance disbursed depends on the AGR of EXIM, the same statement can be econometrically expressed as -

$$AGR-EXIM-B_D = \alpha + \beta_1 AGR-EX + \beta_2 AGR-IM + \mu \quad \text{----- (i)}$$

The equation (i) can be econometrically expressed in equation (ie) by replacing AGR-EXIM-B_D by Y, AGR-EX by X and AGR-IM by M and (i) can be re-written as -

$$\hat{Y} = \hat{\alpha} + \hat{\beta}_1 X + \hat{\beta}_2 M + \epsilon \quad \text{----- (ie)}$$

And, in the equation (ii) and (iii) shown below, the financial assistance of EXIM Bank influences the Export value and Import Value of Indian GDP; in other words, it can be stated that export performance (EX) depends on the supply of money from EXIM Bank (EXIM-B-D) for boosting the export (from equation (ii)), as well as import performance (IM) depends on the supply of money from EXIM Bank (EXIM-B-D) for making the import more competitive (from equation (iii)). The AGR of assistance Disbursed by EXIM Bank, AGR of export and AGR of import are reconsidered in estimation of the equation.

$$AGR-EX = \alpha + \beta_1 AGR-EXIM-B_D + \mu \quad \text{----- (ii)}$$

The equation (ii) can be rewritten in estimated form, substituting AGR-EX by X in (iie).

$$\hat{X} = \hat{\alpha} + \hat{\beta}_1 AGR-EXIM-B_D + \epsilon \quad \text{----- (iie)}$$

$$AGR-IM = \alpha + \beta_2 AGR-EXIM-B_D + \mu \quad \text{----- (iii)}$$

The equation (iii) can be rewritten in estimated form, substituting AGR-IM by M in (iiie) .

$$\hat{M} = \hat{\alpha} + \hat{\beta}_2 AGR-EXIM-B_D + \epsilon \quad \text{----- (iiie)}$$

If there is a problem of multicollinearity identified in the data and tough to decide the impact of the explanatory variable (EX or IM) on the dependent variable EXIM-B-D. Then the regression equation (ie) is rewritten as (ia) with t value at 1% of β_1 and β_2 and get equation (ia).

$$\hat{Y} = \hat{\alpha} + \hat{\beta}_1 X + \hat{\beta}_2 M + \epsilon \quad R^2 \quad \text{----- (ia)}$$

$t_1 \text{ at } 1\% \quad t_2 \text{ at } 1\% \quad \Gamma_{EX,IM}$

The identified problem of multicollinearity (shown in equation (ia)) will be solved by either collecting more data or dropping one of the highly collinear variables. Here, the collection of more data is not possible, then second option is feasible which is possible by splitting the multiple regression into simple regressions. Thus, equation (ie) is split into (ib) and (ic) to obtain different R² (simple regression R²). These are the steps required to overcome the problem of multicollinearity.

$$\hat{Y} = \hat{\alpha} + \hat{\beta}_1 X + \epsilon \quad R^2 \quad \text{----- (ib)}$$

t_1 at 1%

$$\hat{Y} = \hat{\alpha} + \hat{\beta}_2 M + \epsilon \quad R^2 \quad \text{----- (ic)}$$

t_2 at 1%

Dropping the explanatory variable or differentiating the R² through simple regressing will help solve the problem of multicollinearity. The selected explanatory variable must have a higher R². The higher impact of one of the independent variables is examined with the help of higher Tolerance (more than 0.20) and Lower Value of Inflation Factor (less than 5). However, dropping either variable is not feasible due to distinct importance, but emphasis will be given to export.

V. Analysis, Results, and Discussion

The phase-wise descriptive and inferential data analysis is conducted in detail with the help of Tables 1 to 5 and Figure 1 to 5. The development finance for the growth of the external sector (export-import) has been supported by EXIM Bank since 1989-90 after the inclusion of EXIM Bank in the list of All India Financial Institutions.

The first phase starts from 1989-90 to 1995-96. During these periods the Economic Reforms of 1991, EXIM Policy of 1991, and Current Account Convertibility (CAC) 1992-1996 were the major decision of the government. These initiatives have influenced the EX-IM and the demand for money from EXIM-B and other sources. Table 1 and Figure 1 describe the financial assistance sanctioned and disbursed by EXIM-B and the performance of Export-Import (EXIM) of goods and services.

Table-1: EXIM-Bank (S & D and Export and Import (EXIM) value of India in 1st Phase (Rs. Crore)

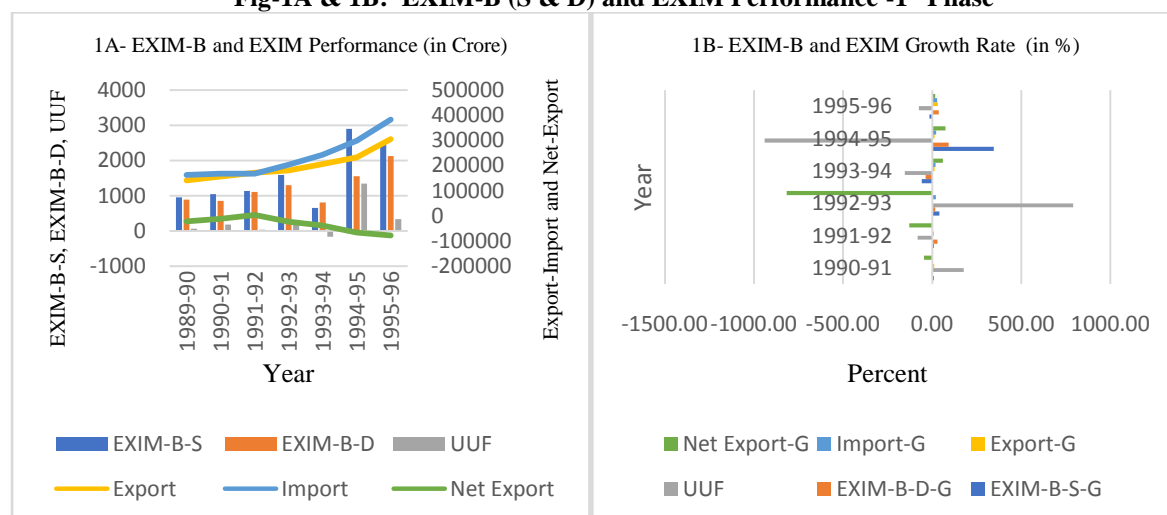
Trends of EXIM-Bank and EXIM (Rs. Ten Million/Crore)							Growth of EXIM-B and EXIM (%)					
Year	EXIM-B-S	EXIM-B-D	UUF	Export	Import	Net Export	EXIM-B-S	EXIM-B-D	UUF	EX	IM	Net Ex
1989-90	955	888	67	141240	163235	-21994	-	-		-	-	
1990-91	1043	858	185	156924	168729	-11805	9	-3	176	11	3	-46
1991-92	1140	1107	33	172087	168755	3332	9	29	-82	10	0	-128
1992-93	1590	1296	294	180507	204409	-23902	39	17	791	5	21	-817
1993-94	651	811	-160	205381	243793	-38413	-59	-37	-154	14	19	61
1994-95	2903	1556	1347	232170	298895	-66725	346	92	-942	13	23	74
1995-96	2466	2130	336	305062	382961	-77899	-15	37	-75	31	28	17
Total	10748	8646	2102	1393371	1630777	-237405						
Avg.	1535	1235	300	199053	232968	-33915	55	22	-48	14	16	-140
Max	2903	2130	1347	305062	382961	3332	346	92	791	31	28	74
Min	651	811	-160	141240	163235	-77899	-59	-37	-942	5	0	817
SD.	842	477	491	55622	82553	29297	135	40	560	10	12	340
Dis. to San Ratio %		80.44	Total UUF	2102			Avg UUF		300			
Avg. Trade Deficit		-33915	EX-IM Ratio	0.85			UUF - %		20			

Source: Economic Survey (2022-23), RBI "Handbook of Statistics on Indian Economy", (2001-02, 2015-2016, 2021-22).
Compilation of by Author.

During the period of 1st phase, the total amount of sanction, disbursement, and unused funds of EXIM-B was Rs. 10748 crore, Rs. 8646 crore, and Rs. 2120 crore respectively. Total export, import, and net export of goods and services during the same period were Rs. 1393371 crore, Rs. 1630777 crore, and Rs. (-)237405 crore respectively. The average sanction, disbursement and unused fund of EXIM-B were Rs. 1535 crore, Rs. 1235 crore, and Rs. 300 crore respectively. And average export, import and net export of goods and services during this period was Rs. 199053 crore, Rs. 232968 crore and Rs. -33915 crore respectively. EXIM-B disbursement to

sanctioned ratio was 80.44 percent, the unused fund (UUF) was 20 percent, and the export-to-import ratio was 0.85 times in this period. The average growth rate of assistance sanctioned, disbursed, unused funds, export, import, and net export was 55 percent, 22 percent, (-)48 percent, 14 percent, 16 percent, and (-)140 percent respectively. The net export value was negative which is due to higher imports than exports. The value is represented in Table 1 and Figure 1.

Fig-1A & 1B: EXIM-B (S & D) and EXIM Performance -1st Phase



Source: Compile by the Author

The 2nd phase consists of the period 1996-97 to 2003-04, during these periods the Asian Financial Crisis, Capital Account Convertibility, Pokhran-II and Economic Sanctions, EXIM Policy 2002-07 and 2004-09, Foreign Exchange Management Act, Prevention of Money Laundering Act, and Coemption Act were taken place have impacted the demand and supply of EXIM and demand of money from EXIM-B, shown in Table 2 and Figure 2.

Table 2: EXIM-Bank (S & D) and Export and Import (EXIM) value of India in 2nd Phase (Rs. Crore)

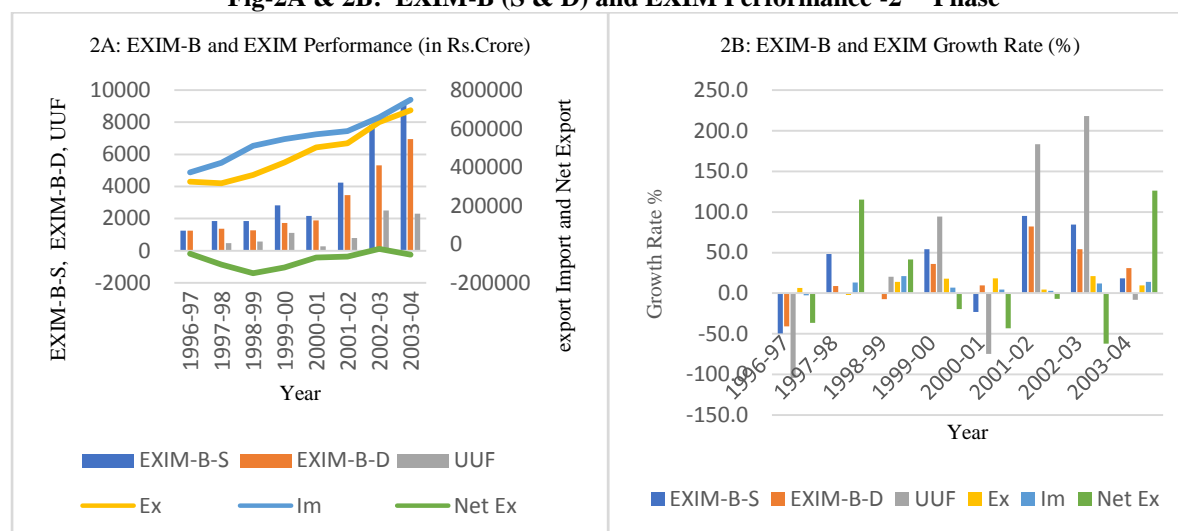
Year	Trends of EXIM-Bank and EXIM (Rs. Ten Million/Crore)						Growth of EXIM-B and EXIM (in percent)					
	EXIM-B-S	EXIM-B-D	UUF	Export	Import	Net Export	EXIM-B-S	EXIM-B-D	UUF	EX	IM	Net Ex
1996-97	1242	1257	-15	324250	373617	-49367	-49.6	-41.0	104.5	6.3	-2.4	-36.6
1997-98	1841	1370	471	316700	422937	-106237	48.2	9.0	0.0	-2.3	13.2	115.2
1998-99	1838	1271	567	360672	511101	-150429	-0.2	-7.2	20.4	13.9	20.8	41.6
1999-00	2832	1730	1102	425591	546839	-121248	54.1	36.1	94.4	18.0	7.0	-19.4
2000-01	2174	1896	278	502851	571938	-69087	-23.2	9.6	-74.8	18.2	4.6	-43.0
2001-02	4241	3453	788	524521	588777	-64256	95.1	82.1	183.5	4.3	2.9	-7.0
2002-03	7828	5320	2508	635117	659412	-24295	84.6	54.1	218.3	21.1	12.0	-62.2
2003-04	9266	6958	2308	695975	750964	-54989	18.4	30.8	-8.0	9.6	13.9	126.3
Total	31262	23255	8007	3785678	4425585	-639907						
Avg	3908	2907	1001	473210	553198	-79988	28	22	-364	11	9	14
Max	9266	6958	2508	695975	750964	-24295	95	82	218	21	21	126
Min	1242	1257	-15	316700	373617	-150429	-50	-41	3240	-2	-2	-62
SD	3024	2161	930	141909	121326	42061	51	38	1168	8	7	73
Dis. to San Ratio %	74.39		EX-IM Ratio (times)	0.86	UUF - %	26						
Avg. Trade Deficit	-79988											

Source: Economic Survey (2022-23), RBI "Handbook of Statistics on Indian Economy" - (2001-02, 2015-2016, 2021-22).
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In the second phase, sanction and disbursement of EXIM-Bank and EXIM performance was better than the first phase. The total amount of sanction, disbursement and unused funds of EXIM-B was Rs. 31262 crores, Rs. 23255 crores and Rs. 8007 crores respectively. And total export, import and net export of goods and services during this period was Rs. 3785678 crores, Rs. 4425585 crore and Rs. (-) 639907 crores respectively. The

average section, disbursement and unused funds of EXIM-Bank was Rs. 3908 crore, Rs. 2907 crore, and Rs. 1001 crore respectively. The average export, import and net export of goods and services during this period was Rs. 473210 crore, Rs. 553198 crore and Rs. (-)79988 crore respectively. EXIM-B disbursement to sanctioned ratio was 79.39 percent, unused fund was 26 percent, and export to import ratio was 0.86 times during this period. The average growth rate of assistance sanctioned, disbursement, unused funds, export, import and net export was 28 percent, 22 percent, (-) 364 percent, 11 percent, 9 percent and 14 percent respectively.

Fig-2A & 2B: EXIM-B (S & D) and EXIM Performance -2ND Phase



Source: Compile by Author

The third phase consists of the period of 2004-05 to 2013-14, during the phase Foreign Trade Policy, formation of BRIC, MSMED Act, and Global Financial Crisis influenced the EXIM-B and EXIM, exhibited in Table 3 and Figure 3. In the third phase, the sanction and disbursement of EXIM-Bank and EXIM performance was better than in the first and second phase. EXIM-B's total sanctioned, disbursed and unused funds were Rs. 350775 crore, Rs. 293256 crore and Rs. 57519 crore respectively. And total export, import and net export of goods and services during this period were Rs. 16711814 crores, Rs. 19655004 crores and Rs. (-) 2943190 crores respectively.

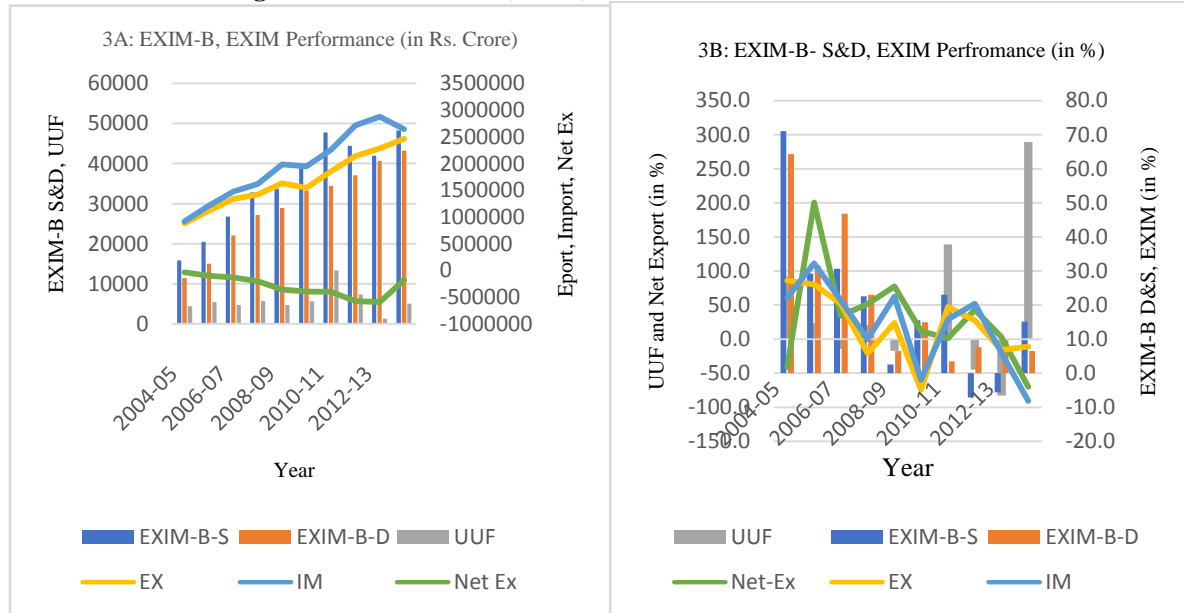
Table 3: EXIM-Bank (S & D) and Export and Import (EXIM) value of India in 3rd Phase (Rs. Crore)

Year	Trends of EXIM-Bank and EXIM (Rs. Ten Million/Crore)						Growth of EXIM-B and EXIM (in percent)					
	EXIM-B-S	EXIM-B-D	UUF	Export	Import	Net Export	EXIM-B-S	EXIM-B-D	UUF	Ex.	Im.	Net Ex
2004-05	15854	11435	4419	885116	917642	-32526	71.10	64.34	91.46	27.18	22.20	-40.85
2005-06	20489	15039	5450	1115999	1213762	-97762	29.24	31.52	23.33	26.09	32.27	200.57
2006-07	26762	22076	4686	1343594	1474777	-131183	30.62	46.79	-14.02	20.39	21.50	34.19
2007-08	32805	27159	5646	1422417	1621541	-199124	22.58	23.03	20.49	5.87	9.95	51.79
2008-09	33629	28933	4696	1632623	1985554	-352931	2.51	6.53	-16.83	14.78	22.45	77.24
2009-10	38843	33249	5594	1553699	1947316	-393618	15.50	14.92	19.12	-4.83	-1.93	11.53
2010-11	47798	34423	13375	1856330	2255224	-398894	23.05	3.53	139.1	19.5	15.8	1.34
2011-12	44412	37045	7367	2143931	2715554	-571623	-7.08	7.62	-44.92	15.5	20.4	43.30
2012-13	41919	40635	1284	2289836	2879079	-589243	-5.61	9.69	-82.57	6.81	6.02	3.08
2013-14	48264	43262	5002	2468269	2644555	-176286	15.14	6.46	289.6	7.79	-8.15	-70.08
Total	350775	293256	57519	16711814	19655004	-2943190						
Avg.	35078	29326	5752	1671181	1965500	-294319	20	21	42	14	14	31
Max	48264	43262	13375	2468269	2879079	-32526	71	64	290	27	32	201
Min	15854	11435	1284	885116	917642	-589243	-7	4	-83	-5	-8	-70
SD	11267	10566	3080	514940	663763	195757	23	20	108	10	12	74
Dis. to San Ratio %	83.60		Total UUF			57519	Avg UUF		5752			
Avg. Trade Deficit	-294319		EX-IM Ratio (times)			0.85	UUF- %		16.4			

Source: Economic Survey (2022-23), RBI "Handbook of Statistics on Indian Economy"- (2001-02, 2015-2016, 2021-22).
Compile by Author

The average section, disbursement and unused funds of EXIM-Bank was Rs. 35078 crores, Rs. 29326 crores, and Rs. 5752 crores respectively. And average export, import and net export of goods and services during this period was Rs. 1671181 crore, Rs. 1965500 crore and Rs. (-)294319 crore respectively. EXIM-B disbursement to sanctioned ratio was 83.60 percent, the unused fund was 16.40 percent and the export to import ratio was 0.85 times during this period. The average growth rate of assistance sanctioned, disbursement, unused funds, export, import and net export was 20 percent, 21 percent, 42 percent, 14 percent, 14 percent and 31 percent respectively. The details of third phase's performance is represented in Table 3 and Figure 3.

Fig-3A & 3B: EXIM-B (S & D) and EXIM Performance -3rd Phase



Source: Compile by Author

The 4th phase consists of the period from 2014-15 to 2022-23 and beyond, during this phase, the stable union government, competitive policies for EXIM-B, competitive Foreign Trade Policy, Make in India Mission, Vocal for Local, emphasis on import of technology transfer in place of import of goods, restrictions on import from China, slice in the import subsidy, and additional capital inducement from EXIM-B for boosting export of India were stronger initiatives of the government. All these initiatives have impacted the demand and supply of export and import and demand of money from EXIM-B, as exhibited in table 4 and figure 4.

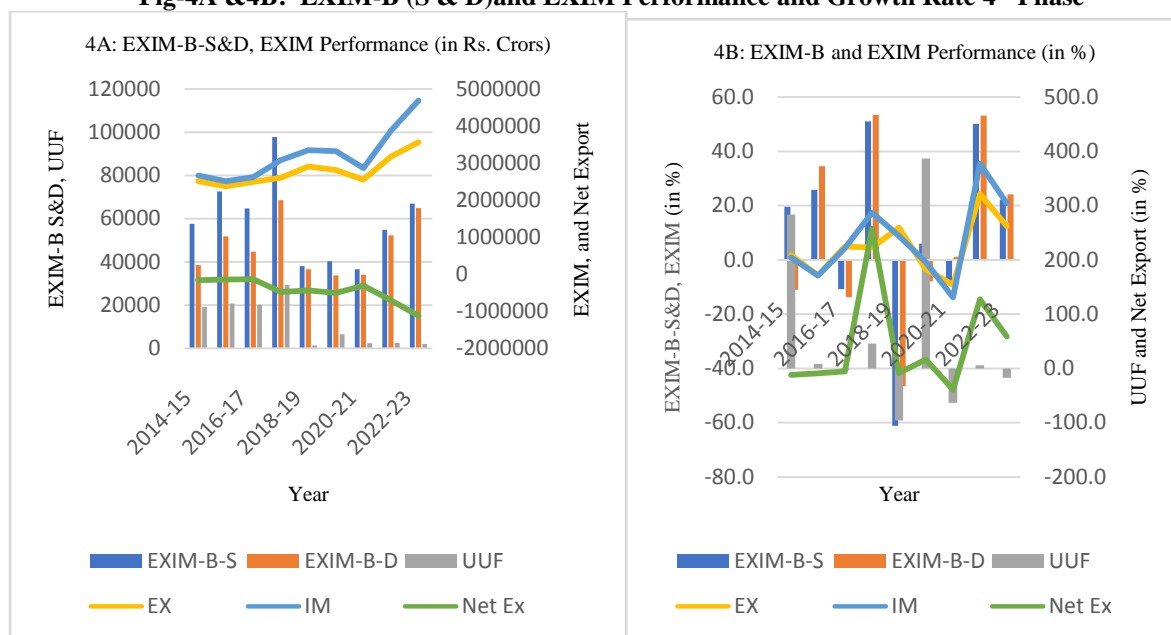
Table-4: EXIM-Bank (S & D) and Export and Import (EXIM) value of India in 4th Phase (Rs. Crore)

Year	Trends of EXIM-Bank and EXIM (Rs. Ten Million/Crore)						Growth of EXIM-B and EXIM (in percent)					
	EXIM-B-S	EXIM-B-D	UUF S-D	Export	Import	Net Export	EXIM-B-S	EXIM-B-D	UUF S-D	EX	IM	Net Ex
2014-15	57684	38508	19176	2512145	2667595	-155450	19.52	-10.99	283.4	1.78	0.87	-11.82
2015-16	72576	51822	20754	2370282	2511540	-141258	25.82	34.57	8.23	-5.65	-5.85	-9.13
2016-17	64778	44694	20084	2488423	2621593	-133170	-10.74	-13.75	-3.23	4.98	4.38	-5.73
2017-18	97826	68535	29291	2602012	3078274	-476262	51.02	53.34	45.84	4.56	17.4	257.6
2018-19	38000	36660	1340	2912480	3349861	-437380	-61.16	-46.51	-95.43	11.93	8.82	-8.16
2019-20	40255	33735	6520	2813609	3321586	-507976	5.93	-7.98	386.6	-3.39	-0.84	16.14
2020-21	36521	34122	2399	2553683	2862871	-309188	-9.28	1.15	-63.21	-9.24	-13.8	-39.13
2021-22	54808	52271	2537	3174844	3878193	-703349	50.07	53.19	5.75	24.32	35.5	127.5
2022-23	66,969	64,875	2094	3570297	4688642	-1118345	22.19	24.11	-17.46	12.46	20.9	59.00
Total	529417	425222	104195	24997775	28980154	-3982379						
Mean	58824	47247	11577	2777531	3220017	-442487	10	10	61	5	7	43
Max	97826	68535	29291	3570297	4688642	-133170	51	53	387	24	35	258
Min	36521	33735	1340	2370282	2511540	-1118345	-61	-47	-95	-9	-14	-39
SD	19702	13038	10691	388367	700901	319543	35	34	163	10	15	95
Dis. to San Ratio %	80.32		Total UUF		104195	Avg UUF		11577				
Avg. Trade Deficit	-442487		EX-IM Ratio (times)		0.86	UUF - %		19.68				

Source: Economic Survey (2022-23), RBI "Handbook of Statistics on Indian Economy"- (2001-02, 2015-16, 2021-22).

Compile by Author

Fig-4A &4B: EXIM-B (S & D)and EXIM Performance and Growth Rate 4th Phase



Source: Compile by Author

In the fourth phase, the sanction and disbursement of EXIM-Bank and EXIM performance was better than all previous phases. EXIM-B's total sanctioned, disbursed and unused funds were Rs. 529417 crores, Rs. 455222 crores and Rs. 104195 crores respectively. Total export, import and net export of goods and services during this period was Rs. 24997775 crore, Rs. 28980154 crore and Rs. (-) 3982379 crore respectively. The average sanctioned, disbursed and unused funds of EXIM-Bank were Rs. 58824 crore, Rs. 47247 crore, and Rs. 11577 crore respectively. And average export, import and net export of goods and services during this period was Rs. 2777531 crore, Rs. 3220017 crore and Rs. (-) 442487 crore respectively. EXIM-B disbursement to sanctioned ratio was 80.32 percent, the unused fund was 19.68 percent and the export to import ratio was 0.86 times during this period. The average growth rate of assistance sanctioned, disbursement, unused funds, export, import and net export was 210 percent, 10 percent, 61 percent, 5 percent, 7 percent and 43 percent respectively.

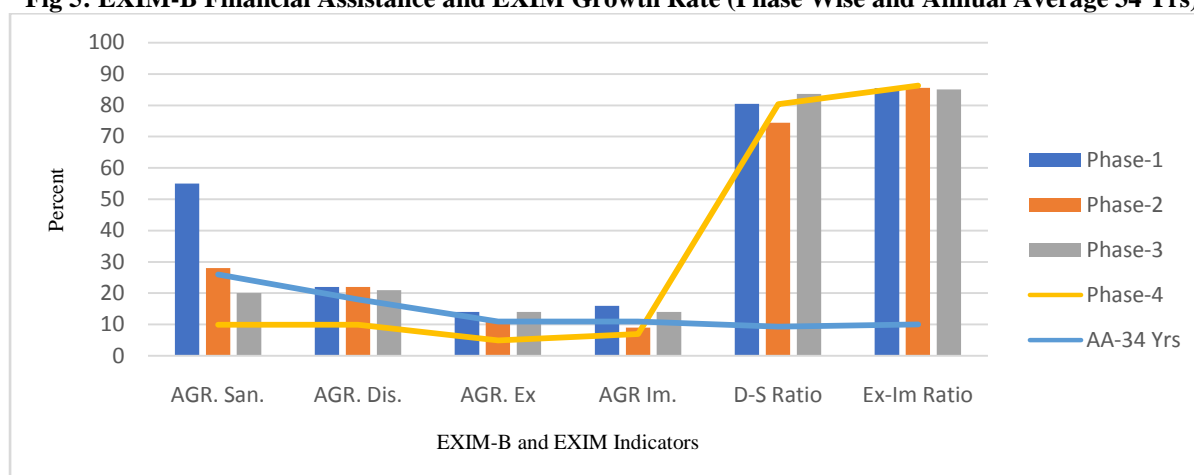
The phase-wise comparative performance of EXIM Banks and export-import are explained in Table 5 and Figure 5. Comparative value shows that EXIM-B has been performing in an increasing trend in all the phases. The annual average value for the thirty-four years is also satisfactory; the average value of sanctioned amount, disbursed amount, unused fund, export amount, import amount and net export amount on annual basis was Rs. 730.48 crores, Rs. 593.49 crores, Rs. 137 crores, Rs. 37654 crores, Rs. 43909 crores, and (-)6255 crores p.a respectively.

Table 5:EXIM-B Financial Assistance and EXIM Performance (Phaseswise and Annual Average)

Indicators	Unit	Phase-1	Phase-2	Phase-3	Phase-4	AA for 34 Years
Avg San.	Rs. Crore	1535	3908	35078	58824	27124
Avg Dis.	Rs. Crore	1235	2907	29326	47247	22070
Avg UUF	Rs. Crore	300	1001	5752	11577	5054
Avg Ex.	Rs. Crore	199053	473210	1671181	2777531	1379078
Avg Im.	Rs. Crore	232968	553198	1965500	3220017	1608574
Avg Net Ex.	Rs. Crore	-33915	-79988	-294319	-442487	-229497
AGR. San.	Percent	55	28	20	10	26
AGR. Dis.	Percent	22	22	21	10	18
AGR. UUF	Percent	-48	-364	42	61	-67
AGR. Ex	Percent	14	11	14	5	11
AGR Im.	Percent	16	9	14	7	11
AGR Net Ex	Percent	-140	14	31	43	-1
D-S Ratio	Percent	80.44	74.39	83.60	80.32	9.38
Ex-Im Ratio	Percent	85.44	85.54	85.03	86.26	10.07

Source: Compile by author.

Fig 5: EXIM-B Financial Assistance and EXIM Growth Rate (Phase Wise and Annual Average 34 Yrs)



Source: Compile by author.

The value of average growth rate of sanctioned (AGR EXIM-S), disbursement (AGR EXIM-D), Unused funds (AGR UUF), export (AGR EX), import (AGR IM), and net export (AGR Net Ex) in % was 28.35, 18.75, (-)77.25, 11.00, 11.50, (-)13 percent. The annual average growth rate of all the indicators of EXIM Bank and export and import of goods and services was good; two indicators i.e. AGR-UUF and AGR-Net Export were adverse. The annual average D-S Ratio was 9.38 percent while the export-to-import ratio was 10.07 times. The overall performance of EXIM Bank and EXIM of goods and services was observed in increasing trends.

To understand the association between the absolute value of all indicators, as well as the association between the relative value of all indicators is calculated and tested with help correlation coefficient. The correlation coefficient between the absolute value of the financial assistance indicators of EXIM Bank and the absolute value of EXIM Amount of GDP is exhibited in Table6 (A) and the relative value of the same is shown in Table 6 (B). The absolute indicators comprise EXIM Bank Sanction amount (EXIM-B-S), EXIM Bank Disbursement amount (EXIM-B-D), Unused Funds (UUF), Export amount (EX), Import amount (IM), and Net Export amount (Net Ex) is exhibited in table 6-A. The relative indicators comprise the Average Growth Rate (AGR) of EXIM-B, AGR-EXIM-B-S, AGR-EXIM-B-D, AGR-UUF, AGR-EX, AGR-IM, and AGR-Net Ex, exhibited in Table 6-B.

The correlation coefficient of each absolute variable correlated with the remaining absolute variables is showing significantly at 1 percent except for AGR-Net-EX and AGR-UUF (Table 6-A). On the contrary, the correlation coefficient of each relative variable correlated with the remaining relative variables i.e. average growth rate of one variable with average growth rate of other variables is showing insignificantly at 1 percent and 5 percent except AGR-EXIM-B-D and AGR-EXIM-B-S, AGR-EX and AGR-IM has shown in Table 6-B.

Table6: Correlation Coefficient between the indicators of EXIM Bank and EXIM

A. Correlations Coefficient - EXIM-B and EXIM						
	EXIM-B-S	EXIM-B-D	UUF	EX	IM	
EXIM-B-D	.979**					
UUF	.802**	.665**				
EX	.900**	.950**	.519**			
IM	.883**	.947**	.468**	.993**		
Net Ex	-.663**	-.772**	-0.169	-.796**	-.862**	
B. Correlations Coefficient - Growth of EXIM-B and EXIM						
	AGR EXIM-B-S	AGR EXIM-B-D	AGR UUF	AGR-EX	AGR-IM	
AGR EXIM-B-D	.761**					
AGR UUF	-0.224	-0.031				
AGR-EX	0.092	0.293	0.145			
AGR-IM	0.242	0.346*	-0.091	.744**		
AGR-Net Ex	0.049	0.106	-0.337	0.136	0.156	

** Correlation is significant at 0.01* level (2-tailed) and/or 0.05* level (2-tailed).

Source: Compile by author.

The result of correlation coefficient of $r_{EM,EXIM-B-D} = 0.950$ is significant at 1 percent, and $r_{IM,EXIM-B-D} = 0.947^{**}$ is significant at 1 percent, as seen in the result (table 6-A). However, there is no significant association (correlation) between AGR of Export and Average Growth Rate of EXIM-B-D, and AGR of Import and Average Growth Rate of EXIM-B Disbursement. The result of correlation coefficient of $r_{AGR-EM,AGR-EXIM-B-D} = 0.293$ and $r_{AGR-IM,AGR-EXIM-B-D} = 0.346$ is not significant at 1 % significant level which can be seen in the result (table 6-B).

The regression value of the financial assistance of EXIM Bank of India depends on the demand of money for the EXIM (SPSS output in Appendix).

\hat{Y}	=	$\hat{\alpha} + \hat{\beta}_1 X + \hat{\beta}_2 M + \hat{\mu}$	
	=	$6.829 + 0.260EX + 0.761IM + \hat{\mu}$	$R^2 = 0.123 \quad F = 2.167$
$t_{(1\%)}(1\%)$		(0.321) (1.136)	$r_{EX,IM} = 0.744$
Tolerance		0.447 0.447	
VIF		2.238 2.238	

Here the coefficient value of β_2 equals 0.761 which is greater than the coefficient value of β_1 which is equal 0.260. In other words, the impact of $\beta_2 > \beta_1$, or 0.761 of $IM > 0.260$ of EX on EXIM-B_D. The study validates the role of disbursement amount fund for imports which caused continuous CAD and decreasing the GDP size. The government has to work on the objective to reduce CAD by taking various measures including an increase in disbursement of funds for export which has been observed to lower throughout thirty-four years.

Here the problem of multicollinearity is not identified as the R^2 value is 0.123 and $r_{EX,IM} = 0.744$. Here the impact of $\beta_2 > \beta_1$ is visible and distinct. The collinearity statistics of Tolerance of Export (X) and Import (M) is also 0.447 which is above par of the benchmark level as well as VIF (Value of Inflation Factors of Export (X) and Import (M) is also 2.238 which is also above par of the benchmark level; both the indicators validate the absence of multicollinearity, so no need to take any corrective measure. The calculated F statistics value is 2.167 at 1% which is lower than the table value, thus the F value indicates rejection of the model, so the government has to reduce the disbursement for import and think of higher disbursement for value for export.

From the equations (iie) and (iiie) shown below, the financial assistance disbursed by the EXIM Bank influences the Export Value and Import Value of GDP. In other words, it can be stated that export performance (EX) depends on the supply of money from EXIM Bank (EXIM-B-D) for boosting the export as well as import performance (IM) depends on the supply of money from EXIM Bank (EXIM-B-D) for making the import more competitive.

$$\begin{aligned} \hat{X} &= \hat{\alpha} + \hat{\beta}_1 AGR-EXIM-B_D + \hat{\mu} \text{ ----- (iie)} \\ &= \begin{matrix} (t_{\alpha 1\%}) \\ 8.763 \\ (4.602) \end{matrix} + \begin{matrix} (t_{\beta 1at1\%}) \\ 0.091 \cdot EXIM-B_D \\ (1.737) \end{matrix} + \hat{\mu} \quad R^2 = 0.086 \\ \\ \hat{M} &= \hat{\alpha} + \hat{\beta}_2 AGR-EXIM-B_D + \hat{\mu} \text{ ----- (iiie)} \\ &= \begin{matrix} (t_{\alpha 1\%}) \\ 8.685 \\ (3.856) \end{matrix} + \begin{matrix} (t_{\beta 1at1\%}) \\ 0.130 \cdot EXIM-B_D \\ (2.086) \end{matrix} + \hat{\mu} \quad R^2 = 0.120 \end{aligned}$$

From the above results, it is observed that the impact of EXIM-B_D is higher on import than export. The higher impact of disbursement on import is validated from the database of the last 34 years (1989-90 to 2022-23) in which Net Export (Net-Ex) was always negative, which means the flow of money for import was higher than export or say importer has used more money than exporter from the total disbursed amount of the EXIM Bank of India in last 34 years. So, as a competitive nation and emerging economy, we should increase the allocation of EXIM-Bank's funds for export rather than import, which can be observed from equations (iie) and (iiie). Thus, the government must make a policy like the removal of subsidies and increase interest and tax to reduce demand for the import of goods and vice versa.

VII. SUMMARY, CONCLUSION AND IMPLICATION

From this study, it is observed that there were various ups and downs faced by the EXIM Bank of India and export-import of India from 1990 to 2022 which have impacted each other positively and adversely due to various exogenous causes like Economic Reforms, Convertibility of Currency in Current & Capital account, WTO, Asian Financial Crisis, Economic Sanctions after Pokhran-II, various EXIM policy, Foreign Exchange

Management Act, formation of BRIC, Global Financial Crisis, Merchandise Export from India Scheme, Star Export House provision, Make in India Mission, Vocal for Local, and so forth have influenced the EXIM-Bank financial assistance performance and export-import performance at distinct extent but not adversely. EXIM Bank always performing better and in increasing trends. The average growth rate of assistance sanctioned, disbursed, export and import was good except unused fund and net exports in the first phase. However, the second phase performance was higher in terms of absolute value but lower in terms of relative value except relative value of net export. The net export in the second phase was better due to economic sanctions but negative in the case of imports due to the same sanctions. The average growth rate of assistance sanctioned, disbursement, unused funds, export, import and net export was better than in the last two phases. The performance of the fourth phase the EXIM Bank and EXIM performance is better than all previous phases. A comparative picture of EXIM Bank and EXIM of goods and services for thirty-four years was observed satisfactory and increasing.

The correlation coefficient of each absolute variable correlated with the remaining absolute variables showing a significant value at 1 percent except for Net Export and Unused Funds. On the contrary, the correlation coefficient of each relative variable correlated with the remaining relative variables i.e. average growth rate of one variable with average growth rate of other variables is showing insignificant at 1 percent except average growth rate of EXIM-B Disbursement and EXIM-B-Sanction, and the average growth rate of Export and Import. The regression value of financial assistance of EXIM Bank of India is influenced more by import than export. The government must suggest EXIM bank for disbursement of fund for support of exports as maximum as possible than imports. Financial assistance from EXIM Bank which influences the import value is higher than the export value, observed in this study. The EXIM Bank allocated a lesser quantity of funds for export which must be addressed in favour of exporters by the government through the disbursement policy of EXIM Bank.

Credit Authorship and Contribution Statement:

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APPENDIX- (SPSS Output)

I. Model Summary											
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R2 Change	F Change	df1	df2	Sig. F Change	D-W	
1	.350 ^a	.123	.066	30.82430	.123	2.167	2	31	.132	2.362	
a. Predictors: (Constant), Import Growth, Export Growth											
b. Dependent Variable: EXIM-Bank Disbursement Growth											
Coefficients											
Model	Unstandardized Coefficients		T	Sig.	99.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	6.829	7.796	.876	.388	-14.562	28.221					
Export Growth	.260	.808	.321	.750	-1.957	2.476	.293	.058	.054	.447	2.238
Import Growth	.761	.670	1.136	.265	-1.078	2.601	.346	.200	.191	.447	2.238
ANOVA ^a											
Model	Sum of Squares		df	Mean Square	F	Sig.					
1	Regression	4117.304	2	2058.652	2.167	.132 ^b					
	Residual	29454.254	31	950.137							
	Total	33571.558	33								

II. Model Summary ^b											
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R2 Change	F Change	df1	df2	Sig. F Change	D-W	
1	.293 ^a	.086	.058	9.64704	.086	3.016	1	32	.092	2.166	
a. Predictors: (Constant), EXIM-Bank Disbursement Growth. b. Dependent Variable: Export Growth											
Coefficients											
Model	Unstandardized Coefficients		t	Sig.	99.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	8.763	1.904	4.602	.000	3.548	13.978				
	EXIM-B-D Growth	.091	.053	1.737	.092	-.053	.236	.293	.293	.293	1.000
ANOVA ^a											
Model	Sum of Squares		df	Mean Square	F	Sig.					
1	Regression	280.663	1	280.663	3.016	.092 ^b					
	Residual	2978.094	32	93.065							
	Total	3258.757	33								
a. Dependent Variable: Export Growth. b. Predictors: (Constant), EXIM-Bank Disbursement Growth											

III. Model Summary ^b											
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R2Change	F Change	df1	df2	Sig. F Change	D-W	
1	.346 ^a	.120	.092	11.40956	.120	4.352	1	32	.045	1.749	
a. Predictors: (Constant), EXIM-Bank Disbursement Growth. b. Dependent Variable: Import Growth											
Coefficients											
Model	Unstandardized Coefficients		T	Sig.	99.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	8.685	2.252	3.856	.001	2.517	14.853				
	EXIM-B-D	.130	.062	2.086	.045	-.041	.300	.346	.346	.346	1.000
ANOVA ^a											
Model	Sum of Squares		df	Mean Square	F	Sig.					
1	Regression	566.548	1	566.548	4.352	.045 ^b					
	Residual	4165.699	32	130.178							
	Total	4732.246	33								
a. Dependent Variable: Import Growth											
b. Predictors: (Constant), EXIM-Bank Disbursement Growth											

Source: Output of SPSS, Compile by Authors.