

# An Analytical Study of National Output, Employment, and Foreign Trade of India: Evidence from the Past Three Decades of Neoliberal Reforms

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**Abstract :** The COVID-19 epidemic caused the Indian economy to face a "once in a century" catastrophe, having an effect on economic activity and, in turn, the livelihoods of billions of people affected. The study aims to briefly discuss the sectors' specific growth in national account, industry and its components' proportionate share of GVA, gross capital formation, merchandise and services trade, labour force, employment, and unemployment. The annual growth rates of macroeconomic determinants have faced the challenges pertaining to the V-shaped recovery of the Indian economy from the pre-COVID to post-COVID pandemic crisis period. This study also shows India's merchandise trade was deficit and services trade were surplus during the past three decades of neoliberal reforms from 1990-91 to 2020-21. In the last three decades, India has lost foreign exchange reserves through merchandise trade while gaining foreign exchange reserves through services trade. Due to the massive amount of primary goods imported, such as petroleum, oil, and lubricants (POL), ores, and minerals, as well as large amounts of imported manufactured goods, India suffered from both a primary sector trade deficit and a secondary sector trade deficit.

**Keywords:** GVA, GCF, Employment, Exports, Imports, and Trade openness.

## I. INTRODUCTION

India is one of the leading emerging market economies in the world. Its sustained economic growth is remarkable across agriculture and allied sectors, industry and infrastructure sectors, and banking and services sectors. It has achieved a higher growth rate of national output due to the creation of gross fixed capital formation, formal and informal employment, trade openness, and global capital inflows to the various industries since 1991 to present day. During the past three decades, the most significant economic developments have occurred in this country, but the standard of living of its people remains low as compared to other countries in the world due to the higher rates of unemployment, hunger, and poverty. The main causes of the lower standard of living of its people are the lower per capita income, inequality in distribution of wages and income, less human capital, and lower rates of health expenditure and education expenditure as a percentage of gross domestic product (GDP) by the government of India (GOI) both in rural and urban areas.

However, because of its large geographical area, availability of natural resources, and massive population to produce national output, the formation of fixed capital into various industry sectors, and the creation of massive formal and informal employment in the economy based on their educational standard of efficiency, India can mitigate the lower standard of living associated with these diseases and achieve a higher standard of living. According to the World Bank, India is the fifth largest economy in terms of nominal GDP and the third largest economy in terms of purchasing power parity GDP in 2019. Its per capita income ranks 142nd in terms of nominal GDP and 125th in terms of purchasing power parity GDP. According to 2017 estimates, 44% of India's labour force contributed 15.4% of GDP from agriculture, 25% contributed 23% of GDP from industry, and 31% contributed 61.5% of GDP from services. Consequently, it has been concluded that India has adopted the service-led growth model based on national output.

## II. RELATED LITERATURE

The historically agricultural-based Indian economy is making substantial achievements to support manufacturing, which accounts for 16% of India's GDP. However, it contributes far less to development as well as the employment sector than might be expected. The lack of technological progress, the abundance of unskilled workers relative to skilled workers, and restrictive and inflexible labour regulations are some of the causes of this. Understanding the significance of both small and large-scale enterprises is critical due to the diversity of available resources and the labour force's varying levels of knowledge and experience. We also recognise that small-scale enterprises' strength and potential are greatly influenced by the strength of our traditional knowledge and skills, which generate the second-highest number of job opportunities after agriculture [3].

Furthermore, it encourages equitable income and wealth distribution, which reduces poverty. In addition to providing jobs, large-scale industry also contributes significantly to the promotion of exports, which raises foreign exchange earnings and broadens the market for domestic goods, resulting in inclusive growth overall. The objective of national manufacturing policy is to increase manufacturing's contribution to GDP to 25% by generating 100 million jobs. Through educating the essential skill set to make rural children employable, it also aims to give them power [17].

By streamlining, rationalising, and digitising procedures, the government has included provisions in its most recent budget to promote both domestic and international industries and to offer favourable job opportunities. The objectives of programmes like "Make in India," "Skill India," and "MUDRA" are to promote entrepreneurship and transform India into the world's manufacturing centre [7]. According to Okun's law, the rate of unemployment and economic growth are inversely proportional. GNP increases by

3% when unemployment declines by 1%. The primary objective of economic policies is to promote high economic growth, which increases the demand for labour through developing investment programmes [4].

So, India has all the factors, such as availability of natural resources, abundant labour forces, excellent infrastructure, potential markets, and well-organized economic and trade policies, which have favoured more exports and inward foreign direct investment. As a result, the Indian government should develop policies that encourage more inward foreign direct investment and exports in the manufacturing sector rather than the service sector, in order to alleviate the country's unemployment problems [6]. Historically, India has been a foreign trade deficit country; as a consequence of its massive imports of petroleum, oil, and lubricants, its foreign trade deficit has expanded continuously. Again, it was a merchandise trade deficit and a service trade surplus country. Over the last three decades, it has thus lost foreign exchange reserves through the merchandise trade while gaining reserves through the services trade.

### III. STATEMENT OF THE PROBLEM

The COVID-19 epidemic, which had an impact on economic activity and, in turn, the livelihoods of billions of people, caused the Indian economy to experience a "once in a century" catastrophe. The industrial sector, which was not exempt from this shock, had a sharp decline in output and employment during the lockdown. However, when the unlocking process got underway, economic activity began to rebound. The eight-core index and the numerous subcomponents of the Index of Industrial Production (IIP) have both seen a V-shaped recovery, with steady progress back towards pre-crisis levels. India has become the worst-performing out of all major economy during the pandemic. The Indian economy, once trumpeted as the world's fastest economy, has become the fastest shrinking, with the worst contraction of GDP (-23.9%) among major economies by April-June 2020 [19].

The Indian economy, which has grown every year for the past 40 years, was faltering even before the lockdown. The economy was on tenterhooks and slowing down due to the demonetization and GST. For eight successive quarters in 2018-19 and 2019-20, GDP growth declined every quarter from a high of 8.2% (January-March 2018) to a low of 3.1% (January-March 2020). In terms of annual growth, has declined from 8.2% in 2015-16 to 7.1% in 2016-17; 7% in 2017-18 and 6.1% in 2018-19, finally landing at an 11-year low of 4.2% in 2019-20 against the government's assumption of 8.5% in the 2019-20 budget.

In 2017-18, unemployment reached a 45-year high of 6.8%, while household consumption fell to four-decade lows. Total employment in India has dwindled by 9 million between 2011-12 and 2017-18. The pandemic has exacerbated the already beleaguered economy through supply disruptions, demand compression, and financial repression. A decline in growth means a cataclysm of hunger, poverty, unemployment, inequality, multiple diseases, and literacy threats to our lives. Any little gain made in health, education, innovation, and human development will be obliterated [18].

What is more worrisome is that, apart from the recession, India is sliding into a dangerous phase of stagflation—a combination of inflation and low growth—and a decline in job creation. Retail inflation measured by the consumer price index (CPI) remained above the upper band set by the RBI of 6% for nine consecutive months. What is perplexing is that India's consumer inflation rate of 6.73% in July is much higher than China's 2.7%, the US's 1.0%, South Korea's 0.3%, Mexico's 3.62%, and Indonesia's 1.32% in July 2020 [8].

The epidemic has drastically changed India's economy. The "V-shaped" Indian economy was anticipated to grow stronger in the next few quarters. When the economy is experiencing a V-shaped recession, there is a rapid but brief period of economic collapse followed by a strong rebound [19]. India's recovery is evolving into the shape of a K, which means there is a growing gap between "winners and losers," the "rich and poor." An example of the stock market performing well while millions of people lack healthcare access because they have lost their jobs.

The COVID-19 pandemic could have varying impacts on the current account balances and currencies of several countries, which include a severe drop in global commerce, reduced commodity prices, and tighter external financing circumstances. A 9.2% decline in global merchandise trade is anticipated in 2020. As imports decreased, India's trade balance with China and the US improved. The pandemic's spread caused supply chains to break down, travel restrictions to a stoppage of economic activity, and instability in global commodity prices. A wave of negative adjustments to the global rate of economic growth and trade volume ensued [13].

Compared to the more severe decline in trade, the present recession's contraction of the GDP has been considerably more extreme. In April 2020, the World Trade Organization (WTO) forecasted a 13–32% decline in global commercial trade in 2020. The International Monetary Fund (IMF) projects that the loss of GDP and trade volume in advanced economies (AEs) will be more severe than it is for emerging markets and developing countries.

### IV. DATA AND METHODOLOGY

#### 4.1. Objectives of the study

To descriptive and comparative study of India's gross value added, gross capital formation, employment, and foreign trade during the past three decades of neoliberal reforms.

#### 4.2. Data sources

The research study will be based principally on secondary data sources. The National Statistical Office (NSO) of India, Reserve Bank of India (RBI), and CMIE Industry Outlook will provide secondary data sources.

#### 4.3. Methodology

The descriptive study was carried out by: first, sectors' specific growth of national account; second, share of industry and its components in GVA; third, comparison of GVA and GCF; fourth, percentage of India's GVA to GCF; fifth, comparison of merchandise export and services export; sixth, percentage of services exports to merchandise exports; seventh, comparison of merchandise imports and services imports; eighth, percentage of services imports to merchandise imports; ninth, India's foreign trade balance and trade openness; tenth, labour force, employment, and unemployment.

### V. DESCRIPTIVE ANALYSIS

#### 5.1. Sectors specific growth of national account

Table 1 represents the sectors' specific economic growth in national accounts as regards gross domestic product at the value-added method of India at USD current prices in billions. Agriculture, industry, and services comprise the three sectors of gross domestic product. During 2008, India's GDP was 1,189 billion USD, in which its contribution from agriculture was 212.8 billion USD, industry was 394.6 billion USD, and services were 581.5 billion USD. Afterward, in 2012, India's GDP expanded to 1,722.2 billion USD; as a result, its share of agriculture enhanced to 313.5 billion USD, industry widened to 547.1 billion USD, and services extended to 861.6 billion USD. At the end of 2017, India's GDP enlarged to 2,331.4 billion USD, in which its contribution from agriculture improved to 398.4 billion USD, industry grew to 677.4 billion USD, and services developed to 1,255.5 billion USD from the previous year.

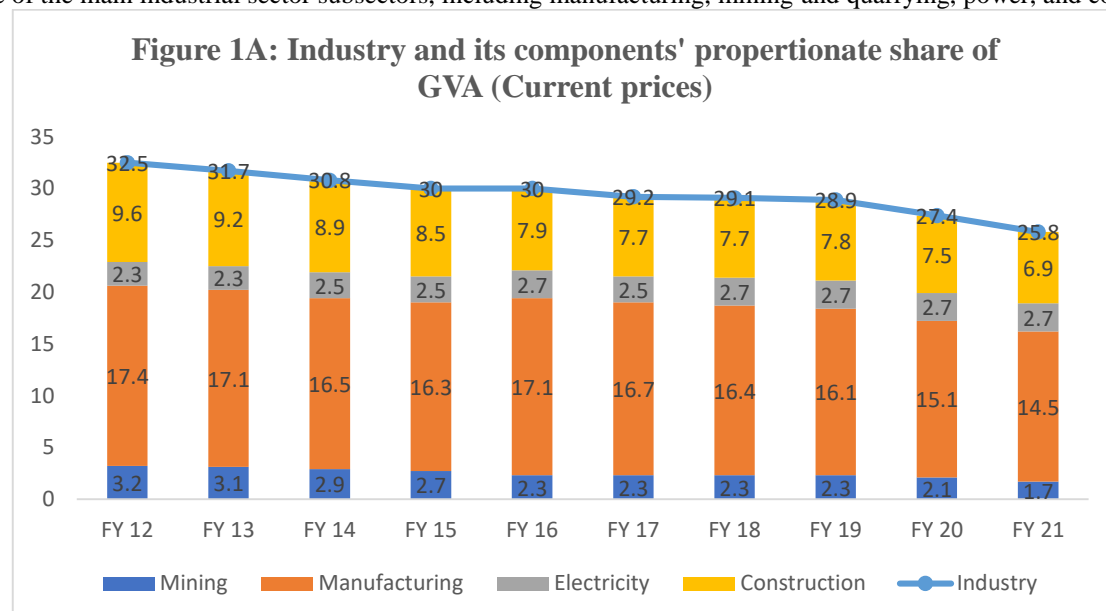
Table 1 also constitutes sectors' specific economic growth as a percentage of the gross domestic product (GDP) of India. These sectors have been categorised into agriculture, industry, and services. During 2012, India's contribution towards GDP from agriculture was 18.2%, industry was 31.8%, and services were 50%. At the end of 2017, India's contribution to GDP from agriculture was 17.1%, industry was 29.1%, and services were 53.9%. The studies from tables 1 and 2 and the works of literature indicate that India has adopted a service-led growth model.

**Table 1:** Sectors specific growth of national account in USD and as a percentage of GVA

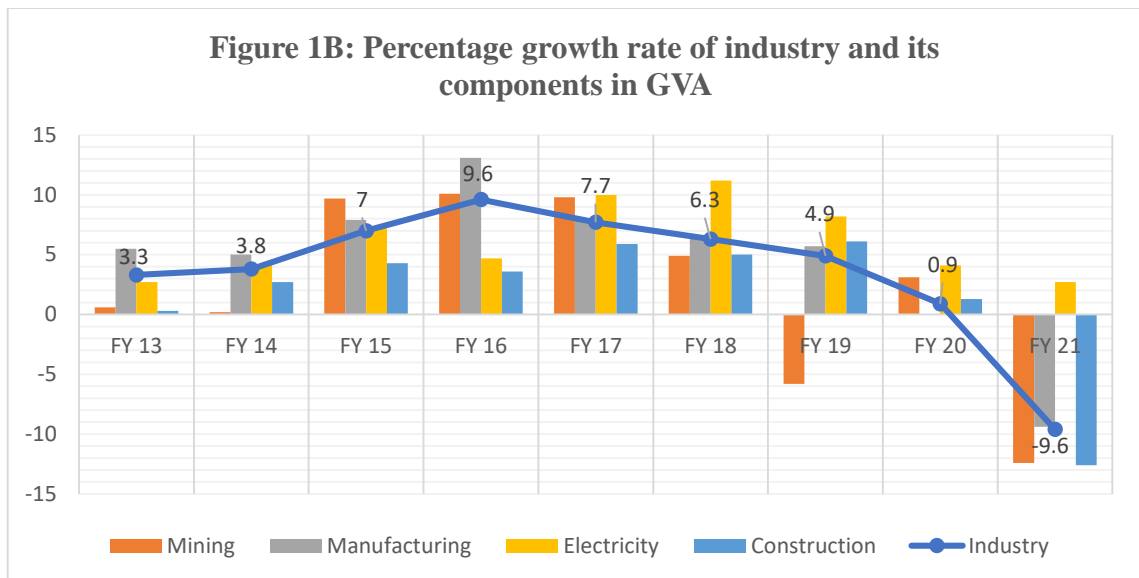
Year	US Dollars at current prices in Billions				Percentage of Gross Domestic Product			
	GVA	Agriculture	Industry	Services	GVA	Agriculture	Industry	Services
2008	1189	212.8	394.6	581.5	100	17.9	33.2	48.9
2009	1234.4	220.2	409.3	604.8	100	17.8	33.2	49
2010	1549.2	284.3	513	751.9	100	18.4	33.1	48.5
2011	1737.1	321.8	564.6	850.6	100	18.5	32.5	49
2012	1722.2	313.5	547.1	861.6	100	18.2	31.8	50
2013	1768.5	328.7	544.5	895.2	100	18.6	30.8	50.6
2014	1885	343	565	977	100	18.2	30	51.8
2015	1958.9	346.9	584	1028	100	17.7	29.8	52.5
2016	2059.9	369.7	603.3	1086.9	100	17.9	29.3	52.8
2017	2331.4	398.4	677.4	1255.5	100	17.1	29.1	53.9

### 5.2. Share of industry and its components in GVA

The industrial sector is expected to grow by -9.6% according to the most recent projections for Gross Value Added (GVA), besides having the ability to contribute to GVA of 25.8% in 2020–21 (FY21). Since 2011–12, the industrial sector's contribution has steadily decreased (Figure 1A and 1B). Despite the exception of "electricity, gas, water supply, and other utility services," whose percentage in GVA grew from 2.3% in FY12 to 2.7% in FY21, the share is declining across the board. Table 2 shows the performance of the main industrial sector subsectors, including manufacturing, mining and quarrying, power, and construction.



Source: Economic Survey 2020-21 calculations based on MoSPI data.



Source: Economic survey 2020-21 calculations based on MoSPI data

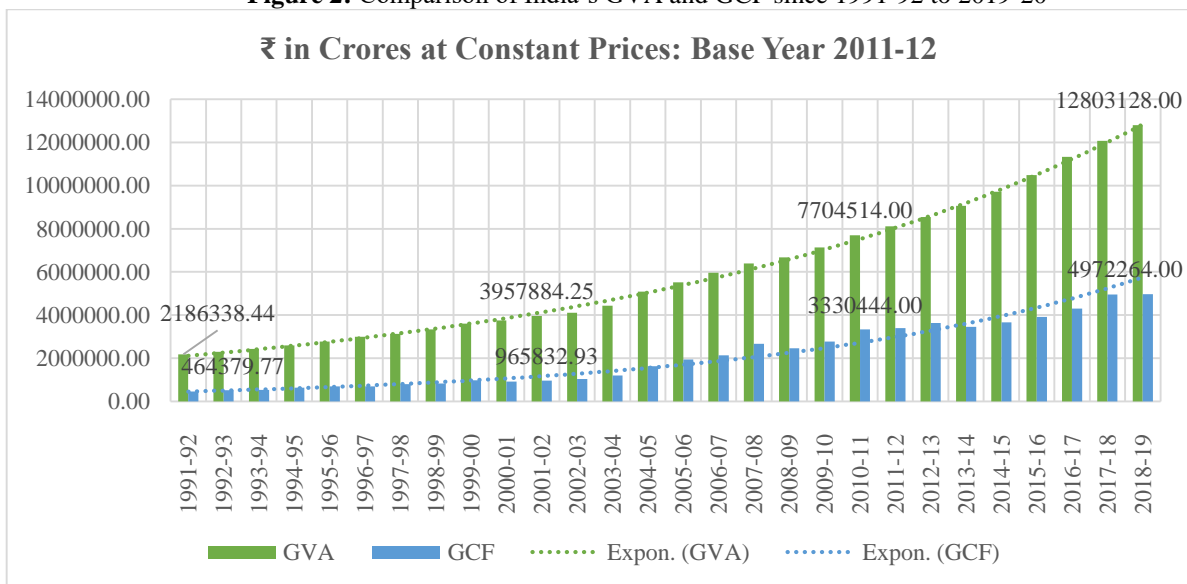
**Table 2: Percentage growth rate of industry and its components in GVA**

	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21
Industry	3.3	3.8	7	9.6	7.7	6.3	4.9	0.9	-9.6
Mining	0.6	0.2	9.7	10.1	9.8	4.9	-5.8	3.1	-12.4
Manufacturing	5.5	5	7.9	13.1	7.9	6.6	5.7	0	-9.4
Electricity	2.7	4.2	7.2	4.7	10	11.2	8.2	4.1	2.7
Construction	0.3	2.7	4.3	3.6	5.9	5	6.1	1.3	-12.6

**5.3. Comparison of India's gross value added (GVA) and gross capital formation (GCF)**

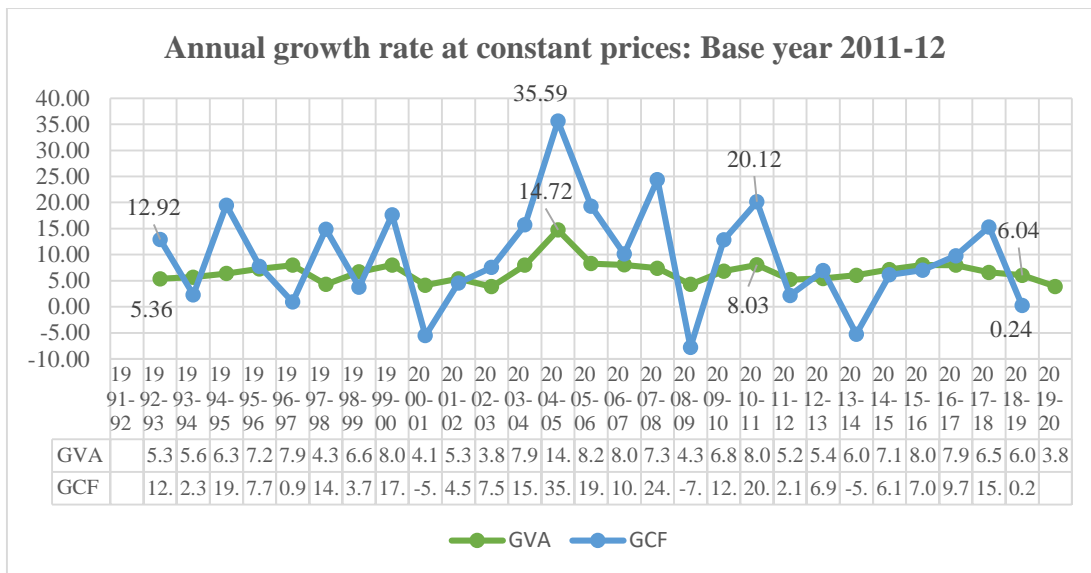
Figures 2 and 3 produce a comparison of India's gross value added and gross capital formation over the past three decades of neo-liberal reforms, from 1991-92 to 2019-20 at constant prices. In 1991-92, India's gross value added (GVA) and gross capital formation (GCF) were ₹ 21,86,338.4 crores and ₹ 4,64,379.8 crores, respectively. The annual growth rates of GVA and GCF in 1992-93 were 5.3% and 12.9%, respectively. During the period of 2004-05, GVA was grown by 14.7% and GCF was grown by 35.6% from the previous period of 2003-04, GVA was 7.9% and GCF was 15.7%, respectively. Similarly, in 2010-11, GVA was ₹ 77,04,514 crores and GCF was ₹ 33,30,444 crores. Consequently, its annual growth rate of GVA was 8% and GCF was 20.1%. At the end of the period, GVA was expanded to ₹ 1,28,03,128 crores and GCF was expanded to ₹ 49,72,264 crores, but its annual growth rate of GVA was slightly decreased to 6% and GCF was also decreased to 0.2%, respectively, from the previous period.

**Figure 2: Comparison of India's GVA and GCF since 1991-92 to 2019-20**



Source: Author's calculation from RBI: Handbook of Statistics on the Indian Economy

**Figure 3: Annual growth rate of India's GVA and GCF since 1991-92 to 2019-20**

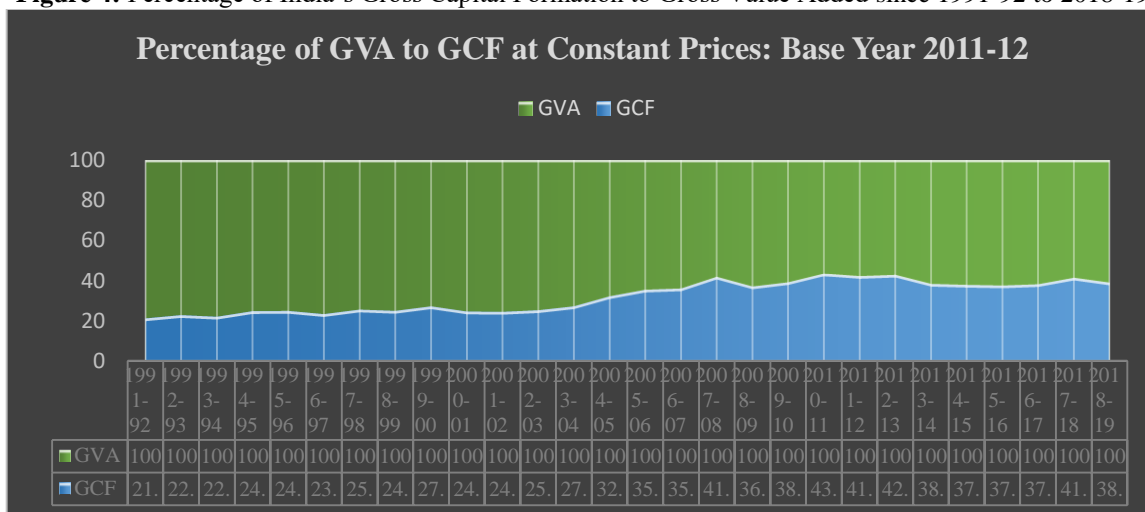


Source: Author’s calculation from RBI: Handbook of Statistics on the Indian Economy

5.4. Percentage of India’s GVA to GCF

Figure 4 shows the percentage of India’s gross capital formation (GCF) to gross value added (GVA) since 1991-92 to 2018-19 at constant prices on the 2011-12 base year. The percentage of GCF to GVA varied within a range from 21.2% to 43.2% from the globalisation period to the present period. In 1991-92, the percentage of GVA to GCF was 21.2%, in 2001-02 it was 24.4%, in 2011-12 it was 42%, and in 2018-19 it was 38.8%.

Figure 4: Percentage of India’s Gross Capital Formation to Gross Value Added since 1991-92 to 2018-19



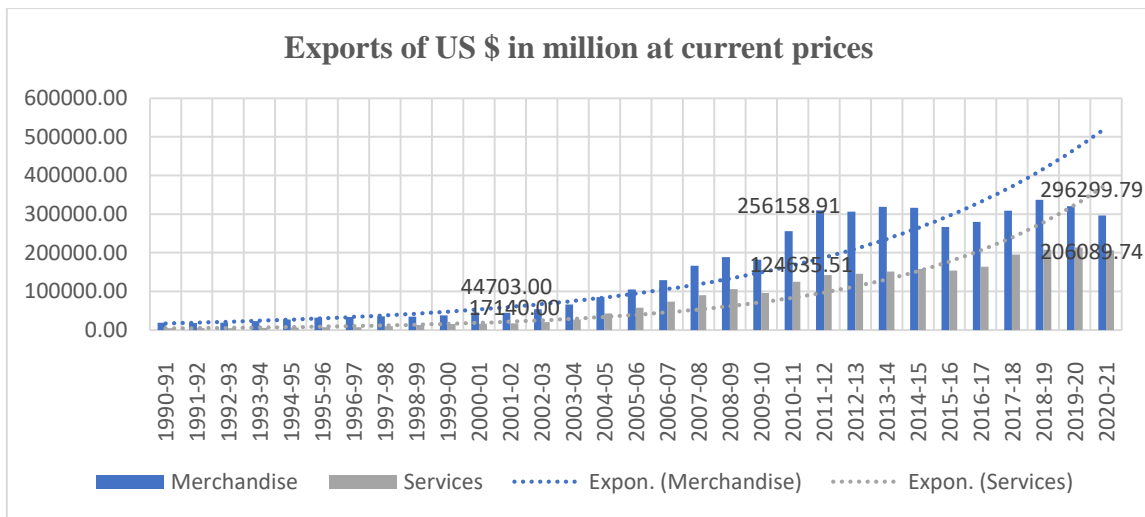
Source: Author’s calculation from RBI: Handbook of Statistics on the Indian Economy

5.5. Comparison of India’s merchandise export and services export

Figures 5 and 6 produce a comparative study of India’s merchandise export and services export since the period of LPG (Liberalization, Privatization, and Globalization) reforms to the COVID pandemic period. During 1991-92, India’s merchandise exports were \$18,266 million and service exports were \$5,022 million, so its negative annual growth rate of merchandise exports was 1.1% and positive growth rate of service exports was 10.3% from the previous year.

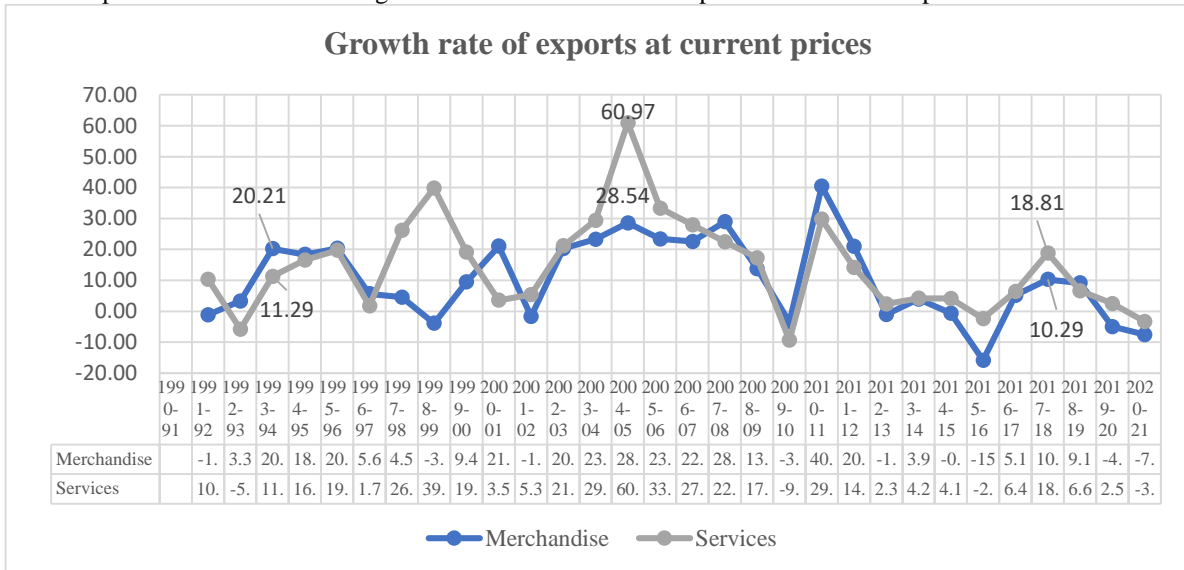
In the period of 2004-05, merchandise exports were expanded to \$85,206 million from the previous year's \$66,285 million and service exports were expanded to \$43,249 million from \$26,868 million, so in 2004-05 the annual growth rate of merchandise exports was grown to 28.5% and service exports were grown to 61%, respectively. At the end of the 2017-18 period, merchandise exports had grown to \$3,08,970.4 million from \$2,80,138 million and service exports had grown to \$1,95088.8 million from \$1,64,196.6 million. Consequently, her annual growth rate for merchandise exports was increased to 10.3%, and her annual growth rate for service exports was increased to 18.8%.

Figure 5: Comparison of India’s merchandise export and services export since 1990-91 to 2020-21



Source: Author’s calculation from RBI: Handbook of Statistics on the Indian Economy

Figure 6: Comparison of India’s annual growth rate of merchandise exports and services exports since 1990-91 to 2020-21

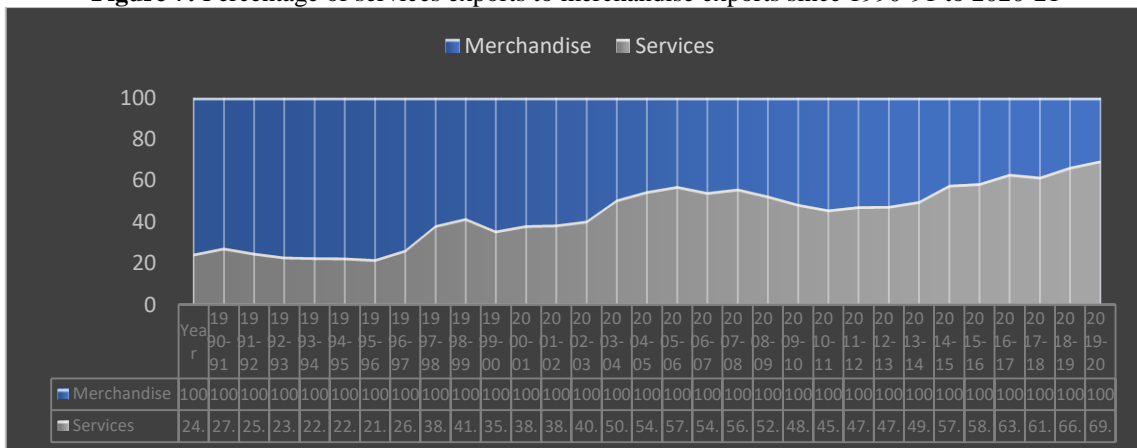


Source: Author’s calculation from RBI: Handbook of Statistics on the Indian Economy

5.6. Percentage of services exports to merchandise exports

Figure 7 represents the percentage of service exports to merchandise exports since the globalisation period of 1991-92 to the COVID pandemic period of 2020–21. India’s percentage of service exports to merchandise exports oscillated within a range from 21.9% to 69.5%. Its percentage has expanded continuously year by year since the globalisation period. In 1991-92, the percentage of service exports to merchandise exports was 27.5%, in 2001-02 it was 38.3%, in 2011-12 it was 46%, and in 2020-21 it was 69.5%, respectively.

Figure 7: Percentage of services exports to merchandise exports since 1990-91 to 2020-21

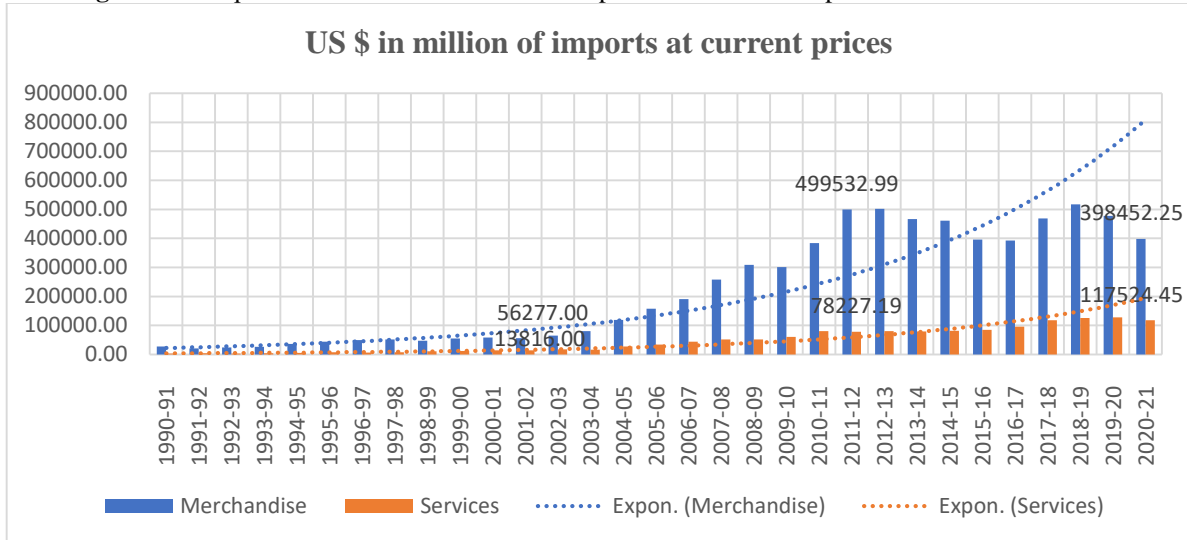


Source: Author’s calculation from RBI: Handbook of statistics on the Indian economy

5.7. Comparison of India’s merchandise imports and services imports

Figures 8 and 9 produce India’s annual growth rate of merchandise imports and services imports from 1990-91 to 2020-21 at current prices. During 1991-92, its merchandise imports decreased to \$21,064 million from \$27,195 million but services imports increased to \$3,815 million from \$3,571 million, so its annual negative growth rate of merchandise imports was 24.5% and the positive growth rate of services imports was 6.8%. The international globalisation of goods, services, labour, education, and finance has resulted in an increase in both merchandise and services imports from 1991-92 to 2020-21. In 2004-05, its merchandise imports were expanded to \$1,18,908 million from \$80,003 million and services imports were expanded to \$27,823 million from \$16,724 million. Consequently, its annual growth rate of merchandise imports was expanded to 48.6% and services imports were expanded to 66.4%.

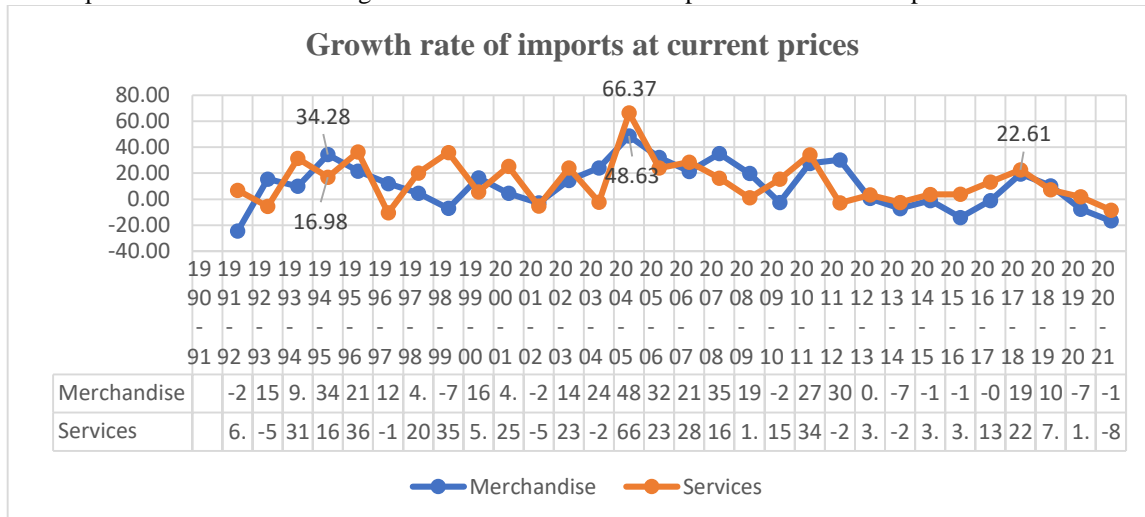
**Figure 8:** Comparison of India’s merchandise imports and services imports since 1990-91 to 2020-21



**Source:** Author’s calculation from RBI: Handbook of Statistics on the Indian Economy

In 2010-11, its merchandise imports had grown to \$4,99,533 million from \$3,83,481 million and services imports had grown to \$80,555 million from \$60,029 million, respectively. Consequently, its annual growth rate of merchandise imports was 27.6% and services imports were 34.2%. At the time of the COVID period 2019–20 and 2020–21, both merchandise imports and services imports continuously fell down, so in 2020–21 merchandise imports fell to \$3,98,452 million and service imports fell to \$1,17,524 million, respectively. Hence, her annual negative growth rate of merchandise imports was 16.6% and her service imports were 8.4%.

**Figure 9:** Comparison of India’s annual growth rate of merchandise imports and services imports since 1990-91 to 2020-21

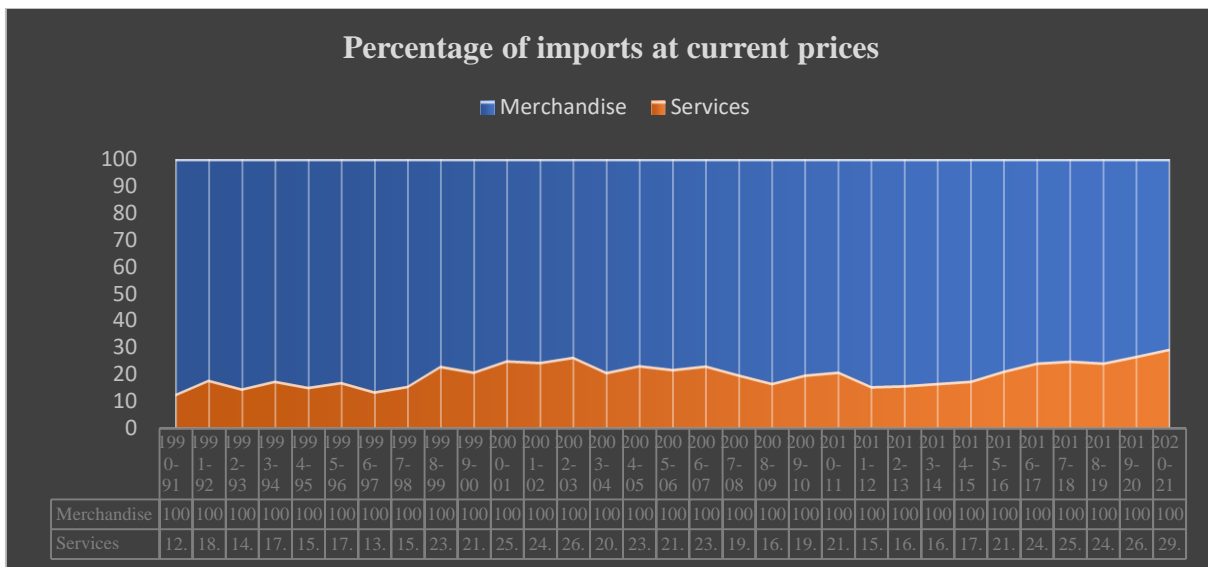


**Source:** Author’s calculation from RBI: Handbook of statistics on the Indian economy

**5.8. Percentage of services imports to merchandise imports**

Figure 10 shows the percentage of service imports to merchandise imports of India during the past three decades of neo-liberal reforms, from 1990-91 to 2020-21. The percentage range of service imports to merchandise imports varied from 12.8% to 29.5%. This figure shows an increasing trend from the globalisation period of 1991 to the present period of 2021. In 1991-92 it was 18.1%, in 2000-01 it was 25.2%, in 2010-11 it was 21%, and in 2020-21 it was 29.5%.

**Figure 10:** Percentage of services imports to merchandise imports since 1990-91 to 2020-21

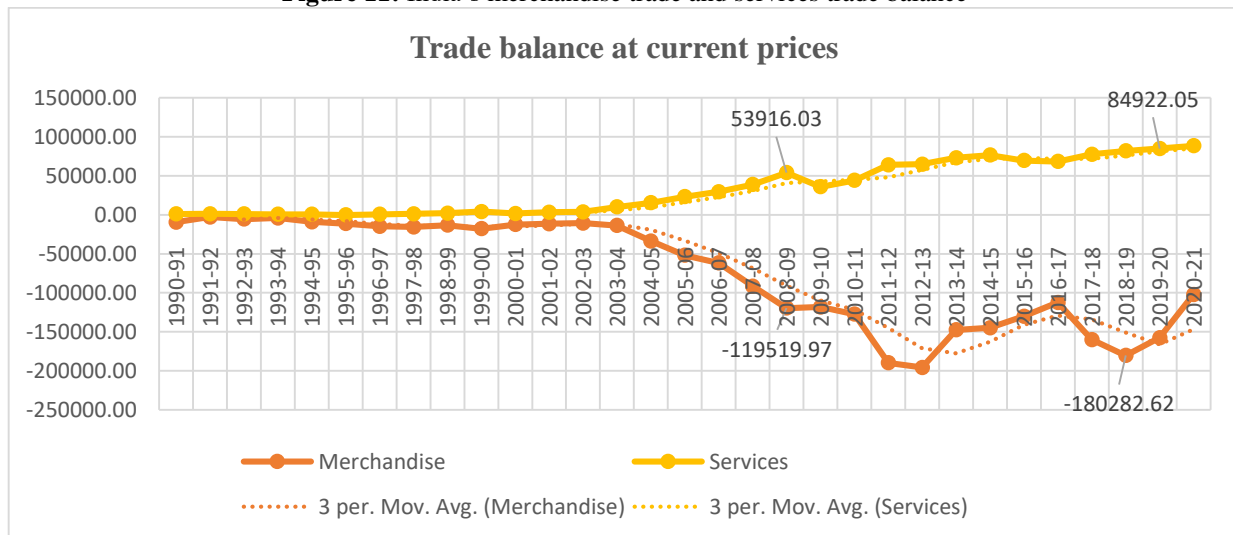


Source: Author’s calculation from RBI: Handbook of statistics on the Indian economy

5.9. India’s foreign trade balance

Figure 11 prevails India’s merchandise trade was deficit and services trade was surplus during the past three decades of neoliberal reforms from 1990-91 to 2020-21. In the last three decades, India has lost foreign exchange reserves through merchandise trade while gaining foreign exchange reserves through services trade. India suffered from both a primary sector trade deficit as well as a secondary sector trade deficit due to the massive number of imports of primary goods such as petroleum, oils, and lubricants (POL), ores and minerals in addition to large amounts of imports of manufactured goods.

Figure 11: India’s merchandise trade and services trade balance

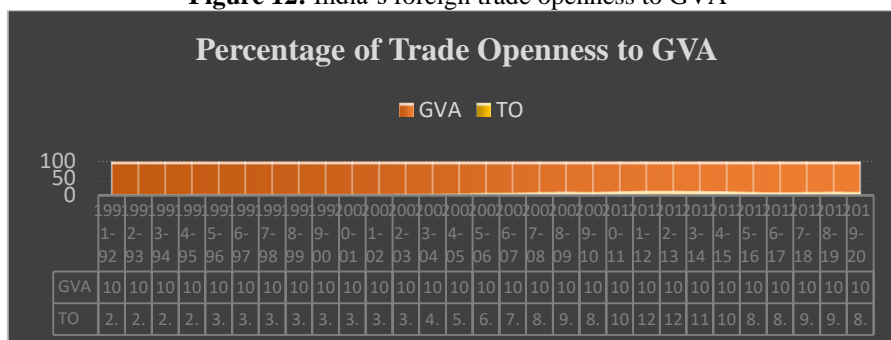


Source: Author’s calculation from RBI: Handbook of statistics on the Indian economy

5.10. India’s foreign trade openness

"Trade openness" refers to the orientation of a country’s economy in the context of international trade. The degree of openness is measured by the actual size of registered imports and exports within an economy. India’s foreign trade openness is calculated by the summation of merchandise exports and imports with services exports and imports divided by gross value added (GVA). Figure 12 displays that there is an increasing trend in the percentage of foreign trade openness since the neo-decadal reforms of 1991-92 to 2019-20. Our calculation shows foreign trade openness was high during the period 2010-11 to 2014-15.

Figure 12: India’s foreign trade openness to GVA







5. Arora, R. U., & Wondemu, K. (2018). Do Public Sector Banks Promote Regional Growth? Evidence from an Emerging Economy. *Review of Urban & Regional Development Studies*, Vol. 30(1), 66-87.
6. Azhar, S, and K.N Marimuthu. 2012. "An Overview of Foreign Direct Investment in India." *ZENITH International Journal of Business Economics & Management Research*, 2 (1).
7. Assarlind, M., I. Gremyr, and K Backman. 2012. "Multi-faceted views on a Lean Six Sigma application." *International Journal of Quality and Reliability Management* 29 (1), pp. 21-30.
8. Babubudjnauth, A. (2020). An empirical analysis of the impacts of real exchange rate on GDP, manufacturing output and services sector in Mauritius. *Asian Economic Policy Review*, 1-13. <https://doi.org/10.1002/ijfe.1869>.
9. Kakilli-Acaravci, S., I. Ozturk. and A. Acaravci. 2009. Financial development and economic growth: Literature survey and empirical evidence from sub-Saharan African countries. *South African Journal of Economic and Management Sciences* 12(1): 11-27.
10. Kaushal, L. A. & N. Pathak. 2015. The causal relationship among economic growth, financial development and trade openness in Indian economy. *International Journal of Economic Perspectives* 9(2): 5-22.
11. Laurenceson, J. and J. Chai. 2003. Financial reform and economic development in China. *Cheltenham: Edward Elgar Publishing*.
12. Mahara, T. S. 2020. Money supply-economic growth nexus: Evidence from a landlocked country. *Quest Journal of Management and Social Sciences* 2(1): 132-153.
13. Mallick, H., M. K. Mahalik. and H. Padhan. 2020. Does globalization exacerbate income inequality in two largest emerging economies? The role of FDI and remittances infows. *International Review of Economics* 67(4): 443-480.
14. Nkoro, E. and A. K. Uko. 2016. Autoregressive distributed lag (ARDL) cointegration technique: application and interpretation. *Journal of Statistical and Econometric Methods* 5(4): 63-91.
15. Odhiambo, N. 2007. Supply-leading versus demand-following hypothesis: Empirical evidence from three SSA countries. *African Development Review* 19(2): 257-280.
16. Phani, B.V. 2017. FDI inflow, stock market performance and exchange rate: Indian Scenario. *International Journal of Accounting and Financial Reporting* 7(2): 148-171.
17. Raghutla, C. and Chittedi, K. R., 2020. Financial development, real sector and economic growth: Evidence from emerging market economies. *International Journal of Finance & Economics*, 26(4), pp. 6156-6167.
18. S. Mahendra Dev & Rajeswari, Sengupta (2020). COVID-19: Impact on the Indian Economy. *Working Papers 2020-013, Indira Gandhi Institute of Development Research, Mumbai, India*.
19. The Economic Survey. (2020-21). Industry and Infrastructure. *Government of India (GoI), Volume 2* (Chapter 08), 261-304.
20. The Economic Survey. (2021-22). Industry and Infrastructure. *Government of India (GoI), Volume 2* (Chapter 08), 265-312.
21. Topcu, M. and S. Coban. 2017. Financial development and firm growth in Turkish manufacturing industry: evidence from heterogeneous panel based non-causality test. *Economic Research-Ekonomiska Istraživanja* 30(1): 1758–1769.
22. Ufoeze, L.O., S. O. Odimgbe, V. N. Ezeabalisi, and U. B. Alajekwu. 2018. Effect of monetary policy on economic growth in Nigeria: An empirical investigation. *Annals of Spiru Haret University* 9(1): 123-140.
23. Yugang, He., 2017. A Study on the Relationship between Money Supply and Macroeconomic Variables in China. *Mediterranean Journal of Social Sciences*, 8(6), pp. 99-107.
24. Zheng, C., P. K. Bhowmik, and N. Sarker. 2020. Industry-specific and macroeconomic determinants of non-performing loans: A comparative analysis of ARDL and VECM. *Sustainability* 12(1): 325.

### Appendix 1

Constant prices							Credit + Debit		
Base year:2011-12							Exports + Imports		
	(Rupees Crore)	(Rupees Crore)	Growth rate		Percentage		Trade openness		
Year	GVA	GCF	GVA	GCF	GVA	GCF		GVA	TO
1991-92	2186338.44	464379.77			100	21.24	48167.00	100	2.20
1992-93	2303608.76	524398.81	5.36	12.92	100	22.76	51516.00	100	2.24
1993-94	2434484.81	536475.63	5.68	2.30	100	22.04	59416.00	100	2.44
1994-95	2590165.58	640965.44	6.39	19.48	100	24.75	74427.00	100	2.87
1995-96	2778941.16	690835.44	7.29	7.78	100	24.86	90868.00	100	3.27
1996-97	3000552.50	697115.74	7.97	0.91	100	23.23	97303.00	100	3.24
1997-98	3129624.69	800847.63	4.30	14.88	100	25.59	104406.00	100	3.34
1998-99	3338789.69	831112.97	6.68	3.78	100	24.89	106049.00	100	3.18
1999-00	3606034.93	977679.58	8.00	17.63	100	27.11	120279.00	100	3.34
2000-01	3755619.67	923654.97	4.15	-5.53	100	24.59	134208.00	100	3.57
2001-02	3957884.25	965832.93	5.39	4.57	100	24.40	131936.00	100	3.33
2002-03	4111361.36	1038853.83	3.88	7.56	100	25.27	156121.00	100	3.80
2003-04	4438893.71	1202000.78	7.97	15.70	100	27.08	189880.00	100	4.28
004-05	5092503.00	1629848.00	14.72	35.59	100	32.00	275186.00	100	5.40

2005-06	5514228.00	1943997.00	8.28	19.27	100	35.25	354356.00	100	6.43
2006-07	5958367.00	2140999.00	8.05	10.13	100	35.93	437649.00	100	7.35
2007-08	6398295.00	2663579.00	7.38	24.41	100	41.63	565625.00	100	8.84
2008-09	6674215.00	2456984.00	4.31	-7.76	100	36.81	655531.37	100	9.82
2009-10	7131836.00	2772552.00	6.86	12.84	100	38.88	639160.17	100	8.96
2010-11	7704514.00	3330444.00	8.03	20.12	100	43.23	844830.58	100	10.97
2011-12	8106945.99	3403007.94	5.22	2.18	100	41.98	1029859.00	100	12.70
2012-13	8546275.35	3639296.37	5.42	6.94	100	42.58	1035259.66	100	12.11
2013-14	9063648.67	3448235.84	6.05	-5.25	100	38.04	1015383.93	100	11.20
2014-15	9712132.79	3659762.88	7.15	6.13	100	37.68	1017715.04	100	10.48
2015-16	10491870.35	3917358.30	8.03	7.04	100	37.34	901755.20	100	8.59
2016-17	11328285.00	4300879.00	7.97	9.79	100	37.97	932767.09	100	8.23
2017-18	12074413.00	4960215.00	6.59	15.33	100	41.08	1090592.49	100	9.03
2018-19	12803128.00	4972264.00	6.04	0.24	100	38.84	1188815.69	100	9.29
2019-20	13301120.00		3.89		100		1139827.56	100	8.57

## Appendix 2

Year	Exports					
	US \$ in million		Growth rate		Percentage	
	Merchandise	Services	Merchandise	Services	Merchandise	Services
1990-91	18477.00	4551.00			100	24.63
1991-92	18266.00	5022.00	-1.14	10.35	100	27.49
1992-93	18869.00	4730.00	3.30	-5.81	100	25.07
1993-94	22683.00	5264.00	20.21	11.29	100	23.21
1994-95	26855.00	6135.00	18.39	16.55	100	22.84
1995-96	32310.00	7344.00	20.31	19.71	100	22.73
1996-97	34133.00	7474.00	5.64	1.77	100	21.90
1997-98	35680.00	9429.00	4.53	26.16	100	26.43
1998-99	34298.00	13186.00	-3.87	39.85	100	38.45
1999-00	37542.00	15709.00	9.46	19.13	100	41.84
2000-01	45452.00	16268.00	21.07	3.56	100	35.79
2001-02	44703.00	17140.00	-1.65	5.36	100	38.34
2002-03	53774.00	20763.00	20.29	21.14	100	38.61
2003-04	66285.00	26868.00	23.27	29.40	100	40.53
2004-05	85206.00	43249.00	28.54	60.97	100	50.76
2005-06	105152.00	57659.00	23.41	33.32	100	54.83
2006-07	128888.00	73780.00	22.57	27.96	100	57.24
2007-08	166163.00	90342.00	28.92	22.45	100	54.37
2008-09	189001.27	105962.95	13.74	17.29	100	56.06
2009-10	182441.75	96044.62	-3.47	-9.36	100	52.64
2010-11	256158.91	124635.51	40.41	29.77	100	48.66
2011-12	309774.00	142324.82	20.93	14.19	100	45.94
2012-13	306581.40	145678.01	-1.03	2.36	100	47.52
2013-14	318607.20	151813.01	3.92	4.21	100	47.65
2014-15	316544.76	158107.48	-0.65	4.15	100	49.95
2015-16	266365.33	154311.15	-15.85	-2.40	100	57.93
2016-17	280138.00	164196.61	5.17	6.41	100	58.61
2017-18	308970.41	195088.85	10.29	18.81	100	63.14
2018-19	337236.56	208000.42	9.15	6.62	100	61.68
2019-20	320430.86	213191.00	-4.98	2.50	100	66.53
2020-21	296299.79	206089.74	-7.53	-3.33	100	69.55

## Appendix 3

Year	Imports					
	US \$ in million		Growth rate		Percentage	
	Merchandise	Services	Merchandise	Services	Merchandise	Services
1990-91	27915.00	3571.00			100	12.79
1991-92	21064.00	3815.00	-24.54	6.83	100	18.11
1992-93	24316.00	3601.00	15.44	-5.61	100	14.81
1993-94	26739.00	4730.00	9.96	31.35	100	17.69
1994-95	35904.00	5533.00	34.28	16.98	100	15.41
1995-96	43670.00	7544.00	21.63	36.35	100	17.28
1996-97	48948.00	6748.00	12.09	-10.55	100	13.79
1997-98	51187.00	8110.00	4.57	20.18	100	15.84
1998-99	47544.00	11021.00	-7.12	35.89	100	23.18
1999-00	55383.00	11645.00	16.49	5.66	100	21.03
2000-01	57912.00	14576.00	4.57	25.17	100	25.17
2001-02	56277.00	13816.00	-2.82	-5.21	100	24.55
2002-03	64464.00	17120.00	14.55	23.91	100	26.56
2003-04	80003.00	16724.00	24.10	-2.31	100	20.90
2004-05	118908.00	27823.00	48.63	66.37	100	23.40
2005-06	157056.00	34489.00	32.08	23.96	100	21.96
2006-07	190670.00	44311.00	21.40	28.48	100	23.24
2007-08	257630.00	51490.00	35.12	16.20	100	19.99
2008-09	308520.24	52046.92	19.75	1.08	100	16.87
2009-10	300644.41	60029.38	-2.55	15.34	100	19.97
2010-11	383481.30	80554.86	27.55	34.19	100	21.01
2011-12	499532.99	78227.19	30.26	-2.89	100	15.66
2012-13	502236.91	80763.34	0.54	3.24	100	16.08
2013-14	466216.33	78747.39	-7.17	-2.50	100	16.89
2014-15	461484.49	81578.31	-1.01	3.59	100	17.68
2015-16	396444.05	84634.67	-14.09	3.75	100	21.35
2016-17	392580.46	95852.01	-0.97	13.25	100	24.42
2017-18	469006.26	117526.97	19.47	22.61	100	25.06
2018-19	517519.18	126059.53	10.34	7.26	100	24.36
2019-20	477936.75	128268.95	-7.65	1.75	100	26.84
2020-21	398452.25	117524.45	-16.63	-8.38	100	29.50

## Appendix 4

Year	Foreign trade balance	
	US \$ in million	
	Merchandise	Services
1990-91	-9438.00	980.00
1991-92	-2798.00	1207.00
1992-93	-5447.00	1129.00
1993-94	-4056.00	534.00
1994-95	-9049.00	602.00
1995-96	-11360.00	-200.00
1996-97	-14815.00	726.00
1997-98	-15507.00	1319.00
1998-99	-13246.00	2165.00

1999-00	-17841.00	4064.00
2000-01	-12460.00	1692.00
2001-02	-11574.00	3324.00
2002-03	-10690.00	3643.00
2003-04	-13718.00	10144.00
2004-05	-33702.00	15426.00
2005-06	-51904.00	23170.00
2006-07	-61782.00	29469.00
2007-08	-91468.00	38853.00
2008-09	-119519.97	53916.03
2009-10	-118202.66	36015.24
2010-11	-127322.39	44080.66
2011-12	-189758.99	64097.63
2012-13	-195655.51	64914.67
2013-14	-147609.13	73065.62
2014-15	-144939.73	76529.18
2015-16	-130078.72	69676.48
2016-17	-112442.46	68344.60
2017-18	-160035.85	77561.89
2018-19	-180282.62	81940.89
2019-20	-157505.89	84922.05
2020-21	-102152.46	88565.29