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Challenges and Opportunities in Entrepreneurship in India

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Abstract:

Entrepreneurship plays a paramount role in the magnification and development of the economy of any country. Entrepreneurship acts as a vaccine for a nation's economic prosperity, leading to the generation of employment opportunities, national income, rural development, technological development, industrialization, export promotion, etc. Many institutes and companies are involved in entrepreneurship development activities, and some join these programs as a stepping stone to becoming an entrepreneur. Entrepreneurs convert conceptions into economic opportunities through innovations considered a significant source of competitiveness in an increasingly globalizing world economy. Ergo, most regimes strive to augment the supply of competent and ecumenically competitive entrepreneurs in their respective countries. The primary purport of this research is to understand the paramountcy of entrepreneurship in India. Numerous factors need to be considered while expertise the significance of entrepreneurship. Entrepreneurs experience several opportunities and challenges inside the direction of pursuance in their goals and targets.

Keywords: Behaviour, Perception, Economic Development, Commercial Banks, Challenges, Opportunities, Enterprises, Statistical Analysis, T-Test, correlation, Random Forest.

Introduction:

In this modern world, technology has been given more paramountcy in every aspect of the human lifespan. Today, with the expeditious development of our society, entrepreneurship has become one of the most dynamic forces in the economy. An entrepreneur leads and implements the correct conceptions, which is highly serviceable for the society that results in the monetary improvement of a nation. They serve as the catalysts in the process of industrialization and economic magnification. They are like gamblers, and like any gamblers, their chances of victoriously triumphing increase if they have the right cards. They are conventionally a sole proprietor, a partner, or the one who owns the majority of shares in an incorporated enterprise[1] (Dhaliwal A., 2016). In a developing country like India, entrepreneurs need to be highly motivated to grow the nation[2] (Santhi, N., & Kumar, 2011). In the present scenario, it has been widely apperceived that enthusiastic, prompted, and energetic entrepreneurs can explore the potential of resource availability, technology, capital, and workforce. When achieving the goal of economic development, it is necessary to increase entrepreneurship both qualitatively and quantitatively. Our study analyzes the ease of doing business, entrepreneurial perception, significant impact on entrepreneurship amongst people in the country.

[1] https://www.academia.edu/download/57290287/eco-dev_1_.pdf
[2] http://www.journal.bonfring.org/abstract.php?id=3&archiveid=51

Research Methodology:

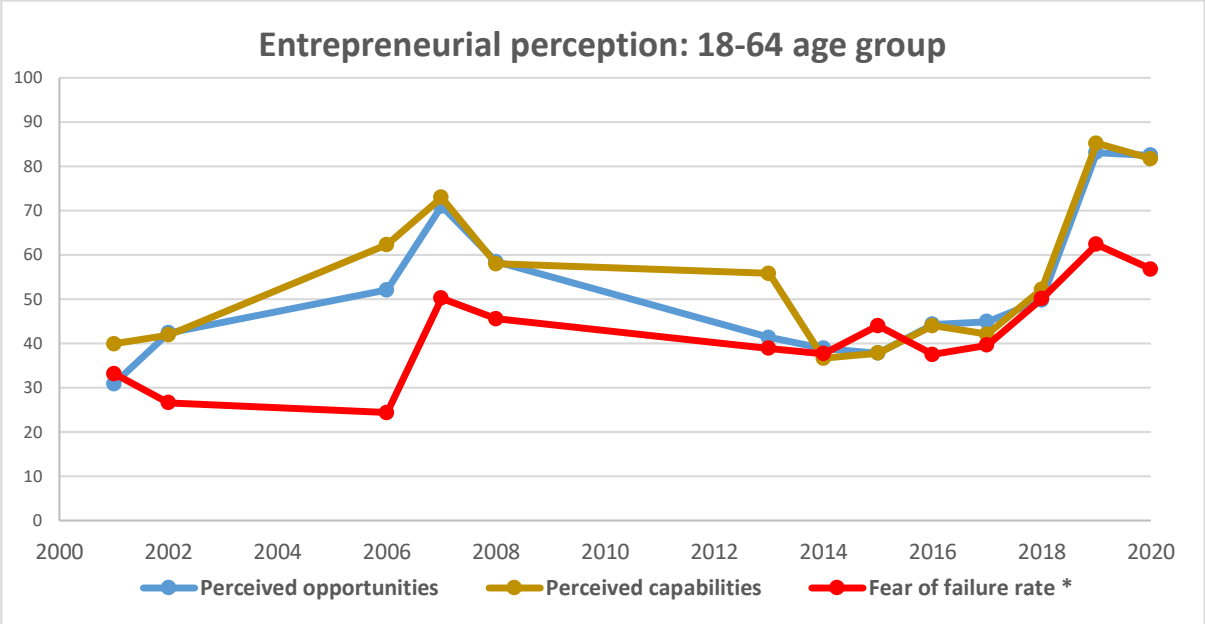
The primary source of data used for the study is secondary data. We have done exploratory cum descriptive analysis with simple statistical implements. This research follows the analytical research methodology based on quantitative data. The data and information cognate to the study have been accumulated from CEICDATA, Global Entrepreneurship Monitor survey, World Bank Survey, websites, and journals. Also, statistical and exploratory data analysis was done on panel data created from the Global Entrepreneurship Monitor survey and ease of doing business data from the World Bank survey and prediction done on the panel data using the Random Forest Regression Model.

Analysis and Results:

Entrepreneurial behaviour and Attitudes:

The Global Entrepreneurship Monitor's (GEM's) Adult Population Survey (APS) visually examines the characteristics, motivations, and ambitions of individuals starting businesses, as well as gregarious postures towards entrepreneurship[3]. The APS is supervised to a minimum of 2000 adults in each economy, ascertaining that it is nationally representative. From GEM's data, the 18-64 age group population was taken into consideration for analysis.

Entrepreneurial perception:



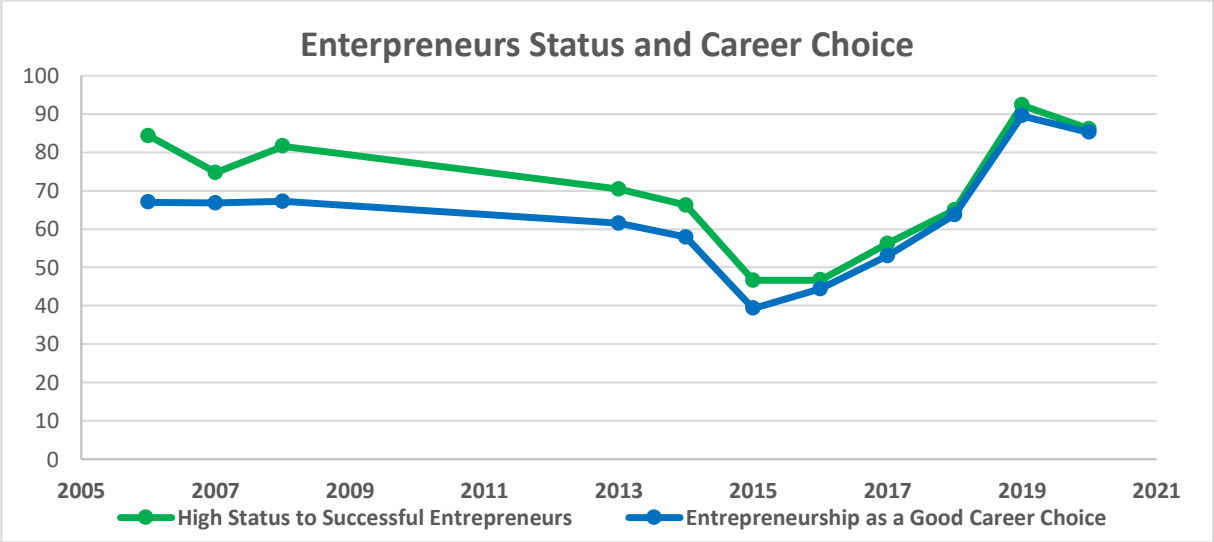
(Fig.1 Entrepreneurial perception)

Fig.1 shows that in 2020, a vigorous percentage (82.5) of the population visually perceive good opportunities to commence a firm in the area where they live. The data reveals that around 82% of the people who believe they have the required skills and knowledge to start a business and approximately 57% (fear of failure rate) of the population who accede that they optically discern good opportunities but would not commence a business for fear it might fail. But in the last year, these rates were higher because people were more prone to options and capabilities. From 2001 to 2020, we can see steady growth in the perceived opportunities and capabilities except in 2008 and 2014.

[3] https://www.gemconsortium.org/data

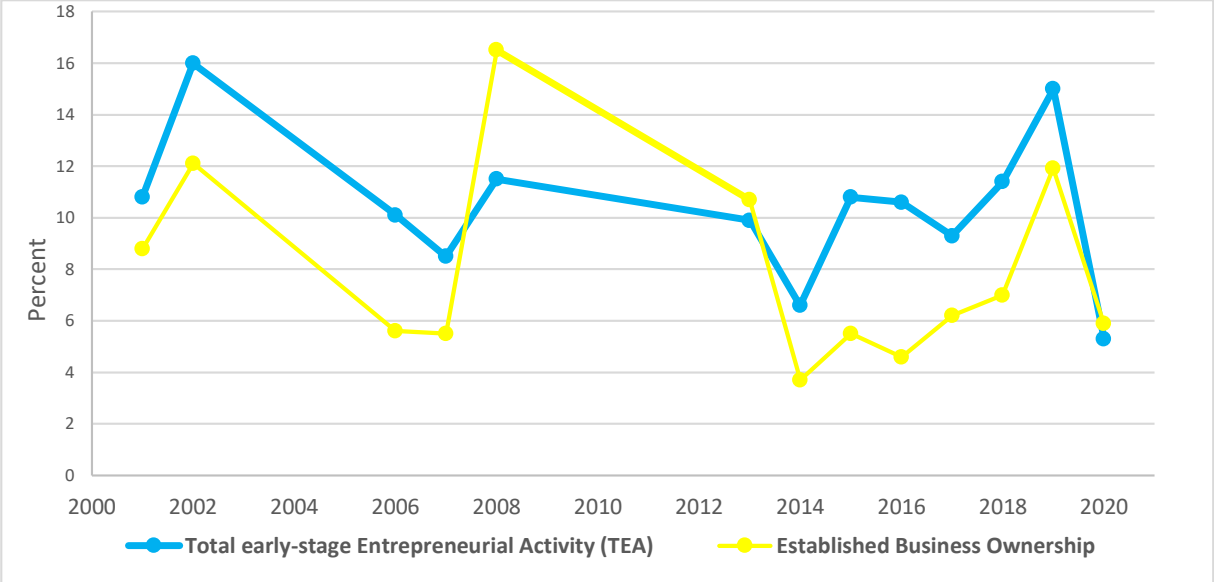
Entrepreneur's Status and Career Choice:

The data for entrepreneurship as a good career choice for 2020 shows that about 85% of the country's population perceives that starting a business as a desirable career choice and 86% agreed that successful entrepreneurs receive high status. But in 2019, this percentage was at the apex compared to other years, although there was a downfall in 2015. i.e., 92% of people acceded that prosperous entrepreneurs receive high status, and about 90% of adults perceive entrepreneurship as an excellent vocation in 2019. In contrast, in 2015, only 47% believed that prosperous entrepreneurs receive high status, and 39% believed that entrepreneurship is a good vocation.



(Fig.2 Entrepreneur's Status and Career Choice)

Nascent entrepreneurs Activity:



(Fig.3 new entrepreneurs Activity)

Data shows that in 2020, the rate of total early-stage entrepreneurial activity (TEA) has decremented to 5% from the anterior year where it was 15%. Withal, the established business ownership rate decremented to 6% from 12% of the anterior year. The established business ownership is the population who are currently owner-manager of a based business, i.e., owning and managing a running business with paid salaries, wages, or any other payments to the owners for more than 42 months. TEA is either a budding entrepreneur or owner-manager of a new business.

Another essential parameter to discuss is entrepreneurial intentions in latent entrepreneurs who intend to commence a business within three years. It has optically discerned that entrepreneurial intention decremented to 20% in 2020 from 33%. Additionally, it fluctuates in the data from 2002 to 2020 because sometimes people intend to commence a business. This percentage was deficient in the year 2014, i.e., 7.7.

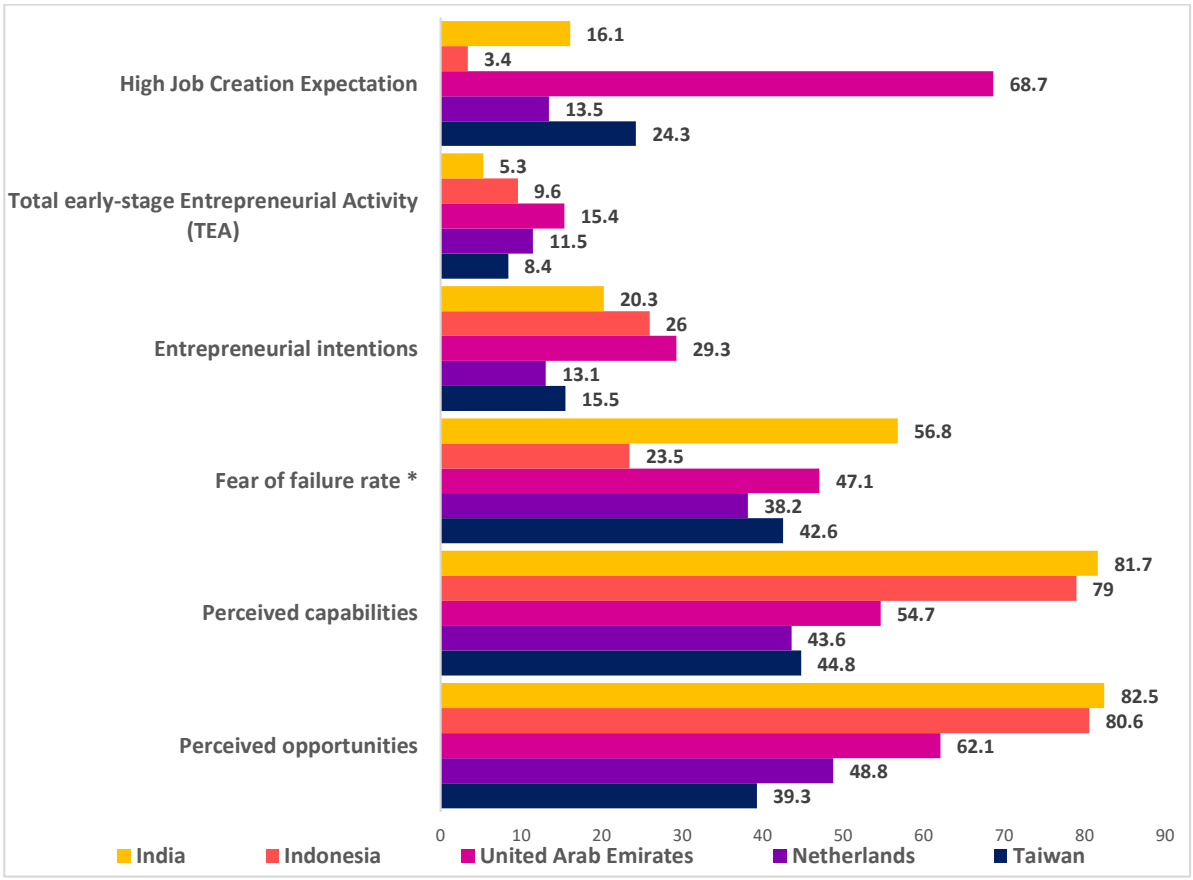
A small change has been seen for entrepreneurial employee activity. The survey shows that only 0.3% of the people in 2020 are involved in entrepreneurial activities, such as developing or launching developing goods or services or establishing a budding business unit, a developing establishment, or a subsidiary. Whereas in 2019, it was 0.2%.

People who are either budding entrepreneurs or owner-managers of a developing business have a significant role in job engendering. The high job engendering prospect parameter incremented to 16% in 2020 from 11% last year. In 2015, this percentage was at 4%, the lowest job engendering year in 2001 to 2020.

People are also involved in a TEA in the business services sector information and communication, financial intermediation and real-estate, professional services, or administrative services. It was incremented from 2% in 2019 to 4% in 2020. In 2006, it was 9% of the population.

Perception about Entrepreneurship: Comparison with world's Most Entrepreneurial Countries:

To summarize the intermediate state of an economy's environment for entrepreneurship, GEM introduced the National Entrepreneurship Context Index (NECI) in 2018. According to the NECI score, we have taken the top five countries to analyze the perception of entrepreneurship. In Fig.4, 83% of the population perceives an excellent opportunity to start a business in India, followed by Indonesia (81%) and the United Arab Emirates (62%). Also, India has the highest Perceived capability as compared to Indonesia (79%), United Arab Emirates (55%), Netherlands (44%), and Taiwan (45%). The data shows that trepidation of failure has increased among people. The fear of disappointment among the Indian youth is highest, followed by United Arab Emirates (47%) and Taiwan (43%). The high job creation expectation is more in the United Arab Emirates (69%), whereas, in Taiwan, it was 24%, followed by India (16%) and the Netherlands (14%).



(Fig.4 Perception about Entrepreneurship)

(Source: GEM survey 2020)

Entrepreneurship Framework Conditions: National Expert Survey (NES)

GEM proposed that entrepreneurship dynamics can be linked to conditions that enhance incipient business engendering. Nine factors are believed to have a consequential impact on entrepreneurship, known as the Entrepreneurial Framework Conditions (EFCs). The National Expert Survey (NES) methodology assesses the conditions, understands the ecosystem in the respective economies, and provides a uniform and harmonized measure to understand the framework. The responses to these items follow a Likert scale. The nine key factors are:

Entrepreneurial Framework Conditions: All nations

When compared with the performance of all nations based on 12 factors by taking the mean, the below table shows the entrepreneurial framework conditions of the top 15 countries in 2020.

Countries	Financing for entrepreneurs	Governmental support and policies	Taxes and bureaucracy	Governmental programs	Primary school entrepreneurial education and training	Post-school entrepreneurial education and training	R&D transfer	Commercial and professional infrastructure	Internal market dynamics	Internal market openness	Physical and services infrastructure	Cultural and social norms
Indonesia	3.44	3.66	3.51	3.53	3.83	3.95	3.74	3.45	3.61	3.53	3.81	3.89
Netherlands	3.61	3.52	3.4	3.73	3.51	3.7	3.54	3.61	3.16	3.61	4.29	3.79
Taiwan	3.3	3.86	3.38	3.56	2.69	3.24	3.3	3.55	3.53	3.27	4.45	3.63
India	3.63	3.42	3.27	3.37	3.02	3.12	3.32	3.65	3.87	3.53	3.88	3.6
UAE	3.11	3.81	3.43	3.48	3.39	3.31	3.01	3.37	3.51	3.11	4	3.93
Norway	3.28	3.25	3.08	3.59	3.26	3.32	3.04	3.75	2.57	3.32	4.25	3.57
Saudi Arabia	3.42	3.54	3.12	3.41	2.09	2.83	2.87	3.26	3.8	3.37	4.31	3.61
Qatar	3.1	3.27	3.28	3.33	3.14	3.41	3.15	3.34	3.36	2.93	3.91	3.39
South Korea	3.28	3.55	3.01	3.38	2.52	2.84	2.76	2.87	4.3	2.74	4.17	3.09
Switzerland	3.37	2.9	3.33	3.36	2.2	3.1	3.18	3.73	2.32	3.12	4.18	3.47
Israel	3.17	2.45	2.3	2.86	2.48	3.19	3.03	3.67	3.3	3.03	4.14	3.94
US	3.26	2.55	2.59	2.68	2.37	3.29	2.71	3.43	3.29	2.84	3.91	4.05
Oman	3	3.1	2.71	3.09	2.67	3.12	2.72	2.85	3.38	3.1	3.46	3.5
Luxemburg	2.61	2.96	3.23	3.51	2.62	3.01	3.35	3.47	2.49	2.91	3.49	2.89
UK	3.29	2.76	3.06	2.86	2.24	2.83	2.73	3.3	3.16	3.05	3.55	3.33

(Table.1 Entrepreneurial framework conditions)

(Source: GEM)

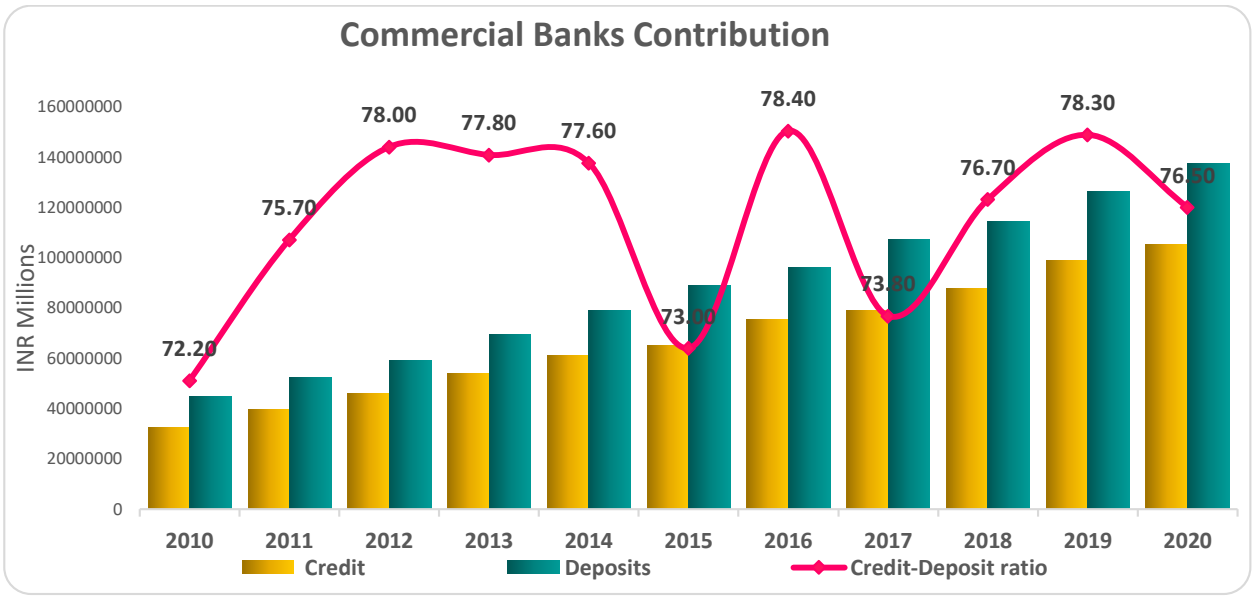
According to NES, India is at the fourth position when comparing it with the mean of the 12 factors associated with EFCs. From Table.1, India excels in five aspects. India is a leading performer in physical and services infrastructure, followed by internal market dynamics, commercial and professional infrastructure, financing for entrepreneurs, and internal market openness. Entrepreneurial education and training want more attention in all nations except Indonesia and Netherlands. Governments of all the countries mainly look into physical and services infrastructure except South Korea, majorly focused on Internal market dynamics. The average performance of Indonesia and the Netherlands is good. However, they still lack entrepreneurial finance and internal market dynamics, followed by Taiwan and India in primary school entrepreneurial education and training. The government of all countries also focused on governmental programs that directly assist small and medium enterprises (SMEs) at all levels.

Role of Commercial Banks:

Commercial banks play the most paramount role in the entrepreneurial development of the nation. With less magnitude of investment capital, banks offer the lowest interest rate for loans. This loan amount can be utilized as input. The rate of interest is more deficient in regime banks than private banks. Withal, banks provide the medium for information and receiving the output.

Consequently, the leading financial assistance is the commercial banks of the nation. Besides providing financial services, banks also give valuable inputs to fortify and promote their enterprise. Not all entrepreneurs emanate from a sound financial background. Most will require initial loans at reasonable interest rates to engender capital to commence their venture or enterprise. Without funds, entrepreneurs cannot grow, and this is where banks, concretely commercial banks, play a substantial role in entrepreneurs' lives.

Fig.5 shows the Credit-Deposit (CD) financial ratio[4], which conveys how much of each rupee of the deposit is going towards credit markets. Higher growth in the credit deposit ratio suggests that credit growth is rising quickly, leading to excessive risks and leveraging on the borrower's side. In the case of banks, it could imply that there will be a rise in NPAs when the economic cycle reverses. This ratio serves as a utilizable measure to understand the systemic risks in the economy. Also, we considered total credit and deposit by the commercial bank for the last eleven financial years. Fig.5 reveals that the credit-deposit ratio had decreased from 78.3% in 2019 to 76.5% in 2020. We calculated the mean of credit deposit ratio from FY1972 to FY2020, which is 65.95%. In 2016, this ratio was highest at 78.4%, which denotes more reliance on deposits for lending and likely pressure on resources. When we visually examine Commercial Banks credit data, INR 105,188,116.25 million reported in 2020, and deposit data reported INR 137,486,550.57 million in 2020. Each of these credit or deposit values incremented every financial year, showing a change in data over time.



(Fig. 5 Commercial banks contribution towards the economy)

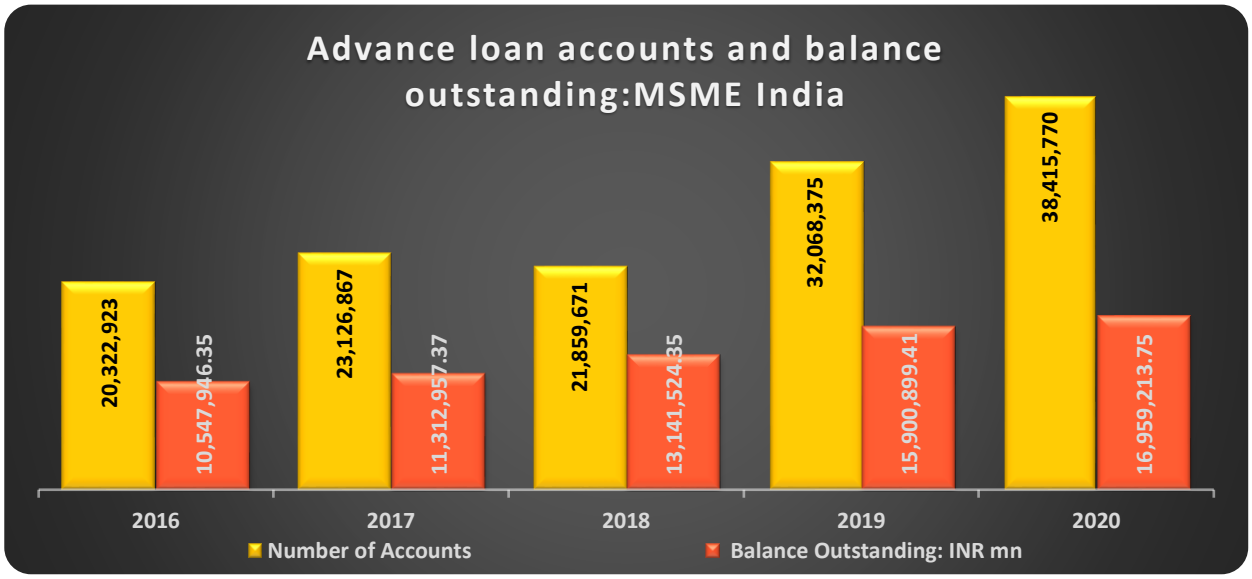
(Source: CEIC- Commercial Banks: Scheduled: Deposits/ Credit/ Credit-Deposit ratio)

Role of MSME:

There are so many institutes and organizations involved in entrepreneurship development activities. Some people join these programs as a stepping stone to become entrepreneurs, but MSMEs try to promote entrepreneurial opportunity amid all these systems by giving real platforms. Micro, Small, and Medium Enterprises (MSMEs) sector has often been termed as the "engine of magnification" for developing economies like India. MSMEs play an essential role in economic and social development, thereby providing flip to entrepreneurship, as they have innate characteristics of being innovative and responsive to transmuting market dynamics. It is contributing hugely to the socio-economic development of the country. Also, MSMEs play a vital role in providing sizably voluminous employment opportunities at a comparatively lower capital cost and encourage entrepreneurial activities in rural and backward areas. The MSME sector was one of the worst-hit sectors during the nationwide lockdown. Several corrective and ancillary measures have been taken to bring the industry on track. Out of these, the major one is revising the investment criteria in the MSME

[4] https://insights.ceicdata.com/

definition[5] (Table.2). This upward modification in investment criteria is expected to make them ecumenically competitive and facilitate the country's vigorous prevalence. Let us consider the number of advanced loan accounts and the outstanding balance of entrepreneurs and established business people in MSMEs India[6].



(Fig.6 No. of Advance loan A/C Vs. Balance Outstanding)

(Source: CEICDATA - Loan Advances: MSME: Number of Accounts/Balance Outstanding)

Data shows that the number of advance loan accounts increased from 32.06 million in 2019 to 38.41 million in 2020, and a mean of 27.15 million units from 2016 to 2020. In 2020, advance loan accounts had the highest frequency and lowest in 2016 (20.32 million units). MSME balance outstanding on advance loan reported at INR169,59,213.75 million in 2020, which had highest compared to all others and increased from INR159,00,899.41 million in 2019. On average, the outstanding balance of the advance loan was INR135,72,508.25 million from 2016 to 2020

Earlier MSME Classification

Criteria: Investment in Plant & Machinery or Equipment			
Classification	**Micro**	**Small**	**Medium**
Manufacturing	Investment less than ₹ 25 lakhs	Investment greater than ₹ 25 lakhs & less than ₹ 5 crores	Investment greater than ₹ 5 crores & less than ₹ 10 crores
Service	Investment less than ₹ 10 lakhs	Investment greater than ₹ 10 lakhs less than ₹ 2 crores	Investment greater than ₹ 2 crores & less than ₹ 5 crores

Revised MSME Classification

Composite Criteria: Investment And Annual Turnover			
Classification	**Micro**	**Small**	**Medium**
Manufacturing & Services	Investment less than ₹ 1 crores and Turnover less than ₹ 5 crores	Investment greater than ₹ 1 crores & less than ₹ 10 crores and Turnover greater than ₹ 5 crores & less than ₹ 50 crores	Investment greater than ₹ 10 crores & less than ₹ 20 crores and Turnover greater than ₹ 50 crores & less than ₹ 100 crores

(Table.2 MSME Classification)

(Source: Economic Survey 2020-21 Volume. 2)

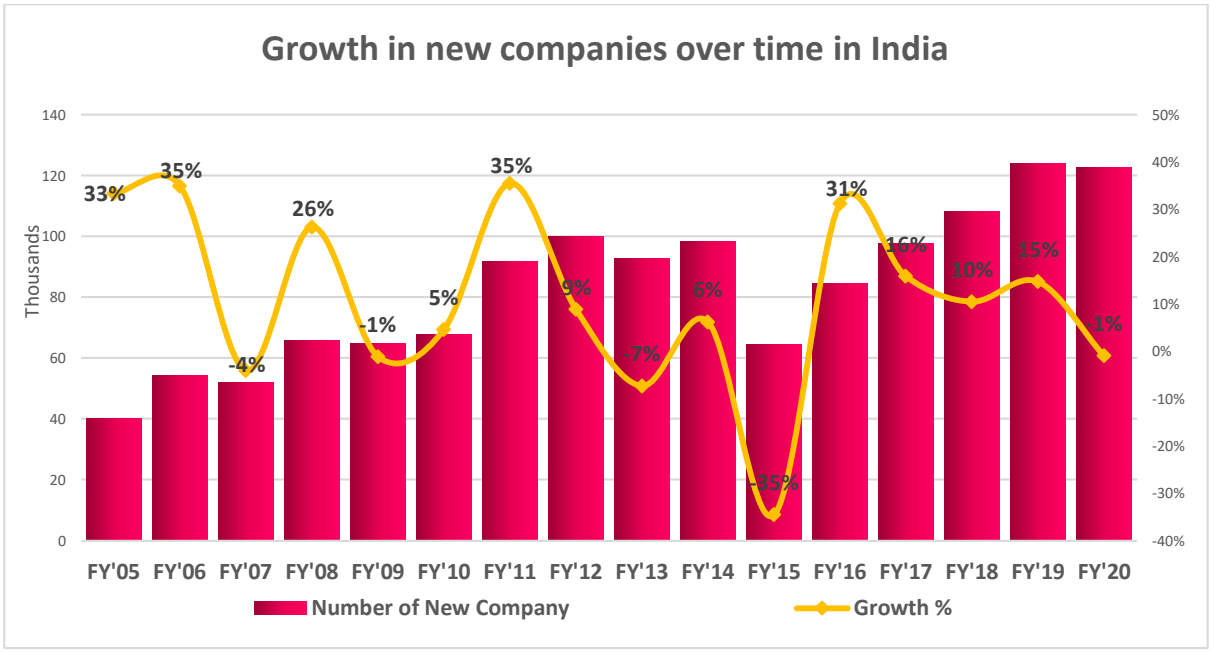
[5] https://www.indiabudget.gov.in/economicsurvey/

[6] https://insights.ceicdata.com/

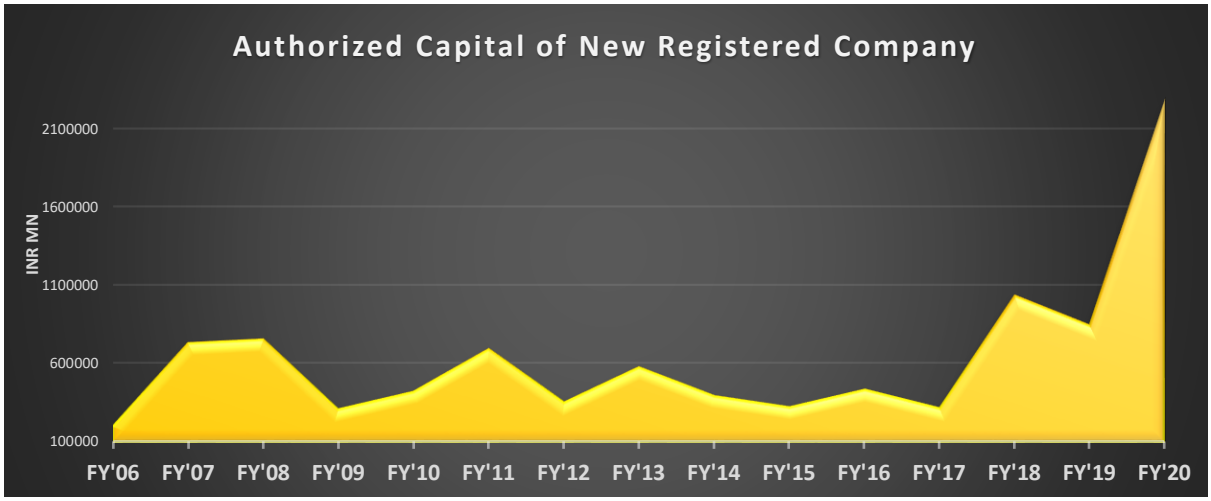
New Businesses on the rise:

Entrepreneurship in India has optically discerned a paramount magnification in recent years, as per CEIC data. Referring to data, Fig.7 shows[7] that the number of new active companies in India has increased by significant average growth of 14.2% from FY16 (Financial year ending Mar' 20) to FY20 (Financial year ending Mar' 20), compared to a nominal increase of 3.8% between FY07 and FY15. About 1,22,721 new companies registered in 2020, which is decreased from the previous registration of 1,23,938 in 2019 with a de-growth of 1%. The data reached an all-time low of 40,171 in FY2005 and a high of 1,23,938 units in the financial year ending 2019.

Fig.9 shows[8] that India authorized capital of the newly registered company was reported at INR22,48,520.80 million in the financial year ending 2020. This records an incrementation from the previous number of INR8,40,514.60 million for 2019, averaging INR639053.75 million from Mar 2006 to 2020. The highest authorized capital of the newly registered company in 2020 and the lowest of INR1,96,182 million in FY2006.



(Fig. 7 Number of Registered Companies: New)
(Source: CEICDATA, Ministry of corporate affairs)

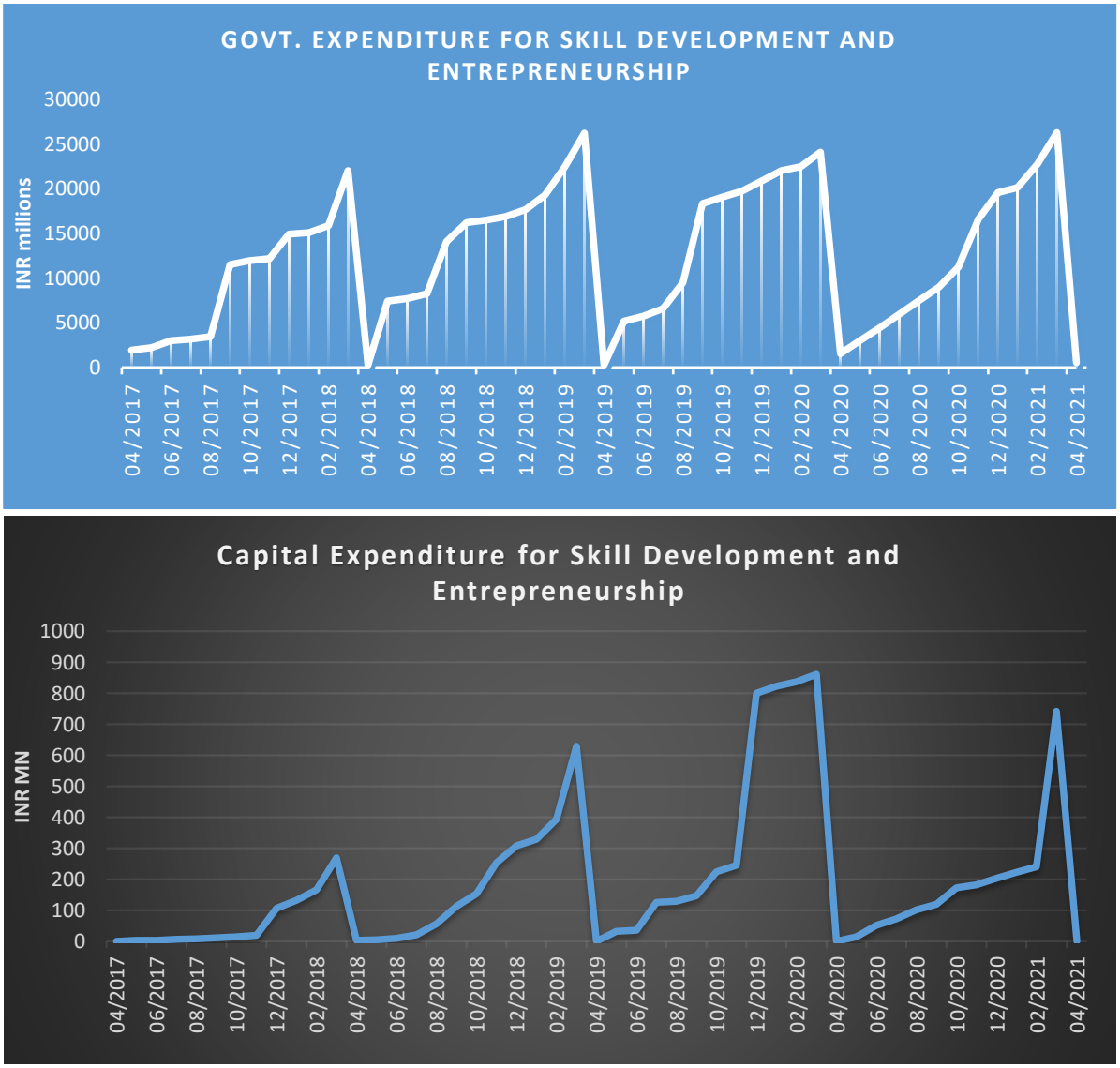


(Fig. 8 Authorized Capital of New Registered Company)
(Source: CEICDATA- Authorized Capital of Registered Company: New, Ministry of corporate affairs)

[7] https://insights.ceicdata.com/
[8] https://insights.ceicdata.com/

Expenditure on Skill Development and Entrepreneurship:

The Regime of India takes sundry initiatives to fortify entrepreneurs, innovations, and start-ups. Entrepreneurs shape the economic prospect of nations by creating wealth and employment, contributing products and services, and generating taxes for the government. Entrepreneurship has closely linked to the economic growth of a country. Entrepreneurship is the practice of starting a developing organization or revitalizing a mature organization, concretely a new business, to replicate identified opportunities. The government has announced a specific expenditure amount every year for skills development and entrepreneurship. Below given Fig.9 shows the statistics of the total expenditure and capital expenditure. Fig.9 reveals significant expense incurred with the object of acquiring tangible assets of a permanent nature (for use in the industries and not for sale in the ordinary course of business) or enhancing the utility of existing assets which is in the form of capital expenditure in Skill Development and Entrepreneurship every year. In FY2019, data shows 4% (INR 861 million) from the total spending consumed by the ministry of skill development and entrepreneurship in the form of capital expenditure and 96% for subsequent charges on conservation, restore, maintenance, and working expenses, which are required to maintain the assets in running order as withal all other expenses incurred for the day to day running of the organization, including the establishment and administrative costs in the form of revenue expenditure. In FY2018, it was 2% (INR 628 million) and around 3% (INR 741 million) in FY2020.



(Fig. 9 Government Expenditure/capital: FY: ytd: Ministry of Skill Development and Entrepreneurship)
(Source: CEICDATA)

The employment situation in India per 1000 distribution:

Rural:

		Male						Female					
NSSO Rounds	Survey Period	Primary Sector		Secondary Sector		Tertiary Sector		Primary Sector		Secondary Sector		Tertiary Sector	
		PS	ALL	PS	ALL	PS	ALL	PS	ALL	PS	ALL	PS	ALL
PLFS 2	July 2018- June 2019	-	532	-	235	-	232	-	711	-	154	-	136
PLFS 1	July 2017- June 2018	-	550	-	232	-	220	-	732	-	136	-	132
68	July 2011-June 2012	592	594	221	220	187	187	745	749	151	167	104	83
66	July 2009-June 2010	625	628	195	193	180	178	789	794	121	130	91	76
64	July 2007-June 2008	662	665	164	162	175	173	816	835	103	97	82	68
62	July 2005-June 2006	648	652	167	165	185	183	798	813	121	120	82	68
61	July 2004-June 2005	662	665	157	155	181	180	814	833	108	102	76	66
60	January-June 2004	654	659	163	160	183	180	820	841	102	94	78	65
59	January-December 2003	704	708	143	141	153	151	841	852	99	95	60	53
58	July-December 2002	685	688	140	138	175	174	834	849	91	87	75	65
57	July 2001 -June 2002	672	678	148	145	180	177	819	840	124	109	57	51
56	July 2000-June 2001	688	690	137	136	175	174	812	818	139	133	49	49
55	July 1999-June 2000	712	714	127	126	161	160	841	854	93	89	66	57
54	January-June 1998	755	757	103	102	142	141	876	885	70	66	54	49
53	January-December 1997	757	758	106	106	137	136	875	885	77	72	47	42
52	July 1995 -June 1996	746	748	115	114	139	137	854	868	87	80	59	52
51	July 1994-June 1995	752	756	104	103	144	141	862	871	88	83	50	46
50	July 1993-June 1994	739	741	113	112	148	147	847	862	91	83	62	55
49	January-June 1993	749	750	110	109	141	141	862	872	77	74	61	54
48	January-December 1992	753	757	106	104	141	139	858	862	78	78	64	60
47	July-December 1991	748	749	112	112	140	139	859	863	79	79	62	58
46	July 1990-June 1991	705	710	123	121	172	169	842	849	83	81	75	70
45	July 1989 -June 1990	716	717	120	121	164	162	800	814	130	124	70	61
43	July 1987-June 1988	739	745	123	121	138	134	825	847	112	100	63	53
38	January-December 1983	772	775	102	100	123	122	862	875	78	74	57	48

(Table.2)

(Source: National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Government of India)

Urban:

NSSO Rounds	Survey Period	Male						Female					
		Primary Sector		Secondary Sector		Tertiary Sector		Primary Sector		Secondary Sector		Tertiary Sector	
		PS	ALL	PS	ALL	PS	ALL	PS	ALL	PS	ALL	PS	ALL
PLFS 2	July 2018- June 2019	-	49	-	353	-	597	-	78	-	293	-	630
PLFS 1	July 2017- June 2018	-	54	-	360	-	587	-	91	-	301	-	607
68	July 2011-June 2012	56	56	353	353	592	591	87	109	324	340	589	551
66	July 2009-June 2010	59	60	348	346	593	593	118	139	316	333	566	528
64	July 2007-June 2008	58	58	345	343	598	597	129	153	305	323	566	524
62	July 2005-June 2006	62	63	345	343	594	594	123	148	313	330	564	522
61	July 2004-June 2005	60	61	346	344	595	595	147	181	303	324	549	495
60	January-June 2004	61	63	348	347	591	590	126	161	289	309	584	530
59	January-December 2003	60	63	338	336	602	601	145	190	299	312	556	497
58	July-December 2002	69	70	338	337	594	593	156	171	298	315	546	513
57	July 2001 -June 2002	78	78	322	321	601	600	173	211	309	332	519	457
56	July 2000-June 2001	63	66	359	356	579	578	136	183	342	342	522	475
55	July 1999-June 2000	65	66	329	328	606	606	146	177	293	293	561	529
54	January-June 1998	90	92	324	322	586	586	187	221	292	280	520	499
53	January-December 1997	76	78	343	340	582	581	165	200	328	324	507	476
52	July 1995 -June 1996	81	82	335	335	584	583	179	209	310	309	512	482
51	July 1994-June 1995	86	88	330	329	584	583	154	205	354	343	492	452
50	July 1993-June 1994	87	90	331	329	582	581	193	247	299	291	508	462
49	January-June 1993	101	102	345	344	554	554	232	258	306	306	462	436
48	January-December 1992	104	107	345	343	551	550	195	224	304	308	501	468
47	July-December 1991	95	95	306	307	599	598	217	237	278	282	505	481
46	July 1990-June 1991	91	92	336	336	573	572	223	249	318	316	459	435
45	July 1989 -June 1990	95	100	323	319	582	582	214	241	297	303	489	456
43	July 1987-June 1988	85	91	343	340	572	569	218	294	324	317	458	389
38	January-December 1983	97	103	344	342	551	550	255	310	307	306	430	376

(Table.3)

(Source: National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Government of India)

Table.2 and Table.3 represent the employment situation in India per 1000 distribution of usually employed by board groups of the industry for various rounds in the urban and rural region[9]. In the survey, industries are broadly categorized into three sectors, and the "PS" stands for Principal status.

Primary sector: Agriculture and allied activities.

Secondary sector: Mining, manufacture, electricity, gas, water, etc., and construction.

Tertiary sector: Trade, Hotels, transport, storage, and communication.

Note:

- Data on NSS rounds 38, 43, 50, 55, 61, 66, and 68 relates to quinquennial rounds.
- Data for July 2017-June 2018 pertain to the Periodic Labour Force Survey (PLFS), accounting for labour force estimates for both statuses (ps and ss).

From Table.2 and Table.3, when we consider NSSO rounds, it is clear that the maximum number of people are working in the tertiary sector, followed by secondary and primary sectors in the urban area. In contrast, people are more employed in the primary sector in the rural area than secondary and tertiary sectors. The survey results highlight that female employment incremented in each survey round in the urban region, with exceptions. Still, there is a slight improvement in male work. The male population is negligible in the primary sector as they are more prone towards secondary and tertiary sectors. On the other hand, in the rural region,

[9] https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home

each round reveals that the female population is higher in the primary sector when compared with males. Less number of females employed in the tertiary sector followed by secondary sector during each survey period.

Ease of Doing Business (EDB):

The ease of doing business has been created and defined by the World Bank to denote the features of the economic life of any country which contribute and obstruct the development of healthy business environments. This metric helps assess the absolute level of regulatory performance over time. It captures the gaps in each economy from the highest regulatory version observed in each indicator of all economies in the Doing Business sample since 2005. The assessment of the simplicity of doing business in the economy is reflected on a scale from 0 to 100, zero being the least one and 100 being the highest. It has some essential steps to maximize the positive aspects and minimize the negative ones. As a result, EDB has two aggregate measures; EDB Scores and EDB Ranks. The EDB ranking will compare the economies on their business environment: ranking is done by sorting its EDB score, whereas the EDB scores measure its performance. In 2020, the EDB measured regulations across 190 economies in twelve business regulatory areas to evaluate the business environment in each country.

World Bank has identified these twelve factors to determine the scores and rankings on EDB such as (1) Starting a Business, (2) Dealing with construction permits, (3) Getting electricity, (4) Registering property, (5) Getting credit, (6) Protecting minority investors, (7) Paying taxes, (8) Trading across borders, (9) Enforcing contracts, (10) Resolving insolvency, (11) Employing workers and (12) Contracting with the government.

Starting a Business measure the number of procedures, time, cost, and minimum capital requirements for a small business to start and formally operate in the largest business city in the economy.

Dealing with construction permits tracks the procedures, time and cost to build a warehouse—including obtaining the indispensable licenses and permits, submitting all required notifications, requesting and receiving all obligatory inspections and obtaining utility connections. In integration, dealing with construction permits measures the building quality control index, evaluating the quality of building regulations, the vigor of quality control and safety mechanisms, liability and indemnification regimes and professional certification requisites.

The getting electricity metric measures the procedures, time and cost required for a business to obtain a sempiternal electricity connection for an incipiently constructed warehouse. Supplementally, the reliability of supply and transparency of tariffs index measures supply reliability, transparency of taxes and the price of electricity.

Registering property topic explores the steps, time, and costs associated with real estate registration, starting with a standardized case of land parcels and entrepreneurs who want to buy a building that is already registered and owned. In additament, this measures the quality of land management systems in each economy. The quality of land management indicators consists of five aspects: infrastructure reliability, information transparency, geographic scope, resolution of land dispute, property rights.

Getting Credit indicator tracks the strength of credit reporting systems and the efficacy of collateral and bankruptcy laws in facilitating lending.

Protecting minority investors metric measures the strength of minority shareholder protections against misuse of company assets for personal gain by directors and transparency requirements to reduce the rights of company shareholders, governance, and the risk of misuse.

Paying Taxes records the taxes and obligatory contributions that midsize businesses must pay or withhold in a particular year, as well as the administrative encumbrance of paying taxes and subsidies.

Trading across borders records the time and costs associated with the logistics process of importing and exporting goods. Doing business compile the time and cost (excluding duties) associated with three sets of procedures: document compliance, border compliance, and inland transportation throughout the cargo import/export process.

Contract enforcement indicator tracks the time and cost of first-instance district court resolution of trade disputes and indicators of the quality of legal proceedings. Evaluate whether each economy implements many best practices that promote the quality and efficiency of the judicial system.

Doing Business investigates the time, cost and outcome of insolvency proceedings involving domestic legal entities. Recovery rates are recorded as cents of dollars recovered from secured creditors through reorganization, liquidation, or foreclosure (foreclosure or trustee) procedures. Doing Business uses interest rates on loans from the International Monetary Fund, supplemented with data from central banks and Economist Intelligence Units.

Contracting with the Government metric considers the process, time, and cost of signing a public road renewal contract with a medium-sized circumscribed liability company. This indicator assesses the entire procurement process and examines five key phases in the life cycle of government projects carried out by private companies. (1) Analysis of budget and needs. (2) Promotion and submission of offers. (3) Start bidding, evaluate and sign contracts. (4) Contract management; (5) Payment. This indicator also compares the legal framework regulating public procurement in a particular economy. The two regulatory areas, employing workers and contracting with the government, were not included in the ease of doing business ranking, and the remaining ten indicators were used to estimate the EDB score this year.

To calculate the EDB score, each economy should follow two main steps.

Step 1: Each component indicator is normalized to a standard unit.

Step 2: Each component indicator y (total tax and contribution rate excluded) is reformed by using linear transformation:

$$\frac{(worst\ regulatory\ performance - y)}{(worst\ regulatory\ performance - best\ regulatory\ performance)}$$

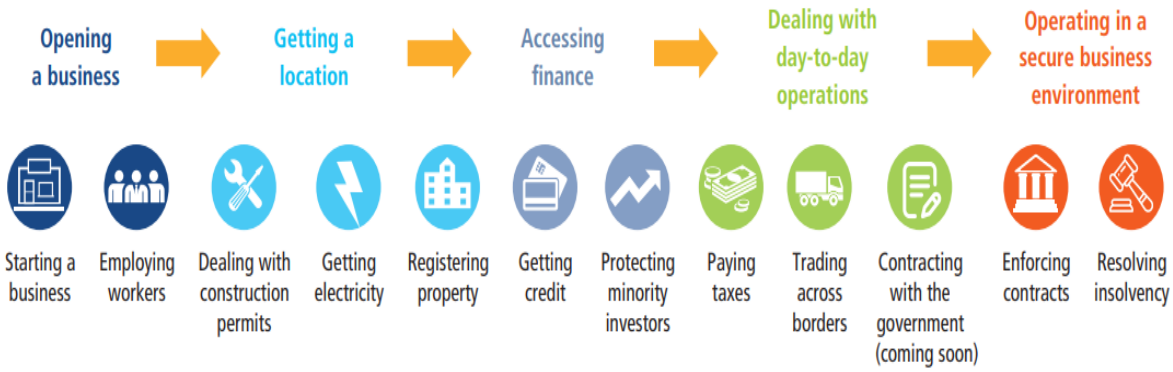


Figure 10. The ease of doing business and its indicators, Source: World Bank group

Table.4 Ease of doing business Ranking based on Scores.

Ease of Doing Business Ranking based on Scores									
Rank	Economy	EDB Score-2019	EDB Score-2020	Change in EDB Score	Rank	Economy	EDB Score-2019	EDB Score-2020	Change in EDB Score
1	New Zealand	87.00	86.76	**-0.28%**	96	Guatemala	62.53	62.60	**0.10%**
2	Singapore	85.84	86.20	**0.41%**	97	Togo	55.27	62.29	**12.70%**
3	Hong Kong SAR, China	85.09	85.32	**0.27%**	98	Samoa	62.07	62.07	**0.01%**
4	Denmark	85.17	85.29	**0.14%**	99	Sri Lanka	61.76	61.81	**0.08%**
5	Korea, Rep.	83.96	84.00	**0.05%**	100	Seychelles	61.50	61.70	**0.33%**
6	United States	83.57	84.00	**0.51%**	101	Uruguay	61.37	61.54	**0.28%**
7	Georgia	83.50	83.73	**0.28%**	102	Fiji	61.38	61.48	**0.16%**
8	United Kingdom	83.55	83.55	**0.00%**	103	Tonga	61.65	61.39	**-0.42%**
9	Norway	82.92	82.63	**-0.35%**	104	Namibia	61.35	61.35	**0.00%**
10	Sweden	82.02	81.99	**-0.03%**	105	Trinidad and Tobago	61.03	61.29	**0.42%**
11	Lithuania	80.96	81.62	**0.82%**	106	Tajikistan	55.39	61.27	**10.62%**
12	Malaysia	81.34	81.47	**0.17%**	107	Vanuatu	60.73	61.05	**0.54%**
13	Mauritius	80.34	81.47	**1.41%**	108	Pakistan	55.46	60.95	**9.92%**
14	Australia	80.71	81.22	**0.63%**	109	Malawi	60.36	60.94	**0.95%**
15	Taiwan, China	81.00	80.92	**-0.09%**	110	Côte d'Ivoire	58.34	60.69	**4.02%**
16	United Arab Emirates	81.59	80.75	**-1.02%**	111	Dominica	60.55	60.55	**0.00%**
17	North Macedonia	80.65	80.75	**0.12%**	112	Djibouti	58.38	60.50	**3.62%**
18	Estonia	80.79	80.62	**-0.22%**	113	Antigua and Barbuda	59.86	60.28	**0.72%**
19	Latvia	80.32	80.28	**-0.05%**	114	Egypt, Arab Rep.	58.51	60.05	**2.63%**
20	Finland	80.04	80.18	**0.17%**	115	Dominican Republic	59.32	59.99	**1.13%**
21	Thailand	79.52	80.09	**0.72%**	116	Uganda	58.39	59.98	**2.73%**
22	Germany	79.35	79.71	**0.46%**	117	West Bank and Gaza	59.67	59.98	**0.52%**
23	Canada	79.68	79.64	**-0.05%**	118	Ghana	60.43	59.96	**-0.78%**
24	Ireland	79.59	79.58	**-0.02%**	119	Bahamas, The	59.39	59.87	**0.81%**
25	Kazakhstan	78.04	79.56	**1.95%**	120	Papua New Guinea	59.37	59.77	**0.68%**
26	Iceland	79.01	78.96	**-0.06%**	121	Eswatini	58.72	59.49	**1.32%**
27	Austria	78.74	78.75	**0.01%**	122	Lesotho	58.68	59.43	**1.27%**
28	Azerbaijan	73.90	78.51	**6.24%**	123	Senegal	54.38	59.28	**9.00%**
29	Russian Federation	77.40	78.16	**0.99%**	124	Brazil	58.59	59.08	**0.83%**
30	Japan	78.04	78.00	**-0.05%**	125	Paraguay	58.45	59.05	**1.03%**
31	Spain	77.70	77.94	**0.30%**	126	Argentina	58.18	58.96	**1.34%**
32	China	73.30	77.28	**5.43%**	127	Iran, Islamic Rep.	58.64	58.55	**-0.16%**
33	France	76.78	76.80	**0.03%**	128	Barbados	57.67	57.91	**0.40%**
34	Turkey	75.25	76.79	**2.04%**	129	Ecuador	57.61	57.72	**0.19%**
35	Israel	74.98	76.68	**2.26%**	130	St. Vincent and the Grenadines	56.98	57.09	**0.18%**
36	Switzerland	76.62	76.62	**0.00%**	131	Nigeria	53.40	56.88	**6.50%**
37	Slovenia	76.41	76.52	**0.14%**	132	Niger	52.31	56.76	**8.50%**
38	Rwanda	75.37	76.48	**1.47%**	133	Honduras	55.97	56.27	**0.53%**
39	Portugal	76.44	76.47	**0.03%**	134	Guyana	55.59	55.49	**-0.18%**
40	Poland	76.93	76.38	**-0.72%**	135	Belize	55.29	55.47	**0.34%**
41	Czech Republic	76.32	76.34	**0.02%**	136	Solomon Islands	55.20	55.26	**0.11%**
42	Netherlands	76.10	76.10	**0.01%**	137	Cabo Verde	54.01	55.04	**1.91%**
43	Bahrain	70.14	76.03	**8.39%**	138	Mozambique	54.56	55.00	**0.79%**
44	Serbia	73.92	75.65	**2.34%**	139	St. Kitts and Nevis	54.61	54.64	**0.05%**
45	Slovak Republic	75.45	75.59	**0.19%**	140	Zimbabwe	50.51	54.47	**7.84%**
46	Belgium	74.75	74.99	**0.33%**	141	Tanzania	54.29	54.46	**0.32%**
47	Armenia	73.19	74.49	**1.78%**	142	Nicaragua	54.54	54.39	**-0.28%**
48	Moldova	73.13	74.39	**1.73%**	143	Lebanon	54.42	54.33	**-0.17%**
49	Belarus	74.35	74.29	**-0.08%**	144	Cambodia	53.80	53.84	**0.09%**
50	Montenegro	73.71	73.82	**0.15%**	145	Palau	53.66	53.70	**0.07%**
51	Croatia	72.95	73.62	**0.91%**	146	Grenada	53.37	53.44	**0.13%**
52	Hungary	73.24	73.42	**0.24%**	147	Maldives	53.30	53.27	**-0.04%**
53	Morocco	71.67	73.38	**2.38%**	148	Mali	53.13	52.94	**-0.35%**
54	Cyprus	72.78	73.35	**0.79%**	149	Benin	51.71	52.40	**1.34%**

55	Romania	72.51	73.33	**1.13%**	150	Bolivia	51.56	51.66	**0.18%**
56	Kenya	70.98	73.22	**3.15%**	151	Burkina Faso	51.27	51.40	**0.26%**
57	Kosovo	71.05	73.18	**3.01%**	152	Mauritania	49.38	51.06	**3.41%**
58	Italy	73.04	72.85	**-0.26%**	153	Marshall Islands	50.93	50.89	**-0.08%**
59	Chile	72.32	72.58	**0.36%**	154	Lao PDR	49.78	50.82	**2.10%**
60	Mexico	72.31	72.36	**0.07%**	155	Gambia, The	47.83	50.29	**5.16%**
61	Bulgaria	71.81	71.97	**0.23%**	156	Guinea	49.26	49.43	**0.34%**
62	India	67.50	71.05	**5.26%**	157	Algeria	48.50	48.60	**0.21%**
63	Saudi Arabia	63.85	70.87	**11.00%**	158	Micronesia, Fed. Sts.	48.10	48.10	**0.01%**
64	Ukraine	69.07	70.21	**1.65%**	159	Ethiopia	47.06	47.98	**1.96%**
65	Puerto Rico	70.02	70.07	**0.07%**	160	Comoros	47.01	47.87	**1.83%**
66	Brunei Darussalam	69.63	70.06	**0.62%**	161	Madagascar	47.04	47.73	**1.46%**
67	Colombia	69.24	70.06	**1.18%**	162	Suriname	47.43	47.46	**0.07%**
68	Oman	68.84	69.98	**1.66%**	163	Sierra Leone	47.24	47.46	**0.46%**
69	Uzbekistan	67.75	69.88	**3.14%**	164	Kiribati	46.77	46.94	**0.36%**
70	Vietnam	68.57	69.77	**1.75%**	165	Myanmar	43.48	46.83	**7.69%**
71	Jamaica	68.27	69.68	**2.06%**	166	Burundi	46.48	46.77	**0.64%**
72	Luxembourg	69.59	69.60	**0.02%**	167	Cameroon	46.00	46.10	**0.21%**
73	Indonesia	68.18	69.58	**2.05%**	168	Bangladesh	42.47	45.05	**6.08%**
74	Costa Rica	68.83	69.24	**0.59%**	169	Gabon	44.50	45.03	**1.19%**
75	Jordan	61.28	68.97	**12.55%**	170	São Tomé and Príncipe	44.97	44.97	**0.00%**
76	Peru	68.27	68.70	**0.62%**	171	Sudan	48.02	44.83	**-6.64%**
77	Qatar	66.71	68.67	**2.94%**	172	Iraq	44.65	44.70	**0.11%**
78	Tunisia	67.22	68.66	**2.13%**	173	Afghanistan	44.20	44.06	**-0.31%**
79	Greece	67.41	68.42	**1.50%**	174	Guinea-Bissau	43.19	43.23	**0.10%**
80	Kyrgyz Republic	65.41	67.82	**3.69%**	175	Liberia	43.54	43.23	**-0.72%**
81	Mongolia	67.68	67.77	**0.14%**	176	Syrian Arab Republic	41.47	41.97	**1.19%**
82	Albania	67.00	67.75	**1.12%**	177	Angola	41.20	41.29	**0.21%**
83	Kuwait	62.56	67.40	**7.74%**	178	Equatorial Guinea	40.54	41.05	**1.27%**
84	South Africa	66.70	67.02	**0.49%**	179	Haiti	37.86	40.72	**7.57%**
85	Zambia	65.71	66.94	**1.86%**	180	Congo, Rep.	38.23	39.53	**3.42%**
86	Panama	66.87	66.56	**-0.46%**	181	Timor-Leste	39.70	39.36	**-0.84%**
87	Botswana	66.17	66.20	**0.04%**	182	Chad	36.66	36.94	**0.75%**
88	Malta	65.50	66.14	**0.98%**	183	Congo, Dem. Rep.	35.23	36.21	**2.77%**
89	Bhutan	65.97	65.97	**0.01%**	184	Central African Republic	34.83	35.57	**2.10%**
90	Bosnia and Herzegovina	65.37	65.44	**0.11%**	185	South Sudan	33.64	34.62	**2.92%**
91	El Salvador	64.92	65.25	**0.51%**	186	Libya	32.74	32.69	**-0.16%**
92	San Marino	64.16	64.19	**0.05%**	187	Yemen, Rep.	30.67	31.76	**3.55%**
93	St. Lucia	63.63	63.65	**0.03%**	188	Venezuela, RB	32.14	30.24	**-5.93%**
94	Nepal	59.65	63.19	**5.92%**	189	Eritrea	21.50	21.60	**0.45%**
95	Philippines	60.87	62.83	**3.21%**	190	Somalia	20.04	20.04	**-0.01%**

Source: Doing Business Data, the World Bank

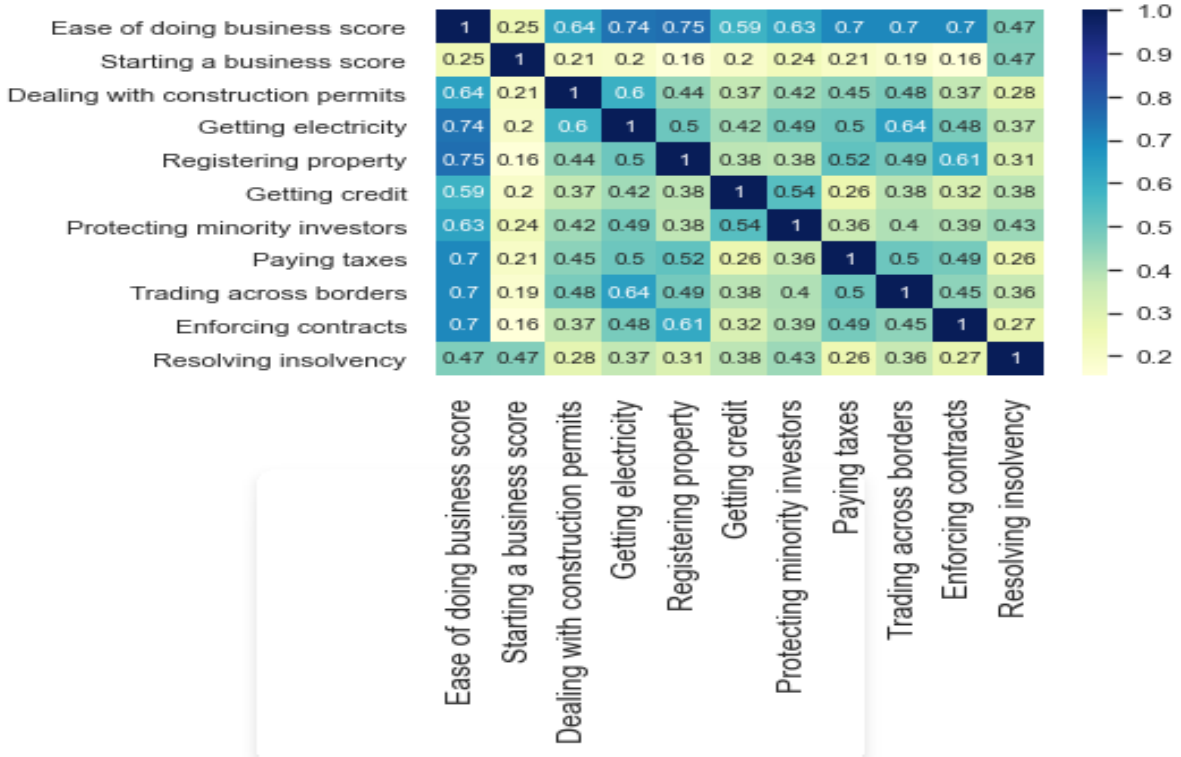
The above Table.4 represents that New Zealand who secured the first rank with a score of 86.76, was the best-suited destination for the companies to start their business, followed by Singapore, Hong Kong, Denmark, Korea, and the United States etc. In the EDB list, India secured 62nd rank with 71.05 to attract foreign direct investment in India.

India's ranking in 2020 and Scores on various indicators							
DB Year	Change in Score % in 2020	2020		2019	2018	2017	2016
		Rank	Score	Score	Score	Score	Score
Ease of doing business	5.26%	62	71.0	67.5	60.9	55.9	54.5
Starting a business	0.80%	136	81.6	81.0	73.9	72.2	71.7
Dealing with construction permits	9.15%	27	78.7	72.1	39.7	35.9	35.9
Getting electricity	0.26%	22	89.4	89.2	88.6	90.3	81.7
Registering property	-0.73%	154	47.6	47.9	46.1	45.6	47.7
Getting credit	0.00%	25	80.0	80.0	75.0	65.0	65.0
Protecting minority investors	0.00%	13	80.0	80.0	80.0	76.0	76.0
Paying taxes	3.47%	115	67.6	65.4	65.2	44.7	41.5
Trading across borders	6.45%	68	82.5	77.5	58.6	57.6	56.5
Enforcing contracts	0.00%	163	41.2	41.2	41.2	39.3	36.6
Resolving insolvency	51.68%	52	62.0	40.8	40.7	32.8	32.6

Table.5, Source: Doing Business Data, The World Bank

Table.5 depicts that the ease of doing business index uses ten different parameters that measure various aspects of business regulations at the international level. In India, the EDB score increased from 54.5 in 2016 to 71.00 in 2020, with a 62 ranking that helps develop the business environment. Five factors: Dealing with construction permits, Registering property, Protecting minority investors, Enforcing contracts and Resolving insolvency come under legal aspects. Two factors: Dealing with construction permits and Resolving insolvency scores were increased almost two times in 2020 from 2016. Resolving insolvency examines the time, cost and outcome of insolvency proceedings involving domestic companies and the strength of the legal framework for judicial liquidation and reorganization proceedings. When we look at the change in score in different parameters in 2020, Resolving insolvency was a massive change of approximate 52% in score from 2019, followed by Dealing with construction permits, trading across borders, paying taxes.

Correlations between factors of economy scores for Doing Business Index:



(Fig.11 Correlation Coefficient graph, Source: Doing Business database)

The correlation coefficients are the quantitative assessment that measures the direction and the strength of the tendency that vary together. Here we used Pearson's Correlation Coefficient to find the correlation in different indicators in ease of doing business. As we have seen from the above correlation graph, ease of doing business has a positive and highly correlated with all factors except Starting a business with an aggregate of above 65%. The coefficient between the two factors ranges from 0.16 (less correlation between starting a business with Enforcing contracts, Registering property) to 0.75 (high correlation between ease of

doing business score and Registering property). Starting a business parameter has a positive and less correlation with all other variables except resolving insolvency. This correlation matrix suggests that economies score macrocosmically well or deplorably on the Doing Business index (Fig.11).

Statistical Analysis of Major Economic factors:

Economy factors	Mean	Median	Std	Variance	Min	10%	25%	50%	75%	99%	MAX
Ease_of_doing_business_score	61.85	61.85	7.16	51.22	30.16	56.98	61.85	61.85	61.85	83.34	85.24
Score_Starting_a_business	74.44	75.50	16.35	267.46	19.29	50.59	69.15	75.50	86.38	97.23	97.49
Score_Dealing_with_construction_permits	63.83	63.83	8.98	80.62	0.00	59.34	63.83	63.83	63.83	84.76	87.06
Score_Getting_electricity	66.99	66.99	11.83	140.04	0.00	58.98	66.99	66.99	66.99	96.28	99.09
Score_Registering_property	60.88	60.88	9.59	92.01	0.00	54.94	60.88	60.88	60.88	90.11	92.95
Score_Getting_credit	49.90	49.90	14.69	215.80	0.00	30.00	49.90	49.90	49.90	95.00	95.00
Score_Protecting_minority_investors	51.44	51.44	11.96	143.06	10.00	38.00	51.44	51.44	51.44	84.00	86.00
Score_Paying_taxes	67.98	67.98	8.81	77.53	17.92	63.61	67.98	67.98	67.98	91.14	99.44
Score_Trading_across_borders	69.72	69.72	13.02	169.60	0.90	60.98	69.72	69.72	69.72	100.00	100.00
Score_Enforcing_contracts	55.76	55.76	7.07	49.94	22.21	52.47	55.76	55.76	55.76	78.80	81.41
Score_Resolving_insolvency	42.30	42.30	21.53	463.61	0.00	11.84	31.84	42.30	53.23	90.93	91.18

Table 6

After describing and summarizing the data, different measures like Central tendency, measures of dispersion is being calculated. Central tendency informed us about the centres of the data and represented by mean, median, and mode, and measures of dispersion tell us about the spread of the data and are often characterised by standard deviation, variance, and the interquartile range. Mean will represent the arithmetic average of the data; from Table 3, the mean output gives the average of the scores in the top economic factors. Starting a business average score is 74.44, dealing with construction permits average score is 63.83 and so on. Median will give the middle value of the data, the 50th percentile, that separates the distribution into two halves. The mode will provide the most frequent value of a variable inside the data. This is the only central tendency measure used for categorical variables.

Measures of Dispersion are referred to as variability, scatter, or spread. In our analysis, we have taken only the most popular measures of dispersion: standard deviation, variance, and the interquartile range. Standard deviation (SD) is a quantification that is used to quantify the magnitude of variation or dispersion of a set of data values present in a data frame's variable from its mean value. A low SD for a variable indicates that the data values tend to be close to their mean and vice versa. Variance is the expectation of the squared of the SD of variable and the covariance of the random variable with itself. The Interquartile Range is calculated by the difference between the upper quartile (75th percentile) and the lower quartile (25th percentile) value. It is also a significant measure to identify outliers in the dataset.

A significant difference between the mean of two variables (Two-Sample T-Test (Paired)):

```
#stats.ttest_rel(a = before, b = after)
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Starting_a_business)    # Assume samples have equal variance?
```

```
Ttest_relResult(statistic=-48.12307863409653, pvalue=0.0)
```

```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Dealing_with_construction_permits__DB16_20_methodology_)
```

```
Ttest_relResult(statistic=-17.289069664829036, pvalue=1.5631413004049068e-64)
```

```
stats.ttest_rel(a=correlationmatclean.Score_Starting_a_business,
                b=correlationmatclean.Score_Dealing_with_construction_permits__DB16_20_methodology_)
```

```
Ttest_relResult(statistic=38.61825765739079, pvalue=1.3551323048772828e-275)
```

```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Getting_electricity__DB16_20_methodology_)
```

```
Ttest_relResult(statistic=-39.286356211792025, pvalue=1.111991558731422e-283)
```

```
stats.ttest_rel(a=correlationmatclean.Score_Dealing_with_construction_permits__DB16_20_methodology_,
                b=correlationmatclean.Score_Getting_electricity__DB16_20_methodology_)
```

```
Ttest_relResult(statistic=-20.14188099349904, pvalue=8.114460632681236e-86)
```

```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Registering_property__DB17_20_methodology_)
```

```
Ttest_relResult(statistic=9.52253690089722, pvalue=2.9099452778397357e-21)
```

```
stats.ttest_rel(a=correlationmatclean.Score_Getting_electricity__DB16_20_methodology_,
                b=correlationmatclean.Score_Registering_property__DB17_20_methodology_)
```

```
Ttest_relResult(statistic=34.72460966038434, pvalue=9.2245736051723e-230)
```

```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Getting_credit__DB15_20_methodology_)
```

```
Ttest_relResult(statistic=61.521094436805576, pvalue=0.0)
```

```
stats.ttest_rel(a=correlationmatclean.Score_Registering_property__DB17_20_methodology_,
                b=correlationmatclean.Score_Getting_credit__DB15_20_methodology_)
```

```
Ttest_relResult(statistic=47.88844124960377, pvalue=0.0)
```

```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Protecting_minority_investors__DB15_20_methodology_)
```

```
Ttest_relResult(statistic=69.22597548728335, pvalue=0.0)
```

```
stats.ttest_rel(a=correlationmatclean.Score_Registering_property__DB17_20_methodology_,
                b=correlationmatclean.Score_Protecting_minority_investors__DB15_20_methodology_)
```

```
Ttest_relResult(statistic=47.76495641794459, pvalue=0.0)
```

```
stats.ttest_rel(a=correlationmatclean.Score_Paying_taxes__DB17_20_methodology_,
                b=correlationmatclean.Score_Protecting_minority_investors__DB15_20_methodology_)
```

```
Ttest_relResult(statistic=84.58034281520209, pvalue=0.0)
```

```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Paying_taxes__DB17_20_methodology_)
```

```
Ttest_relResult(statistic=-59.72154160627797, pvalue=0.0)
```

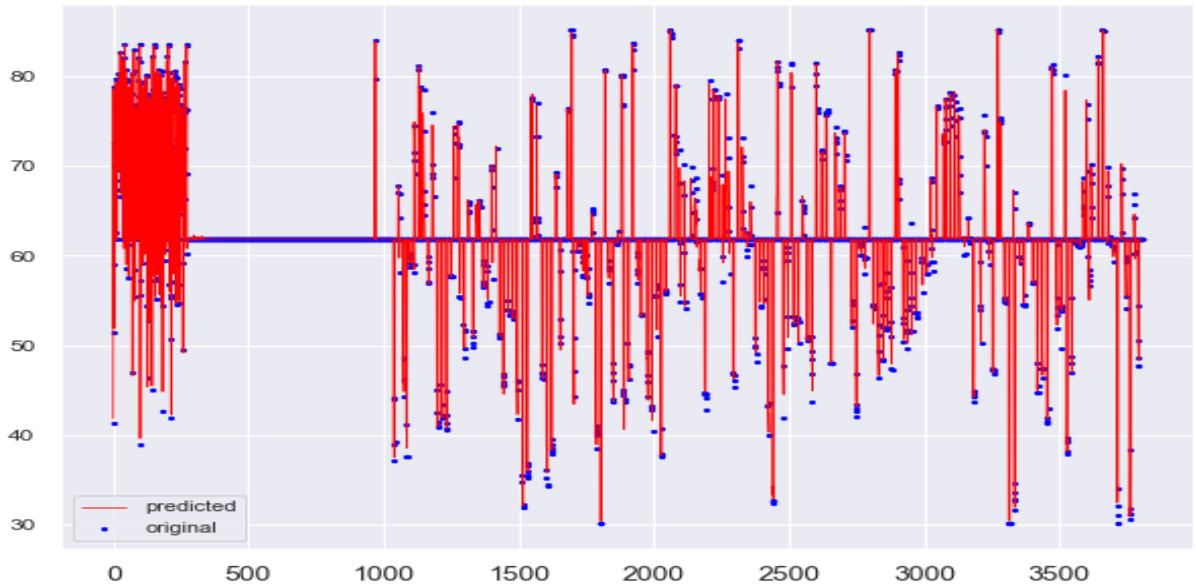
```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Enforcing_contracts__DB17_20_methodology_)
```

```
Ttest_relResult(statistic=68.2310902376344, pvalue=0.0)
```

```
stats.ttest_rel(a=correlationmatclean.Ease_of_doing_business_score__DB17_20_methodology_,
                b=correlationmatclean.Score_Resolving_insolvency)
```

```
Ttest_relResult(statistic=62.714724156750485, pvalue=0.0)
```

We have done a Two-Sample T-Test (Paired) to test the significant difference between the mean of the two groups. From the above t-test statistics, the outcome reveals that the p-values are less than the significant level (p-value=0.05), representing that the findings are statistically significant! That means the significant difference between the mean of the two variables is not equal. We used a random forest regression algorithm to predict the ease of doing business score (dependent variable). The variance inflation factor(VIF) is used for feature selection to get the essential variables whose VIF factor is less than ten. We have split the data into 80 per cent training and 20 per cent testing data. Here R squared value reveals the percentage of the variance in the dependent variable that the independent variables explain collectively. In simple words, R-squared measures the vigor of the relationship between the model and the dependent variables on a convenient 0 – 100% scale. The R-Squared score for our model is 0.98733 for testing data which states that 98% of the variance of the dependent variable is explained by all the independent variables after feature selection (by VIF or Random Forest feature selection method). Also, the Mean Squared Error (MSE) is negligible; for training data, MSE is 0.11824, and for testing MSE: 0.66058. These training and testing data were tested with different regressor models like AdaBoost Regressor, GradientBoostingRegressor, Decision Tree Regressor, LinearRegression, KNeighborsRegressor. The Random Forest Regression model gave the least MSE, the best model for our prediction analysis. Now below is the graphical representation of the predicted and original value.



Role of Entrepreneurs towards Economic Development of India:

The entrepreneur plays a vital role in economic development. The major areas where entrepreneurs contribute an essential part towards the country's economic growth have been stated as follows (Dhaliwal A., 2016)[10]:

- **Promotes Capital Formation:**

Entrepreneurs promote capital formation by organizing the idle savings of the public. They utilized their own as well as borrowed resources for establishing their enterprises. Such entrepreneurial activities led to value integration and engendered wealth, which is essential for the business and economic development of the country. Thus, an entrepreneur is the generator of wealth.

- **Large Scale Employment Opportunities:**

Entrepreneurs provide immediate, immensely colossal-scale employment to the unemployed, which is a chronic problem of underdeveloped nations. When entrepreneurs are growing by establishing more and more units, both on a minuscule and large scale, direct and indirect employment opportunities are engendered for others. In this way, entrepreneurs contribute a productive part in minimizing unemployment within the country, which clears the pathway towards economic development.

- **Balanced Regional Development:**

Entrepreneurs help to remove regional differences by establishing industries in less developed and rearward areas. The magnification of industries and businesses in these areas leads to many public benefits, like road convey, health, education, entertainment, and so forth. Establishing more industries leads to more development of posterior regions, promoting balanced regional development.

- **Improvement in Gross National Product and Per Capita Income:**

Entrepreneurs are constantly probing for opportunities. They discover and exploit opportunities, inspire efficacious resource mobilization of capital and adeptness, bring in new products and services, and develop markets for the economy's magnification. In this way, they assist in incrementing the gross national product and the per capita income of the people. An incrementation in the individuals' gross national product and per capita income designates that economic development is efficaciously taking place. It is vital to ascertain that individuals are not unemployed or facing a scarcity of resources to enhearten economic development.

- **Wealth Creation and Distribution:**

It incentivizes equitable redistribution of wealth and income in the country's interest to more people and geographic areas, thus proving benign to society's more immensely colossal sections. Entrepreneurial activities additionally engender more activities and give a multiplier effect to the economy.

- **Minimizes Concentration of Economic Power:**

Economic vigor is the natural outcome of industrial and business activity. Industrial development conventionally leads to the concentration of economic power in the hands of few individuals, resulting in monopolies' magnification. To redress this difficulty, many entrepreneurs need to be developed, which will help truncate the concentration of economic power amongst the population.

[10] http://www.ijsrm.in/v4-i6/8%20ijsrm.pdf

- **Amelioration in the Standard of Living:**

Increment in the standard of living of individuals is a characteristic feature of the country's economic development. Entrepreneurs contribute a crucial part in incrementing the standard of living of individuals by adopting the latest innovations in engendering a wide variety of goods and services on an astronomically immense scale that too at a lower cost. This enables the individuals to avail ameliorated quality products at lower prices, which amends their living standards.

- **Magnifying Country's Export Trade:**

Entrepreneurs assist in promoting a country's export trade, which is an essential component of economic development. They produce goods and services on a sizably voluminous scale to earn a large amount of foreign exchange from export to combat the import dues requisite. Hence, import substitution and export promotion ascertain economic independence and development.

- **Backward and Forward Linkages:**

Entrepreneurs relish working in an environment of change and endeavor to maximize profits by innovation. According to the transmutations established in technology, it inspires backwards and forwards connections when an enterprise is established, leading to economic development.

- **Facilitates Overall Development:**

Entrepreneurs act as a catalytic agent for diversity, which results in a chain reaction. When an enterprise is initiated, the process of industrialization is set in kineticism. This unit will engender demand for sundry types of units required by it, and there will be so many other units that require the output of this unit. This leads to the consummate development of an area due to incrementing in demand and establishing more units.

- **Creating Innovation:**

An entrepreneur is a person who continually probes for changes; apart from linking the factors of production, he additionally presents incipient conceptions and an incipient amalgamation of elements. An entrepreneur always endeavours to bring in innovative strategies and methods in the production process. An entrepreneur promotes economic development through innovation.

- **Create New Businesses:**

Introducing innovative strategies and methods, engendering opportunities for the individuals, bringing in new products and services for the welfare of the individuals, developing businesses are the factors that highlight the aspect that entrepreneurs engender new businesses. In sundry fields, there has been the exordium of advanced techniques, methods, and procedures, which has nourished the lives of individuals.

- **Social Changes:**

Through their exceptional contributions to new goods and services, entrepreneurs break away from practice and indirectly sustain liberation by decreasing dependence on traditional and passé systems and technologies. Consummately, this results in an enhanced quality of life, better determination, and economic independence.

- **Personal Growth:**

The contribution of entrepreneurship towards the individual's growth is the generation of millions of employment opportunities and the enhancement of the skills and capabilities of the individuals. When they are engaged in employment opportunities, their personal growth occurs with innovative techniques and methods. On the other hand, this develops skills, proficiency, confidence, and expertise.

- **New business conceptions into practice:**

The essential part of entrepreneurship is generating new conceptions and putting them into practice competently. As verbalized, entrepreneurs continuously look for innovative strategies and methods to enhance productivity and profitability. Taking conceptions, suggestions, and guidance from other professionals in a homogeneous field has contributed towards magnification and fulfilment.

Categorical Entrepreneurship Challenges:

The sundry types of challenges that individual experiences in entrepreneurship have been verbally expressed as follows (Santhi, N., & Kumar, 2011)[11]:

- **Personal challenges:**

The greatest challenge for an entrepreneur is to convince their family for the peril of his cull of business. People want to facilitate their children's skills and abilities to expand their family business and evade them from employment opportunities or jobs that are verbalized to be the primary challenge. It has been seen that opting for a business rather than an employment opportunity is facile. The Indian family is still considered Jobs facile & Jeopardize-free, as it does not require funding, peril, & more time to get prosperous. Or either they have choices of joining their own old business. Many family endeavours choose the easiest & safest way for their child regarding earning money. The worst problem is the high involution of the family in decision-making, affecting many people's minds to contemplate starting a business.

- **Social Challenges:**

Personal challenges are always at the top because that is what matters the most, but social challenges are also paramount. Generally, it involves comparing an entrepreneur and a nearby person, friend, or relative who is prosperously doing a job in an MNC or Govt. Job. A jobholder can easily obtain a luxury lifestyle in a short period. But for an entrepreneur, it takes time to succeed and compromise with the luxury lifestyle because of funding and incrementing his business and requires patience. Also some times, this demotivates the early-stage of entrepreneurs.

- **Technological Challenges:**

Technology has contributed a crucial part in implementing tasks and operations in all areas. In education, medical, engineering, law, administration, management, science, arts, and so forth, technology is of utmost consequentiality. Some people are not acquainted with technology utilization; they do not feel comfortable using a computer to carry out sundry tasks and operations. The technological challenges in the present essence need to be overcome, and individuals belonging to all categories, vocations, and backgrounds are utilizing technologies.

[11] http://www.journal.bonfring.org/papers/iems/volume1/BIJIEMS-01-1004.pdf

➢ **Financial Challenges:**

There is always a big issue for entrepreneurs to finance a new business. It is because of the high impecuniosity and middle-class ratio in the country. When starting a business, it is obligatory to make some investments, and when there is an incrementation in productivity, profitability also increases. Most people do not have financial support from their families. Withal, very high-interest rates of non-banker firms make it more arduous to commence a business. Also, the non-technical business people do not understand the online business models holistically, so getting initial business funding becomes arduous.

➢ **Policy Challenges:**

Now and then, there is an abundance of transmutations in the policies with change in the government. The significant challenges that entrepreneurs experience are

- Problems in incrementing equity capital
- Problems of availing raw-materials
- Issues of obsolescence of indigenous technology
- Increased in pollutions that have been ecological imbalanced.
- The exploitation of small and poor countries.

➢ **Challenges for Rural Entrepreneurs:**

The significant challenges that the rural entrepreneurs experience are

- Growth of Mall Culture
- Poor Assistance
- Power Failure
- Lack of Technical knowledge
- Capacity Utilization
- Lack of adequate infrastructure

They primarily reside in impecuniosity and backwardness, possess low literacy levels, and lack awareness. Farming and agriculture, rearing livestock are the principal occupations that these people get engaged.

➢ **Opportunities:**

Free ingression into world trade, ameliorated risk-taking competency, the government of nations withdrawn some restrictions, encouragement to innovations and inventions, technology and inventions spread into the world, promotion of salubrious completions among nations, the considerable increase in regime assistance for international trade, formation of other national and international institutes to fortify business among countries of the world, benefits of specialization, social and cultural development. The availability of many opportunities is indispensable to help entrepreneurs achieve their goals and objectives. Entrepreneurs need to generate awareness, develop efficacious communication skills, and work towards achieving their goals and objectives.

➢ **Opportunities for Rural Entrepreneurs:**

The government programs and organizations that generate opportunities for rural entrepreneurs are

- Crashed Scheme for Rural Development
- Food for Work Programme
- National Rural Employment Programme
- Regional Rural Development Centres
- Entrepreneurship Development Institute of India
- Bank of Technology
- Rural Innovation Funding
- Social Rural Entrepreneurship

Conclusion:

Entrepreneurship has become one of the most dynamic forces in the economy. The number of new active companies in India has increased by significant average growth. India has extraordinary capabilities with virtually illimitable potential to become entrepreneurs. Ergo, it is consequential to become dedicated to enabling the environment to develop influential entrepreneurs. To achieve this, India must focus on the policies, procedures, rules, and regulations to build entrepreneurship skills and abilities.

References:

1. Economic Survey of India
https://www.indiabudget.gov.in/economicsurvey/

2. Ministry of corporate affairs
https://www.mca.gov.in/content/mca/global/en/data-and-reports/company-statistics/indian-foreign-companies-llps/total-companies-registered.html

3. Reserve Bank of India
https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home

4. Role of Entrepreneurs in Economic Development
https://www.economicsdiscussion.net/entrepreneurs/role-of-entrepreneurs-in-economic-development/31496

5. Dhaliwal, A. (2016). Role of Entrepreneurship in Economic Development. *International Journal of scientific research and management (IJSRM)*, 4(6), 4262-4269. http://www.ijsrm.in/v4-i6/8%20ijsrm.pdf

6. Santhi, N., & Kumar, S.R. (2011). Entrepreneurship Challenges and Opportunities in India. *Bonfring International Journal of Industrial Engineering and Management Science*, 1, 14-16. http://www.journal.bonfring.org/papers/iems/volume1/BIJIEMS-01-1004.pdf

7. Doing Business index. *The World Bank Survey*
https://www.doingbusiness.org/en/doingbusiness

8. Entrepreneurial Behaviour and Attitudes, and framework conditions. *Global Entrepreneurship Monitor*: https://www.gemconsortium.org/