


```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

```
df = pd.read_csv("/content/FDI_data.csv")
```

```
df.head()
```




	Sector	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
0	METALLURGICAL INDUSTRIES	22.69	14.14	36.61	8.11	200.38	149.13	169.94	1175.75	959.94	419.88	1098.14	1786.14	1466.23	567.63	359.34
1	MINING	1.32	6.52	10.06	23.48	9.92	7.40	6.62	444.36	34.16	174.40	79.51	142.65	57.89	12.73	684.39
2	POWER	89.42	757.44	59.11	27.09	43.37	72.69	157.15	988.68	907.66	1271.79	1271.77	1652.38	535.68	1066.08	707.04
3	NON-CONVENTIONAL ENERGY	0.00	0.00	1.70	4.14	1.27	1.35	2.44	58.82	125.88	622.52	214.40	452.17	1106.52	414.25	615.95
4	COAL	0.00	0.00	0.00	0.04	0.00	9.14	1.30	14.08	0.22	0.00	0.00	0.00	0.00	2.96	0.00

```
df.set_index('Sector', inplace=True)
```

```
df = df.transpose()
```

```
print('Descriptive Statistics: ')
df.describe()
```

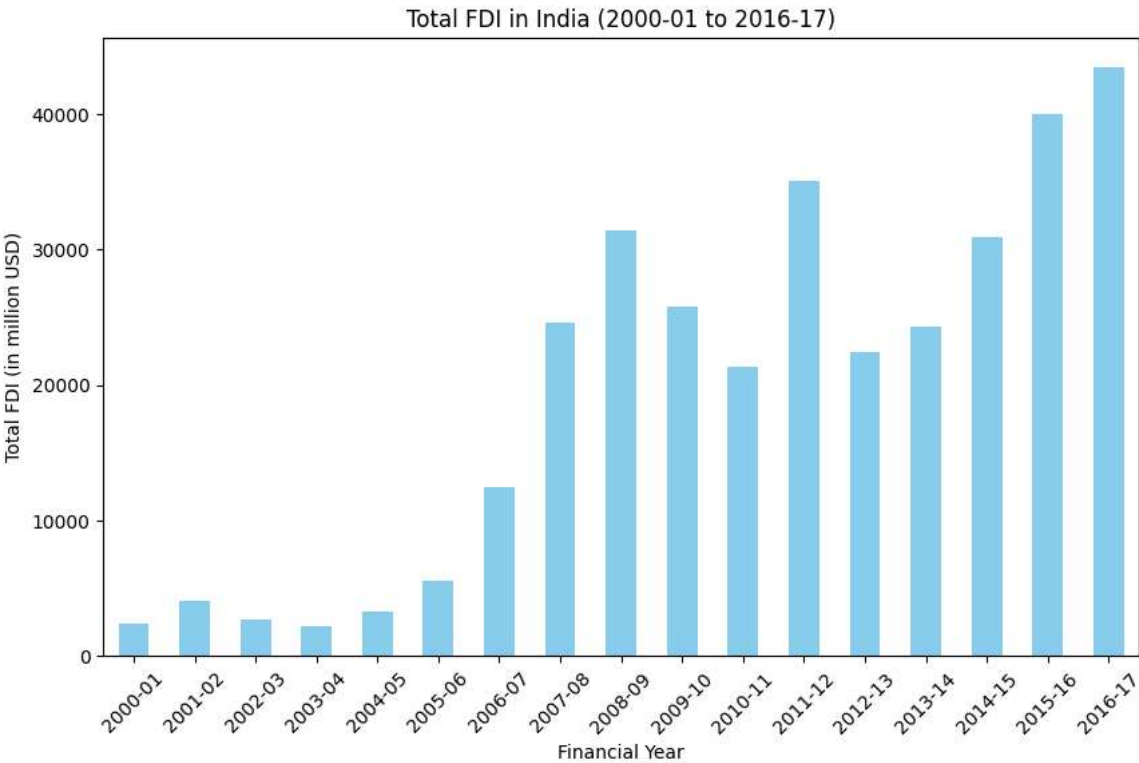
 Descriptive Statistics:

Sector	METALLURGICAL INDUSTRIES	MINING	POWER	NON-CONVENTIONAL ENERGY	COAL PRODUCTION	PETROLEUM & NATURAL GAS	BOILERS AND STEAM GENERATING PLANTS	PRIME MOVER (OTHER THAN ELECTRICAL GENERATORS)	ELECTRICAL EQUIPMENTS	COMPUTER SOFTWARE & HARDWARE
count	17.000000	17.000000	17.000000	17.000000	17.000000	17.000000	17.000000	17.000000	17.000000	17.000000
mean	607.678824	133.637059	681.713529	304.793529	1.631765	403.303529	11.479412	102.244706	386.318235	1451.146471
std	590.318680	209.032041	524.452076	359.716927	3.929237	568.490900	22.610923	111.268971	532.343794	1476.671248
min	8.110000	1.320000	27.090000	0.000000	0.000000	9.350000	0.000000	0.000000	34.710000	228.390000
25%	149.130000	9.920000	89.420000	1.700000	0.000000	87.710000	0.000000	0.740000	76.850000	485.960000
50%	419.880000	34.160000	757.440000	125.880000	0.000000	180.400000	0.630000	40.530000	153.900000	871.860000
75%	1098.140000	142.650000	1066.080000	615.950000	0.220000	349.290000	3.960000	184.600000	566.390000	1543.340000
max	1786.140000	684.390000	1652.380000	1106.520000	14.080000	2029.980000	77.910000	313.750000	2230.690000	5904.360000

8 rows × 63 columns

Total FDI in India (2000-01 to 2016-17)

```
df['Total FDI'] = df.sum(axis = 1)
yearly_total = df['Total FDI']
plt.figure(figsize=(10,6))
yearly_total.plot(kind='bar', color='skyblue')
plt.title('Total FDI in India (2000-01 to 2016-17)')
plt.xlabel('Financial Year')
plt.ylabel('Total FDI (in million USD)')
plt.xticks(rotation = 45)
plt.show()
```



```
df.head()
```

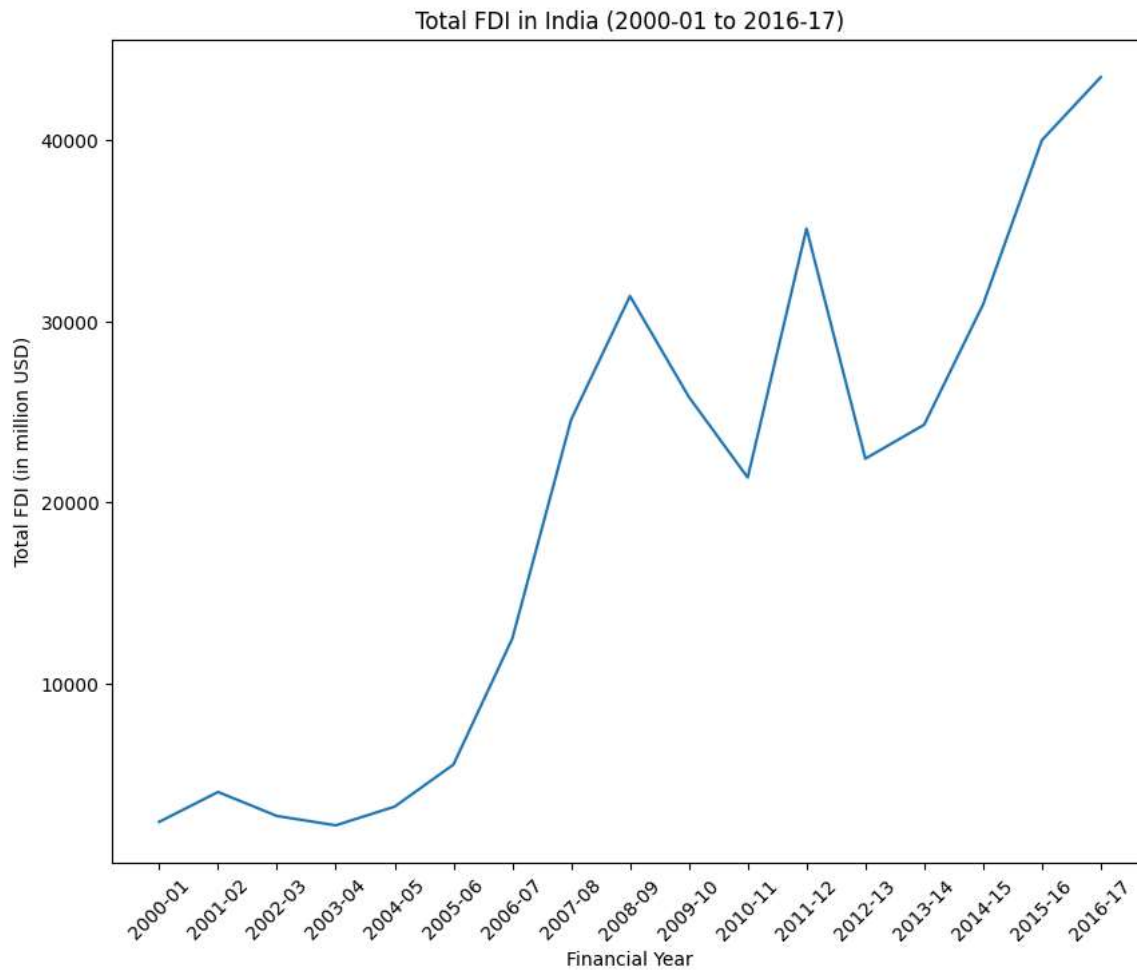


Sector	METALLURGICAL INDUSTRIES	MINING	POWER	NON-CONVENTIONAL ENERGY	COAL PRODUCTION	PETROLEUM & NATURAL GAS	BOILERS AND STEAM GENERATING PLANTS	PRIME MOVER (OTHER THAN ELECTRICAL GENERATORS)	ELECTRICAL EQUIPMENTS	COMPUTER SOFTWARE & HARDWARE	...	RETAIL / TRADING
2000-01	22.69	1.32	89.42	0.00	0.00	9.35	0.00	0.00	79.76	228.39	...	0.0
2001-02	14.14	6.52	757.44	0.00	0.00	211.07	0.00	0.00	65.76	419.39	...	0.0
2002-03	36.61	10.06	59.11	1.70	0.00	56.78	0.00	0.00	34.71	314.24	...	0.0
2003-04	8.11	23.48	27.09	4.14	0.04	80.64	0.04	0.00	73.20	368.32	...	0.0
2004-05	200.38	9.92	43.37	1.27	0.00	102.78	0.54	2.66	97.40	527.90	...	0.0

5 rows × 64 columns

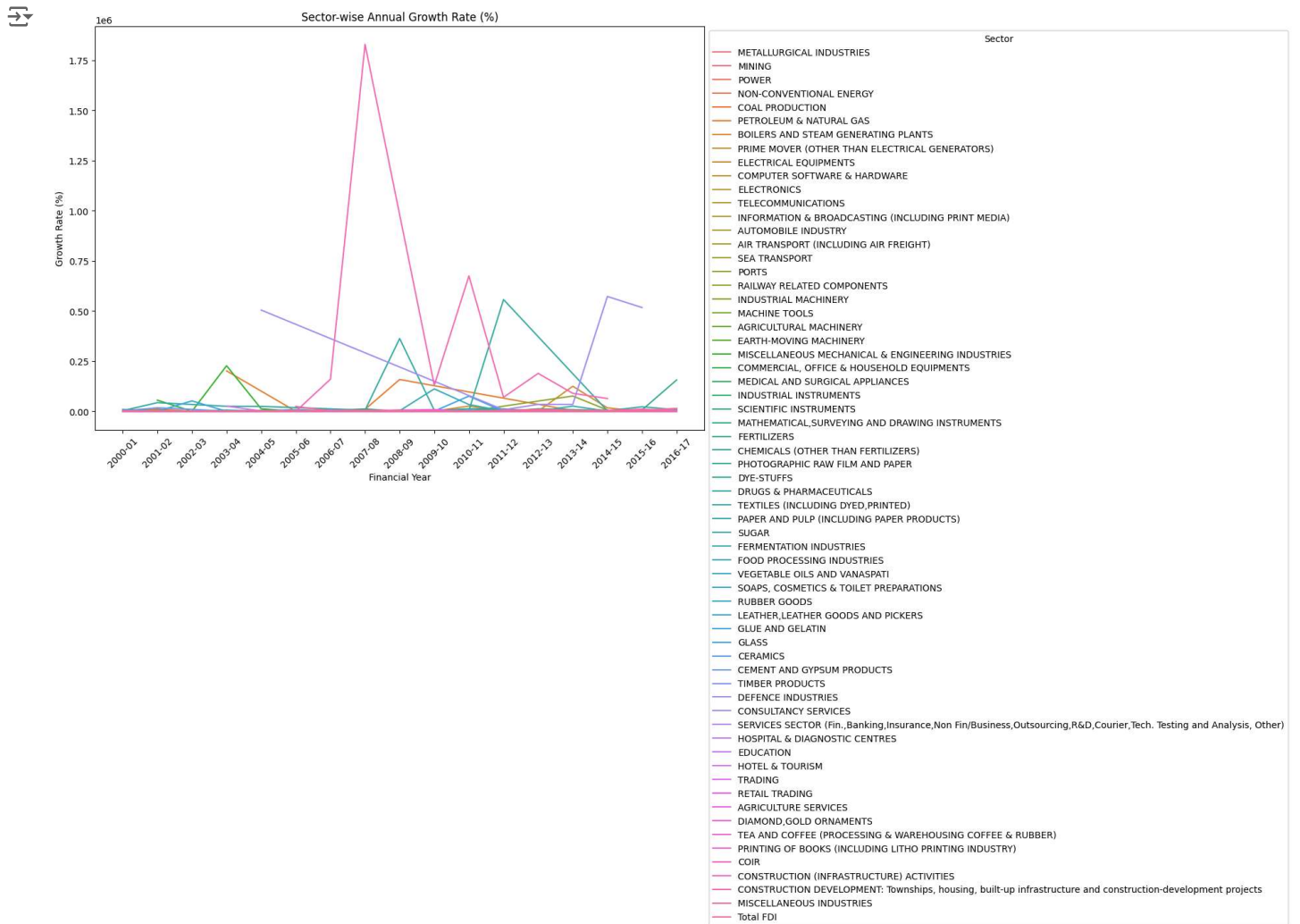
Total FDI in India (2000-01 to 2016-17)

```
plt.figure(figsize=(10,8))
sns.lineplot(data = yearly_total)
plt.xticks(rotation = 45)
plt.title('Total FDI in India (2000-01 to 2016-17)')
plt.xlabel('Financial Year')
plt.ylabel('Total FDI (in million USD)')
plt.show()
```



### Sector-wise Annual Growth Rate

```
growth_rate = df.pct_change(axis = 1) * 100
plt.figure(figsize=(12, 8))
sns.lineplot(data=growth_rate, dashes=False)
plt.title("Sector-wise Annual Growth Rate (%)")
plt.xlabel("Financial Year")
plt.ylabel("Growth Rate (%)")
plt.xticks(rotation=45)
plt.legend(title='Sector', bbox_to_anchor=(1, 1), loc='upper left')
plt.show()
```



Top 5 Best performing years

```
sorted = df.sort_values(by='Total FDI', ascending=False)
sorted.head()
```



Sector	METALLURGICAL INDUSTRIES	MINING	POWER	NON-CONVENTIONAL ENERGY	COAL PRODUCTION	PETROLEUM & NATURAL GAS	BOILERS AND STEAM GENERATING PLANTS	PRIME MOVER (OTHER THAN ELECTRICAL GENERATORS)	ELECTRICAL EQUIPMENTS	COMPUTER SOFTWARE & HARDWARE	...	RETAIL TRADING
2016-17	1440.18	55.75	1112.98	783.57	0.00	180.40	53.91	286.88	2230.69	3651.71	...	450.94
2015-16	456.31	520.67	868.80	776.51	0.00	103.02	77.91	159.13	444.88	5904.36	...	262.24
2011-12	1786.14	142.65	1652.38	452.17	0.00	2029.98	31.79	313.75	566.39	796.35	...	31.70
2008-09	959.94	34.16	907.66	125.88	0.22	349.29	0.00	74.88	417.35	1543.34	...	0.09
2014-15	359.34	684.39	707.04	615.95	0.00	1079.02	1.33	230.70	574.83	2296.04	...	168.72

5 rows × 64 columns

Top 5 Categories

```
newdf = df.transpose()
newdf.drop(index='Total FDI', inplace=True)
newdf['Category Total'] = newdf.sum(axis = 1)
newdf.sort_values(by = 'Category Total', ascending=False, inplace = True)
newdf.head()
```



	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Sector												
SERVICES SECTOR (Fin.,Banking,Insurance,Non Fin/Business,Outsourcing,R&D,Courier,Tech. Testing and Analysis, Other)	71.38	187.95	296.34	271.15	456.15	548.61	4713.78	6986.17	6183.49	4174.53	3296.09	5215.98
COMPUTER SOFTWARE & HARDWARE	228.39	419.39	314.24	368.32	527.90	1359.97	2613.33	1382.25	1543.34	871.86	779.81	796.35
CONSTRUCTION DEVELOPMENT: Townships, housing, built-up infrastructure and construction-development projects	24.33	51.75	36.10	47.04	152.06	228.71	1392.95	3887.33	4657.51	5466.13	1663.03	3140.78
TELECOMMUNICATIONS	177.69	873.23	191.60	86.49	118.33	617.98	476.51	1260.70	2548.63	2539.26	1664.50	1997.24
AUTOMOBILE INDUSTRY	195.33	235.76	419.96	119.09	121.97	139.93	260.72	656.10	1150.03	1236.29	1299.41	922.99

```
top5_categories = newdf.head()
top5_categories = pd.DataFrame(top5_categories['Category Total'])

top5_categories = top5_categories.transpose()

top5_categories.rename(columns={'SERVICES SECTOR (Fin.,Banking,Insurance,Non Fin/Business,Outsourcing,R&D,Courier,Tech. Testing and Analysis'
plt.figure(figsize=(8,6))
sns.barplot(data = top5_categories)
plt.xticks(rotation = 45)
plt.title('Top 5 Companies with highest FDI')
plt.ylabel('Total FDI')
plt.show()
```

