FDI ANALYSIS IN INDIA

PROBLEM STATEMENT

Investment is a game of understanding historic data of investment objects under different events but it is still a game of chances to minimize the risk we apply analytics to find the equilibrium investment. To understand the Foreign direct investment in India for the last 17 years from 2000-01 to 2016-17. This dataset contains sector and financial year-wise data of FDI in India Sector-wise investment analysis Year-wise investment analysis. Find key metrics and factors and show the meaningful relationships between attributes. Do your own research and come up with your findings

INSIGHTS

- Power BI Dashboard and Jupyter Notebook Bar Graphs Analysis
- Sectors invest differently each financial year.
- High-investment sectors: Banking & Insurance, Computer Software & Hardware Components.
- Low-investment sectors: Computer Software & Hardware Components.
- Some sectors invest more than others.
- Future slides will highlight sectors with zero investment.
- Forecasting methods used to identify future growth.

SECTORS WITH ZERO INVESTMENT IN THE FINANCIAL YEARS

Sectors	Financial Years
Agriculture machinery	2004-05
Airport Transport	2000-01 & 2001-02
Boilers and Steam Generating Plants	2000-01, 2001-02, 2002-03, 2005-06 & 2008-09
Cement and Gypsum Products	2004-05
Coal Production	2000-01 to 2016-17 except 2003-04, 2005-06, 2006-07, 2007-08, 2008-09 & 2013-14
Coir	2000-01, 2001-02, 2002-03, 2003-04, 2008-09, 2015-16 & 2016-17
Construction	2000-01, 2001-02, 2002-03, 2003-04 & 2004-05

SECTORS WITH ZERO INVESTMENT IN THE FINANCIAL YEARS

Sectors	Financial Years
Defence Industries	2000-01, 2001-02, 2002-03, 2003-04, 2005-06 to 2010-11 & 2016-17
Dye Stuffs	2002-03, 2005-06, 2006-07, 2012-13 & 2013-14
Earth-Moving Machinery	2000-01
Education	2000-01, 2001-02 & 2002-03
Fertilizers	2000-01 & 2001-02
Glue and Gelatin	2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2006-07, 2008-09 & 2012-13
Hospital and Diagnostic Centers	2000-01

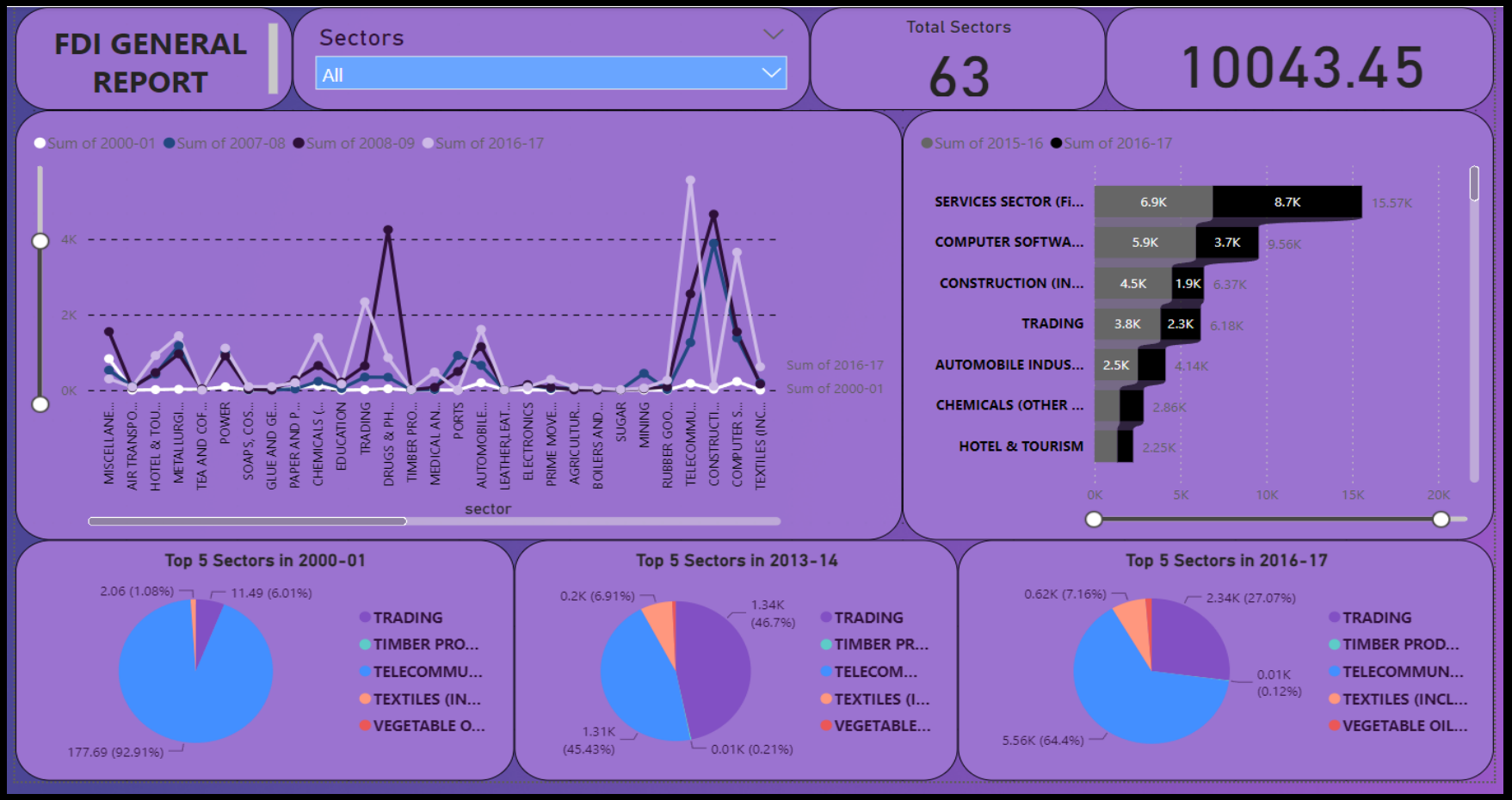
SECTORS WITH ZERO INVESTMENT IN THE FINANCIAL YEARS

Sectors	Financial Years
Industrial Instruments	2006-07
Mathematical, Surveying and Drawing Instruments	2000-01 to 2016-17 except 2007-08 & 2012-13
Non-Conventional Energy	2000-01 & 2001-02
Printing of Books (including Litho Printing Industry)	2000-01, 2001-02 & 2003-04
Railway Related Components	2000-01 & 2001-02
Scientific Instruments	2007-08 & 2009-10
Soaps, cosmetics & Toilet Preparations	2000-01, 2001-02, 2002-03, 2003-04

SECTORS WITH ZERO INVESTMENT IN THE FINANCIAL YEARS

Sectors	Financial Years
Sugar	2000-01, 2001-02 & 2003-04
Tea and Coffee	2002-03
Timber Products	2000-01 & 2006-07
Vegetable Oils and Vanaspati	2000-01, 2001-02 & 2002-03

INSIGHTS(POWER BI)



INSIGHTS(POWER BI)

The line chart on the left shows the sum of investments in various sectors from different time periods, specifically highlighting the years 2000-01, 2007-08, 2008-09, and 2016-17.The peak in the chart around 2016-17 indicates a significant rise in FDI, primarily driven by sectors like Services, Computer Software, and Construction.

Sector Breakdown

On the right, there's a detailed breakout for specific sectors in 2015-16 and 2016-17, illustrating a dramatic shift in the amounts invested. The Services sector appears to lead in FDI, followed by Computer Software and Construction.

Trends and Shifts

The distribution and composition of FDI have evolved, with newer sectors like Telecommunications and Textiles gaining prominence over time, likely reflecting shifts in economic focus and policy impacts.

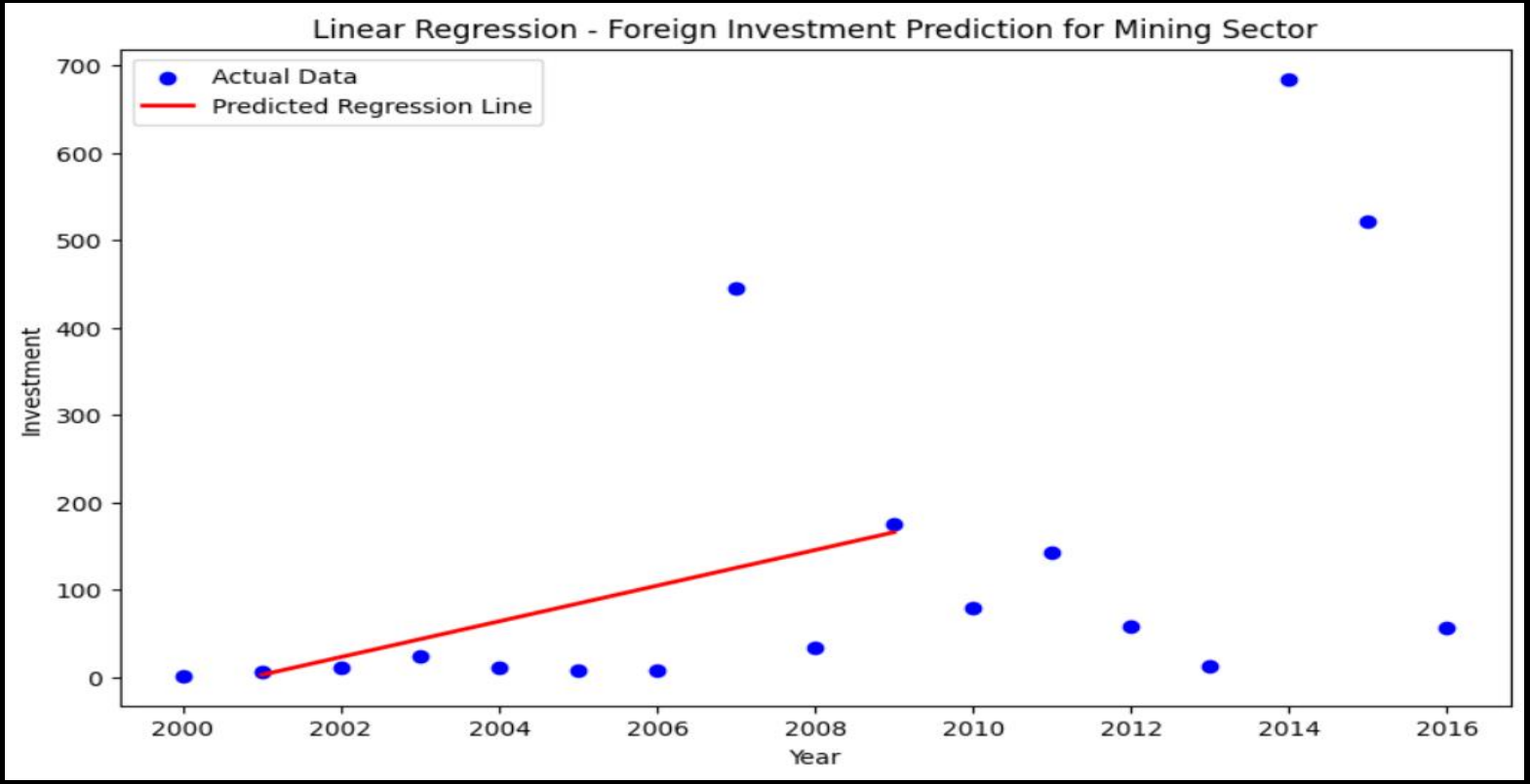
RECOMMENDATIONS(POWER BI)

Recommendations

Focus on High Growth Sectors: Allocate more resources to sectors showing upward trends in FDI, such as Services, Computer Software, and Telecommunications, to capitalize on their growth potential.Diversification: Continue diversifying the sectors attracting FDI to stabilize economic growth and reduce dependence on any single sector.Policy Enhancement: Adjust policies to enhance the attractiveness of emerging sectors that are starting to draw FDI but have not yet reached their potential.

LINEAR REGRESSION FOR MINING SECTOR

Linear regression is a data analysis technique that predicts the value of unknown data by using another related and known data value.



LINEAR REGRESSION FOR MINING SECTOR

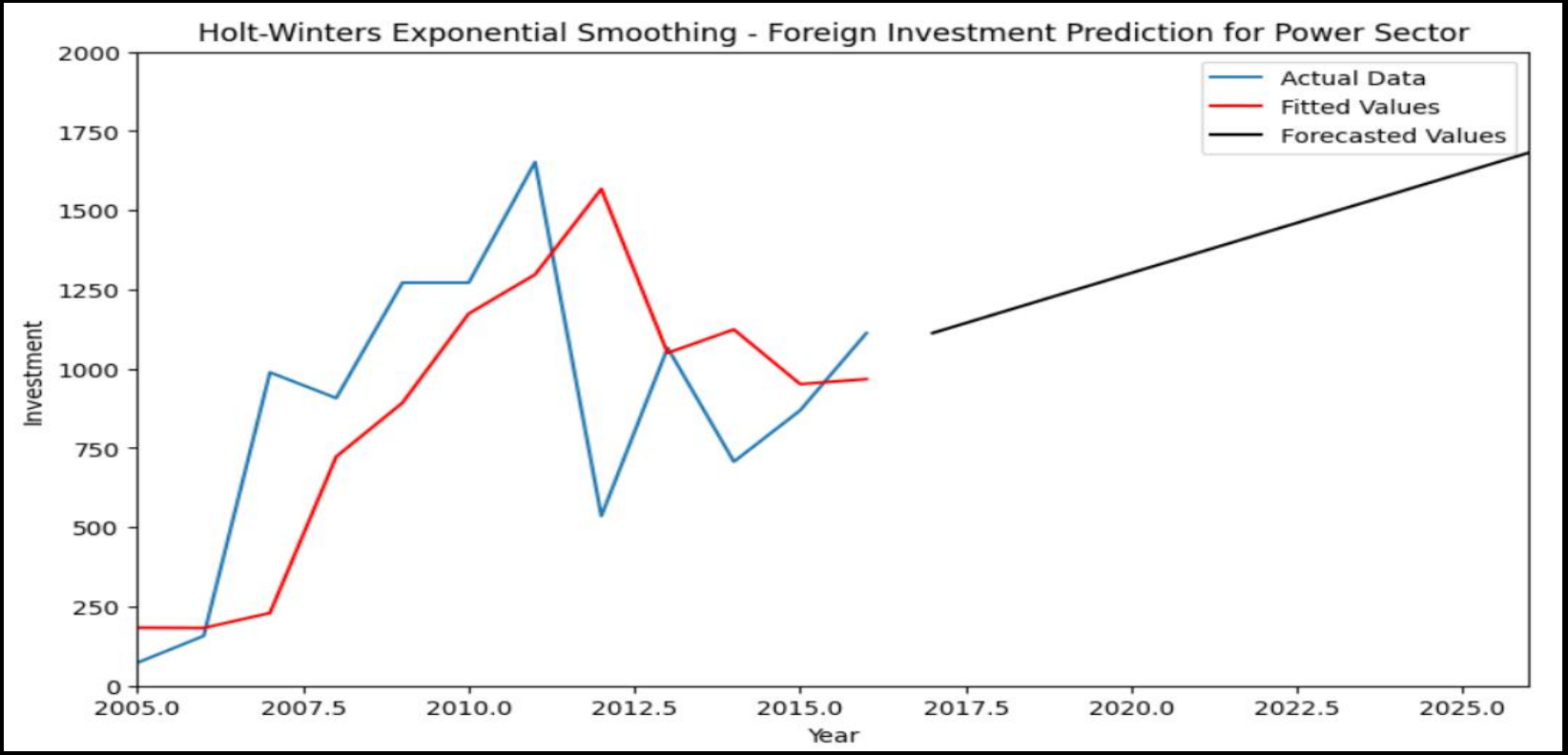
Data Points: Each blue dot represents the actual amount of investment in a particular year.The investments vary significantly over the years, with a couple of peaks possibly indicating years of high investment due to various economic or policy factors.

Recommendations:

- **Further Analysis**: It would be beneficial to incorporate more complex models that account for cyclic trends or potential influencing factors like global commodity prices or regulatory changes to better understand and predict future investments.
- **Diversified Investment**: Given the volatility in year-to-year investments, a diversified investment approach within the sector might mitigate risk.

THE HOLT-WINTERS METHOD FOR POWER SECTOR

The Holt-Winters method is a seasonal forecasting technique that uses exponential smoothing to generate future values from past data.



THE HOLT-WINTERS METHOD FOR POWER SECTOR

The graph shows foreign investment in the power sector from 2005 to 2025, using Holt-Winters Exponential Smoothing for analysis. This technique helps in forecasting data where there is a trend and seasonal pattern.

Components of the Graph:

Actual Data (Blue Line): This represents the real investment figures recorded from 2005 through approximately 2017.

Fitted Values (Red Line): These are the values estimated by the model based closely on the actual data, aiming to closely follow and smooth out the actual investment trends.

Forecasted Values (Black Line): This extends beyond the actual and fitted data, predicting future investment levels from approximately 2017 to 2025 based on the identified patterns and trends.

THE HOLT-WINTERS METHOD FOR POWER SECTOR

Growth Period: From 2005 to 2010, there was a significant and steady increase in investment, indicating a period of robust growth in the sector.

Volatility: Between 2010 and 2017, the investment levels show considerable volatility, with sharp increases and decreases. This could indicate economic or policy changes impacting investment levels.

Forecast Trend: The forecasted trend from 2017 to 2025 shows a gradual upward slope. This suggests that, despite past volatility, the overall investment trend in the power sector is expected to grow steadily. The model likely factors in both the growth potential of the sector and historical fluctuations.