

# STOCK MARKET ANALYSIS

GROUP MEMBERS: VAMSI KRISHNA  
PREKSHA  
AKASH GANDHI

# MOTIVATION

- ▶ Everybody wishes to make money in a short span of time
- ▶ People invest in stocks so that they can reap benefits from a trending stock in a short time
- ▶ However the stock prices are highly volatile and not easy to predict



# INTRODUCTION

- ▶ Investors and traders need to take decisions about buying and selling a particular stock based on technical analysis
- ▶ Stock analysis is one such method to evaluate the past and current trend of a stock
- ▶ Two types of stock analysis are fundamental analysis and technical analysis

# STOCK ANALYSIS

## FUNDAMENTAL ANALYSIS

- ▶ BUSINESS PERFORMANCE
  - FINANCIAL STATEMENTS
  - GOOD PRODUCTS
  - RESPONSIBLE MANAGEMENT

## TECHNICAL ANALYSIS

- ▶ PRICE MOVEMENT
  - HISTORICAL TRENDS
  - STOCK PRICE
  - VOLUME OF STOCKS

So an investor should incorporate both fundamental and technical analysis before investing in a stock



# EXTERNAL FACTORS THAT INFLUENCE STOCK PRICES

- ▶ News releases on earnings and profits, and future projections
- ▶ Securing a new or large contract
- ▶ Accounting errors or scandals
- ▶ Anticipated takeover or merger
- ▶ A change in management or leadership



# OUR AREA OF FOCUS-EFX

# WHY EQUIFAX??

- ▶ Equifax is a credit reporting agency and based on the credit report of the consumer, they come up with a credit score
- ▶ Equifax owns millions of sensitive records of consumers before they evaluate and report a credit score
- ▶ There was a data breach in Equifax servers which resulted in hackers gaining information to almost 40% of US population
- ▶ This data breach was publicly announced on Sept 7<sup>th</sup> 2017

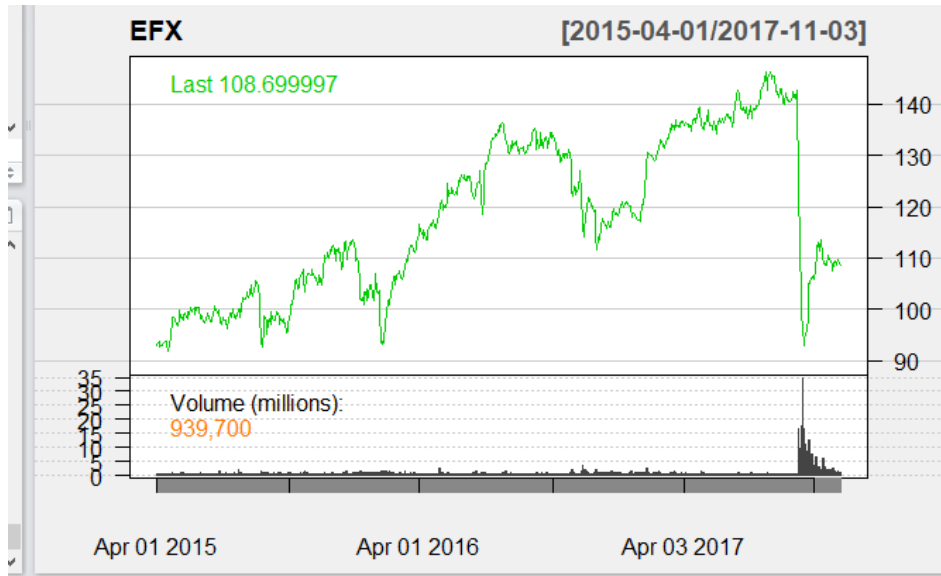
# Analysis on Equifax Stock Data

- ▶ Data Source : <https://finance.yahoo.com>
- ▶ Period: 2 years with daily frequency
- ▶ Technical Analysis : Performed analysis using Exponential moving averages(EMA) and Average Directional Index.(ADX)





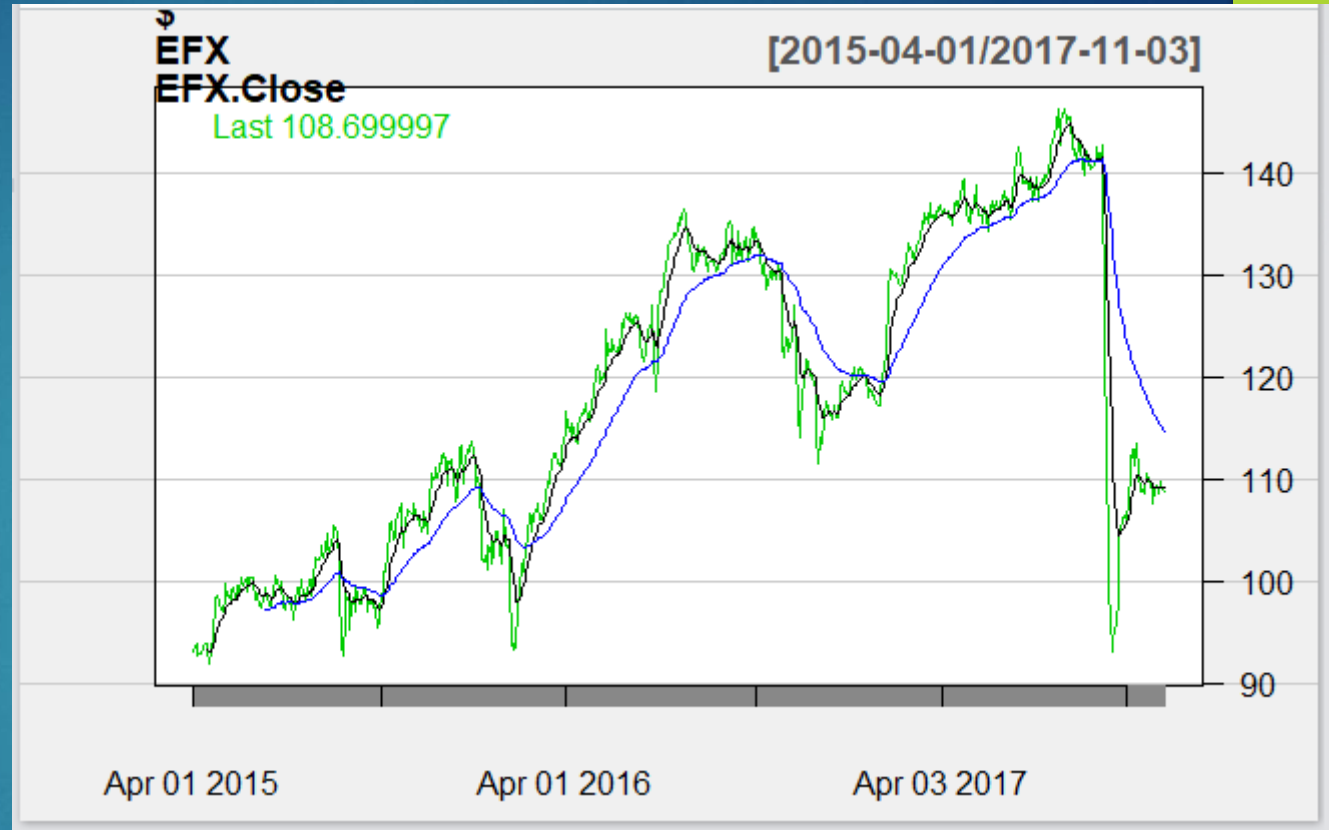
Bullish  
Bearish



# Trends of Equifax

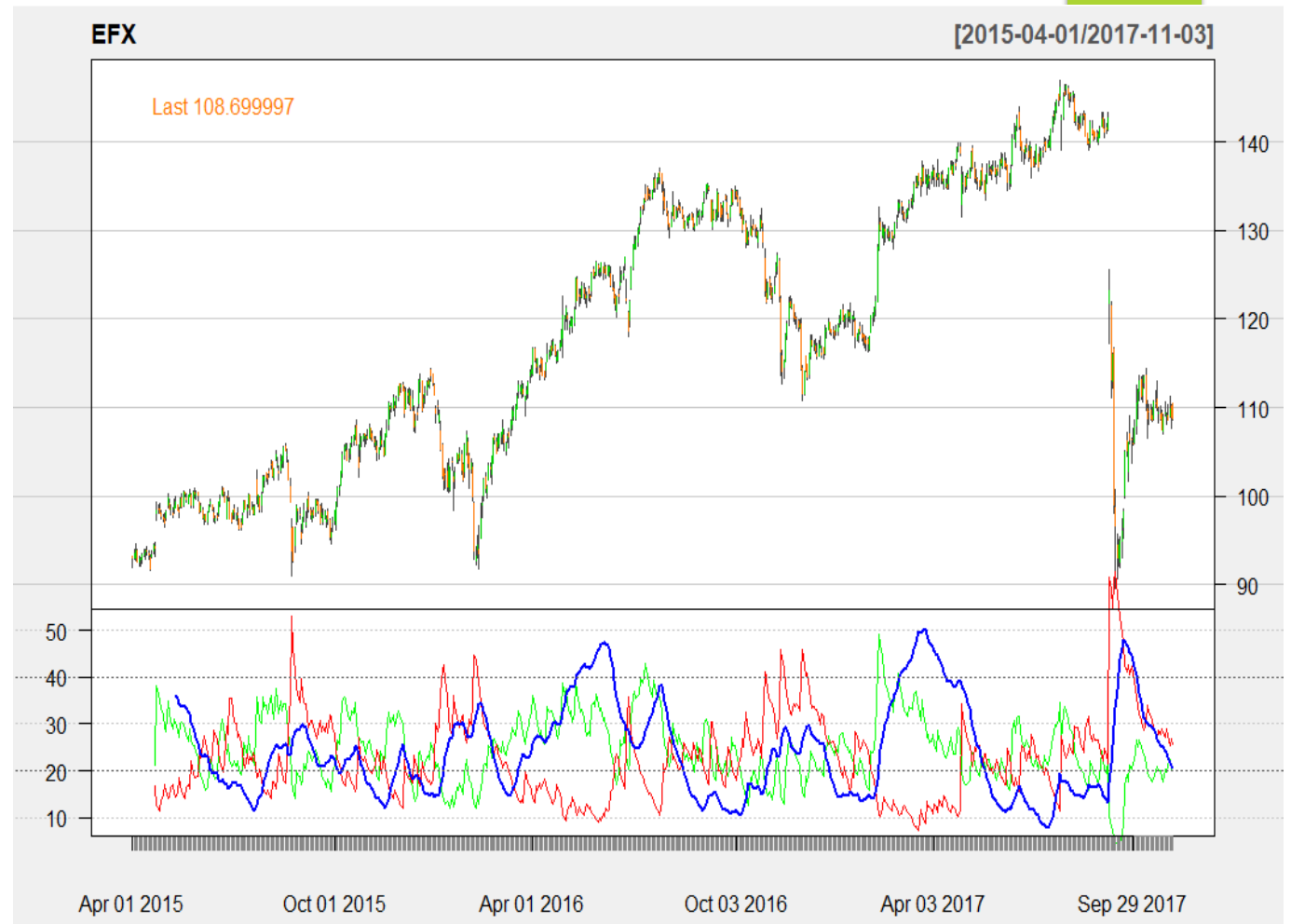
# EMA

- ▶ It is used for smoothening of the curve.
- ▶ An exponential average gives more weight to the latest data and reacts faster to price fluctuations than a simple moving average.



# ADX

- ▶ It is used to find the strength of the trend
- ▶ It is non-directional by nature

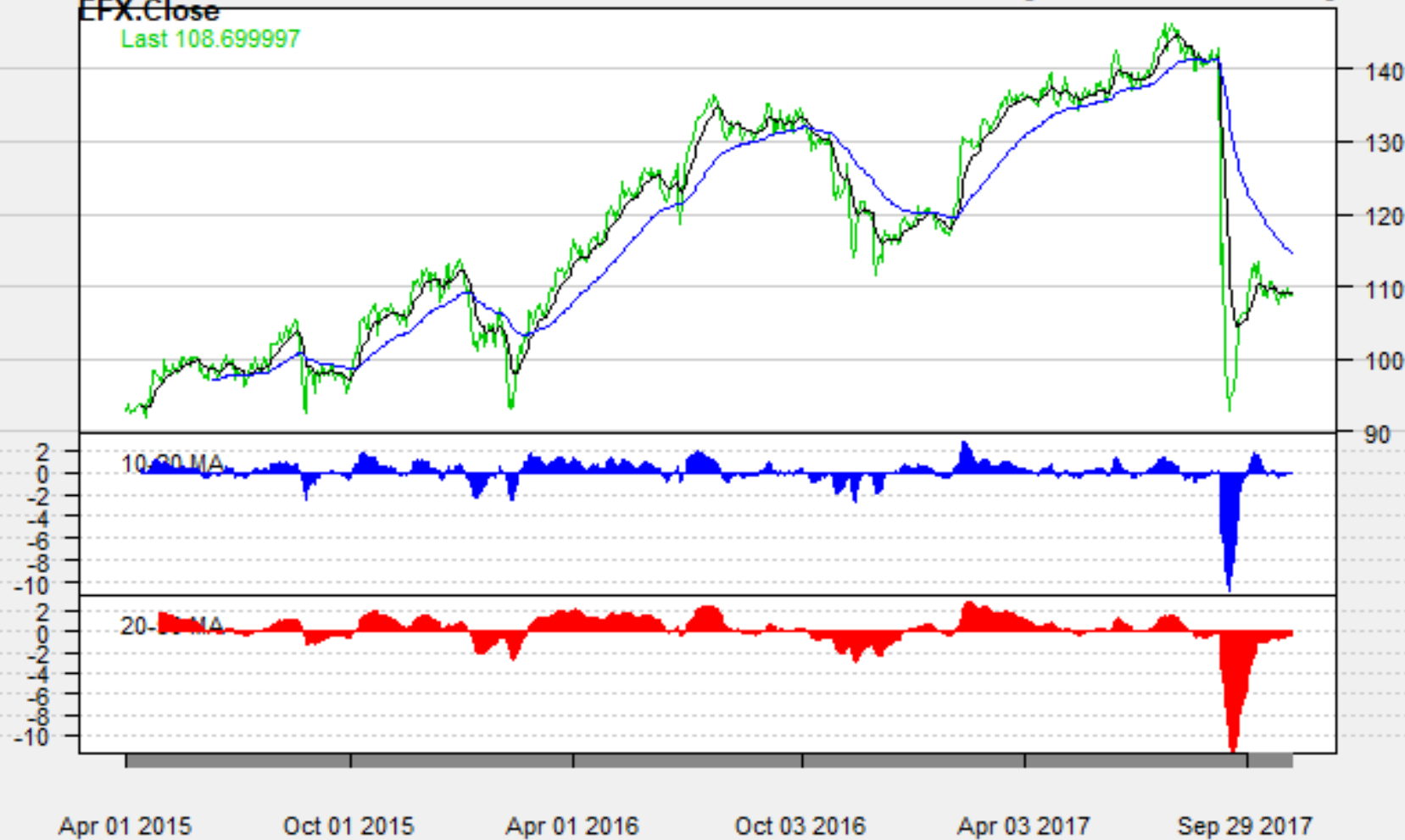




EFX  
EFX.Close

[2015-04-01/2017-11-03]

Last 108.699997



# Short and Long

EFX\$EFX.Close

2015-04-01 / 2017-11-03

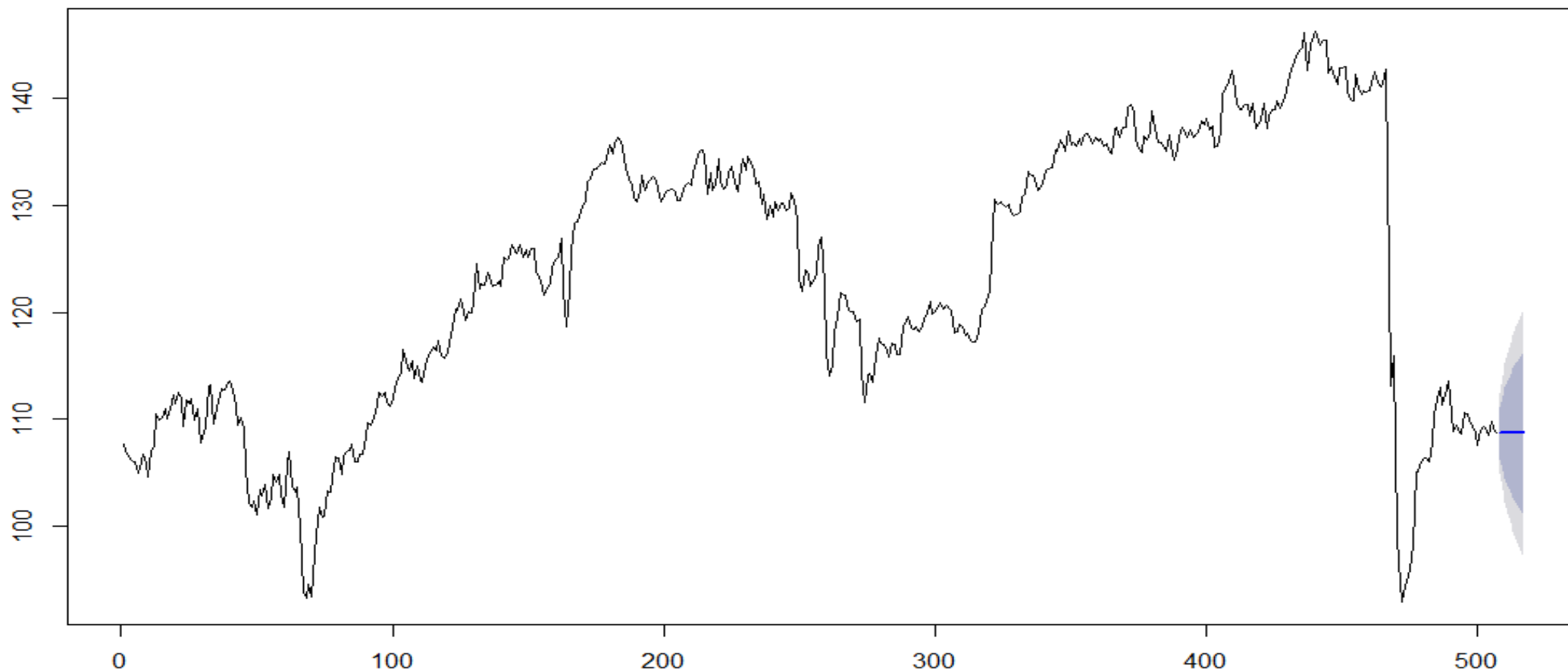


# Forecasting of Time Series Data

- ▶ Forecasting involves predicting the values using historical data.
- ▶ One method of forecasting the time series data is using Auto Regressive Moving Average Model (ARMA).
- ▶ Prerequisite for ARIMA model is that the data has to be stationary.
- ▶ The model combines three basic methods:
  - i. Auto Regressive models( $p$ ) : No of lagged values.
  - ii. Differencing ( $d$ ): Degree of differencing.
  - iii. Moving Averages models( $q$ ): It refers to the random errors in previous period.
- ▶ The representation of ARIMA ( $p,d,q$ ).

Predicted Value for next time period	Actual Value for next time period
109.31	108.79

**Forecasts from ARIMA(0,1,0)**





# Conclusion

- ▶ As per the case study we can observe an unpredictable trend because of the data breach which affected their price.
- ▶ The analysis helps us to understand when an investor and a trader can invest in stocks.
- ▶ An understanding on how to forecast the time series data ?

# References

- ▶ <https://www.investopedia.com>
- ▶ <https://www.fidelity.com>
- ▶ <http://stockcharts.com/>



Thank You