

Analyzing Video Game Sales

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Background



Purpose of the Data Analysis

- We will be attempting to see a relationship in the Stock Market using Linear Regression Models and Sales Data from Video Game Companies
- This type of analysis is fairly practical in modeling for a company's success or failure



Data

- Using “Video Games Sales Dataset” from kaggle data base
- Data current as of December 2016
- Contains: Name of Game, Platform, Year Released, Global Sales (in millions), Developer, Rating
- About 6,900 complete cases
- Stock data, 2004-2016 of Microsoft, EA, Nintendo, Sony

	Name <chr>	Platform <chr>	Year_of_Release <chr>	Genre <chr>	Publisher <chr>	NA_Sales <dbl>
1	Wii Sports	Wii	2006	Sports	Nintendo	41.36
2	Super Mario Bros.	NES	1985	Platform	Nintendo	29.08
3	Mario Kart Wii	Wii	2008	Racing	Nintendo	15.68
4	Wii Sports Resort	Wii	2009	Sports	Nintendo	15.61
5	Pokemon Red/Pokemon Blue	GB	1996	Role-Playing	Nintendo	11.27
6	Tetris	GB	1989	Puzzle	Nintendo	23.20

6 rows | 1-10 of 16 columns

Our Data Analysis Approach

- Explore data
 - “glimpse” to view basic information
 - “head” to get a sense of what dataset looks like
 - “is.na” to add up missing values by column

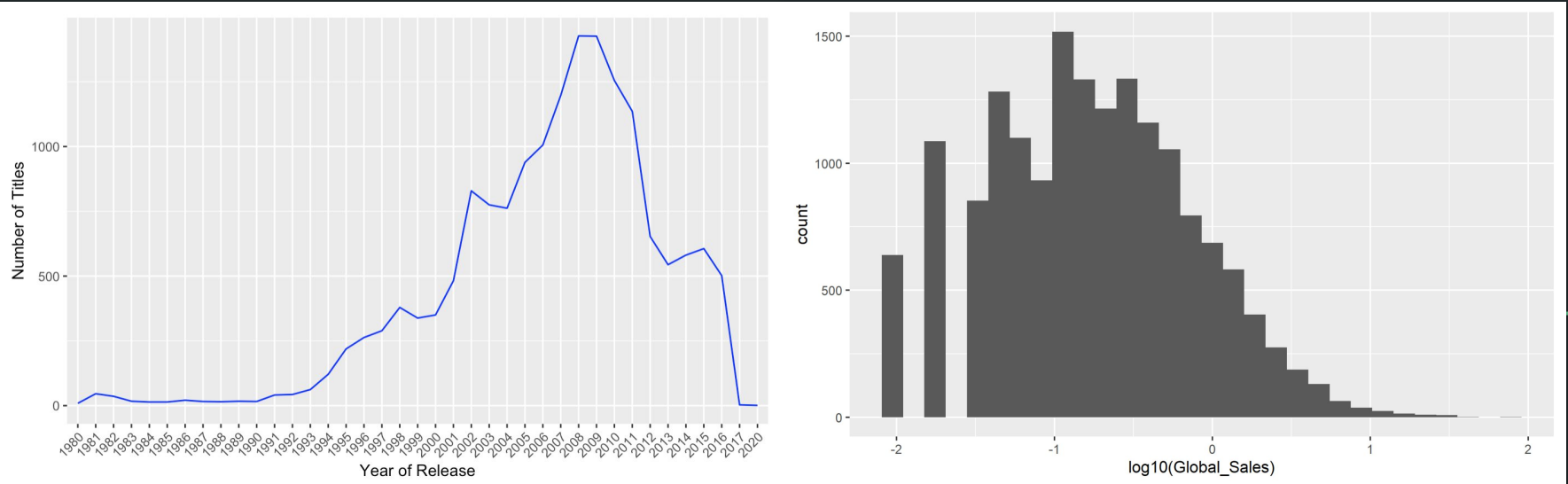
```
## {r}
glimpse(Video_Games)
##
Rows: 16,719
Columns: 16
$ Name      <chr> "Wii Sports", "Super Mario Bros.", "Mario Kart Wii", "Wii Sports ...
$ Platform  <chr> "Wii", "NES", "Wii", "Wii", "GB", "GB", "DS", "Wii", "Wii", "NES"...
$ Year_of_Release <chr> "2006", "1985", "2008", "2009", "1996", "1989", "2006", "2006", "...
$ Genre     <chr> "Sports", "Platform", "Racing", "Sports", "Role-Playing", "Puzzle...
$ Publisher <chr> "Nintendo", "Nintendo", "Nintendo", "Nintendo", "Nintendo", "Nint...
$ NA_Sales  <dbl> 41.36, 29.08, 15.68, 15.61, 11.27, 23.20, 11.28, 13.96, 14.44, 26...
$ EU_Sales  <dbl> 28.96, 3.58, 12.76, 10.93, 8.89, 2.26, 9.14, 9.18, 6.94, 0.63, 10...
$ JP_Sales  <dbl> 3.77, 6.81, 3.79, 3.28, 10.22, 4.22, 6.50, 2.93, 4.70, 0.28, 1.93...
$ Other_Sales <dbl> 8.45, 0.77, 3.29, 2.95, 1.00, 0.58, 2.88, 2.84, 2.24, 0.47, 2.74,...
```

```
## {r}
colSums(is.na(Video_Games))
##
      Name      Platform Year_of_Release      Genre      Publisher
      2          0          0          2          0
Global_Sales Critic_Score Critic_Count User_Score User_Count
      0      8582      8582      9129      9129
```

Exploratory Data Analysis



EDA - Sales Dataset



Name <chr>	Platform <chr>	Year_of_Release <chr>	Genre <chr>	Publisher <chr>	NA_Sales <dbl>	EU_Sales <dbl>
Imagine: Makeup Artist	DS	2020	Simulation	Ubisoft	0.27	0
1 row 1-7 of 16 columns						

EDA - Sales Dataset

```
# Basically get the highest sales
pubs_count <- table(sales$Publisher)
pubs_count <- as.data.frame(pubs_count)

colnames(pubs_count) <- c("pubs", "total_games")

pubs <- c(pubs_count$pubs)

sale_total <- c()

for (x in pubs) {
  currPub <- sales %>% filter(Publisher == x)
  total <- sum(currPub$Global_Sales)
  sale_total <- append(sale_total, total)
}

sale_numbers <- data.frame(pubs, sale_total)
```

```
# Total sales and games published by companies we are looking at
sale_numbers <- sale_numbers %>% arrange(desc(sale_total))
pubs_count <- pubs_count %>% arrange(desc(total_games))
```

```
head(sale_numbers)
```

##	pubs	sale_total
## 1	Nintendo	1788.81
## 2	Electronic Arts	1116.96
## 3	Activision	731.16
## 4	Sony Computer Entertainment	606.48
## 5	Ubisoft	471.61
## 6	Take-Two Interactive	403.82

```
head(pubs_count)
```

##	pubs	total_games
## 1	Electronic Arts	1356
## 2	Activision	985
## 3	Namco Bandai Games	939
## 4	Ubisoft	933
## 5	Konami Digital Entertainment	834
## 6	THQ	715

Seeing who the most popular publishers are through total sales and total games published

EDA - Sales Dataset

```
pubs_wanted = c("Nintendo", "Electronic Arts", "Microsoft Game Studios", "Sony Computer Entertainment")

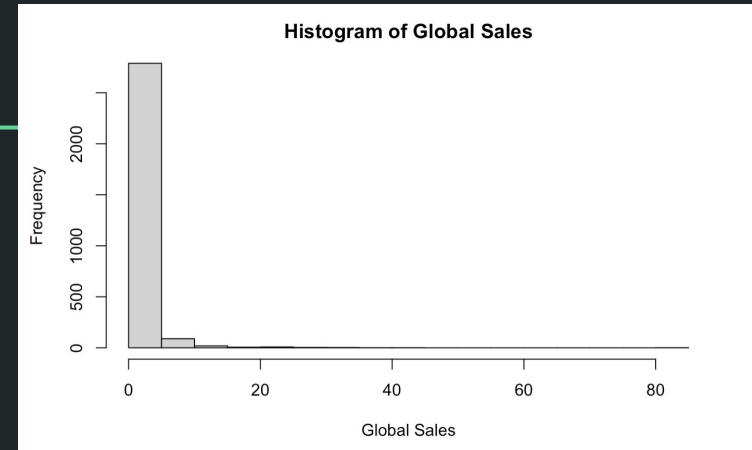
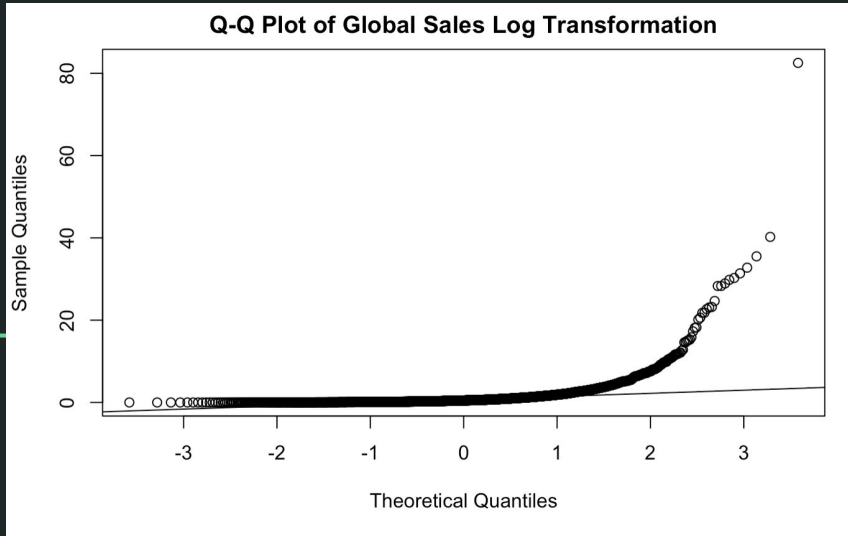
looking <- sale_numbers %>% left_join(pubs_count, by="pubs")
looking <- looking %>% filter(pubs %in% pubs_wanted)
looking
```

##		pubs	sale_total	total_games
## 1		Nintendo	1788.81	706
## 2		Electronic Arts	1116.96	1356
## 3		Sony Computer Entertainment	606.48	687
## 4		Microsoft Game Studios	248.32	191

Most noteworthy publishers are Nintendo, EA, Sony and Microsoft

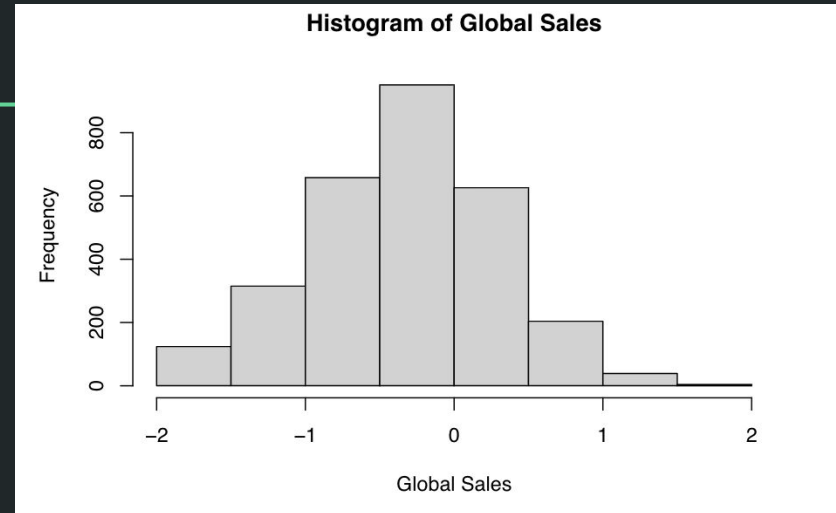
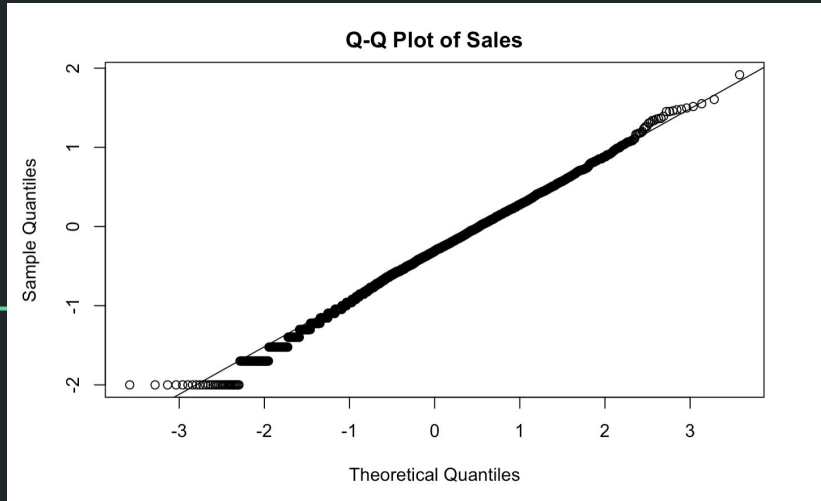
EDA - Sales Dataset

Without Log Transform

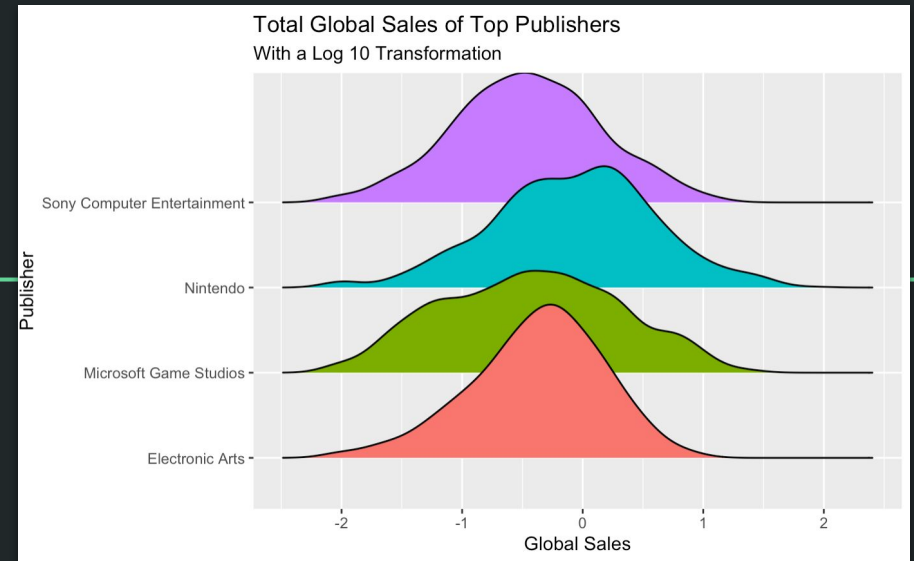


EDA - Sales Dataset

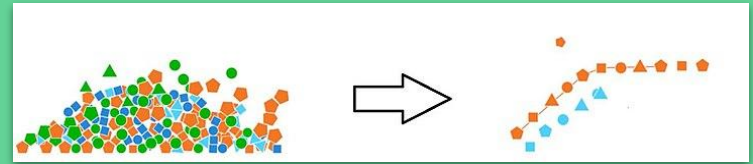
With Log Transform



EDA - Sales Dataset



Data Wrangling



Data Wrangling - Sales Dataset

Getting total sales per year for each publisher, to align with stock market data

```
# Get the yearly sales for each game
new_pubs <- sales %>% filter(Publisher %in% pubs_wanted)
# Dropping the N/A (were normal NA's but rather strings)
new_pubs <- new_pubs %>% filter(Year_of_Release != "N/A")

# new_pubs$Global_Sales <- log10(new_pubs$Global_Sales)

years <- unique(new_pubs$Year_of_Release)
years <- sort(years, decreasing = FALSE)

size <- length(years) + 1

sales_per_year <- data.frame(matrix(ncol = size, nrow = 0))
colnames(sales_per_year) <- c("pubs", years)

# Basically for each company we want, we add the total sales for each year
for (x in pubs_wanted) {
  # Get only one publisher
  currPub <- new_pubs %>% filter(Publisher == x)
  # Pub needs to be the in the first column
  year_tots <- c(x)
  for (year in years) {
    # Get the year we are on
    pub_year <- currPub %>% filter(Year_of_Release == year)
    # Add them all up and append to vector
    tot_sales_year <- sum(pub_year$Global_Sales)
    year_tots <- append(year_tots, tot_sales_year)
  }
  # Add as row
  sales_per_year[nrow(sales_per_year) + 1,] = year_tots
}

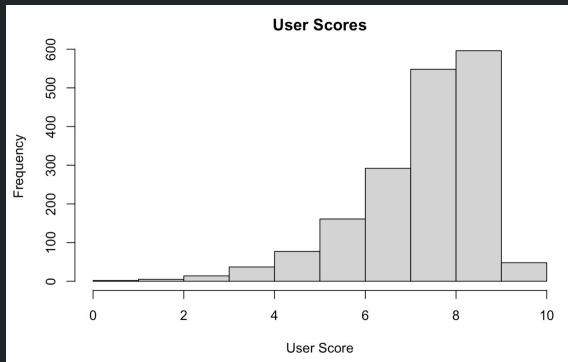
sales_per_year[,2:ncol(sales_per_year)] <- sapply(sales_per_year[,2:ncol(sales_per_year)], as.numeric)
sales_per_year
```

```
##                pubs 1983 1984 1985 1986 1987 1988 1989 1990
## 1                Nintendo 10.96 45.56 49.95 16.18 11.95 36.44 63.88 35.49
## 2                Electronic Arts 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
## 3                Microsoft Game Studios 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
## 4 Sony Computer Entertainment 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
## 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003
## 1 15.97 38.11 20.04 24.99 16.72 73.70 25.80 48.41 65.33 34.05 45.37 48.31 38.14
## 2 0.00 0.06 0.00 0.65 3.33 7.90 22.94 29.95 20.14 25.13 45.12 73.01 69.82
## 3 0.00 0.00 0.00 0.00 0.00 5.12 0.00 0.00 0.09 0.99 13.49 6.96 8.92
## 4 0.00 0.00 0.00 3.43 18.45 35.07 43.90 34.64 36.24 21.69 43.29 25.85 24.32
## 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
## 1 60.52 126.69 204.42 103.09 90.01 127.39 59.74 51.69 56.11 53.48 48.88 27.61
## 2 67.28 66.83 58.20 70.66 83.41 85.28 80.26 71.51 48.98 52.18 45.19 45.74
## 3 13.68 5.68 9.95 25.99 15.20 15.55 48.99 21.07 15.12 16.41 10.71 10.56
## 4 35.15 26.33 33.72 37.35 26.37 36.15 34.50 26.73 12.18 11.97 18.64 11.23
## 2016
## 1 11.74
## 2 26.48
## 3 3.84
## 4 9.07
```

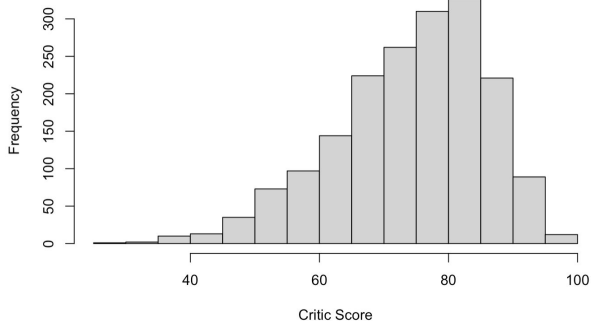
Data Wrangling - Sales Dataset

```
new_pubs$User_Score[is.na(new_pubs$User_Score)] <- median(new_pubs$User_Score, na.rm=TRUE)
```

User score had a left skew,
imputed with median



Histogram of Critic Scores



```
new_pubs$Critic_Score[is.na(new_pubs$Critic_Score)] <- mean(new_pubs$Critic_Score, na.rm=TRUE)
```

Critic score had a more
normal shape, imputed with
mean

Data Wrangling (and EDA) - Sales Dataset

	new_pubs.Global_Sales	new_pubs.User_Score	new_pubs.Critic_Score
new_pubs.Global_Sales	1.00000000	0.07984132	0.2788627
new_pubs.User_Score	0.07984132	1.00000000	0.4227799
new_pubs.Critic_Score	0.27886275	0.42277990	1.0000000

Correlation matrix of the user and critic scores so see if there was a relationship.

From what we see, there is a small to moderate correlation between critic scores and global sales. Worthy for further exploration.

Data Gathering - Stock Market Dataset

End of year stock
data, by Publisher

	company	date_stocks.	high_stocks.	low_stocks.	total_volume	last_stocks.
1	Microsoft(MSFT)	12/31/2004	27.440	26.6800	1830000000	26.720
2	Electronic Arts(EA)	12/31/2004	63.710	48.0500	140000000	61.680
3	Sony(SONY)	12/31/2004	39.200	35.7500	16500000000	38.960
4	Nintendo(NTDOY)	12/31/2004	3.170	2.8500	17300000000	3.170
5	Microsoft(MSFT)	12/30/2005	28.100	26.1000	1270000000	26.150
6	Electronic Arts(EA)	12/30/2005	58.230	52.1200	75524100	52.310
7	Sony(SONY)	12/30/2005	41.300	36.2000	10000000	40.800
8	Nintendo(NTDOY)	12/30/2005	3.060	2.7200	20888500	3.050
9	Microsoft(MSFT)	12/29/2006	30.260	28.8000	1140000000	29.860
10	Electronic Arts(EA)	12/29/2006	56.680	50.2100	77786700	50.360
11	Sony(SONY)	12/29/2006	43.780	39.2700	19630900	42.830
12	Nintendo(NTDOY)	12/29/2006	6.550	5.8200	12284500	6.500
13	Microsoft(MSFT)	12/31/2007	36.720	32.6300	1060000000	35.600
14	Electronic Arts(EA)	12/31/2007	60.350	53.9600	59614200	58.410
15	Sony(SONY)	12/31/2007	56.150	52.6100	16138500	54.300
16	Nintendo(NTDOY)	12/31/2007	15.680	13.6500	17405500	14.810
17	Microsoft(MSFT)	12/31/2008	21.250	18.4700	1550000000	19.440
18	Electronic Arts(EA)	12/31/2008	22.050	14.7900	204826200	16.040
19	Sony(SONY)	12/31/2008	21.890	18.0900	32184500	21.870

Data Wrangling - Stock Market Data (SONY)

SONY Sony Group ADR
NYSE:Media-Diversified

\$82.79 ↓ -0.28 (-0.34%)
Market Close

Volume % Chg: ↑ 2%

Volume: 1,534,000
Avg. Monthly Volume: 16,565,317

AFTER HOURS 07:07 PM ET 12/2/2022
\$82.97 0.18 ↑ 0.22% Vol: 468

SONY

DAILY

WEEKLY

MONTHLY

INTRADAY



Browse List



IBD STOCK CHECKLIST 🔍

MARKET & INDUSTRY PERFORMANCE

Composite Rating	45	●
Market In confirmed uptrend		●
Industry Group Rank (1 to 197)	133	●
Group RS Rating	C	●

FUNDAMENTAL PERFORMANCE

CURRENT EARNINGS

EPS Due Date	02/02/2023	
EPS Rating	68	●
EPS % Chg (Last Qtr)	-4%	●
Last 3 Qtrs Avg EPS Growth	11%	●
# Qtrs of EPS Acceleration	0	●
EPS Est % Chg (Current Qtr)	-39%	●
Estimate Revisions	↓	●
Last Quarter % Earnings Surprise	32.0%	●

ANNUAL EARNINGS

3 Yr EPS Growth Rate	10%	●
Consecutive Yrs of Annual EPS Growth	0	●
EPS Est % Chg for Current Year	-13%	●

SALES, MARGIN, ROE

S/M/R Rating	D	●
Sales % Chg (Last Qtr)	-11%	●
3 Yr Sales Growth Rate	4%	●
Annual Pre-Tax Margin	11.3%	●
Annual ROE	13.0%	●
Debt/Equity Ratio	17%	●

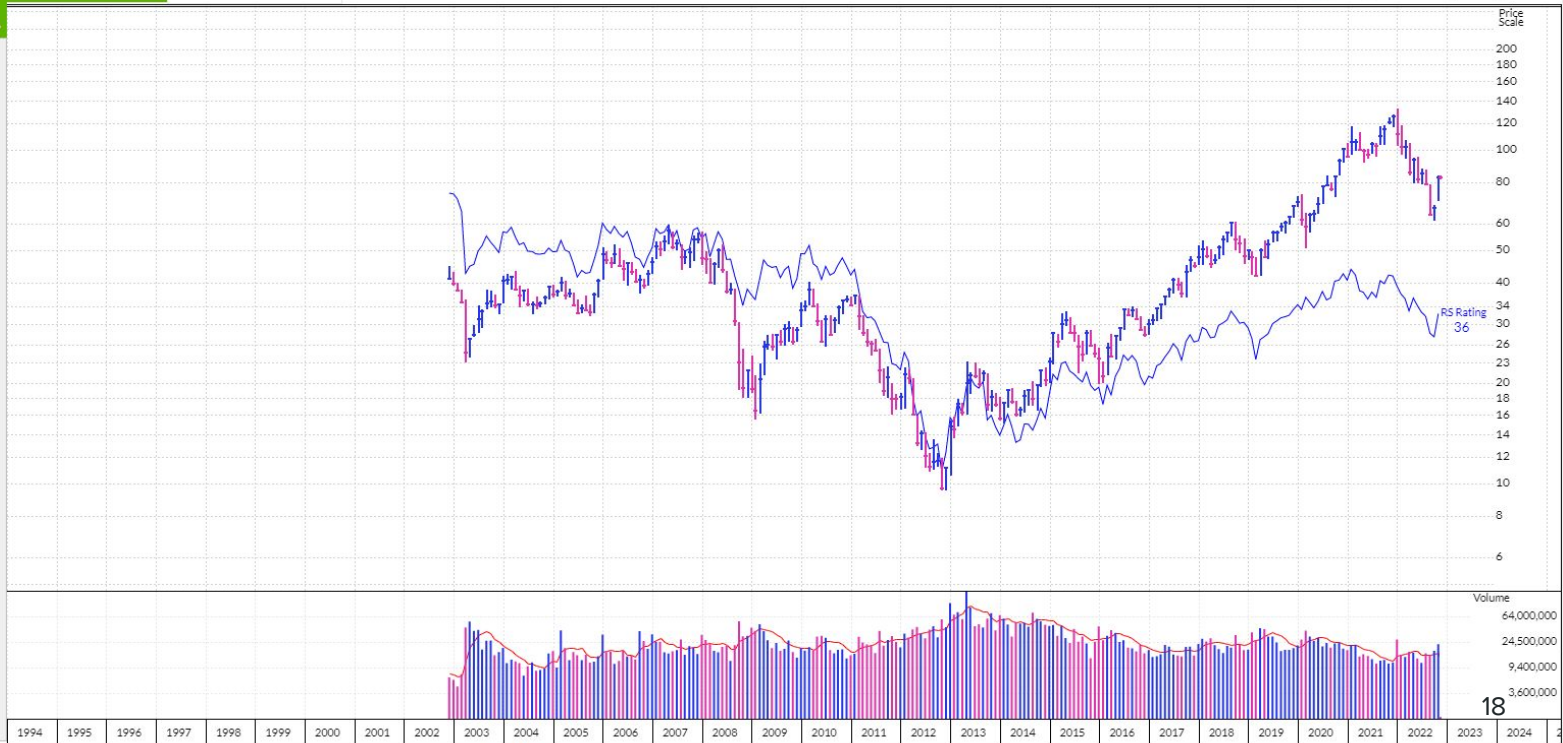
TECHNICAL PERFORMANCE

PRICE AND VOLUME

Price	\$82.79	●
RS Rating	36	●
% Off 52 Week High	-38%	●
Price vs. 50-Day Moving Average	15%	●
50-Day Average Volume	984,400	●

SUPPLY AND DEMAND

Market Capitalization	\$103 B	●
Accumulation/Distribution Rating	A-	●
Up/Down Volume	1.4	●
% Change In Funds Owning Stock	-5%	●
Qtrs Of Increasing Fund Ownership	0	●



Data Wrangling - Stock Market Data (NTDOY)

NTDOY Nintendo ADR
OTC Computer Sftwr-Gaming

\$10.56 ↓ -0.17 (-1.58%)
Market Close

Volume % Chg: ↓ -36%

Volume: 1,583,700
Avg. Monthly Volume: 27,343,300

AFTER HOURS 04:01 PM ET 12/2/2022
\$10.56 0.00 0.00% Vol: 23,285

NTDOY

DAILY

WEEKLY

MONTHLY

INTRADAY



Browse List

IBD STOCK CHECKLIST

MARKET & INDUSTRY PERFORMANCE

Composite Rating	N/A	N/A
Market in confirmed uptrend		
Industry Group Rank (1 to 197)	184	
Group RS Rating	E	

FUNDAMENTAL PERFORMANCE

CURRENT EARNINGS

EPS Due Date	02/02/2023
EPS Rating	91
EPS % Chg (Last Qtr)	13%
Last 3 Qtrs Avg EPS Growth	-2%
# Qtrs of EPS Acceleration	0
EPS Est % Chg (Current Qtr)	-24%
Estimate Revisions	↑
Last Quarter % Earnings Surprise	-73.5%

ANNUAL EARNINGS

3 Yr EPS Growth Rate	29%
Consecutive Yrs of Annual EPS Growth	0
EPS Est % Chg for Current Year	-6%

SALES, MARGIN, ROE

SMR Rating	N/A	N/A
Sales % Chg (Last Qtr)	-11%	●
3 Yr Sales Growth Rate	7%	●
Annual Pre-Tax Margin	45.6%	●
Annual ROE	25.0%	●
Debt/Equity Ratio	0%	●

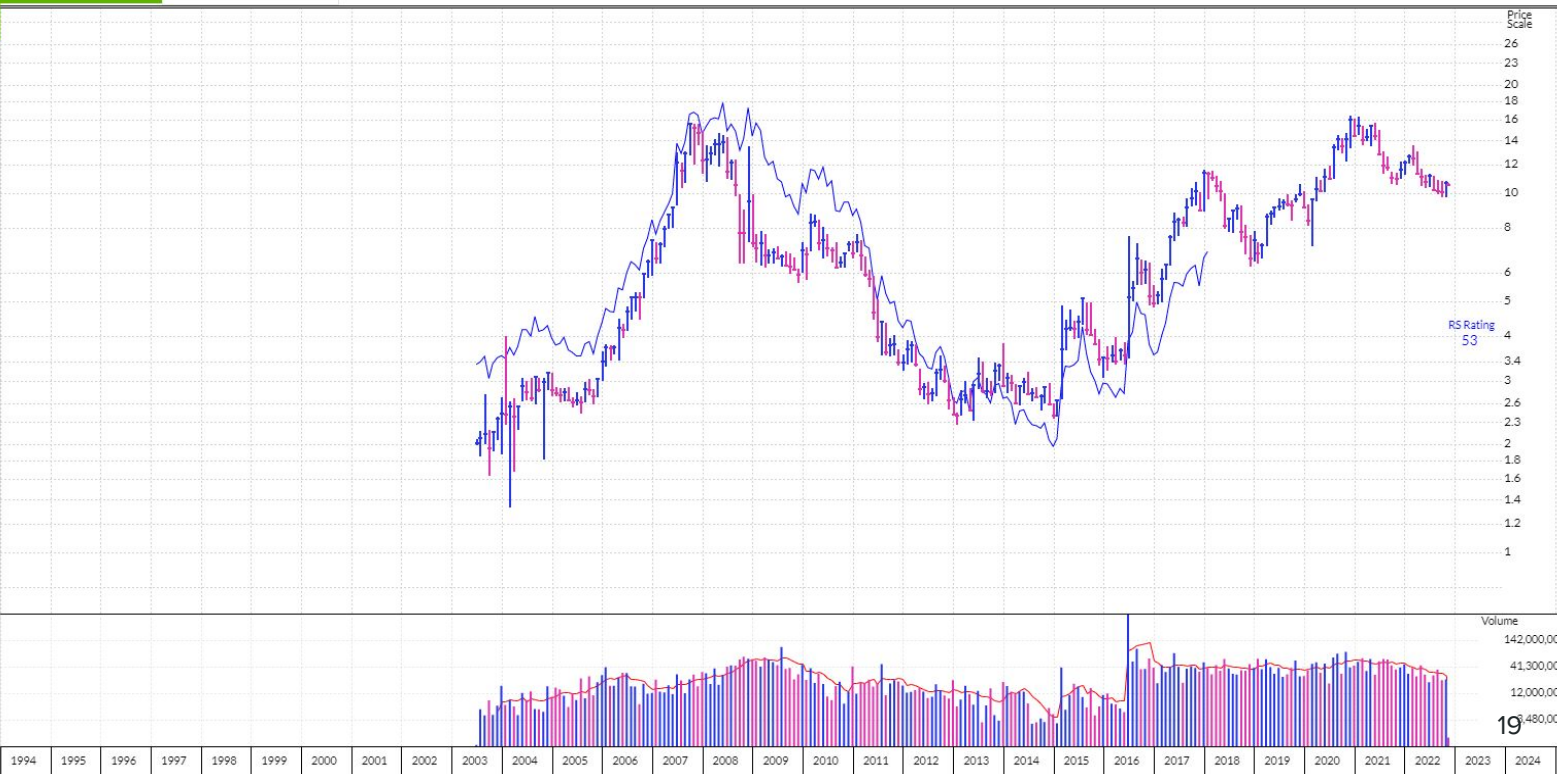
TECHNICAL PERFORMANCE

PRICE AND VOLUME

Price	\$10.56
RS Rating	53
% Off 52 Week High	-23%
Price vs. 50-Day Moving Average	3%
50-Day Average Volume	1.2 Mil

SUPPLY AND DEMAND

Market Capitalization	\$393 B
Accumulation/Distribution Rating	0
Up/Down Volume	0.8
% Change in Funds Owning Stock	-8%
Qtrs Of Increasing Fund Ownership	0



Data Wrangling - Stock Market Data (MSFT)

MSFT Microsoft
NASDAQ Computer Sftwr-Desktop

\$255.02 ↓ -0.12 (-0.05%)
Market Close

Volume % Chg: ↓ -10% Volume: 47,570,000
Avg. Monthly Volume: 582,658,000

AFTER HOURS 07:59 PM ET 12/2/2022
\$254.80 -0.22 ↓ -0.09% Vol: 432,943

MSFT

DAILY

WEEKLY

MONTHLY

INTRADAY

IBD STOCK CHECKLIST

MARKET & INDUSTRY PERFORMANCE

Composite Rating	61	●
Market in confirmed uptrend		●
Industry Group Rank (1 to 197)	194	●
Group RS Rating	E	●

FUNDAMENTAL PERFORMANCE

CURRENT EARNINGS

EPS Due Date	01/24/2023	
EPS Rating	88	●
EPS % Chg (Last Qtr)	4%	●
Last 3 Qtrs Avg EPS Growth	6.7%	●
# Qtrs of EPS Acceleration	0	●
EPS Est % Chg (Current Qtr)	-7%	●
Estimate Revisions	↓	●
Last Quarter % Earnings Surprise	2.0%	●

ANNUAL EARNINGS

3 Yr EPS Growth Rate	26%	●
Consecutive Yrs of Annual EPS Growth	4	●
EPS Est % Chg for Current Year	3%	●

SALES, MARGIN, ROE

S&P Rating	A	●
Sales % Chg (Last Qtr)	11%	●
3 Yr Sales Growth Rate	17%	●
Annual Pre-Tax Margin	42.2%	●
Annual ROE	45.0%	●
Debt/Equity Ratio	28%	●

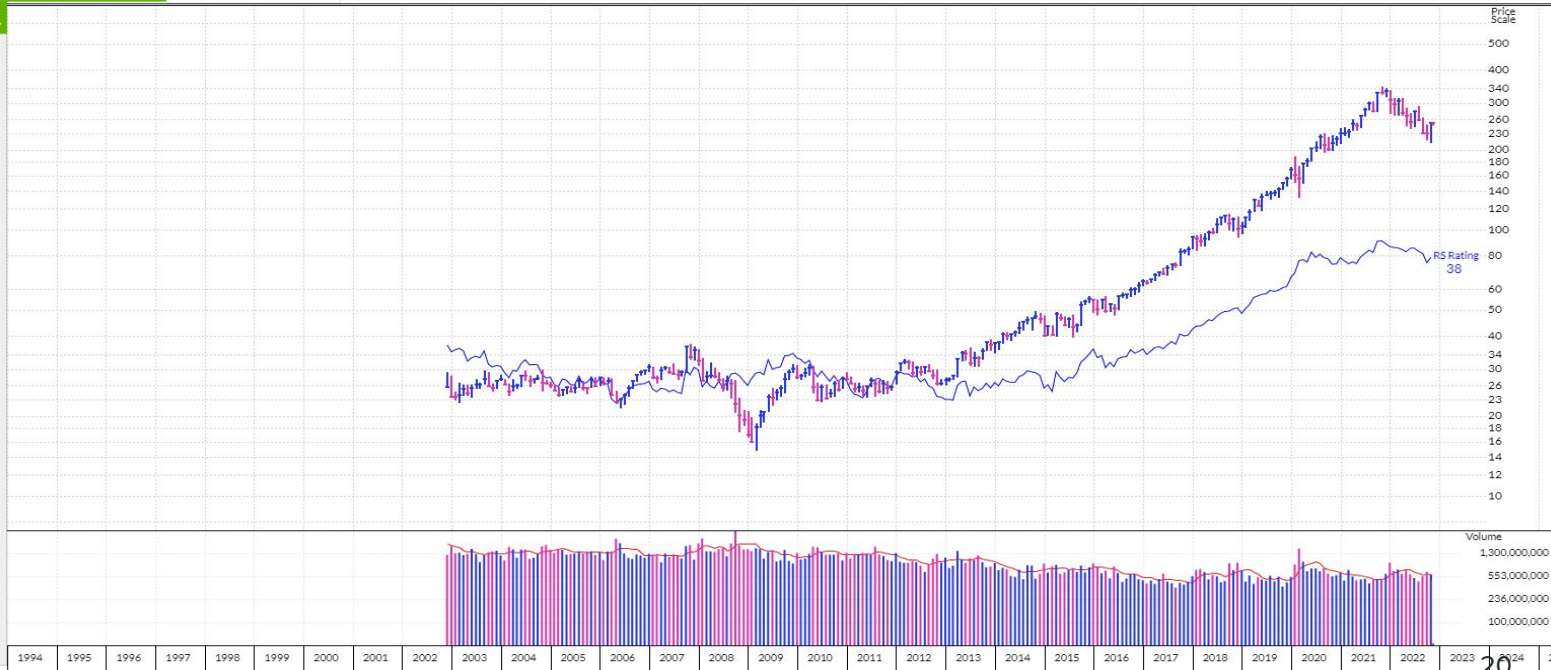
TECHNICAL PERFORMANCE

PRICE AND VOLUME

Price	\$255.02	●
RS Rating	38	●
% Off 52 Week High	-26%	●
Price vs. 50-Day Moving Average	7%	●
50-Day Average Volume	30.3 Mil	●

SUPPLY AND DEMAND

Market Capitalization	\$1901.8	●
Accumulation/Distribution Rating	B-	●
Up/Down Volume	0.9	●
% Change in Funds Owning Stock	1%	●
Qtrs of Increasing Fund Ownership	8	●



10-Day Moving Avg. 50-Day Moving Avg. 200-Day Moving Avg. Relative Strength vs. S&P 500

COMPANY DESCRIPTION: DEVELOPS OPERATING SYSTEMS, BUSINESS SOFTWARE, APPLICATIONS FOR SERVERS, PC'S, AND INTELLIGENT DEVICES.

View in MarketSmith
Nasdaq Provided by Nasdaq Last Sale

Data Wrangling - Stock Market Data (EA)



Data Wrangling - Stocks and Sales

```
```{r}
stocks <- read.csv("Stocks - DATA101 - Sheet1.csv")
stats_combined <- looking %>% left_join(sales, by = c("pubs" = "Publisher"))
```
```

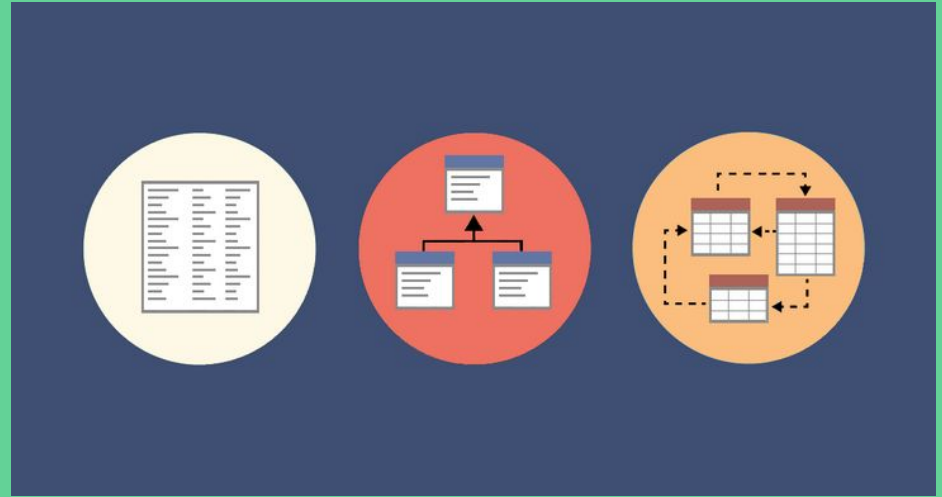
```
```{r}
stats_arranged <- stats_combined %>% arrange(Year_of_Release) %>% filter(Year_of_Release >= 2004)
stocks_with_stats <- stocks %>% inner_join(stats_arranged, by = c("company" = "pubs"))
```
```

```
```{r}
stock_lm <- lm(change_.last. ~ sale_total, data = stocks_with_stats)

summary(stock_lm)
```
```

Combining sales and stock data to prepare for linear regression

Our Models



MLR - Sales Hypothesis

We initially believed that both User Score and Critic Score will have a significant impact on the Global Sales. A heightened User Score and/or Critic Score will likely result in higher Global Sales.

H_0 : There is no relationship between User Scores and Critic scores on Global Sales

H_a : There is some relationship between User Scores and Critic scores on Global Sales

Multiple Linear Regression - Sales

| | 2.5 % | 97.5 % |
|--------------|-------------|--------------|
| (Intercept) | -1.79888331 | -1.428911882 |
| User_Score | -0.03350004 | 0.007913426 |
| Critic_Score | 0.01658804 | 0.021795582 |

```
lin_reg_uc_scores <- lm(Global_Sales ~ User_Score + Critic_Score, data=new_pubs)
summary(lin_reg_uc_scores)

##
## Call:
## lm(formula = Global_Sales ~ User_Score + Critic_Score, data = new_pubs)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.07499 -0.30084  0.03558  0.35701  2.17428
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -1.613898   0.094318 -17.111  <2e-16 ***
## User_Score   -0.012793   0.010558  -1.212   0.226
## Critic_Score  0.019192   0.001328  14.456  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5504 on 1777 degrees of freedom
## (1141 observations deleted due to missingness)
## Multiple R-squared:  0.1227, Adjusted R-squared:  0.1217
## F-statistic: 124.3 on 2 and 1777 DF, p-value: < 2.2e-16
```

MLR - Sales Hypothesis Test

There is a statistically significant relationship between Critic Scores and Global Sales, with its p-value way under .05.

This means we reject the null hypothesis, H_0 , and accept the alternative hypothesis, H_a , as there is some relationship between the predictor and response.

SLR - Stocks & Sales Hypothesis

We initially believed that the Global Sales Total for the year will have a significant impact on the yearly change in Stock Market Value. A heightened Global Sales Total will result in a larger positive change in Stock Market Value will likely be seen.

H_0 : There is no relationship between Global Sales and Stocks

H_a : There is some relationship between Global Sales and Stocks

Linear Regression - Stocks and Sales

```
stock_lm <- lm(change_.last. ~ sale_total, data = stocks_with_stats)

summary(stock_lm)

##
## Call:
## lm(formula = change_.last. ~ sale_total, data = stocks_with_stats)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -43.780  -3.570   0.489   6.640  22.665
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  3.4479796  0.3023355   11.40 < 2e-16 ***
## sale_total  -0.0018242  0.0002321   -7.86 4.03e-15 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 13.35 on 18862 degrees of freedom
## (1572 observations deleted due to missingness)
## Multiple R-squared:  0.003265, Adjusted R-squared:  0.003212
## F-statistic: 61.79 on 1 and 18862 DF, p-value: 4.032e-15
```

SLR - Sales Hypothesis Test

There is a statistically significant relationship between Global Sales and Stock market volume, with its p-value way under .05.

This means we reject the null hypothesis, H_0 , and accept the alternative hypothesis, H_a , as there is some relationship between the Global Sales and Stocks.

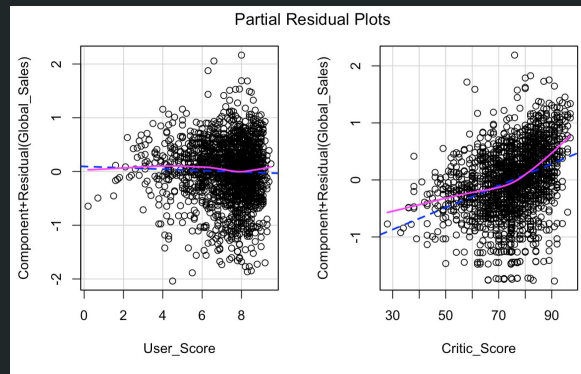
Meaning behind the Results

- Extremely low p-value for Critic Score in predicting sales and for Total Sales in predicting change in stock price
 - High p-value for User Score in predicting sales
 - Low estimate values compared to intercept
 - Negative estimate value for Total Sales in predicting change in stock price
-

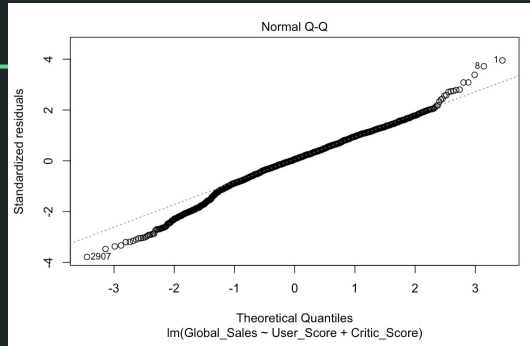
Assumption Checking - Sales

| User_Score | Critic_Score |
|------------|--------------|
| 1.280917 | 1.280917 |

Variance inflation factor
indicates moderate
correlation between user and
critic scores in the model



Linearity assumption
is not violated



Almost all points fall
along line of reference,
so we can assume
normality

Potential Sources of Error

| Name
<chr> | Platform
<chr> | Year_of_Release
<chr> | Genre
<chr> | Publisher
<chr> | NA_Sales
<dbl> | EU_Sales
<dbl> |
|---------------------------|-------------------|--------------------------|----------------|--------------------|-------------------|-------------------|
| Imagine: Makeup Artist | DS | 2020 | Simulation | Ubisoft | 0.27 | 0 |
| 1 row 1-7 of 16 columns | | | | | | |

- Incorrect data entry
 - Actually released in 2009
- Missing values
- Imputing data can make things less accurate
- Not all companies sell only video games, stock prices can fluctuate from other factors

Citations

- SID_TWR. “Video Games Sales Dataset.” *Kaggle*, 10 May 2019, www.kaggle.com/datasets/sidtwr/videogames-sales-dataset?select=Video_Games_Sales_as_at_22_Dec_2016.csv
- “Home Page.” *MarketWatch*, www.marketwatch.com/.
- Investor's Business Daily. “Stock News & Stock Market Analysis - IBD.” *Investor's Business Daily*, www.investors.com/

Any Questions?
