



New Constructs Share Repurchase Data Collection Project

New Constructs is interested in using NLP and machine learning technology to accurately collect data on share repurchase plans from paragraph text in 10-Ks and 10-Qs. This document explains the desired results and provides a training/sample data set.

Background

The 2017 tax reform law lowered the statutory corporate tax rate from 35% to 21%. Many U.S. companies have decided to use some of the additional profits they will realize in 2018 as a result of this lower tax rate to repurchase common shares. They have authorized new, larger share repurchase plans. Companies are disclosing information about their share repurchase intentions in their SEC filings. These disclosures are commonly in paragraph form in the notes to the financial statements. Analysts are interested in this information, and New Constructs would like to collect this information automatically using NLP and machine learning tools.

Sample Disclosures

A sample disclosures is provided below to give a general sense of common paragraph text and data point disclosure. The training/sample data set provides a more complete picture of paragraph text and includes annotated data points.

AAPL 2017 10-K

Share Repurchase Program

In May 2017, the Company's Board of Directors increased the share repurchase authorization from \$175 billion to \$210 billion of the Company's common stock, of which \$166 billion had been utilized as of September 30, 2017. The Company's share repurchase program does not obligate it to acquire any specific number of shares. Under the program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

The Company has entered, and in the future may enter, into accelerated share repurchase arrangements ("ASRs") with financial institutions. In exchange for up-front payments, the financial institutions deliver shares of the Company's common stock during the purchase periods of each ASR. The total number of shares ultimately delivered, and therefore the average repurchase price paid per share, is determined at the end of the applicable purchase period of each ASR based on the volume-weighted average price of the Company's common stock during that period. The shares received are retired in the periods they are delivered, and the up-front payments are accounted

for as a reduction to shareholders' equity in the Company's Consolidated Balance Sheets in the periods the payments are made. The Company reflects the ASRs as a repurchase of common stock in the period delivered for purposes of calculating earnings per share and as forward contracts indexed to its own common stock. The ASRs met all of the applicable criteria for equity classification, and therefore were not accounted for as derivative instruments.

The following table shows the Company's ASR activity and related information during the years ended September 30, 2017 and September 24, 2016:

	Purchase Period End Date	Number of Shares (in thousands)	Average Repurchase Price Per Share	ASR Amount (in millions)
August 2017 ASR	November 2017	15,069	^(1)	^(1) \$ 3,000
May 2017 ASR	August 2017	20,108	^(2) \$ 149.20	\$ 3,000
February 2017 ASR	May 2017	20,949	\$ 143.20	\$ 3,000
November 2016 ASR	February 2017	51,157	\$ 117.29	\$ 6,000
August 2016 ASR	November 2016	26,850	\$ 111.73	\$ 3,000
May 2016 ASR	August 2016	60,452	\$ 99.25	\$ 6,000
November 2015 ASR	April 2016	29,122	\$ 103.02	\$ 3,000

(1) "Number of Shares" represents those shares delivered at the beginning of the purchase period and does not represent the final number of shares to be delivered under the ASR. The total number of shares ultimately delivered, and therefore the average repurchase price paid per share, will be determined at the end of the purchase period based on the volume-weighted average price of the Company's common stock during that period. The August 2017 ASR purchase period will end in November 2017.

(2) Includes 15.6 million shares delivered and retired at the beginning of the purchase period, which began in the third quarter of 2017, and 4.5 million shares delivered and retired at the end of the purchase period, which concluded in the fourth quarter of 2017.

Additionally, the Company repurchased shares of its common stock in the open market, which were retired upon repurchase, during the periods presented as follows:

	Number of Shares (in thousands)	Average Repurchase Price Per Share	Amount (in millions)
2017:			
Fourth quarter	29,073	\$ 154.78	\$ 4,500
Third quarter	30,356	\$ 148.24	4,500
Second quarter	31,070	\$ 128.74	4,001

<i>First quarter</i>	44,333	\$ 112.78	5,000
<i>Total open market common stock repurchases</i>	134,832		\$ 18,001
2016:			
<i>Fourth quarter</i>	28,579	\$ 104.97	\$ 3,000
<i>Third quarter</i>	41,238	\$ 97.00	4,000
<i>Second quarter</i>	71,766	\$ 97.54	7,000
<i>First quarter</i>	25,984	\$ 115.45	3,000
<i>Total open market common stock repurchases</i>	167,567		\$ 17,000

Training/Sample Data Set

The training/sample data set includes share repurchase paragraphs and the annotated data points to be collected from the text for the most recent 10-K for the S&P 500.

Training/Sample Data Set Fields

ticker - The ticker for the security on the date the file was created. Tickers that include a colon are currently inactive. They are no longer traded because they were acquired, went bankrupt, etc. We assign the last used ticker to the security following by a colon and a number that increments for each new company that becomes inactive with that ticker. So for example, company XYZ Corp with ticker XYZ goes inactive. We assign the company the ticker XYZ:1 because they are the first company in our system to go inactive with the XYZ ticker. If a different company XYZ Technology starts using ticker XYZ and goes inactive, it will be assigned XYZ:2.

accession_number - SEC filing identifier. You can locate the filing using the [SEC Text Search Tool](#), or you can navigate directly to the search results by replacing the accession number in the following search link:

https://searchwww.sec.gov/EDGARFSCClient/jsp/EDGAR_MainAccess.jsp?search_text=0001090872-17-000018&isAdv=false . The search results should list the main filing (for example, the 10-K) as the first result. Clicking on that result will open the full HTML filing in a new window.

data_key_friendly_name - The standardized New Constructs name for a data point. The following data_key_friendly_names are used in this project and appear in the training/samples data set:

data_key_friendly_name	Description
Share Repurchase Authorization Date	The latest date in which a share repurchase authorization was approved or updated. This could be multiple years before the filing. Data is collected as yyyyymmdd.
Share Repurchase Authorization	Dollar amount that a company's board of directors

	have allowed a company to use towards repurchasing shares of its own stock.
Share Repurchase Utilization	Total amount spent on share repurchases since the original share repurchase authorization began.
Share Repurchase Intention	Dollar amount remaining on the share repurchase authorization. It is the Share Repurchase Authorization minus the Share Repurchase Utilization.
Share Repurchase Count	Number of shares repurchased during the period.
Amount Spent on Share Repurchases	Dollar amount of shares repurchased during the period.

text - The text from the filing associated with the data point.

data_value - The value for the data point indicated in ones units.

reported_data_value - The data value for the data point indicated as it appears in the filing. For example, a value for a data point may be reported as “\$150 billion”. The reported_data_value would be 150, while the data_value would be 150,000,000,000.

reported_units - The units that the reported_data_value is disclosed in. For example, a value for a data point may be reported as “\$150 billion”. The reported_units would be “billions”.

paragraph_text - The full text of the paragraph from which the indicated data points was collected.