Invesco AEM Content Theme Clustering

May 16, 2022

1 AEM Content Theme Clustering

Assigning relevant content theme tags to Invesco US insights pages using unsupervised machine learning algorithms.

1.1 Problem

Invesco uses a declared set of content tags, known more commonly as *topic tags*, to identify insight pages that fall under various financial segments. Examples of such segments are *Markets & Economy*, *Legislative & Regulatory*, and *Research*.

While these designations work well as a general segmenter of content for the company's audiences, it disallows for content performance metrics to be aggregated in several key ways:

- 1. Content metrics can't be analyzed across hard coded topic tags
- 2. Analysis of content niches is foregone in favor of a simplified user experience
- 3. Limiting topics simultaneosly limits the potential for interest-based targeting and reporting

1.1.1 Topic Tag Issues - An Analytical Perspective

Each of the numbered items below correspond to the three problems that were raised above. Here we dig deeper into what they mean and why they are relevant from an analytical perspective.

1. Lack of Cross Reporting

Content is siloed based on its user defined category rather than on the content itself. Two similar articles on COVID-19 could land in two completely different topics because an employee decided that they belonged there and **not** because the content itself differs to such a meaningful degree.

2. Content Niche Discovery Versus User Experience

Relevant axioms across several pieces of content are unitentionally ignored for the sake of improving user experience. No reader wants to sift through dozens of themes to find content of interest and no reasonable marketer would expect them too. This is why topic tags are a relevant way to group web content, however it is a double edged sword. By manually creating a hanful of topics for the sake of simplicity, more nuanced content segmentations must be disregarded. This is good for user experience but very bad for analytics.

3. Limitations on Interest Based Targeting

Topics, as they are used on Invesco's AEM site, are broad by design. This effectively bars marketers from using hypersegmentation tactics to more intelligently serve content to they're audiences based on interest. If you were a subscriber to a newsletter that regularly clicks

through on recent market volatility articles, what would you rather see? Any and all news pertaining to Markets & Economy, or are you really interested in big tech investment? Isn't it possible that you are highly engaged not because you love watching the markets, but because you're heavily invested in Big Tech and the sector's volitity in early 2022 made your palms sweat?

1.1.2 Theme Tag Implementation

It is important to recognize that our proposed solution to the challenges surrounding topic.

1.2 Data Extraction

1.2.1 High Level Process Overview

Clean AEM url slug data to include insights content pages only

Alternatively, a crawler could be used to get data from all live insights pages

Use insights slugs to scrape html

Extract page content

For the purposes of this analysis, much of the rendered content can be ignored. We will aim to only extract the following:

Hero title

Publish date

Author name

Author Title

Key takeaways

Content body

Footnotes/citations

1.3 Data Transformation

1.3.1 High Level Process Overview

Index data

Organize series

Assign proper data types to series

1.4 Loading Data

1.4.1 High Level Process Overview

Create data model

Setup cloud infrastructure

Load data into SQL database per model

1.5 Data Exploration

memory usage: 89.2+ KB

1.5.1 Loading AEM Data

Importing data provided by the Invesco Web team - AEM.

```
[1]: import pandas as pd
     import os
[2]: # implementation for google colab
     # from google.colab import drive
     # drive.mount('/qdrive')
[3]: # project_dir = '/qdrive/MyDrive/Data Science/AEM Content Theme Clustering'
     # os.path.isdir(project_dir)
[4]: # reading csv
     # df = pd.read_csv(f'{project_dir}/US_Node_Report.csv')
[5]: # local jupyter implementation
     df = pd.read_csv('data/US_Node_Report.csv')
    1.5.2 Initial Examination of Data
[6]: # examining shape of data
     df.shape
[6]: (1037, 11)
[7]: df.info()
    <class 'pandas.core.frame.DataFrame'>
    RangeIndex: 1037 entries, 0 to 1036
    Data columns (total 11 columns):
         Column
                             Non-Null Count Dtype
     0
         Path
                             1037 non-null
                                              object
     1
         Title
                             1037 non-null
                                              object
     2
         Template
                             1037 non-null
                                              object
     3
         Last Modified
                             1037 non-null
                                              object
     4
                             17 non-null
                                              object
         Tags
     5
         Topic Tags
                             806 non-null
                                              object
     6
         Program tags
                             134 non-null
                                              object
     7
         Theme tags
                             309 non-null
                                              object
     8
         Content type tags
                             949 non-null
                                              object
         User role tags
                             946 non-null
                                              object
     10 Replication Status 1037 non-null
                                              object
    dtypes: object(11)
```

```
[8]: # visual inspection of sample data
     df.head()
[8]:
                                                                          Title \
                                                      Path
                            /content/invesco/us/en/error
     0
                                                                          Error
     1
                           /content/invesco/us/en/header
                                                                         Header
     2
                   /content/invesco/us/en/insights/topic
                                                                          Topic
     3
                           /content/invesco/us/en/footer
                                                                         Footer
       /content/invesco/us/en/forms/dc-contact-us-form dc-contact-us-form
                                                   Template \
     0 /conf/invesco/settings/wcm/templates/blank-pag...
     1 /conf/invesco/settings/wcm/templates/header-te...
     2 /conf/invesco/settings/wcm/templates/blank-pag...
     3 /conf/invesco/settings/wcm/templates/footer-te...
     4 /conf/invesco/settings/wcm/templates/form-page...
                           Last Modified Tags Topic Tags Program tags Theme tags
     0 Mon, 26 Aug 2019 13:09:12 +0000
                                                       NaN
                                                                    NaN
                                                                                NaN
                                           NaN
     1 Mon, 19 Aug 2019 22:13:02 +0000
                                           NaN
                                                       NaN
                                                                    NaN
                                                                                NaN
     2 Tue, 15 Sep 2020 09:29:39 +0000
                                           NaN
                                                       NaN
                                                                    NaN
                                                                                NaN
         Thu, 1 Oct 2020 15:02:41 +0000
                                           NaN
                                                       NaN
                                                                    {\tt NaN}
                                                                                NaN
         Fri, 2 Oct 2020 19:28:02 +0000
                                          {\tt NaN}
                                                       NaN
                                                                    NaN
                                                                                NaN
       Content type tags User role tags Replication Status
                                      NaN
     0
                      NaN
                                               NOT ACTIVATED
     1
                                      NaN
                                               NOT ACTIVATED
                      NaN
     2
                      NaN
                                      NaN
                                               NOT ACTIVATED
                                               NOT ACTIVATED
     3
                      NaN
                                      NaN
     4
                      NaN
                                      NaN
                                               NOT_ACTIVATED
[9]: # there are is alot of missing data - do a quick count NaN by column (inverse
      \hookrightarrow of df.info() result)
     df.isna().sum()
[9]: Path
                               0
     Title
                               0
     Template
                               0
     Last Modified
                               0
     Tags
                            1020
     Topic Tags
                             231
     Program tags
                             903
     Theme tags
                             728
     Content type tags
                              88
     User role tags
                              91
     Replication Status
                               0
     dtype: int64
```

Investigating Existing Tags

```
[10]: # see what theme tags currently exist - ignoring nan at index 0
      theme_tags = df["Theme tags"].unique().tolist()[1:]
      theme_tags
[10]: ['Elections',
       'Investment solutions',
       'Macroeconomics & outlook',
       'Government regulation & legislation',
       'Coronavirus',
       'Diversifying income; Managing volatility; Targeting growth',
       'Managing volatility; Market & Investing Dynamics',
       'Targeting growth',
       'Investor education; Market behavior commentary; Market & Investing Dynamics',
       'Research',
       'Your practice',
       'College savings',
       'Market behavior
                          commentary',
       'Your clients',
       'Diversifying income',
       'Your portfolio',
       'Market behavior commentary; Macroeconomics & outlook; Aging Demographics',
       'Macroeconomics & outlook; Elections',
       'Market behavior commentary; Macroeconomics & outlook',
       'Solutions',
       'Coronavirus; Government regulation & legislation',
       'Government regulation & legislation; Coronavirus',
       'Coronavirus; Macroeconomics & outlook',
       'Factor investing',
       'Retirement planning',
       'Managing volatility',
       'Targeting growth; Factor investing',
       'Factor investing; Investment solutions; Market & Investing Dynamics',
       'Factor investing; Solutions',
       'Investment solutions; Market & Investing Dynamics; Solutions',
       'Investor education',
       'Investment solutions; Innovation',
       'Investment solutions; Solutions',
       'Innovation',
       'Elections; Macroeconomics & outlook',
       'Investment solutions; Market & Investing Dynamics',
       'Investment solutions; Market behavior
                                                commentary',
       'Solutions; Investment solutions',
       'Russia Ukraine crisis'l
```

Splitting Theme Tags

```
[11]: # theme tags aren't unique due to nesting
      # unnest them
      # list to store each individual tag - not unique
      split_theme_tags = list()
      # iterate
      for tag_group in theme_tags:
        # split string by common separator
        tag_list = tag_group.split(";")
        for tag in tag list:
          # add split strings to the list above
          split_theme_tags.append(tag)
      # split_theme_tags
     Dropping Nonunique Theme Tags
[12]: # use set to drop nonunique strings
      split_theme_tag_set = set(split_theme_tags)
[13]: # decresed theme tag count by 17
      len(theme_tags) - len(split_theme_tag_set)
[13]: 17
[14]: # left with 22 unique theme tags that are currently in use
      len(split_theme_tag_set)
[14]: 22
[15]: split_theme_tag_set
[15]: {'Aging Demographics',
       'College savings',
       'Coronavirus',
       'Diversifying income',
       'Elections',
       'Factor investing',
       'Government regulation & legislation',
       'Innovation',
       'Investment solutions',
       'Investor education',
       'Macroeconomics & outlook',
       'Managing volatility',
       'Market & Investing Dynamics',
```

```
'Retirement planning',
       'Russia Ukraine crisis',
       'Solutions',
       'Targeting growth',
       'Your clients',
       'Your portfolio',
       'Your practice'}
     Data Summarization
[16]: df.describe()
[16]:
                                              Title \
                                       Path
                                       1037
                                                1037
      count
      unique
                                       1037
                                                 966
              /content/invesco/us/en/error
      top
                                             Events
      freq
                                                   4
                                                         Template \
      count
                                                             1037
      unique
                                                               14
              /conf/invesco/settings/wcm/templates/article-p...
      top
      freq
                                                              655
                                Last Modified
                                                               Tags \
      count
                                         1037
                                                                 17
      unique
                                         1035
                                                                  12
              Wed, 3 Feb 2021 17:25:27 +0000 Markets and Economy
      top
      freq
                                             3
                                                                  5
                        Topic Tags
                                      Program tags
                                                        Theme tags Content type tags \
                               806
                                                134
                                                               309
                                                                                  949
      count
      unique
                               139
                                                 11
                                                                39
                                                                                   15
      top
              Markets and Economy
                                    Rapid Response
                                                                              Insight
                                                    Your practice
                                                                                  607
      freq
                               193
                                                 34
                                                                58
             User role tags Replication Status
      count
                         946
                                           1037
      unique
                          60
                                               1
      top
              Institutional
                                  NOT_ACTIVATED
      freq
                         243
                                           1037
```

'Market behavior

'Research',

commentary',

1.6 Cleaning AEM Dataset

1.6.1 Dropping Unnecessary Columns

Template Series Template is nothing more than a mapped abstraction of the user defined boilerplate used to construct the content that exists at a given public path. The methodolgy for how the content is structured by the Content Management Platform is not of consequence to our analysis.

Important Note:

This could be of use in identifying the HTML tags that need to be accessed by the web scraper, however that would only be applicable if we had access to those backend layouts. This can be ignored unless the HTML content is extraordinarily complex.

For this reason, the Template series can be dropped from the dataframe.

1.7 Scraping AEM Content

```
[17]: # imports
      from bs4 import BeautifulSoup
      import requests
      import numpy as np
      from requests.models import Response
[18]: # keep only insights rows
      df = df[df["Content type tags"] == "Insight"].reset_index(drop=True)
      df.head()
[18]:
                                                       Path \
      0 /content/invesco/us/en/insights/election-2020-...
      1 /content/invesco/us/en/insights/tactical-asset...
      2 /content/invesco/us/en/insights/2021-outlook-i...
      3 /content/invesco/us/en/insights/shifting-dc-ti...
      4 /content/invesco/us/en/insights/shifting-dc-ti...
                                                      Title \
      0
           Election 2020: The Senate is definitely in play
          Tactical asset allocation outlook: November 2020
      1
      2 2021 Investment Outlook: Implications for worl...
      3 Shifting DC Times: Helping women close the ret...
      4
               Shifting DC Times: Fiduciary fails to avoid
                                                   Template
      0 /conf/invesco/settings/wcm/templates/article-p...
      1 /conf/invesco/settings/wcm/templates/article-p...
      2 /conf/invesco/settings/wcm/templates/article-p...
      3 /conf/invesco/settings/wcm/templates/article-p...
      4 /conf/invesco/settings/wcm/templates/article-p...
```

```
Last Modified Tags \
          Tue, 3 Nov 2020 15:06:30 +0000
      0
      1 Wed, 25 Nov 2020 15:12:43 +0000
          Tue, 1 Dec 2020 10:05:35 +0000
                                           NaN
      3 Mon, 14 Dec 2020 16:46:55 +0000
                                          NaN
          Mon, 4 Jan 2021 21:48:11 +0000
                                           NaN
                                                 Topic Tags
                                                                  Program tags \
                                                               Election 2020
         Legislative and regulatory; Washington update; P...
      0
          Multi Asset; Asset allocation; Markets and Economy
                                                                      Solutions
      1
      2
                                             Market outlook
                                                                            NaN
      3
               Participant engagement; Defined contribution Shifting DC Times
                      Plan governance; Defined contribution Shifting DC Times
                       Theme tags Content type tags
      0
                        Elections
                                             Insight
      1
             Investment solutions
                                             Insight
      2
         Macroeconomics & outlook
                                             Insight
      3
                                             Insight
                              NaN
                                             Insight
                                            User role tags Replication Status
      0
                                             Institutional
                                                                 NOT_ACTIVATED
      1
                                             Institutional
                                                                 NOT ACTIVATED
                                                                 NOT ACTIVATED
                                             Institutional
      3 Financial Professional; Institutional; EDJONES; PFS
                                                                 NOT ACTIVATED
      4 Financial Professional; Institutional; EDJONES; PFS
                                                                NOT_ACTIVATED
[19]: # format user role tags as list
      def reformat(x):
        return x.split(';')
      df["User role tags"] = df["User role tags"].apply(reformat)
      df.head()
[19]:
                                                       Path \
      0 /content/invesco/us/en/insights/election-2020-...
      1 /content/invesco/us/en/insights/tactical-asset...
      2 /content/invesco/us/en/insights/2021-outlook-i...
      3 /content/invesco/us/en/insights/shifting-dc-ti...
      4 /content/invesco/us/en/insights/shifting-dc-ti...
                                                      Title \
           Election 2020: The Senate is definitely in play
      0
          Tactical asset allocation outlook: November 2020
      1
      2 2021 Investment Outlook: Implications for worl...
```

```
Shifting DC Times: Fiduciary fails to avoid
      4
                                                  Template \
      0 /conf/invesco/settings/wcm/templates/article-p...
      1 /conf/invesco/settings/wcm/templates/article-p...
      2 /conf/invesco/settings/wcm/templates/article-p...
      3 /conf/invesco/settings/wcm/templates/article-p...
      4 /conf/invesco/settings/wcm/templates/article-p...
                           Last Modified Tags \
          Tue, 3 Nov 2020 15:06:30 +0000
      0
      1 Wed, 25 Nov 2020 15:12:43 +0000
      2
         Tue, 1 Dec 2020 10:05:35 +0000
                                          NaN
      3 Mon, 14 Dec 2020 16:46:55 +0000
                                          NaN
         Mon, 4 Jan 2021 21:48:11 +0000 NaN
                                                                 Program tags \
                                                Topic Tags
                                                              Election 2020
        Legislative and regulatory; Washington update; P...
         Multi Asset; Asset allocation; Markets and Economy
                                                                    Solutions
      1
      2
                                            Market outlook
                                                                          NaN
               Participant engagement; Defined contribution Shifting DC Times
      3
      4
                      Plan governance; Defined contribution Shifting DC Times
                       Theme tags Content type tags \
      0
                        Elections
                                            Insight
             Investment solutions
      1
                                            Insight
        Macroeconomics & outlook
                                            Insight
      3
                              NaN
                                            Insight
      4
                              NaN
                                            Insight
                                            User role tags Replication Status
      0
                                           [Institutional]
                                                                NOT_ACTIVATED
                                           [Institutional]
      1
                                                                NOT_ACTIVATED
      2
                                           [Institutional]
                                                                NOT_ACTIVATED
      3
        [Financial Professional, Institutional, EDJONE...
                                                              NOT_ACTIVATED
         [Financial Professional, Institutional, EDJONE...
                                                              NOT_ACTIVATED
[20]: # remove solutions and test paths
      df = df[df["Path"].str.contains("solutions|test") == False]
      # reformat path to live url
      df["Full Path"] = "https://www." + df["Path"].str.replace(r'/content/invesco', u
       full_path_list = df["Full Path"].tolist()
      # full_path_list
```

3 Shifting DC Times: Helping women close the ret...

```
[21]: # get list of user role tags
      role_tag_list = df["User role tags"].tolist()
      # role_tag_list
[22]: # zip two lists together
      extraction_list = list(zip(full_path_list, role_tag_list))
[23]: from typing import Union, Type
      def request(url: str, audience_role:str) -> Type[Response]:
        return requests.get(url + f'?audienceRole={audience role}')
[24]: # google colab implementation
      # from tqdm.notebook import tqdm
[25]: # local jupyter implementation
      from tqdm import tqdm
     Concurrent requests:
     # get status codes of all urls
     status codes = list()
     # get html content of all urls
     html_content = list()
     for item in tqdm(extraction_list):
       url, roles = item
       if 'Individual Investor' in roles:
         response = request(url, 'IndividualInvestor')
         status_codes.append(response.status_code)
         html_content.append(response.content)
       elif 'Financial Professional' in roles:
         response = request(url, 'FinancialProfessional')
         status_codes.append(response.status_code)
         html content.append(response.content)
       elif 'Institutional' in roles:
         response = request(url, 'Institutional')
         status_codes.append(response.status_code)
         html_content.append(response.content)
         status_codes.append(np.nan)
```

Takes 5 minutes 43 seconds to complete 586 iterations. Opted for a multi-threaded approach instead to speed this up greatly for future runs of this analysis. New approach shown below is approximately 5 times faster with thread pooling.

```
[26]: # lists to store retrieved data
status_codes = list()
```

```
html_content = list()
[27]: # MULTI-THREADED REQUESTS
      from concurrent.futures import ThreadPoolExecutor
      def request_with_role(url_and_role: tuple) -> None:
        url, roles = url_and_role
        if 'Individual Investor' in roles:
          response = request(url, 'IndividualInvestor')
          return tuple((response.status_code, response.content.decode('utf-8')))
        elif 'Financial Professional' in roles:
          response = request(url, 'FinancialProfessional')
          return tuple((response.status_code, response.content.decode('utf-8')))
        elif 'Institutional' in roles:
          response = request(url, 'Institutional')
          return tuple((response.status code, response.content.decode('utf-8')))
        else:
          return tuple(np.nan, np.nan)
      with tqdm(total=len(extraction_list)) as pbar:
        with ThreadPoolExecutor() as executor:
          results = executor.map(request_with_role, extraction_list)
          for result in results:
            status_code, html = result
            status_codes.append(status_code)
            html_content.append(html)
            pbar.update(1)
        # for item in extraction_list:
            executor.submit(request_with_role, item)
     100%|
                | 586/586 [00:36<00:00, 15.90it/s]
[34]: soup = BeautifulSoup(html_content[0], 'html.parser')
[35]: #qet title
      page_title = soup.find('h1')
      page_title = page_title.text
      page_title
[35]: 'Election 2020: The Senate is definitely in play'
[36]: # very basic check to ensure this matches up with the index of our df -
       →recommend fully validating this
```

```
df.iloc[0]["Full Path"]
[36]: 'https://www.invesco.com/us/en/insights/election-2020-the-senate-is-definitely-
      in-play.html'
[37]: # get author(s)
      import re
      author_names = soup.find_all('div', class_='author-card__name')
      def strip(name: str) -> str:
       return name.strip()
      def remove_extra_middle_spaces(name: str) -> str:
       pattern = re.compile(r' +')
       return re.sub(pattern, ' ', name)
      def format_author_name(html_element: str) -> str:
       name = html element.text
       stripped = strip(name)
       final = remove_extra_middle_spaces(stripped)
        return final
      author_names = [format_author_name(x) for x in author_names]
      author_names
[37]: ['Andy Blocker', 'Jennifer Flitton']
[38]: # get author titles
      author_titles = soup.find_all('div', class_='author-card__role')
      author_titles = [format_author_name(x) for x in author_titles]
      author_titles
[38]: ['Head of US Government Affairs, Invesco',
       'Vice President of Federal Government Affairs']
[39]: # get hero image url
      hero_image_element = soup.find('picture', class_='article-hero__image').img
      hero_image_src = hero_image_element.attrs['src']
      # def reformat_url(cms_path: str) -> str:
      # pattern = re.compile(r'/invesco/us/en/.+')
      # return re.match(pattern).group(0)
```

```
hero_image_url = 'https://invesco.com' + hero_image_src
hero_image_url
```

[39]: 'https://invesco.com/content/dam/invesco/us/en/images/insights/ARTCL-HRO-election-2020-the-senate-is-definitely-in-play.jpg'

[40]: 'Key takeaways'

[41]: ['Republicans on the defensive\nBiden's lead and cash support for Democratic candidates have Republicans on the back foot in red states.',

'Good and bad news for Democrats\nThere are more Republican seats in play, but many of them are in usually reliable red states.',

'Several Senate scenarios to consider\nRegardless of who wins the presidency, the fortunes of the next administration rest solely in the hands of the Senate.']

```
[42]: # get content copy

content_text = soup.find('div', class_='cmp-text rich-text-editor__inner').

→get_text()

print(content_text)
```

A year ago, anyone who looked at the map of Senate seats up in 2020 would have concluded that Democrats had a difficult path back to the majority. Fast forward a year and the persistent lead of former Vice President Joe Biden over President

Donald Trump, along with a gusher of campaign cash for Democratic candidates, suddenly has Republicans playing defense in usually reliable red states. The good news for Democrats is that there are more Republican seats in play than Democratic seats. The bad news for Democrats is that many of those seats are in red states.

With a nation just days away from the election, we consider the factors that give Democratic challengers hope and Republican incumbents cause for concern, including:

Money

It's long been said that money is the mother's milk of politics, and that could not be more accurate than this year. The Democratic Senatorial Campaign Committee has raised more than \$244 million in this cycle compared to \$148 million in 2018. The National Republican Senatorial Committee has raised a similar amount this year, bringing in nearly \$220 million - about \$70 million more than they raised in 2018. Individual candidates are raising eye-popping sums as well, changing the shape of races once thought safe. This pattern of Democrats significantly outraising Republicans is playing out in battlegrounds across the country.

2) Potential Senate scenarios

The dream scenario for Democrats is a blue wave that washes over the nation, carries Biden to the White House, and gives him a majority in both the Senate and House of Representatives. The key questions in this scenario are how large a Senate majority may be and whether it will be enough to allow Biden to enact some of his more ambitious agenda items.

A second scenario is a Biden victory and Republicans retaining the Senate. In this case, the Senate will continue to be the place where Democratic agenda items go to die.

A third scenario is an evenly split Senate, 50-50. With a Trump victory, Vice President Pence would be the tie-breaking vote, leaving Republicans in control and two more years of status quo inside the Beltway. A Biden victory with Vice President Kamala Harris playing the role of tiebreaker may give Democrats control but no clear path to implementing a Biden agenda in the Senate. Read more about the implications of the 2020 election on the US Senate.

```
[43]: # get footnotes

footnotes_element = soup.find(class_='footnotes ')
   footnotes_element
```

combine text into a single string - creating a single list of every component and then joining those components with the str.join method

```
[44]: # title is good as is
page_title
```

[44]: 'Election 2020: The Senate is definitely in play'

```
[45]: # formatting author details
author_details = list()

for details in zip(author_names, author_titles):
    name, title = details
    author_details.append(name)
    author_details.append(title)

author_details = '\n'.join(author_details)
print(author_details)
```

Andy Blocker

Head of US Government Affairs, Invesco

Jennifer Flitton

Vice President of Federal Government Affairs

```
[46]: # hero image url can be ignored for now
```

```
[47]: # formatting key takeaways
kt = [key_takeaways_label]
for t in takeaways:
    kt.append(t)
kt = '\n'.join(kt)
print(kt)
```

Key takeaways

Republicans on the defensive

Biden's lead and cash support for Democratic candidates have Republicans on the back foot in red states.

Good and bad news for Democrats

There are more Republican seats in play, but many of them are in usually reliable red states.

Several Senate scenarios to consider

Regardless of who wins the presidency, the fortunes of the next administration rest solely in the hands of the Senate.

```
[48]: # content copy is good as is print(content_text)
```

A year ago, anyone who looked at the map of Senate seats up in 2020 would have concluded that Democrats had a difficult path back to the majority. Fast forward a year and the persistent lead of former Vice President Joe Biden over President Donald Trump, along with a gusher of campaign cash for Democratic candidates, suddenly has Republicans playing defense in usually reliable red states. The

good news for Democrats is that there are more Republican seats in play than Democratic seats. The bad news for Democrats is that many of those seats are in red states.

With a nation just days away from the election, we consider the factors that give Democratic challengers hope and Republican incumbents cause for concern, including:

1) Money

It's long been said that money is the mother's milk of politics, and that could not be more accurate than this year. The Democratic Senatorial Campaign Committee has raised more than \$244 million in this cycle compared to \$148 million in 2018. The National Republican Senatorial Committee has raised a similar amount this year, bringing in nearly \$220 million - about \$70 million more than they raised in 2018. Individual candidates are raising eye-popping sums as well, changing the shape of races once thought safe. This pattern of Democrats significantly outraising Republicans is playing out in battlegrounds across the country.

2) Potential Senate scenarios

The dream scenario for Democrats is a blue wave that washes over the nation, carries Biden to the White House, and gives him a majority in both the Senate and House of Representatives. The key questions in this scenario are how large a Senate majority may be and whether it will be enough to allow Biden to enact some of his more ambitious agenda items.

A second scenario is a Biden victory and Republicans retaining the Senate. In this case, the Senate will continue to be the place where Democratic agenda items go to die.

A third scenario is an evenly split Senate, 50-50. With a Trump victory, Vice President Pence would be the tie-breaking vote, leaving Republicans in control and two more years of status quo inside the Beltway. A Biden victory with Vice President Kamala Harris playing the role of tiebreaker may give Democrats control but no clear path to implementing a Biden agenda in the Senate. Read more about the implications of the 2020 election on the US Senate.

```
[49]: # format footnotes content if it exists

if footnotes_element:
    footnotes_element = footnotes_element.text
    print(footnotes_element)
```

```
[50]: # combine all elements

content_parts = list()

def append_content_parts(*args) -> list:

content_parts = list()
```

```
for arg in args:
   if arg:
      content_parts.append(arg)

return content_parts
```

```
[51]: content_parts = append_content_parts(page_title, author_details, kt, u → content_text, footnotes_element)
content_parts_str = '\n'.join(content_parts)
print(content_parts_str)
```

Election 2020: The Senate is definitely in play

Andy Blocker

Head of US Government Affairs, Invesco

Jennifer Flitton

Vice President of Federal Government Affairs

Key takeaways

Republicans on the defensive

Biden's lead and cash support for Democratic candidates have Republicans on the back foot in red states.

Good and bad news for Democrats

There are more Republican seats in play, but many of them are in usually reliable red states.

Several Senate scenarios to consider

Regardless of who wins the presidency, the fortunes of the next administration rest solely in the hands of the Senate.

A year ago, anyone who looked at the map of Senate seats up in 2020 would have concluded that Democrats had a difficult path back to the majority. Fast forward a year and the persistent lead of former Vice President Joe Biden over President Donald Trump, along with a gusher of campaign cash for Democratic candidates, suddenly has Republicans playing defense in usually reliable red states. The good news for Democrats is that there are more Republican seats in play than Democratic seats. The bad news for Democrats is that many of those seats are in red states.

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Build Classes to Handle Logic

```
[52]: from dataclasses import dataclass, field
      from typing import List
      @dataclass
      class ArticleContentParts:
        body: Union[str, Type[None]] = None
       title: Union[str, Type[None]] = None
       key_takeaway_label: Union[str, Type[None]] = None
       footnotes: Union[str, Type[None]] = None
        author_titles: List[str] = field(default_factory=list)
        author_names: List[str] = field(default_factory=list)
       key_takaways: List[str] = field(default_factory=list)
        def author_details_str(self) -> str:
          author_details = list()
          try:
            for details in zip(self.author_names, self.author_titles):
              name, title = details
              author details.append(name)
              author_details.append(title)
            return '\n'.join(author_details)
          except TypeError:
            return 'type error returned'
        def key_takeaways_str(self) -> str:
```

```
if self.key_takeaway_label:
      kt = [self.key_takeaway_label] + self.key_takaways
      return '\n'.join(str(s) for s in kt)
      return ''
  except AttributeError:
    return ''
def article_text_content(self) -> str:
  # join all sting elements with new line character
  separator = ' n'
  str_properties = [
      self.title,
      self.author_details_str(),
      self.key_takeaways_str(),
      self.body,
      self.footnotes
  ]
  return '\n'.join(str_properties)
```

```
[59]: class ContentExtractor:
        def __init__(self, html_data: str) -> None:
          self.html_data = html_data
        @property
        def soup(self) -> BeautifulSoup:
          return BeautifulSoup(self.html_data, 'html.parser')
        def extract_title(self) -> str:
          page_title = self.soup.find('h1')
          if page_title:
           return page_title.text
          else:
            return ''
        def extract_author_names(self) -> list:
          author_names = self.soup.find_all('div', class_='author-card__name')
          def _strip(name: str) -> str:
            return name.strip()
          def _remove_extra_middle_spaces(name: str) -> str:
            pattern = re.compile(r' +')
```

```
return re.sub(pattern, ' ', name)
  def _format_author_name(html_element: str) -> str:
    name = html_element.text
     stripped = strip(name)
    final = remove_extra_middle_spaces(stripped)
    return final
  author_names = [format_author_name(x) for x in author_names]
  return author names
 def extract_author_titles(self) -> list:
  author_titles = self.soup.find_all('div', class_='author-card__role')
  author_titles = [format_author_name(x) for x in author_titles]
  return author_titles
 def extract_key_takeaway_label(self) -> str:
  key_takeaways_element = self.soup.find('div', class_='key-takeaways__inner')
  if key_takeaways_element:
    return key_takeaways_element.find(class_='key-takeaways__label').text.
→strip()
  else:
    return None
 def extract_key_takeaways(self) -> list:
  key_takeaways_element = self.soup.find('div', class_='key-takeaways__inner')
  if key_takeaways_element:
     key_takeaway_item_list = key_takeaways_element.find_all('div',_
takeaways = list()
    for takeaway in key_takeaway_item_list:
      tway_title = takeaway.find(class_='key-takeaways__title').text.strip()
      tway_desc = takeaway.find(class_='key-takeaways__desc').text.strip()
      takeaways.append(tway_title + '\n' + tway_desc)
    return takeaways
    return ''
 def extract_body(self) -> str:
```

```
return self.soup.find('div', class_='cmp-text rich-text-editor__inner').
→get_text()
  except:
    return ''
def extract_footnotes(self) -> str:
  if self.soup.find(class_='footnotes '):
    fnotes = self.soup.find(class_='footnotes ').get_text()
    return fnotes
  else:
    return ''
def run(self) -> Type[ArticleContentParts]:
  content = ArticleContentParts()
  content.title = self.extract title()
  content.author_names = self.extract_author_names()
  content.author_titles = self.extract_author_titles()
  content.key_takeaway_label = self.extract_key_takeaway_label()
  if self.extract key takeaways():
    content.key_takaways = self.extract_key_takeaways()
  content.body = self.extract_body()
  content.footnotes = self.extract_footnotes()
  return content
```

Pull it all together with function calls using classes

```
[60]: # extract content from a given row by running the content extractor

def extract(row) -> Type[ArticleContentParts]:
    _html: str = row["html"]
    extractor = ContentExtractor(_html)
    content = extractor.run()
    return content.article_text_content()
[61]: # add status codes and html content to dataframe

df ["status_codes"] = status_codes
df ["html"] = html_content
df.head(2)
```

[61]: Path \
0 /content/invesco/us/en/insights/election-2020-...

```
Title \
         Election 2020: The Senate is definitely in play
       1 Tactical asset allocation outlook: November 2020
                                                   Template \
       0 /conf/invesco/settings/wcm/templates/article-p...
       1 /conf/invesco/settings/wcm/templates/article-p...
                            Last Modified Tags \
           Tue, 3 Nov 2020 15:06:30 +0000 NaN
       1 Wed, 25 Nov 2020 15:12:43 +0000
                                                 Topic Tags
                                                              Program tags \
       O Legislative and regulatory; Washington update; P... Election 2020
          Multi Asset; Asset allocation; Markets and Economy
                                                                 Solutions
                    Theme tags Content type tags
                                                   User role tags Replication Status \
       0
                     Elections
                                         Insight
                                                  [Institutional]
                                                                       NOT_ACTIVATED
        Investment solutions
                                                  [Institutional]
                                                                       NOT_ACTIVATED
                                         Insight
                                                  Full Path status_codes \
       0 https://www.invesco.com/us/en/insights/electio...
                                                                    200
       1 https://www.invesco.com/us/en/insights/tactica...
                                                                     200
                                                       html
       0 \n<!DOCTYPE HTML>\n<html xmlns:og="http://ogp...</pre>
       1 \n<!DOCTYPE HTML>\n<html xmlns:og="http://ogp...
[62]: # only use status codes that aren't 404
       df["status_codes"].value_counts()
[62]: 200
              381
       404
              205
       Name: status_codes, dtype: int64
[159]: ok_status_df = df[df["status_codes"] == 200].reset_index(drop=True)
       ok_status_df.head(1)
[159]: Path \
       0 /content/invesco/us/en/insights/election-2020-the-senate-is-definitely-in-
       1 /content/invesco/us/en/insights/tactical-asset-allocation-outlook-
      november-2020
```

1 /content/invesco/us/en/insights/tactical-asset...

```
Title \
O Election 2020: The Senate is definitely in play
1 Tactical asset allocation outlook: November 2020
                                                    Template \
0 /conf/invesco/settings/wcm/templates/article-page-template
1 /conf/invesco/settings/wcm/templates/article-page-template
                     Last Modified Tags \
O Tue, 3 Nov 2020 15:06:30 +0000
1 Wed, 25 Nov 2020 15:12:43 +0000 NaN
                                                     Topic Tags \
O Legislative and regulatory; Washington update; Plan governance
1 Multi Asset; Asset allocation; Markets and Economy
    Program tags
                            Theme tags Content type tags
                                                          User role tags \
0 Election 2020
                                                          [Institutional]
                  Elections
                                        Insight
1 Solutions
                  Investment solutions Insight
                                                          [Institutional]
  Replication Status \
O NOT ACTIVATED
1 NOT_ACTIVATED
     Full Path \
0 https://www.invesco.com/us/en/insights/election-2020-the-senate-is-
definitely-in-play.html
1 https://www.invesco.com/us/en/insights/tactical-asset-allocation-outlook-
november-2020.html
   status_codes \
0 200
1 200
                            html
0 \n<!DOCTYPE HTML>\n<html xmlns:og="http://ogp.me/ns#" lang="en-us">\n\n
            <meta charset="UTF-8"/>\n\t\n
                                             <title>Election 2020: The Senate is
<head>\n
definitely in play | Invesco US</title>\n
                                             \r\nr\nrcanonical"
href="https://www.invesco.com/us/en/insights/election-2020-the-senate-is-
definitely-in-play.html"/>\r\n<!-- Twitter Card data -->\r\n<meta
name="twitter:card" content="summary"/>\r\n\r\n<meta name="twitter:title"
content="Election 2020: The Senate is definitely in play"/>\r\n<meta
name="twitter:description" content="Our US Government Affairs team discusses the
Senate elections and how they could shift the balance of political power.
"/>\r\n<meta name="twitter:image"
content="https://www.invesco.com/content/dam/invesco/us/en/images/insights/THMB-
election-2020-the-senate-is-definitely-in-play.jpg"/>\r\n\r\n<!-- Open Graph
```

```
data -->\r\n<meta property="og:title" content="Election 2020: The Senate is
definitely in play"/>\r\n<meta property="og:type" content="website"/>\r\n<meta
property="og:url"
content="https://www.invesco.com/us/en/insights/election-2020-the-senate-is-
definitely-in-play.html"/>\r\n<meta property="og:image"
content="https://www.invesco.com/content/dam/invesco/us/en/images/insights/THMB-
election-2020-the-senate-is-definitely-in-play.jpg"/>\r\n<meta
property="og:description" content="Our US Government Affairs team discusses the
Senate elections and how they could shift the balance of political power. "/>
r\n
\r\n\n\t\r\n\n\r\n\n\n\n\n\n\n\n\n\seta name="description" content="Our US
Government Affairs team discusses the Senate elections and how they could shift
the balance of political power. "/>\n<meta name="template" content="article-
page-template"/>\n\n<meta name="viewport" content="width=device-width, initial-
scale=1.0, minimum-scale=1.0, user-scalable=yes"/>\n<meta name="viewport"</pre>
content="width=device-width, initial-scale=1"/>\n\n\n
                                                       <link rel="icon"</pre>
href="/etc.clientlibs/invesco/clientlibs/main/resources/images/favicon.ico"
type="image/x-icon"/>\n
                          <link rel="shortcut icon"</pre>
href="/etc.clientlibs/invesco/clientlibs/main/resources/images/favicon.ico"
type="image/x-icon"/>\n
                          n\n
                                  n\n
                                                             link
rel="stylesheet" href="/etc.clientlibs/invesco/components/structure/article-
page/clientlib-invescoBrand2.0.min.ACSHASH063df4f5112b98f7adb00337c05834de.css"
type="text/css">\n\n\n\n\n\n
                                 n\n
                                              <script type="text/javascript" s</pre>
rc="//assets.adobedtm.com/34d5f70e9c24/3c8eecd4371c/launch-08464e2fc26e.min.js">
</script>\n\n\n\n
                        \n
                              \n
                                    \r\\
                                                    \n
                                                         \n
                                              \n
                                                               n\n
\n</head>\n
              <body class="article-page base-page page basicpage">\n
                                                                           \n
                                 n\n\n
             n\n\n
                                              \n
rel="stylesheet" href="/etc.clientlibs/invesco/components/structure/base-
page/clientlib-invescoBrand2.0.min.ACSHASHc21b657ca5cf009ff2d2408e65bd9f16.css"
class="skip-navigation" href="#mainContentItem" data-tab-index="2" title="Skip
to content" data-module="skip-navigation">Skip to content</a> \n <!-- <sly
data-sly-test.useLanguageSwitcher="false"/> --> \n <!-- [optional] .has-
utility-top-nav --> \n <!-- [optional] .has-search --> \n <header
class="navigation-header navigation-header--light has-utility-nav" data-
module="navigation-header"> \n <div hidden id="languageSwitcherJson"></div> \n
<div hidden id="isBackgroundSolid" data-isbackgroundsolid="true"></div> \n
<div hidden id="logoPath" data-solid-bg-
logo="/content/dam/invesco/global/en/images/invesco-blue.svg" data-transparent-
bg-logo="/content/dam/invesco/global/en/images/invesco-white.svg"></div> \n
<div class="navigation-header__inner--wrapper"> \n
                                                    <div class="navigation-</pre>
                      <div class="navigation-header__nav"> \n
header__inner"> \n
class="navigation-header__nav-inner"> \n
                                              <div class="navigation-
header_header "> \n
                           <div class="navigation-header__brand"> \n
                                                                            <a
href="/us/en/institutional.html" data-tab-index="4" class="navigation-
header_logo" data-nav-path="logo" data-nav-style="navigation header|primary"
data-nav-type="logo|single" data-event-name="navigation interaction" data-event-
```

```
action="nav menu click" data-event-category="navigation header|primary|logo"
data-event-label="logo" data-event-element="icon|logo"> <span class="navigation-
header_logo-img--wrapper navigation-header_logo-img--wrapper-dynamic"> <img
data-dynamic-logo="true" class="navigation-header_logo-img"
src="/content/dam/invesco/global/en/images/invesco-blue.svg" alt="Invesco US">
</span> </a> \n
                       </div> \n
                                         <div class="navigation-header__action-</pre>
wrapper"> \n
                     <button data-tab-index="5" aria-label="Search"</pre>
class="navigation-header__magnify-button"></button> \n
                                                                <button
class="navigation-header__burger" aria-haspopup="true" aria-expanded="false">
<span class="navigation-header__burger-text navigation-header__burger-text--</pre>
expand">Expand navigation</span> <span class="navigation-header burger-text"
navigation-header__burger-text--collapse">Close navigation</span> </button> \n
</div> \n
                 <!-- %include __checkout widget cta --> \n
                            <div class="navigation-header_mobile-search"> \n
<!-- /_header --> \n
<form class="navigation-header__mobile-search-form"</pre>
action="https://invesco.com/us/global-search" autocomplete="off" method="GET"
data-event-name="internal search" data-event-action="search|term" data-event-
category="navigation header|primary|search form" data-event-element="search
                  <div class="navigation-header_mobile-search-field "> \n
form"> \n
<div class="navigation-header_ mobile-search-field-outer"> \n
aria-label="Search" class="navigation-header__mobile-search-label"></div> \n
<button data-tab-index="-1" aria-label="Search" class="navigation-</pre>
header__search-button" type="submit">Search</button> \n
                                                                   <input data-</pre>
tab-index="5" class="navigation-header search mobile-search" aria-
label="search" type="search" name="keyword" placeholder="Search" data-
predictive-search-url="/content/invesco/us/en/navigation-header/navigation-
header-variation-03-Institutional/jcr:content/root/grid/navigation_header.predic
tivesearch.json" data-all-results-label="See all results" data-event-
name="navigation interaction" data-event-action="search|open" data-event-
category="navigation header|primary|search form" data-event-label="Search" data-
event-element="search form"> \n
                                           <button data-tab-index="5" id="search-</pre>
reset" type="button" class="navigation-header_mobile-search-reset"></button> \n
<button data-tab-index="5" type="button" class="navigation-header__mobile-</pre>
search-cancel">Cancel</button> \n
                                            </div> \n
class="navigation-header__predictive-search-list"> \n
                                                                 \n
</div> \n
                 </form> \n
                                   </div> \n
                                                   <div class="navigation-</pre>
header content"> \n
                            <div class="navigation-header__content-inner"> \n
<div class="navigation-header__primary-nav--wrapper"> \n
                                                                   <!-- %include
__search-form --> \n
                              <form class="navigation-header search-form</pre>
desktop" action="https://invesco.com/us/global-search" autocomplete="off"
method="GET" data-nav-path="search" data-nav-style="navigation header|primary"
data-nav-type="search form" data-event-name="internal search" data-event-
action="search|term" data-event-category="navigation header|primary|search form"
                                                <div class="navigation-
data-event-element="search form"> \n
header__search-field "> \n
                                       <div class="navigation-header__search-</pre>
label show-in-theme-2"></div> \n
                                             <button data-tab-index="-1" aria-</pre>
label="Search" class="navigation-header__search-button"
```

```
type="submit">Search</button> \n
                                        <input class="navigation-</pre>
header__search" aria-label="search" type="search" name="keyword"
placeholder="Search" data-tab-index="5" data-predictive-search-
url="/content/invesco/us/en/navigation-header/navigation-header-variation-03-Ins
titutional/jcr:content/root/grid/navigation_header.predictivesearch.json" data-
all-results-label="See all results" data-event-name="navigation interaction"
data-event-action="search|open" data-event-category="navigation
header|primary|search form" data-event-label="Search" data-event-element="search"
                    \n
form"> \n
 \n
                 </div> \n
                                  </form> \n
class="navigation-header__primary-nav co-brand-logo-nav"> \n
                                                                ul
class="navigation-header__primary-nav-list false" role="menubar"> \n
role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-clients-we-
serve/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header_primary-nav-link drop-down-link "role="menuitem" data-nav-path="Clients
We Serve" data-nav-style="navigation header|primary" data-nav-type="menu tab"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Clients We Serve" data-event-element="nav item" data-title="Clients We
Serve">Clients We Serve</a> <span class="navigation-header__primary-nav-
expander"></span> \n
                              <!-- %include __secondary-nav --> \n
<div class="navigation-header secondary-nav"> \n
class="navigation-header__secondary-nav-inner"> \n
                                                           <button data-
tab-index="4" class="navigation-header secondary-nav-title" aria-label="Return
to main menu">Clients We Serve</button> \n
                                                    <div class="navigation-</pre>
header__secondary-nav-content"> \n
                                             <div class="navigation-
header_secondary-nav-wrapper "> \n
                                                <div class="navigation-
header__secondary-nav-section "> \n
                                                <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                  <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                     <div class="navigation-header__secondary-nav-subtitle">\n
Clients We Serve \n
                                    </div> \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
 <a</pre>
href="/us/en/institutional/clients/asset-management-for-defined-benefit-
plans.html" class="navigation-header__secondary-nav-link" role="menuitem" data-
nav-path-prefix="Clients We Serve" data-nav-path-sufix="Defined Benefit " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Defined Benefit
</a>  \n
                                item" role="presentation"> <a href="/us/en/institutional/clients/asset-
management-for-defined-contribution-plans.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Clients We
Serve" data-nav-path-sufix="Defined Contribution " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Defined Contribution </a> 
 <a</pre>
```

```
href="/us/en/institutional/clients/asset-management-for-insurance-
companies.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Clients We Serve" data-nav-path-sufix="Insurance
Companies" data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Insurance Companies</a> 
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/clients/asset-management-for-liquidity-
investors.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Clients We Serve" data-nav-path-sufix="Global Liquidity
Investors " data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Global Liquidity Investors </a> 
                                                               \n
</div> \n
                          </div> \n
                                                    </div> \n
</div> \n
                        <div class="navigation-header__secondary-nav-section"</pre>
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                                              </div> \n
                     </div> \n
                                                                       <div
class="navigation-header__secondary-nav-section "> \n
                                                                   <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12"> \n
                                                                      </div>
                  </div> \n
                                          <div class="navigation-</pre>
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                   </div> \n
                                             </div> \n
</div> \n
                       </div>\n
                                                                   </div> \n
</div>  \n
                         down-item" role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-investment-
capabilities/_jcr_content/root/grid/secondary_navigation.html"
class="navigation-header primary-nav-link drop-down-link" role="menuitem"
data-nav-path="Investment Capabilities" data-nav-style="navigation
header|primary" data-nav-type="menu tab" data-event-name="navigation
interaction" data-event-action="nav menu click" data-event-category="navigation
header|primary|menu tab" data-event-label="Investment Capabilities" data-event-
element="nav item" data-title="Investment Capabilities">Investment
Capabilities</a> <span class="navigation-header_primary-nav-expander"></span>
              <!-- %include __secondary-nav --> \n
class="navigation-header__secondary-nav"> \n
                                                       <div
class="navigation-header__secondary-nav-inner"> \n
                                                             <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Investment Capabilities</button> \n
                                                            <div
class="navigation-header__secondary-nav-content"> \n
                                                                <div
class="navigation-header secondary-nav-wrapper "> \n
                                                                   <div
class="navigation-header__secondary-nav-section "> \n
                                                                   <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
                                                                       <div
class="link-list parbase aem-GridColumn aem-GridColumn--default--12">\n
< div > \n
                           <div class="navigation-header__secondary-nav-</pre>
subtitle">\n
                                Asset Class \n
 \n
 <a</pre>
href="/us/en/institutional/strategies/equities.html" class="navigation-
```

```
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Equities" data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Equities</a> 
class="navigation-header_secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/strategies/fixed-income.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Fixed Income " data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Fixed Income </a> 
                                                                     <li
class="navigation-header secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/strategies/alternatives.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Alternatives " data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Alternatives </a> 
class="navigation-header_secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/strategies/multi-asset.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Multi-Asset" data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Multi-Asset</a>  \n
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/strategies/money-market-and-liquidity.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Asset Class" data-nav-path-sufix="Money Market & Damp; Liquidity " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Money Market & amp;
Liquidity </a> 
                                          \n
\n
                    </div> \n
                                             </div> \n
                                                                      </div>
                  <div class="navigation-header__secondary-nav-section "> \n
<div class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
<div class="link-list parbase aem-GridColumn aem-GridColumn--default--12">\n
< div > \n
                           <div class="navigation-header_secondary-nav-</pre>
subtitle">\n
                                Solutions \n
                                                               </div> \n
 \n
 <a</pre>
href="/us/en/institutional/solutions/custom-portfolios-and-analysis.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Custom Portfolios & amp; Analysis" data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Custom Portfolios
& Analysis</a>  \n
                                              header__secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/solutions/institutional-indexing.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Indexing" data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Indexing</a>  \n
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/solutions/alternative-investment-solutions.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Multi-Alternatives Platform" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Multi-Alternatives
```

```
Platform</a>  \n
                                         header_secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/solutions/insurance-solutions.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Insurance " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Insurance </a>  \n
class="navigation-header secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/solutions/dc-investment-solutions.html"
class="navigation-header secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Defined Contribution " data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Defined Contribution
</a>  \n
                                 item" role="presentation"> <a href="/us/en/institutional/solutions/factor-
investing.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Solutions" data-nav-path-sufix="Factor Investing" data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Factor
Investing</a>  \n
                                         header__secondary-nav-item" role="presentation"> <a
href="/us/en/solutions/collective-trust-funds.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Solutions"
data-nav-path-sufix="Collective Trusts" data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Collective Trusts</a> 
 \n
                          </div> \n
                                                     </div> \n
</div> \n
                        </div> \n
                                                 <div class="navigation-
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                   </div> \n
</div> \n
                        <div class="navigation-header__secondary-nav-section"</pre>
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                      </div> \n
                                              </div> \n
</div>\n
                      </div> \n
                                           </div> \n
                                                                </div> 
             role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-
insights/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header__primary-nav-link drop-down-link " role="menuitem" data-nav-
path="Insights" data-nav-style="navigation header|primary" data-nav-type="menu
tab" data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Insights" data-event-element="nav item" data-
title="Insights">Insights</a> <span class="navigation-header__primary-nav-
expander"></span> \n
                               <!-- %include __secondary-nav --> \n
<div class="navigation-header__secondary-nav"> \n
class="navigation-header secondary-nav-inner"> \n
                                                              <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Insights</button> \n
                                             <div class="navigation-</pre>
header__secondary-nav-content"> \n
                                               <div class="navigation-</pre>
header__secondary-nav-wrapper "> \n
                                                  <div class="navigation-
```

```
header_secondary-nav-section "> \n
                                                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                                                     <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                                    <div class="navigation-header__secondary-nav-subtitle">\n
Thought Leadership \n
                                                                 </div> \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
 <a</pre>
href="/us/en/insights/topic/markets-economy-insights.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Thought
Leadership" data-nav-path-sufix="Markets & Decomon by the data-nav-path-sufix="Markets are leadership" data-nav
style="dropdown menu|text link" data-nav-type="menu tab">Markets & Discounty Economy
</a>  \n
                                                      item" role="presentation"> <a href="/us/en/insights/topic/investment-
insights.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Investment "
data-nav-style="dropdown menu|text link" data-nav-type="menu tab">Investment
                                                      </a>  \n
item" role="presentation"> <a href="/us/en/insights/topic/research-and-
analysis.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Research " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Research </a> 
                                     \n
role="presentation"> <a href="/us/en/insights/topic/legislative-regulatory-
insights.html" class="navigation-header secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Legislative & amp;
Regulatory " data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Legislative & amp; Regulatory </a> 
class="navigation-header__secondary-nav-item" role="presentation"> <a
href="/us/en/insights/topic/defined-contribution-insights.html"
class="navigation-header_secondary-nav-link" role="menuitem" data-nav-path-
prefix="Thought Leadership" data-nav-path-sufix="Defined Contribution" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Defined
Contribution</a> 
                                                                         header__secondary-nav-item" role="presentation"> <a
href="/us/en/insights/topic/all-insights.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Thought
Leadership" data-nav-path-sufix="All Insights" data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">All Insights</a>  \n
 \n
                                           </div> \n
                                                                                       </div> \n
</div> \n
                                        </div> \n
                                                                                <div class="navigation-
header__secondary-nav-section "> \n
                                                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                                                     <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
\n
                                    <div class="navigation-header__secondary-nav-subtitle">\n
                                               </div> \n
Events \n
                                                                                             ul
class="navigation-header__secondary-nav-list" role="menubar"> \n
 <a</pre>
```

```
href="/us/en/institutional/webcasts.html" class="navigation-header_secondary-
nav-link" role="menuitem" data-nav-path-prefix="Events" data-nav-path-
sufix="Webcasts" data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Webcasts</a>  \n
                                              header_secondary-nav-item" role="presentation"> <a
href="https://www.invesco.com/static/sf/leadership-exchange/index.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Events" data-nav-path-sufix="Invesco Leadership Exchange" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Invesco Leadership
Exchange</a>  \n
                                         \n
                         </div> \n
                                                  </div> \n
</div> \n
<div class="navigation-header__secondary-nav-section "> \n
                                                                        <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
                                                                      </div>
\n
                  </div> \n
                                           <div class="navigation-
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                   </div> \n
</div> \n
                       </div>\n
                                             </div> \n
                                                                   </div> \n
</div>  \n
                         down-item" role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-account-
access/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header__primary-nav-link drop-down-link " role="menuitem" data-nav-path="Account
Access" data-nav-style="navigation header|primary" data-nav-type="menu tab"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Account Access" data-event-element="nav item" data-title="Account
Access">Account Access</a> <span class="navigation-header__primary-nav-
expander"></span> \n
                               <!-- %include __secondary-nav --> \n
<div class="navigation-header__secondary-nav"> \n
class="navigation-header__secondary-nav-inner"> \n
                                                              <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Account Access</button> \n
                                                    <div class="navigation-
header_secondary-nav-content"> \n
                                               <div class="navigation-
header__secondary-nav-wrapper "> \n
                                                  <div class="navigation-
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                    <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                      <div class="navigation-header__secondary-nav-subtitle">\n
Account Access \n
                                    </div> \n
                                                                 ul
class="navigation-header__secondary-nav-list" role="menubar"> \n
 <a</pre>
href="https://invesco.com/us/account-access/client-
summary?audienceType=Institutional" class="navigation-header__secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="Collective Trust Login " data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Collective Trust Login </a> 
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
```

```
href="https://invesco.com/us/account-access/ina-select-
portfolio?audienceType=Institutional" class="navigation-header__secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="CDO & amp; Bank Loans Performance Login " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">CDO & amp; Bank Loans Performance Login
</a>  \n
                                item" role="presentation"> <a href="https://invesco.com/us/account-access-
ina/stable-value/bidding-specification" class="navigation-header__secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="Stable Value Wrap Providers Login " data-nav-style="dropdown menu|text
link" data-nav-type="menu tab">Stable Value Wrap Providers Login </a> 
 \n
                          </div> \n
                                                    </div> \n
</div> \n
                        </div> \n
                                                <div class="navigation-
header__secondary-nav-section "> \n
                                                 <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                  </div> \n
                        <div class="navigation-header__secondary-nav-section"</pre>
</div> \n
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                     </div> \n
                                             </div> \n
class="navigation-header__secondary-nav-section "> \n
                                                                  <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12"> \n
                                                                     </div>
                 </div> \n
\n
                                         </div>\n
                                                              </div> \n
                                             \n
</div> \n
                    </div>  \n
                                                             </nav>\n
<!-- /_primary-nav --> \n
                                </div> \n
                                                 <!-- %include __checkout
widget cta --> \n
                        <div class="navigation-header utility-nav "> \n
 \n
class="navigation-header__utility-top-nav-item navigation-header__utility-top-
nav-item--contact" data-nav-style="navigation header|utility" data-nav-
type="contact us|link"> <a class="navigation-header__utility-top-nav-link no-
caret" href="/us/en/institutional/institutional-contact-us.html" target="_self"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|utility|contact us" data-event-
label="Contact Us" data-event-element="nav item" data-tab-index="3">Contact
Us</a>  \n
                        data-nav-style="navigation header|utility" data-nav-type="audience selector">
<button class="navigation-header__utility-top-nav-link utility-sector-label"</pre>
aria-label="" aria-haspopup="true" aria-expanded="false" data-event-
name="navigation interaction" data-event-action="nav menu|open" data-event-
category="navigation header|utility|audience role selector" data-event-
element="dropdown menu" data-tab-index="3" data-trigger-utility="sector" data-
is-dropdown></button> 
                                      \n
                                                      header utility-bottom-nav-list"> \n
                                            \n
                                                           </div>\n
<!-- /__utility-top-nav --> \n
                                    <div class="navigation-
header distributor">\n
                              Invesco Advisers, Inc.\n
                                                             </div> \n
<!-- %include __utility-top-nav --> \n
                                           <!-- %include __distributor -->
                       <!-- /_content-inner --> \n
\n
         </div>\n
                                                         </div>\n
                                                                       <!--
                     </div>\n <!-- /_nav-inner --> \n
/__content --> \n
                                                             </div>\n
<!-- /__nav --> \n
                   <!-- %include __utilities --> \n
```

```
class="navigation-header_utilities"> \n
                                         <div class="navigation-</pre>
header__utility navigation-header__utility--login" hidden data-utility="login">
        <button class="navigation-header_utility-back">Login \n
<div class="navigation-header_login-content"> \n
                                                       <div class="navigation-
header__login-wrapper"> \n ul class="navigation-header__sector-list">
                         <!-- /_sector-list --> \n
          \n
                                                            <header
class="navigation-header__utility-header"> \n
                                                                       </div>
                                                    </header> \n
        </div> \n
                       </div> \n
                                     <!-- /_utility--location --> \n
<form method="POST" action="/bin/landingpage" name="userPrefrence"</pre>
id="userPrefrence" class="userPrefrence"> \n
                                                 <input type="hidden"</pre>
id="langCode" name="langCode" value=""> \n
                                               <input type="hidden"</pre>
id="countryCode" name="countryCode" value=""> \n
                                                     <input type="hidden"</pre>
id="audienceRole" name="audienceRole" value=""> \n
                                                       <input type="hidden"</pre>
id="additionalParams" name="additionalParams" value=""> \n
                                                              <input
type="hidden" id="anchorHash" name="anchorHash" value=""> \n
                                                                <input
type="hidden" id="currentPageURL" name="currentPageURL" value=""> \n
<input type="hidden" id="loginState" name="loginState" value=""> \n
                                                                       <input
type="hidden" id="roleselectionrequired" name="roleselectionrequired"
                       <input type="hidden" id="langUrl" name="langUrl"</pre>
value="false"> \n
value=""> \n
                 </form> \n
                                <div class="navigation-header_utility</pre>
navigation-header__utility--sector" hidden data-utility="sector"> \n
<section class="navigation-header_sector"> \n
                                                    <div class="navigation-
header__sector-content"> \n
                                  <div class="navigation-header_sector-</pre>
                      \n
wrapper"> \n
<div class="navigation-header__location-header">\n
                                                           Select Your Role\n
                   header__sector-item"> <a href="/" class="navigation-header__sector-link
audience" title="Individual Investor" data-event-name="navigation interaction"
data-event-action="audience role|select" data-event-category="navigation
header|utility|audience role selector" data-event-label="Individual Investor"
data-event-element="dropdown menu" data-sector="sector--0">Individual
Investor</a>  \n
                              class="navigation-header_sector-item"> <a href="/" class="navigation-
header__sector-link audience" title="Financial Professional" data-event-
name="navigation interaction" data-event-action="audience role|select" data-
event-category="navigation header|utility|audience role selector" data-event-
label="Financial Professional" data-event-element="dropdown menu" data-
sector="sector--1">Financial Professional</a>  \n
label="Institutional" class="navigation-header sector-item"> <a href="/"
class="navigation-header__sector-link audience" title="Institutional" data-
event-name="navigation interaction" data-event-action="audience role|select"
data-event-category="navigation header|utility|audience role selector" data-
event-label="Institutional" data-event-element="dropdown menu" data-
sector="sector--2">Institutional</a> 
                                                                     <!--
                             <header class="navigation-header_utility-</pre>
/_sector-list --> \n
header"> \n
                     <div class="navigation-header_utility-content-wrapper"</pre>
aria-live="polite" data-sector-content="sector--0"> \n
```

```
class="navigation-header location-header navigation-header location-header-
sector-back">\n
                           Individual Investor\n
<h2 class="navigation-header_utility-title">Individual Investor</h2> \n
Individual investors include: current
investors; prospective investors, and plan administrators.
<div class="navigation-header__sector-cta no-terms"> \n
                                                                 <div
class="navigation-header checkbox">\n
                                                  Individual investors
include: current investors; prospective investors, and plan administrators.
                                   <a href="/us/en/Individual-investor.html"</pre>
              </div> \n
class="navigation-header__button navigation-header__button--segment-visit"
title="Visit Site" data-event-name="navigation interaction" data-event-
action="nav menu click" data-event-category="navigation header|utility|audience
role selector" data-event-element="nav item" data-type="IndividualInvestor"
data-label="Individual Investor">Visit Site</a> \n
                                                           </div> \n
                   <div class="navigation-header_utility-content-wrapper"</pre>
aria-live="polite" data-sector-content="sector--1"> \n
class="navigation-header__location-header navigation-header__location-header--
sector-back">\n
                           Financial Professional\n
<h2 class="navigation-header__utility-title">Financial Professional</h2> \n
Financial professionals include:
financial advisors, retail wholesalers; financial planners; broker/dealer home
office; wirehouses; registered financial advisors; and bank trusts.
<div class="navigation-header__sector-cta no-terms"> \n
                                                                 <div
class="navigation-header checkbox">\n
                                                  Financial professionals
include: financial advisors, retail wholesalers; financial planners;
broker/dealer home office; wirehouses; registered financial advisors; and bank
                                               <a href="/us/en/financial-
trusts. \n
                          </div> \n
professional.html" class="navigation-header__button navigation-header__button--
segment-visit" title="Visit Site" data-event-name="navigation interaction" data-
event-action="nav menu click" data-event-category="navigation
header | utility | audience role selector | data-event-element = "nav item" data-
type="FinancialProfessional" data-label="Financial Professional">Visit Site</a>
                                                    <div class="navigation-</pre>
             </div> \n
                                </div> \n
header__utility-content-wrapper" aria-live="polite" data-sector-content="sector
                   <div class="navigation-header_location-header navigation-</pre>
header__location-header--sector-back">\n
                                                   Institutional\n
                    <h2 class="navigation-header__utility-</pre>
</div> \n
title">Institutional</h2> \n
                                      <div class="navigation-header__sector-cta has-terms">
desc">  \n
              <div class="navigation-header__checkbox"> \n
type="checkbox" id="utility_check_2" name="utility-3" data-event-
name="navigation interaction" data-event-action="checkbox|checked" data-event-
category="navigation header|utility|audience role selector" data-event-
element="checkbox"> \n
                                  <label
for="utility_check_2">Institutional includes  defined contribution and
defined benefit plans (corporate, public, Taft-Hartley), foundations and
endowments, insurers, corporate cash managers, consultants, and trust
```

```
administrators/custodians. This portion of the Invesco website is specifically
prepared for institutional investors in the US. The content and
investment strategies discussed may not be suitable for and/or available to all
investors. By checking the box and clicking continue, I confirm that I am an US
Institutional Investor.<br>  </label> \n
                                                         </div> \n
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interaction" data-event-action="nav menu click" data-event-category="navigation
header | utility | audience role selector | data-event-element = "nav item" data-
type="Institutional" data-label="Institutional">Visit Site</a> \n
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</div> \n
                                        <div class="navigation-header utility-</pre>
content-wrapper" aria-live="polite" data-sector-content="sector--3"> \n
<div class="navigation-header__location-header navigation-header__location-</pre>
header--sector-back">\n
                                    EDJONES\n
                                                         </div> \n
<h2 class="navigation-header_utility-title">Edward Jones</h2> \n
                                                                             <p
class="navigation-header_utility-desc">Edward Jones \n
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class="navigation-header__sector-cta no-terms"> \n
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data-event-category="navigation header|utility|audience role selector" data-
event-element="nav item" data-type="edward-jones" data-label="EDJONES">Visit
Site</a> \n
                       </div> \n
                                           </div> \n
class="navigation-header utility-content-wrapper" aria-live="polite" data-
sector-content="sector--4"> \n
                                          <div class="navigation-
header__location-header navigation-header__location-header--sector-back">\n
                 </div> \n
                                      <h2 class="navigation-header__utility-</pre>
title">PFS</h2> \n
                              PFS
              <div class="navigation-header_sector-cta no-terms"> \n
<a href="/us/en/financial-professional/primerica.html" class="navigation-</pre>
header_button navigation-header_button--segment-visit" title="Visit Site"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|utility|audience role selector" data-
event-element="nav item" data-type="p-f-s-investments-inc" data-
label="PFS">Visit Site</a> \n
                                         </div> \n
                                                             </div> \n
</header> \n
                     </div> \n
                                      </div> \n
                                                      </section>\n
                                                                         <!--
/ sector --> \n
                                  <!-- /_utility--sector --> \n
                      </div>\n
utility contact-us --> \n
                              <!-- utility contact-us --> \n
            </div> \n </header> \n <span id="mainContentItem" hidden
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Senate elections and how they could shift the balance of political power.
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                                                                         <div
class="article-hero__inner">\n
                                              <header class="article-</pre>
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Legislative and regulatory\n
                                                </div>\n
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2020</span>\n
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class="author-card"/>\n\n
                             <div class="author-card container ">\n
                                                                             <div
class="author-card__container--inner">\n
                                                    <div class="author-
card img">\n
                             <img
src="/content/dam/invesco/na/en/images/people/blocker-andy-THMB.jpg" alt="Andy
Blocker"/>\n
                        </div>\n
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author="andy blocker, jennifer flitton">Andy Blocker</div>\n
class="author-card_role">Head of US Government Affairs, Invesco</div>\n
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</div>\n
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class="author-card__container--inner">\n
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src="/content/dam/invesco/na/en/images/people/jennifer-flitton-THMB.jpg"
alt="Jennifer Flitton"/>\n
                                      </div>\n
                                                          <div class="author-
card__name" data-author="andy blocker,jennifer flitton">Jennifer Flitton
                    <div class="author-card__role">Vice President of Federal
Government Affairs </div>\n
                                   </div>\n
                                               </div>\n \n
</div>\n
                            </div>\n
                                                    </header>\n\n
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is-definitely-in-play.jpg.ivz-size.2496x1404.jpg 2x"/>\n
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election-2020-the-senate-is-definitely-in-play.jpg" alt="Election 2020: The
Senate is definitely in play"/>\n
                                                          </picture>\n
<div class="article-hero main-media-caption"></div>\n
                                                                           \n
<!-- IF VIDEO PLAYER -->\n
                                                                     <!-- END OF
VIDEO PLAYER -->\n
                                  </div>\n
                                                             <div class="article-
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Download button">\n
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is-definitely-in-play.html" rel="noopener noreferrer" aria-label="Share by
Email" data-event-label="Share by Email"><span>Share by Email</span></a>\n
                                       \langle li \rangle \n
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//www.facebook.com/sharer/sharer.php?u=https://www.invesco.com/content/invesco/u
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label="Share on Facebook"><span>Share by Facebook</span></a>\n
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<a class="article-hero share-btn article-hero share-btn--twitter" href="http:/</pre>
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//www.linkedin.com/shareArticle?mini=true&url=https://www.invesco.com/content/in
vesco/us/en/insights/election-2020-the-senate-is-definitely-in-play.html&title=E
lection%202020:%20The%20Senate%20is%20definitely%20in%20play&summary=&source="
rel="noopener noreferrer" target="_blank" aria-label="Share by LinkedIn" data-
event-label="Share by LinkedIn"><span>Share by LinkedIn</span></a>\n
\n\t\t\t\t\t\t\t\n

</div>\n
                            n\n
                                                     \n
                                                                       </div>\n
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</div>\n
                         </div>\n
</section > n < div > n 
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                                                                                                                          <div
class="key-takeaways aem-GridColumn aem-GridColumn--default--12">\n\n\n
\n\n\n\n<section data-module="key-takeaways" class="section key-takeaways aem-
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<div class="key-takeaways inner">\n
                                                                      <h5 class="key-takeaways label">\n
Key takeaways\n
                                    </h5>\n
                                                            <div class="key-takeaways__list">\n
<div class="key-takeaways item">\n
                                                                                 <div class="key-
takeaways header">\n
                                                                 <h6 class="key-
takeaways title">Republicans on the defensive</h6>\n
                                                                                                              </div>\n
<span class="key-takeaways__number">1</span>\n
                                                                                                   takeaways desc">Biden's lead and cash support for Democratic candidates have
Republicans on the back foot in red states.\r\
                                                                                                        </div>\n
                      <div class="key-takeaways__item">\n
                                                                                                        <div
class="key-takeaways_header">\n
                                                                                   <h6 class="key-
takeaways__title">Good and bad news for Democrats</h6>\n
                                                                                                                   </div>\n
<span class="key-takeaways__number">2</span>\n
                                                                                                   takeaways__desc">There are more Republican seats in play, but many of them are
in usually reliable red states.\r\n\n
                                                                                     </div>\n
                                                                                                              \n
<div class="key-takeaways__item">\n
                                                                                 <div class="key-
takeaways_header">\n
                                                                 <h6 class="key-
takeaways__title">Several Senate scenarios to consider</h6>\n
                                      <span class="key-takeaways number">3</span>\n
Regardless of who wins the presidency, the
fortunes of the next administration rest solely in the hands of the
Senate.\r\n\n
                                              </div>\n
                                                                        </div>\n
</div>\n</section>\n</div>\n<div class="richtext aem-GridColumn aem-GridColumn--
default--12">\n \n\n
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text-editor">\n\t<div class="cmp-text rich-text-editor_inner">\n\t\tA year
ago, anyone who looked at the map of Senate seats up in 2020 would have
concluded that Democrats had a difficult path back to the majority. Fast forward
a year and the persistent lead of former Vice President Joe Biden over President
Donald Trump, along with a gusher of campaign cash for Democratic candidates,
suddenly has Republicans playing defense in usually reliable red states. The
good news for Democrats is that there are more Republican seats in play than
Democratic seats. The bad news for Democrats is that many of those seats are in
red states.<b<u></b>\nWith a nation just days away from the
election, we consider the factors that give Democratic challengers hope and
Republican incumbents cause for concern, including:
Money</b>\nIt's long been said that money is the mother's milk of
politics, and that could not be more accurate than this year. The Democratic
Senatorial Campaign Committee has raised more than $244 million in this cycle
compared to $148 million in 2018. The National Republican Senatorial Committee
has raised a similar amount this year, bringing in nearly $220 million - about
$70 million more than they raised in 2018. Individual candidates are raising
eye-popping sums as well, changing the shape of races once thought safe. This
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pattern of Democrats significantly outraising Republicans is playing out in battlegrounds across the country.\n2) Potential Senate scenarios\nThe dream scenario for Democrats is a blue wave that washes over the nation, carries Biden to the White House, and gives him a majority in both the Senate and House of Representatives. The key questions in this scenario are how large a Senate majority may be and whether it will be enough to allow Biden to enact some of his more ambitious agenda items.\nA second scenario is a Biden victory and Republicans retaining the Senate. In this case, the Senate will continue to be the place where Democratic agenda items go to die.\nA third scenario is an evenly split Senate, 50-50. With a Trump victory, Vice President Pence would be the tiebreaking vote, leaving Republicans in control and two more years of status quo inside the Beltway. A Biden victory with Vice President Kamala Harris playing the role of tiebreaker may give Democrats control but no clear path to implementing a Biden agenda in the Senate.\nRead more about the implications of the 2020 election on the US Senate.\n\n\t</div>\n</section>\n\n $\n</div>\n\n</div>\n$ <script src="/etc.clientlibs/invesco/components/structure/base-page/clientlib-in</pre> $vescoBrand 2.0. \verb|min.ACSHASH| 21cdea 8f97b67f30946282d9394c1b09.js"></script>\\ \verb|n|n|n<|$ \n\n\n\n\n\csection class="legal-disclaimer" data-module="legaldiv > n ndisclaimer">\n <div class="legal-disclaimer__inner">\n class="legal-disclaimer item ">\n <button class="legal-</pre> disclaimer__label" aria-expanded="true">\n <span class="legal-</pre> disclaimer__label-text legal-disclaimer__label-text--closed">Expand\n <span class="legal-disclaimer__label-text legal-disclaimer__label-text--</pre> opened">Collapse\n </button>\n <div class="legaldisclaimer__text" aria-expanded="true" aria-hidden="false">\n The opinions expressed are those of Andy Blocker and Jennifer Flitton as of Oct. 29, 2020 and are subject to change without notice. These opinions may differ from those of other Invesco investment professionals. $</div>\n$ $</div>\n$ <head></head>\n <body>\n <div class="primary-footer"> \n <section data-</pre> module="primary-footer" class="primary-footer__inner"> \n <div class="primary-footer__groups__4-column"> \n <div class="primary-</pre> footer group">\n <div class="primary-footer__link-container"> \n <p class="primary-footer group-title">CLIENTS WE SERVE \n class="primary-footer__group-subtitle"> \n <a</pre> footer links"> \n href="/us/en/institutional/clients/asset-management-for-defined-benefitplans.html" class="primary-footer__link ">Defined Benefit \n <a</pre> href="/us/en/institutional/clients/asset-management-for-defined-contributionplans.html" class="primary-footer_ link ">Defined Contribution \n <a</pre>

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                        <a</pre>
Platform</a> 
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insights.html" class="primary-footer__link ">Legislative & Regulatory</a>
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<i>Invesco is an independent investment management company built to help
individual investors, financial professionals, and institutions achieve their
financial goals. We offer a range of investment strategies across asset classes,
investment styles, and geographies. Our asset management capabilities include
mutual funds, ETFs, SMAs, model portfolios, indexing and insurance solutions,
and more.</i> \n
                      </div> \n
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Home < /a >  \n
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social"> \n
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class="primary-footer__social-title">STAY CONNECTED </h3> \n
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title="twitter" target="_blank"></a> 
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stitutional" class="primary-footer_link body-font">Terms of Use </a> 
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/contentdetail?contentId=778c58f07fff1410VgnVCM100000c2f1bf0aRCRD&dnsName=us
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class="primary-footer_links-item"> <a href="/corporate/en/invesco-website-
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target="_blank">Accessibility</a>  \n
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class="primary-footer link body-font">Legal and Compliance</a> 
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href="https://www.invesco.com/us/financial-
products/prospectus?audienceType=institutional" class="primary-footer__link
body-font">Prospectus</a> 
                                                        <a href="https://www.invesco.com/us/contentdetail?contentId=4fef4f7c46771410VgnV">
CM100000c2f1bf0aRCRD&audienceType=institutional" class="primary-footer_link
body-font">Money Market Holdings</a> 
                                                                                              <div
                                                                           \n
class="primary-footer__disclosures body-font font-white"> \n
                                                                                                  <div>
  \n
                          NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE
             This information is intended for Institutional Investors that are US
residents. <br >  \n
                                           All material presented is compiled from sources
believed to be reliable and current, but accuracy cannot be guaranteed. This is
not to be construed as an offer to buy or sell any financial instruments and
should not be relied upon as the sole factor in an investment making decision.
As with all investments there are associated inherent risks. This should not be
considered a recommendation to purchase any investment product. This does not
constitute a recommendation of any investment strategy for a particular
investor. Investors should consult a financial professional before making any
investment decisions if they are uncertain whether an investment is suitable for
them. Please obtain and review all financial material carefully before
                                   Institutional Separate Accounts and Separately
investing. \n
Managed Accounts are offered by Invesco Advisers, Inc. and other affiliated
investment advisers, which provide investment advisory services and do not sell
```

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securities. \n
                      Certain other vehicles mentioned are not offered by
Invesco Advisers, Inc. and are available via other affiliated entities which,
like Invesco Advisers, Inc., are indirect, wholly owned subsidiaries of Invesco
                                              </div> \n
                \n
                                 </div> \n
class="primary-footer__copyright body-font">\n
                                                 ©2022 Invesco Ltd. All
rights reserved \n
                     </div> \n
                                 </div> \n
                                            </section> \n </div> \n
</body>\n</html> \n\n\t<div>\n\n\t<div hidden id="complianceConfig" data-
exclusion-list='twitter.com,www.facebook.com,www.linkedin.com,www.youtube.com,ww
w.instagram.com, www.invesco.com, retirementsolutions.financialtrans.com, ir.invesc
o.com, careers.invesco.com, www.collegebound529.com, www.secureaccountview.com, www3
.financialtrans.com,www.blog.invesco.us.com,www.brainshark.com,dstvision.com,www
.secureaccountview.com, www.snwam.com, account-service.invesco.com, app.everviz.com
,bcove.video,betaretirementsolutions.financialtrans.com,cdn.unite529.com,event.o
n24.com,identity.invesco.com,invescocontributionmanager.financialtrans.com,www.s
ecureaccountview.com, players.brightcove.net, policies.google.com, invesco.com, smar
tiq.invesco.com,corporatereport.com,www.corporatereport.com,www.interactivebroke
rs.com,www.m1finance.com,robinhood.com,www.schwab.com,investor.vanguard.com,www.
fidelity.com'></div>\n\n<section id="compliance" role="dialog" data-
module="modal-comp" class="modal-comp " data-show-modal-onpageload="false">\n
<div class="modal-comp__container modal-comp__container-small">\n
                                                                   <button
class="modal-comp__container-close"></button>\n
                                                   <div class="modal-
comp container-content">\n
                                    <h2 class="modal-comp container-content</pre>
--title false">Leaving Invesco.com</h2>\n
                                                 <div class="modal-
comp container-content--description">This link takes you to a site not
affiliated with Invesco. The site is for informational purposes only. Invesco
does not guarantee nor take any responsibility for any of the
                               <button id="complianceBtn" data-href="" data-</pre>
content.\n</div>\n
target="" class="primary">Continue</button>\n
                                                 </div>\n
</div>\n</section>\n\n</div>\n\n\n\n\n\n\n
                                                    </div>\n
</div>\n</div>\n
                                      n\n
                           \n
                                 \n
                                                \n
                                                     \n
                                                                 <script
src="/etc.clientlibs/invesco/components/structure/article-page/clientlib-invesco
\r\\
         n n
                n n
                             <script
type="text/javascript">_satellite.pageBottom();</script>\n\n
                                                                  \n
                         \n
                                  \n
                                        <script
type="text/javascript">\n\t\tdigitalData = window.digitalData ||
{};\n\t\tdigitalData = JSON.parse("{\n \x22page\x22: {\n
\x22page_author_name\x22: [\n
                               \x22andy blocker\x22,\n
                                                           \x22jennifer
flitton \x22\n
                ],\n
                        \x22page tag program\x22: [\n
                                                        \x22election
            ],\n
                    x22page_error\\x22: \\x22\\x22,\\n
x22page campaign iid x22: x22 x22, n
                                      \x22page_tag_asset_class\x22: [],\n
\x22page_environment\x22: \x22prod\x22,\n
                                         \x22page_query_string\x22:
             \x22\x22,\n
002Dis\u002Ddefinitely\u002Din\u002Dplay\x22,\n
                                               \x22page_tag_strategy\x22:
        \x22page_tag_article_author\x22: [\n
                                               \x22andy blocker\x22,\n
\x22jennifer flitton\x22\n
                           ],\n
                                   x22page\_domain\\x22: \\x22\\x22,\\n
```

```
is\u002Ddefinitely\u002Din\u002Dplay\x22,\n
                                             x22page\_channel\\x22: \\x22\\x22,\\n
\x22page_tag_topic\x22: [\n
                             \x22legislative and regulatory\x22,\n
\x22washington update\x22,\n
                               \x22plan governance\x22\n
\x22page_name\x22: \x22ivz main\u003eus\u003een\u003einsights\u003eelection
2020 the senate is definitely in play\x22,\n
                                             \x22page_breadcrumb\x22:
              \x22page_tag_investment_vehicle\x22: \x22\x22,\n
\x22\x22,\n
\x22page_pathname_query\x22: \x22\x22,\n
                                          x22page_tag_person\\x22: \\x22\\x22,\\n
\x22page_region\\x22: \x22na\\x22,\\n
                                    \x22page_tag_business_unit\x22:
              \x22page filter results \x22: \x22\x22,\n
x22\x22,\n
                                                         \x22page sort\x22:
\x22\x22,\n
              \x22page_platform\x22: \x22aem\x22,\n
                                                     \x22pageInstanceID\x22:
\u002Dplay\x22,\n
                    \x22pageInfo\x22: {\n}
                                              \x22destinationURL\x22: \x22http
s:\/\www.invesco.com\/content\/invesco\/us\/en\/insights\/election\u002D2020\u0
02Dthe\u002Dsenate\u002Dis\u002Ddefinitely\u002Din\u002Dplay.audienceRole\u002Di
nvesco_user\u002Drole_ Institutional.loginState\u002Dinvesco_authentication
_loggedOut.html\x22,\n \x22pageID\x22: \x22election\u002D2020\u002Dthe\u002
Dsenate\u002Dis\u002Ddefinitely\u002Din\u002Dplay\x22,\n
                                                            \x22pageName\x22:
\x22Election 2020: The Senate is definitely in play | Invesco US\x22,\n
\x22referringURL\x22: \x22\x22\n
                                        \x22page_filter_applied\x22:
                                  },\n
              \x22page_template\x22: \x22article page template\x22,\n
x22\x22,\n
\x22page_tag_site_region\x22: [],\n \x22page_tag_team\x22: \x22\x22,\n
\x22page\_publish\_date\\x22: \x222020\\u002D10\\u002D30\\x22,\\n
\x22page_filter_type\x22: \x22\x22,\n
                                      \x22page_referring_url\x22: \x22\x22,\n
\x22page campaign cid\x22: \x22\x22,\n \x22page tag product\x22: [],\n
\x22page_author_role\x22: [\n
                                 \x22head of us government affairs,
                   \x22vice president of federal government affairs \x22\n
invesco\x22,\n
                                   \x22investmentInfo\x22: {\n}
       \x22attributes\x22: {\n
\x22investmentVehicle\x22: \x22\x22\n
                                         },\n
                                                   \x22event\x22: {\n}
\x22eventTitle\x22: \x22Election 2020: The Senate is definitely in play\x22,\n
\x22eventVenue\x22: \x22\x22,\n
                                     x22eventLocation x22: x22 x22, n
\x22eventType\x22: \x22\x22\n
                                 },\n
                                           \x22content\x22: {\n}
\x22topics\x22: [\n
                           \x22Legislative and regulatory\x22,\n
\x22Washington update\x22,\n
                                    \x22Plan governance\x22\n
                                                                    ],\n
\x22publishDate\x22: \x222020\u002D10\u002D30T11:35:00.000\u002D04:00\x22,\n
\x22readTime\x22: \x22\x22,\n
                                   \x22authors\x22: [\n
                                                                 \x22Andv
Blocker\x22,\n
                       \x22Jennifer Flitton\x22
                                                        ]\n
                                                                 }\n
                                                                        },\n
\x22page_tag_content_type\x22: \x22insight\x22,\n
                                                   \x22page_tag_user_role\x22:
        \x22institutional\x22\n
                                  ],\n
                                         \x22page_tag_theme\x22: [\n
                              \x22category\x22: {\n}
x22elections x22\n
                      ],\n
                                                        \x22invescoEntity\x22:
\x22\x22,\n
                \x22contentTemplate\x22: \x22Article Page Template\x22,\n
\x22theme\x22: [\n
                         x22Elections x22\n
                                                           \x22program\x22:
                                                 ],\n
          x22Election 2020\\x22\\n
                                      ],\n
                                                \x22contentType\x22:
                    },\n
\x22Insight\x22\n
                            \x22page_tag_event_type\\x22: \x22\\x22\\n \},\n
\x22visitor\x22: {\n}
                       \x22visitor_audience_role_sub\x22: \x22\x22,\n
\x22visitor permissions \x22: \x22\x22,\n \x22visitor uuid \x22: \x22\x22,\n
\x22visitor audience role\x22: \x22\x22,\n \x22visitor login status\x22:
\x22\log d out\x22\n \n}");\n\n
                                     (function () {\n
```

```
cookieArr = document.cookie ? document.cookie.split('; ') : [];\n
                                                                             var
                             for (var i = 0; i < cookieArr.length; i++) {\n</pre>
cookieObj = {};\n
                                                    cookieObj[cur[0]] =
var cur = cookieArr[i].split('=');\n
cur[1].toLowerCase();\n
                                                    var queryArr =
                                   \n
window.location.search ? window.location.search.replace('?', '').split('&') :
                var queryObj = {};\n
                                                 for (var i = 0; i <
[];\n
queryArr.length; i++) {\n
                                         var cur = queryArr[i].split('=');\n
queryObj[cur[0]] = cur[1].toLowerCase();\n
                                                      n\n
siteDistributor = document.querySelector('.navigation-header__distributor');\n
var hasSiteDistributor = siteDistributor && siteDistributor.offsetWidth > 0 &&
siteDistributor.offsetHeight > 0;\n
                                               var searchResultCount =
document.querySelector('[data-search-results-count]');\n
searchPageResults = document.querySelector('[data-page-result]');\n
var searchTermSelector = document.querySelector('[data-search-term]');\n
var searchPageRangeSelector = document.querySelector('[data-search-page-
range]');\n\n
                         // digitalData.page\n
digitalData.page.page_anchor = window.location.hash.split('#').pop();\n
digitalData.page.page_audience_role = cookieObj['audienceRole'] ||
                          digitalData.page.page_country =
'anonymous'; \n
document.documentElement.lang.split('-')[1].toLowerCase();\n
digitalData.page.page_charset = document.characterSet;\n
digitalData.page.page_campaign_cid = queryObj['cid'] || '';\n
digitalData.page.page_campaign_iid = queryObj['iid'] || '';\n
digitalData.page.page entity = hasSiteDistributor ?
siteDistributor.innerText.toLowerCase() : '';\n
digitalData.page.page_url_full =
decodeURI(window.location.href.replace(window.location.protocol + '//', ''));\n
digitalData.page.page_hostname = window.location.hostname;\n
digitalData.page.page_id =
decodeURI(window.location.pathname.split('.')[0].split('/').slice(-1)[0]);\n
digitalData.page.page language = document.documentElement.lang.split('-')[0];\n
digitalData.page.page_locale = document.documentElement.lang;\n
digitalData.page.page number = queryObj['searchTerm'] ? queryObj['pageNum'] ||
'1' : '';\n
                       digitalData.page.page_number_count = searchResultCount &&
searchPageResults ? Math.ceil(searchResultCount.dataset.searchResultsCount /
searchPageResults.dataset.pageResult).toString() : '';\n
digitalData.page.page_pathname = decodeURI(window.location.pathname);\n
digitalData.page.page_pathname_query = decodeURI(window.location.pathname +
window.location.search); \n
                                      digitalData.page.page query string =
decodeURI(window.location.search);\n
                                                digitalData.page.page_title =
window.document.title.toLowerCase();\n
                                                  digitalData.page.page url =
decodeURI(window.location.host + window.location.pathname);\n
digitalData.page.page_search_term = searchTermSelector ?
searchTermSelector.dataset.searchTerm.toLowerCase() : '';\n
digitalData.page.page_search_count = searchResultCount ?
searchResultCount.dataset.searchResultsCount : '';\n
digitalData.page.page_search_range = searchPageRangeSelector ?
```

```
searchPageRangeSelector.dataset.searchPageRange : '';\n\t\t\n\n
digitalData.visitor\n
                               digitalData.visitor.visitor_audience_role =
cookieObj['audienceRole'] || 'anonymous';\n
digitalData.visitor.visitor_uuid = cookieObj['UUIDCookie'] || '';\n
})();\n\t</script>\n\n
                           </body>\n</html>\n
1 \n<!DOCTYPE HTML>\n<html xmlns:og="http://ogp.me/ns#" lang="en-us">\n\n
           <meta charset="UTF-8"/>\n\t\n
                                           <title>Tactical asset allocation
outlook: November 2020 | Invesco US</title>\n
                                               \r\n<link rel="canonical"</pre>
href="https://www.invesco.com/us/en/insights/tactical-asset-allocation-outlook-
november-2020.html"/>\r\n<!-- Twitter Card data -->\r\n<meta name="twitter:card"
content="summary"/>\r\n\r\n<meta name="twitter:title" content="Tactical asset</pre>
allocation outlook: November 2020"/>\r\n<meta name="twitter:description"
content="Invesco Investment Solutions shares our monthly macro regime update and
allocation insights for November."/>\r\n<meta name="twitter:image" content="http
s://www.invesco.com/content/dam/invesco/us/en/images/insights/THMB-2020-long-
term-capital-market-assumptions-q3-update.jpg"/>\r\n\r\n<!-- Open Graph data
-->\r\n<meta property="og:title" content="Tactical asset allocation outlook:
November 2020"/>\r\n<meta property="og:type" content="website"/>\r\n<meta
property="og:url" content="https://www.invesco.com/us/en/insights/tactical-
asset-allocation-outlook-november-2020.html"/>\r\n<meta property="og:image" cont
ent="https://www.invesco.com/content/dam/invesco/us/en/images/insights/THMB-2020
-long-term-capital-market-assumptions-q3-update.jpg"/>\r\n<meta
property="og:description" content="Invesco Investment Solutions shares our
monthly macro regime update and allocation insights for November."/>
\r\n
\r\n\n\t\r\n\n\r\n\n\n\n\n\n\n\n\esco
Investment Solutions shares our monthly macro regime update and allocation
insights for November."/>\n<meta name="template" content="article-page-
template"/>\n\n<meta name="viewport" content="width=device-width, initial-
scale=1.0, minimum-scale=1.0, user-scalable=yes"/>\n<meta name="viewport"</pre>
content="width=device-width, initial-scale=1"/>\n\n\n
                                                       <link rel="icon"</pre>
href="/etc.clientlibs/invesco/clientlibs/main/resources/images/favicon.ico"
type="image/x-icon"/>\n
                          <link rel="shortcut icon"</pre>
href="/etc.clientlibs/invesco/clientlibs/main/resources/images/favicon.ico"
type="image/x-icon"/>\n
                          n\n
                                  n\n
                                          \n
rel="stylesheet" href="/etc.clientlibs/invesco/components/structure/article-
page/clientlib-invescoBrand2.0.min.ACSHASH063df4f5112b98f7adb00337c05834de.css"
type="text/css">\n\n\n\n\n\n
                                n\n
                                              <script type="text/javascript" s</pre>
rc="//assets.adobedtm.com/34d5f70e9c24/3c8eecd4371c/launch-08464e2fc26e.min.js">
</script>\n\n\n\n
                        \n
                              \n
                                   r\n
\n</head>\n
              <body class="article-page base-page page basicpage">\n
                                                                          \n
             n n n
                                 n n n
                                             \n
rel="stylesheet" href="/etc.clientlibs/invesco/components/structure/base-
page/clientlib-invescoBrand2.0.min.ACSHASHc21b657ca5cf009ff2d2408e65bd9f16.css"
class="skip-navigation" href="#mainContentItem" data-tab-index="2" title="Skip
to content" data-module="skip-navigation">Skip to content</a> \n <!-- <sly
```

```
data-sly-test.useLanguageSwitcher="false"/> --> \n <!-- [optional] .has-
utility-top-nav --> \n <!-- [optional] .has-search --> \n <header
class="navigation-header navigation-header--light has-utility-nav" data-
module="navigation-header"> \n <div hidden id="languageSwitcherJson"></div> \n
<div hidden id="isBackgroundSolid" data-isbackgroundsolid="true"></div> \n
<div hidden id="logoPath" data-solid-bg-</pre>
logo="/content/dam/invesco/global/en/images/invesco-blue.svg" data-transparent-
bg-logo="/content/dam/invesco/global/en/images/invesco-white.svg"></div> \n
<div class="navigation-header inner--wrapper"> \n
                                                      <div class="navigation-
header inner"> \n
                       <div class="navigation-header nav"> \n
class="navigation-header nav-inner"> \n
                                               <div class="navigation-
header_header "> \n
                            <div class="navigation-header_brand"> \n
                                                                               <a
href="/us/en/institutional.html" data-tab-index="4" class="navigation-
header_logo" data-nav-path="logo" data-nav-style="navigation header|primary"
data-nav-type="logo|single" data-event-name="navigation interaction" data-event-
action="nav menu click" data-event-category="navigation header|primary|logo"
data-event-label="logo" data-event-element="icon|logo"> <span class="navigation-
header__logo-img--wrapper navigation-header__logo-img--wrapper-dynamic"> <img
data-dynamic-logo="true" class="navigation-header__logo-img"
src="/content/dam/invesco/global/en/images/invesco-blue.svg" alt="Invesco US">
                       </div> \n
                                        <div class="navigation-header__action-</pre>
</span> </a> \n
                     <button data-tab-index="5" aria-label="Search"</pre>
wrapper"> \n
class="navigation-header__magnify-button"></button> \n
class="navigation-header burger" aria-haspopup="true" aria-expanded="false">
<span class="navigation-header__burger-text navigation-header__burger-text--</pre>
expand">Expand navigation</span> <span class="navigation-header__burger-text"
navigation-header__burger-text--collapse">Close navigation</span> </button> \n
                 <!-- %include __checkout widget cta --> \n
</div> \n
                                                                   </div>\n
                            <div class="navigation-header_mobile-search"> \n
<!-- /_header --> \n
<form class="navigation-header__mobile-search-form"</pre>
action="https://invesco.com/us/global-search" autocomplete="off" method="GET"
data-event-name="internal search" data-event-action="search|term" data-event-
category="navigation header|primary|search form" data-event-element="search
                  <div class="navigation-header__mobile-search-field "> \n
form"> \n
<div class="navigation-header__mobile-search-field-outer"> \n
aria-label="Search" class="navigation-header__mobile-search-label"></div> \n
<button data-tab-index="-1" aria-label="Search" class="navigation-</pre>
header__search-button" type="submit">Search</button> \n
tab-index="5" class="navigation-header search mobile-search" aria-
label="search" type="search" name="keyword" placeholder="Search" data-
predictive-search-url="/content/invesco/us/en/navigation-header/navigation-
header-variation-03-Institutional/jcr:content/root/grid/navigation_header.predic
tivesearch.json" data-all-results-label="See all results" data-event-
name="navigation interaction" data-event-action="search|open" data-event-
category="navigation header|primary|search form" data-event-label="Search" data-
event-element="search form"> \n
                                          <button data-tab-index="5" id="search-</pre>
reset" type="button" class="navigation-header__mobile-search-reset"></button> \n
```

```
<button data-tab-index="5" type="button" class="navigation-header__mobile-</pre>
search-cancel">Cancel \n
                                          </div> \n
class="navigation-header__predictive-search-list"> \n
                                                              \n
                </form> \n
</div> \n
                                 </div> \n
                                                <div class="navigation-
header__content"> \n
                           <div class="navigation-header__content-inner"> \n
<div class="navigation-header__primary-nav--wrapper"> \n
                                                                <!-- %include
__search-form --> \n
                            <form class="navigation-header__search-form</pre>
desktop" action="https://invesco.com/us/global-search" autocomplete="off"
method="GET" data-nav-path="search" data-nav-style="navigation header|primary"
data-nav-type="search form" data-event-name="internal search" data-event-
action="search|term" data-event-category="navigation header|primary|search form"
data-event-element="search form"> \n
                                              <div class="navigation-
header search-field "> \n
                                    <div class="navigation-header search-</pre>
label show-in-theme-2"></div> \n
                                          <button data-tab-index="-1" aria-</pre>
label="Search" class="navigation-header_search-button"
type="submit">Search</button> \n
                                          <input class="navigation-</pre>
header__search" aria-label="search" type="search" name="keyword"
placeholder="Search" data-tab-index="5" data-predictive-search-
url="/content/invesco/us/en/navigation-header/navigation-header-variation-03-Ins
titutional/jcr:content/root/grid/navigation_header.predictivesearch.json" data-
all-results-label="See all results" data-event-name="navigation interaction"
data-event-action="search|open" data-event-category="navigation
header|primary|search form" data-event-label="Search" data-event-element="search
                     \n
form"> \n
 \n
                  </div> \n
                                     </form> \n
class="navigation-header__primary-nav co-brand-logo-nav"> \n
                                                                     ul
class="navigation-header__primary-nav-list false" role="menubar"> \n
role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-clients-we-
serve/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header primary-nav-link drop-down-link "role="menuitem" data-nav-path="Clients
We Serve" data-nav-style="navigation header|primary" data-nav-type="menu tab"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Clients We Serve" data-event-element="nav item" data-title="Clients We
Serve">Clients We Serve</a> <span class="navigation-header__primary-nav-
expander"></span> \n
                                <!-- %include __secondary-nav --> \n
<div class="navigation-header__secondary-nav"> \n
                                                             <div
class="navigation-header__secondary-nav-inner"> \n
                                                               <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Clients We Serve</button> \n
                                                       <div class="navigation-</pre>
header secondary-nav-content"> \n
                                                <div class="navigation-
header__secondary-nav-wrapper "> \n
                                                   <div class="navigation-
header__secondary-nav-section "> \n
                                                   <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                     <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                                                                        <div>
```

```
\n
                      <div class="navigation-header__secondary-nav-subtitle">\n
Clients We Serve \n
                                      </div> \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/clients/asset-management-for-defined-benefit-
plans.html" class="navigation-header__secondary-nav-link" role="menuitem" data-
nav-path-prefix="Clients We Serve" data-nav-path-sufix="Defined Benefit " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Defined Benefit
</a>  \n
                                  item" role="presentation"> <a href="/us/en/institutional/clients/asset-
management-for-defined-contribution-plans.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Clients We
Serve" data-nav-path-sufix="Defined Contribution " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Defined Contribution </a> 
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/clients/asset-management-for-insurance-
companies.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Clients We Serve" data-nav-path-sufix="Insurance
Companies" data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Insurance Companies</a> 
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/clients/asset-management-for-liquidity-
investors.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Clients We Serve" data-nav-path-sufix="Global Liquidity
Investors " data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Global Liquidity Investors </a> 
                                                                 \n
</div> \n
                           </div> \n
                                                     </div> \n
</div> \n
                         <div class="navigation-header secondary-nav-section"</pre>
"> \n
                      <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                      </div> \n
                                               </div> \n
                                                                         <div
class="navigation-header__secondary-nav-section "> \n
                                                                     <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
                                                                        </div>
                  </div> \n
                                           <div class="navigation-
header__secondary-nav-section "> \n
                                                   <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                    </div> \n
</div> \n
                        </div>\n
                                              </div> \n
                                                                     </div> \n
</div>  \n
                          down-item" role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-investment-
capabilities/_jcr_content/root/grid/secondary_navigation.html"
class="navigation-header__primary-nav-link drop-down-link " role="menuitem"
data-nav-path="Investment Capabilities" data-nav-style="navigation
header|primary" data-nav-type="menu tab" data-event-name="navigation
interaction" data-event-action="nav menu click" data-event-category="navigation
header|primary|menu tab" data-event-label="Investment Capabilities" data-event-
element="nav item" data-title="Investment Capabilities">Investment
Capabilities</a> <span class="navigation-header_primary-nav-expander"></span>
```

```
<!-- %include __secondary-nav --> \n
                                                              <div
class="navigation-header__secondary-nav"> \n
                                                        <div
class="navigation-header__secondary-nav-inner"> \n
                                                               <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Investment Capabilities</button> \n
class="navigation-header__secondary-nav-content"> \n
                                                                 <div
class="navigation-header secondary-nav-wrapper "> \n
                                                                    <div
class="navigation-header__secondary-nav-section "> \n
                                                                    <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12"> \n
                                                                        <div
class="link-list parbase aem-GridColumn aem-GridColumn--default--12">\n
                            <div class="navigation-header secondary-nav-</pre>
< div > \n
subtitle">\n
                                Asset Class \n
                                                                  </div> \n
 \n
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/strategies/equities.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Equities" data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Equities</a> 
class="navigation-header__secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/strategies/fixed-income.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Fixed Income " data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Fixed Income </a> 
                                                                      <li
class="navigation-header secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/strategies/alternatives.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Alternatives " data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Alternatives </a> 
                                                                      <li
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/strategies/multi-asset.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Multi-Asset" data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Multi-Asset</a>  \n
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/strategies/money-market-and-liquidity.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Asset Class" data-nav-path-sufix="Money Market & Damp; Liquidity " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Money Market & amp;
Liquidity </a>  \n
                                           \n
                                                                     </div>
\n
                    </div> \n
                                              </div> \n
                  <div class="navigation-header secondary-nav-section"> \n
<div class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
<div class="link-list parbase aem-GridColumn aem-GridColumn--default--12">\n
< div > \n
                            <div class="navigation-header_secondary-nav-</pre>
subtitle">\n
                                Solutions \n
                                                                </div> \n
 \n
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
```

```
href="/us/en/institutional/solutions/custom-portfolios-and-analysis.html"
class="navigation-header_secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Custom Portfolios & amp; Analysis" data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Custom Portfolios
& Analysis</a>  \n
                                             header__secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/solutions/institutional-indexing.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Indexing" data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Indexing</a>  \n
class="navigation-header secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/solutions/alternative-investment-solutions.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Multi-Alternatives Platform" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Multi-Alternatives
Platform</a>  \n
                                        header__secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/solutions/insurance-solutions.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Insurance " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Insurance </a>  \n
class="navigation-header secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/solutions/dc-investment-solutions.html"
class="navigation-header secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Defined Contribution " data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Defined Contribution
</a>  \n
                                item" role="presentation"> <a href="/us/en/institutional/solutions/factor-
investing.html" class="navigation-header_secondary-nav-link" role="menuitem"
data-nav-path-prefix="Solutions" data-nav-path-sufix="Factor Investing" data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Factor
Investing</a>  \n
                                         header__secondary-nav-item" role="presentation"> <a
href="/us/en/solutions/collective-trust-funds.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Solutions"
data-nav-path-sufix="Collective Trusts" data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Collective Trusts</a> 
 \n
                          </div> \n
                                                    </div> \n
</div> \n
                        </div> \n
                                                <div class="navigation-
header__secondary-nav-section "> \n
                                                 <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                  </div> \n
                        <div class="navigation-header__secondary-nav-section"</pre>
</div> \n
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                     </div> \n
                                              </div> \n
</div>\n
                     </div> \n
                                           </div> \n
                                                               </div> 
             role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
```

```
header/navigation-header-variation-03-Institutional/sec-nav-insti-
insights/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header__primary-nav-link drop-down-link " role="menuitem" data-nav-
path="Insights" data-nav-style="navigation header|primary" data-nav-type="menu
tab" data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Insights" data-event-element="nav item" data-
title="Insights">Insights</a> <span class="navigation-header_primary-nav-
                              <!-- %include secondary-nav --> \n
expander"></span> \n
<div class="navigation-header__secondary-nav"> \n
class="navigation-header secondary-nav-inner"> \n
                                                             <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Insights</button> \n
                                             <div class="navigation-</pre>
header__secondary-nav-content"> \n
                                              <div class="navigation-
header_secondary-nav-wrapper "> \n
                                                 <div class="navigation-
header_secondary-nav-section "> \n
                                                 <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                   <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                     <div class="navigation-header__secondary-nav-subtitle">\n
Thought Leadership \n
                                       </div> \n
                                                                   ul
class="navigation-header__secondary-nav-list" role="menubar"> \n
 <a</pre>
href="/us/en/insights/topic/markets-economy-insights.html" class="navigation-
header secondary-nav-link" role="menuitem" data-nav-path-prefix="Thought
Leadership" data-nav-path-sufix="Markets & amp; Economy " data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Markets & Disconomy
                                </a>  \n
item" role="presentation"> <a href="/us/en/insights/topic/investment-
insights.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Investment "
data-nav-style="dropdown menu|text link" data-nav-type="menu tab">Investment
                                </a>  \n
item" role="presentation"> <a href="/us/en/insights/topic/research-and-
analysis.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Research " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Research </a> 
                      role="presentation"> <a href="/us/en/insights/topic/legislative-regulatory-
insights.html" class="navigation-header secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Legislative & amp;
Regulatory " data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Legislative & amp; Regulatory </a> 
class="navigation-header__secondary-nav-item" role="presentation"> <a
href="/us/en/insights/topic/defined-contribution-insights.html"
class="navigation-header_secondary-nav-link" role="menuitem" data-nav-path-
prefix="Thought Leadership" data-nav-path-sufix="Defined Contribution" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Defined
```

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Contribution</a> 
                                             header_secondary-nav-item" role="presentation"> <a
href="/us/en/insights/topic/all-insights.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Thought
Leadership" data-nav-path-sufix="All Insights" data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">All Insights</a>  \n
 \n
                           </div> \n
                                                      </div> \n
</div> \n
                         </div> \n
                                                 <div class="navigation-</pre>
header secondary-nav-section "> \n
                                                   <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                     <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                                                                       <div>
                      <div class="navigation-header__secondary-nav-subtitle">\n
Events \n
                             </div> \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/webcasts.html" class="navigation-header_secondary-
nav-link" role="menuitem" data-nav-path-prefix="Events" data-nav-path-
sufix="Webcasts" data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Webcasts</a>  \n
                                              header__secondary-nav-item" role="presentation"> <a
href="https://www.invesco.com/static/sf/leadership-exchange/index.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Events" data-nav-path-sufix="Invesco Leadership Exchange" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Invesco Leadership
Exchange</a>  \n
                                         \n
                                                                   </div> \n
                          </div> \n
<div class="navigation-header__secondary-nav-section "> \n
                                                                         <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
                                                                       </div>
                  </div> \n
                                           <div class="navigation-
header__secondary-nav-section "> \n
                                                   <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                    </div> \n
</div> \n
                                              </div> \n
                        </div>\n
</div>  \n
                          down-item" role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-account-
access/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header__primary-nav-link drop-down-link " role="menuitem" data-nav-path="Account
Access" data-nav-style="navigation header|primary" data-nav-type="menu tab"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Account Access" data-event-element="nav item" data-title="Account
Access">Account Access</a> <span class="navigation-header__primary-nav-
expander"></span> \n
                               <!-- %include __secondary-nav --> \n
<div class="navigation-header__secondary-nav"> \n
class="navigation-header__secondary-nav-inner"> \n
                                                              <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Account Access</button> \n
                                                     <div class="navigation-
```

```
header__secondary-nav-content"> \n
                                               <div class="navigation-
header__secondary-nav-wrapper "> \n
                                                  <div class="navigation-
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                    <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
\n
                     <div class="navigation-header__secondary-nav-subtitle">\n
                                    </div> \n
Account Access \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
 <a</pre>
href="https://invesco.com/us/account-access/client-
summary?audienceType=Institutional" class="navigation-header__secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="Collective Trust Login " data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Collective Trust Login </a> 
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
href="https://invesco.com/us/account-access/ina-select-
portfolio?audienceType=Institutional" class="navigation-header_secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="CDO & Bank Loans Performance Login " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">CDO & Bank Loans Performance Login
                                 item" role="presentation"> <a href="https://invesco.com/us/account-access-
ina/stable-value/bidding-specification" class="navigation-header__secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="Stable Value Wrap Providers Login " data-nav-style="dropdown menu|text
link" data-nav-type="menu tab">Stable Value Wrap Providers Login </a> 
 \n
                          </div> \n
                                                     </div> \n
</div> \n
                        </div> \n
                                                 <div class="navigation-
                                                  <div class="aem-Grid aem-
header_secondary-nav-section "> \n
Grid--12 aem-Grid--default--12 "> \n
                                                   </div> \n
</div> \n
                        <div class="navigation-header_secondary-nav-section"</pre>
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                                              </div> \n
                     </div> \n
class="navigation-header__secondary-nav-section "> \n
                                                                   <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12"> \n
                                                                      </div>
\n
                  </div> \n
                                         </div>\n
                                                               </div> \n
                    </div>  \n
                                              \n
                                                              </nav>\n
</div> \n
                                                  <!-- %include __checkout
<!-- /_primary-nav --> \n
                                 </div> \n
widget cta --> \n
                        <div class="navigation-header__utility-nav "> \n
 \n
class="navigation-header__utility-top-nav-item navigation-header__utility-top-
nav-item--contact" data-nav-style="navigation header|utility" data-nav-
type="contact us|link"> <a class="navigation-header__utility-top-nav-link no-
caret" href="/us/en/institutional/institutional-contact-us.html" target="_self"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|utility|contact us" data-event-
label="Contact Us" data-event-element="nav item" data-tab-index="3">Contact
```

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Us</a>  \n
                        data-nav-style="navigation header|utility" data-nav-type="audience selector">
<button class="navigation-header_utility-top-nav-link utility-sector-label"</pre>
aria-label="" aria-haspopup="true" aria-expanded="false" data-event-
name="navigation interaction" data-event-action="nav menu|open" data-event-
category="navigation header|utility|audience role selector" data-event-
element="dropdown menu" data-tab-index="3" data-trigger-utility="sector" data-
is-dropdown></button>  \n
                                                      \n
header utility-bottom-nav-list"> \n
                                           \n
                                                          </div>\n
<!-- / utility-top-nav --> \n
                                    <div class="navigation-
header distributor">\n
                              Invesco Advisers, Inc.\n
                                                             </div> \n
<!-- %include __utility-top-nav --> \n
                                           <!-- %include __distributor -->
         </div>\n
                        <!-- /_content-inner --> \n
                                                       </div>\n
                                <!-- /_nav-inner --> \n
/__content --> \n
                     </div>\n
                                                             </div>\n
<!-- /_nav --> \n
                     <!-- %include __utilities --> \n
class="navigation-header_utilities"> \n
                                          <div class="navigation-
header_utility_navigation-header_utility--login" hidden data-utility="login">
        <button class="navigation-header__utility-back">Login</button> \n
<div class="navigation-header_login-content"> \n
                                                    <div class="navigation-
header__login-wrapper"> \n
                                <!-- /_sector-list --> \n

                                                         <header
class="navigation-header__utility-header"> \n
                                                  </header> \n
                                                                    </div>
        </div> \n
                      </div> \n
                                   <!-- /_utility--location --> \n
<form method="POST" action="/bin/landingpage" name="userPrefrence"</pre>
id="userPrefrence" class="userPrefrence"> \n
                                               <input type="hidden"</pre>
id="langCode" name="langCode" value=""> \n
                                             <input type="hidden"</pre>
                                                  <input type="hidden"</pre>
id="countryCode" name="countryCode" value=""> \n
id="audienceRole" name="audienceRole" value=""> \n
                                                    <input type="hidden"</pre>
id="additionalParams" name="additionalParams" value=""> \n
                                                            <input
type="hidden" id="anchorHash" name="anchorHash" value=""> \n
                                                              <input
type="hidden" id="currentPageURL" name="currentPageURL" value=""> \n
<input type="hidden" id="loginState" name="loginState" value=""> \n
                                                                    <input
type="hidden" id="roleselectionrequired" name="roleselectionrequired"
                      <input type="hidden" id="langUrl" name="langUrl"</pre>
value="false"> \n
value=""> \n
                </form> \n
                              <div class="navigation-header_utility</pre>
navigation-header__utility--sector" hidden data-utility="sector"> \n
<section class="navigation-header__sector"> \n
                                                 <div class="navigation-</pre>
header__sector-content"> \n
                                <div class="navigation-header_sector-</pre>
                     \n
wrapper"> \n
<div class="navigation-header__location-header">\n
                                                         Select Your Role\n
                  header__sector-item"> <a href="/" class="navigation-header__sector-link
audience" title="Individual Investor" data-event-name="navigation interaction"
data-event-action="audience role|select" data-event-category="navigation
header|utility|audience role selector" data-event-label="Individual Investor"
data-event-element="dropdown menu" data-sector="sector--0">Individual
Investor</a>  \n
```

class="navigation-header_sector-item"> Financial Professional label="Institutional" class="navigation-header__sector-item"> Institutional / sector-list --> \n <header class="navigation-header utility-</pre> header"> \n <div class="navigation-header_utility-content-wrapper"</pre> aria-live="polite" data-sector-content="sector--0"> \n class="navigation-header location-header navigation-header location-header-Individual Investor\n sector-back">\n $</div> \n$ <h2 class="navigation-header_utility-title">Individual Investor</h2> \n Individual investors include: current investors; prospective investors, and plan administrators. <div class="navigation-header__sector-cta no-terms"> \n class="navigation-header__checkbox">\n Individual investors include: current investors; prospective investors, and plan administrators. <a href="/us/en/Individual-investor.html"</pre> </div> \n class="navigation-header__button navigation-header__button--segment-visit" title="Visit Site" data-event-name="navigation interaction" data-eventaction="nav menu click" data-event-category="navigation header|utility|audience role selector" data-event-element="nav item" data-type="IndividualInvestor" data-label="Individual Investor">Visit Site \n $</div> \n$ <div class="navigation-header_utility-content-wrapper"</pre> $</div> \n$ aria-live="polite" data-sector-content="sector--1"> \n class="navigation-header__location-header navigation-header__location-header-sector-back">\n Financial Professional\n $</div> \n$ <h2 class="navigation-header__utility-title">Financial Professional</h2> \n Financial professionals include: financial advisors, retail wholesalers; financial planners; broker/dealer home office; wirehouses; registered financial advisors; and bank trusts. <div class="navigation-header__sector-cta no-terms"> \n class="navigation-header checkbox">\n Financial professionals include: financial advisors, retail wholesalers; financial planners; broker/dealer home office; wirehouses; registered financial advisors; and bank trusts. \n $</div> \n$ Visit Site

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</div> \n
                                 </div> \n
                                                     <div class="navigation-
header_utility-content-wrapper" aria-live="polite" data-sector-content="sector
--2"> \n
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title">Institutional</h2> \n
                                       desc">  \n
                         <div class="navigation-header_sector-cta has-terms">
\n
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name="navigation interaction" data-event-action="checkbox|checked" data-event-
category="navigation header|utility|audience role selector" data-event-
element="checkbox"> \n
                                   <label
for="utility check 2">Institutional includes  defined contribution and
defined benefit plans (corporate, public, Taft-Hartley), foundations and
endowments, insurers, corporate cash managers, consultants, and trust
administrators/custodians. This portion of the Invesco website is specifically
prepared for institutional investors in the US. The content and
investment strategies discussed may not be suitable for and/or available to all
investors. By checking the box and clicking continue, I confirm that I am an US
Institutional Investor.<br>  </pa> \n
                                                        </div> \n
<a href="/us/en/institutional.html" class="navigation-header__button navigation-</pre>
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interaction" data-event-action="nav menu click" data-event-category="navigation
header | utility | audience role selector | data-event-element = "nav item" data-
type="Institutional" data-label="Institutional">Visit Site</a> \n
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header--sector-back">\n
                                   EDJONES\n
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Site</a> \n
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                                         <div class="navigation-
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             <div class="navigation-header__sector-cta no-terms"> \n
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<div class="author-card__role">Senior Portfolio Manager, Head of Global Tactical
Asset Allocation Solutions</div>\n
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                                                                                            </div>\n
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                                               \n
VIDEO PLAYER -->\n
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by Facebook</span></a>\n

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</section>\n</div>\n\n</div>\n\n\n\n\n\n</div>\n</div>\n
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class="cmp-text rich-text-editor__inner">\n\t\tThe return of the coronavirus
across Europe and the Americas represents an important risk factor for the
global economic recovery. We contemplated this risk back in the spring and
outlined a baseline scenario of a meaningful second wave of COVID-19 infections
across the northern hemisphere upon the return of colder temperatures. The
probability of a double-dip recession in Q4 2020 is certainly increasing across
multiple regions, but it does not need to translate into the same economic and
financial shock experienced with the first wave. A combination of ample monetary
and fiscal policy support, together with economic adjustments and measures
implemented over the past seven months, is likely to reduce the uncertainty
associated with this second wave compared to the first.In this month's
tactical asset allocation outlook, we discuss:\n\nWhy our forward-
looking measures of economic activity and market sentiment continue to suggest
the global economy should remain in a recovery regime in the near
term\nHow the relative growth momentum between the United States and
other developed markets has tilted in favor of the former\nWhy emerging
markets, particularly Asia, appear to have entered an expansion
regime\nThe implementation of one change to our investment
positioning<br/>or />\n\nWhy we maintain a higher risk posture than our
benchmark<sup><a href="#1">1</a></sup> in our Global Tactical Asset Allocation
model\n\nRead more about our <a href="https://www.invesco.com/us-re
st/contentdetail?contentId=d583b442cb6f1710VgnVCM1000006e36b50aRCRD&audience
Type=institutional" target="_blank">tactical asset allocation outlook and
positioning for November</a>.\n \cdot \n \cdot \n \cdot \n
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class="footnotes header ">\n
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                              </header>\n\n
                                                 \n
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                                          <span id="1"</pre>
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40% Bloomberg Barclays Global Agg USD Hedged)\n </span>\n
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                    <h2 class="content-cards-section title">Related
insights</h2>\n
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struggle to adjust in the face of Fed uncertainty</span>\n
                          \n
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                                              <span class="content-card author-</pre>
name" data-author-name="Kristina Hooper">Kristina Hooper</span>\n
                                 Markets
are confused about how aggressive the Fed may get this year, so we've seen the
ugly month of April continue into May. But Kristina Hooper believes there's
light at the end of the tunnel.
                                                         </div>\n
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2022</span>\n
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full-after-tough-month-for-markets.jpg.ivz-size.704x396.jpg 2x"/>\n
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\n
                                                                 <span>Looking
for a 'glass half full' after a tough month for markets</span>\n
\n
                                                        <span class="content-</pre>
                          \n
card author">By\n
                                              <span class="content-card author-</pre>
name" data-author-name="Kristina Hooper">Kristina Hooper</span>\n
                                 Kristina
</span>\n
Hooper looks back at five issues that pressured markets in April and explores
the "glass half full" moments she sees in each one. 
</div>\n
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the Fed">\n
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srcset="/content/dam/invesco/us/en/images/insights/ARTCL-HRO-global-growth-
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\n
                                                         <span>Global
growth, the French election, and the Fed</span>\n
                                                                   \n
                          <span class="content-card author">By\n
<span class="content-card_author-name" data-author-name="Kristina"</pre>
Hooper">Kristina Hooper</span>\n
                                                 </span>\n
Global growth expectations take a fall,
Macron secures victory in France, and the Fed spooks markets with talks of half-
point interest rate hikes at the next several meetings. Kristina Hooper
discusses these three key issues.\n
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26, 2022</span>\n
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                       <a</pre>
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plans.html" class="primary-footer__link ">Defined Benefit</a>  \n
 <a</pre>
href="/us/en/institutional/clients/asset-management-for-defined-contribution-
plans.html" class="primary-footer__link ">Defined Contribution</a>  \n
 <a</pre>
href="/us/en/institutional/clients/asset-management-for-insurance-
companies.html" class="primary-footer__link ">Insurance Companies</a>  \n
 <a</pre>
href="/us/en/institutional/clients/asset-management-for-liquidity-
investors.html" class="primary-footer__link ">Global Liquidity Investors</a>
               <a</pre>
 \n
```

```
href="https://www.invesco.com/us/login?audienceType=Institutional"
class="primary-footer__link ">Login/Logout</a>  \n
                                                  \n
                      <div class="primary-footer_group">\n
           </div> \n
                                                        <div
class="primary-footer__link-container"> \n
                                       footer_group-title">STRATEGIES BY ASSET CLASS \n
                                               footer__group-subtitle"> \n
                               \n
 <a</pre>
href="/us/en/institutional/strategies/equities.html" class="primary-footer__link
                     <a</pre>
">Equities</a>  \n
href="/us/en/institutional/strategies/fixed-income.html" class="primary-
footer link ">Fixed Income</a> 
                                      footer__links-item"> <a href="/us/en/institutional/strategies/alternatives.html"</pre>
class="primary-footer__link ">Alternatives</a>  \n
class="primary-footer__links-item"> <a</pre>
href="/us/en/institutional/strategies/multi-asset.html" class="primary-
footer__link ">Multi-Asset</a>  \n
                                     item"> <a href="/us/en/institutional/strategies/money-market-and-liquidity.html"</pre>
class="primary-footer_link ">Money Market & amp; Liquidity</a>  \n
                                 <div class="primary-footer_group">\n
 \n
           </div> \n
                      </div> \n
<div class="primary-footer__link-container"> \n
                                          footer__group-title">INVESTMENT SOLUTIONS \n
                                           footer group-subtitle"> \n
                               \n
 <a</pre>
href="/us/en/institutional/solutions/custom-portfolios-and-analysis.html"
class="primary-footer__link ">Custom Portfolios & Analysis</a>  \n
 <a</pre>
href="/us/en/institutional/solutions/institutional-indexing.html"
class="primary-footer__link ">Indexing</a>  \n
                                               footer_links-item"> <a href="/us/en/institutional/solutions/alternative-
investment-solutions.html" class="primary-footer__link ">Multi-Alternatives
Platform</a> 
                        <a</pre>
href="/us/en/institutional/solutions/insurance-solutions.html" class="primary-
footer_link ">Insurance</a>  \n
                                   item"> <a href="/us/en/institutional/solutions/dc-investment-solutions.html"</pre>
class="primary-footer__link ">Defined Contribution</a>  \n
class="primary-footer__links-item"> <a</pre>
href="/us/en/institutional/solutions/factor-investing.html" class="primary-
footer__link ">Factor Investing</a>  \n
                                         footer links-item"> <a href="/us/en/solutions/collective-trust-funds.html"</pre>
class="primary-footer__link ">Collective Trusts</a>  \n
                                                      \n
           </div> \n
                     <div class="primary-footer__group">\n
                                                        <div
class="primary-footer__link-container"> \n
                                      footer__group-title">THOUGHT LEADERSHIP \n
                                          footer__group-subtitle"> \n
                            \n
class="primary-footer_links-item"> <a href="/us/en/insights/topic/markets-</pre>
economy-insights.html" class="primary-footer_link ">Markets & Economy</a>
            <a</pre>
 \n
```

```
href="/us/en/insights/topic/investment-insights.html" class="primary-
footer_link ">Investment Insights</a>  \n
                                                footer_links-item"> <a href="/us/en/insights/topic/research-and-analysis.html"</pre>
class="primary-footer__link ">Research</a>  \n
                                                    footer_links-item"> <a href="/us/en/insights/topic/legislative-regulatory-
insights.html" class="primary-footer__link ">Legislative & amp; Regulatory</a>
              <a</pre>
href="/us/en/insights/topic/defined-contribution-insights.html" class="primary-
footer__link ">Defined Contribution</a>  \n
                                                 footer links-item"> <a href="/us/en/insights/topic/all-insights.html"</pre>
class="primary-footer__link ">All Insights</a>  \n
                                                        \n
                                   <div class="primary-footer__value-</pre>
</div> \n
            </div> \n
                       </div> \n
proposition"> \n
                  <div class="primary-footer brand-info"> \n
dynamic-logo="true" class="primary-footer_brand-logo"
src="/content/dam/invesco/apac-master/en/image/invesco-rebrand-logo-white.svg"
                        <div class="primary-footer_brand-info--desc">\n
alt="Invesco Logo"> \n
<i>Invesco is an independent investment management company built to help
individual investors, financial professionals, and institutions achieve their
financial goals. We offer a range of investment strategies across asset classes,
investment styles, and geographies. Our asset management capabilities include
mutual funds, ETFs, SMAs, model portfolios, indexing and insurance solutions,
and more.</i> \n
                       </div> \n
                                   </div> \n
                                                <div class="primary-
footer vp--link-list"> \n
                            <div class="primary-footer__group">\n
                                                                   <div
class="primary-footer link-container"> \n
                                            footer__group-title">Company Information \n
                                                footer group-subtitle"> \n
                                   \n
 <a</pre>
href="https://www.invesco.com/corporate" class="primary-footer__link ">Corporate
                        <a</pre>
Home < /a >  \n
href="https://careers.invesco.com/" class="primary-footer_link ">Careers</a>
                <a</pre>
 \n
href="https://ir.invesco.com/investor-relations/investor-center/"
class="primary-footer_link ">Investor Relations</a>  \n
                                                              <li
class="primary-footer__links-item"> <a href="/us/en/institutional/news.html"</pre>
class="primary-footer_link ">Institutional News</a>  \n
</div> \n
             </div> \n
                         </div> \n
                                      <div class="primary-footer__vp--</pre>
               <div class="primary-footer__social"> \n
                                                        <h3
social"> \n
class="primary-footer__social-title">STAY CONNECTED </h3> \n
class="primary-footer social-links"> \n
                                          footer social-links-item"> <a href="https://twitter.com/InvescoUS"</pre>
class="primary-footer social-link primary-footer social-link--twitter"
title="twitter" target="_blank"></a> 
                                              footer__social-links-item"> <a href="https://www.youtube.com/invesco"</pre>
class="primary-footer__social-link primary-footer__social-link--youtube"
title="youtube" target="_blank"></a> 
footer_social-links-item"> <a href="https://www.linkedin.com/showcase/invesco-
us-institutional" class="primary-footer_social-link primary-footer_social-link
```

```
--linkedin" title="linkedin" target="_blank"></a> 
                                                                                                   \n
                                        </div> \n <div class="primary-footer_ main
</div> \n
                     </div> \n
                                                               \n
primary-footer__main-full-width"> \n
class="primary-footer_links-item"> <a href="https://www.invesco.com/us/cont">
entdetail?contentId=440654c4a0561410VgnVCM100000c2f1bf0aRCRD&audienceType=in
stitutional" class="primary-footer__link body-font">Security</a>  \n
class="primary-footer links-item"> <a href="https://www.invesco.com/us/cont">
entdetail?contentId=258d54c4a0561410VgnVCM100000c2f1bf0aRCRD&audienceType=in
stitutional" class="primary-footer link body-font">Terms of Use </a> 
class="primary-footer links-item"> <a href="https://www.invesco.com/us-rest"><a href="https://www.invesco.com/us-rest">><a href="
/contentdetail?contentId=778c58f07fff1410VgnVCM100000c2f1bf0aRCRD&dnsName=us
" class="primary-footer__link body-font">Privacy</a>  \n
class="primary-footer__links-item"> <a href="/corporate/en/invesco-website-
accessibility-statement.html" class="primary-footer__link body-font"
target="_blank">Accessibility</a>  \n
                                                                         footer_links-item"> <a href="https://www.invesco.com/us/contentdetail?contentId")</pre>
=b04d54c4a0561410VgnVCM100000c2f1bf0aRCRD&audienceType=instituional"
class="primary-footer_link body-font">Legal and Compliance</a>  \n
 <a</pre>
href="https://www.invesco.com/us/financial-
products/prospectus?audienceType=institutional" class="primary-footer__link
body-font">Prospectus</a> 
                                                            <a href="https://www.invesco.com/us/contentdetail?contentId=4fef4f7c46771410VgnV">https://www.invesco.com/us/contentdetail?contentId=4fef4f7c46771410VgnV
CM100000c2f1bf0aRCRD&audienceType=institutional" class="primary-footer link
body-font">Money Market Holdings</a> 
                                                                             \n
class="primary-footer disclosures body-font font-white"> \n
  \n
                           NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE
             This information is intended for Institutional Investors that are US
\n
residents. <br >  \n
                                            All material presented is compiled from sources
believed to be reliable and current, but accuracy cannot be guaranteed. This is
not to be construed as an offer to buy or sell any financial instruments and
should not be relied upon as the sole factor in an investment making decision.
As with all investments there are associated inherent risks. This should not be
considered a recommendation to purchase any investment product. This does not
constitute a recommendation of any investment strategy for a particular
investor. Investors should consult a financial professional before making any
investment decisions if they are uncertain whether an investment is suitable for
them. Please obtain and review all financial material carefully before
investing. \n
                                    Institutional Separate Accounts and Separately
Managed Accounts are offered by Invesco Advisers, Inc. and other affiliated
investment advisers, which provide investment advisory services and do not sell
                                      Certain other vehicles mentioned are not offered by
securities. \n
Invesco Advisers, Inc. and are available via other affiliated entities which,
like Invesco Advisers, Inc., are indirect, wholly owned subsidiaries of Invesco
                           </div> \n
Ltd. \n
                                          \n
                                                                            </div> \n
                                                                                                 <div
class="primary-footer__copyright body-font">\n
                                                                                ©2022 Invesco Ltd. All
rights reserved \n
                                 </div> \n
                                                      </div> \n </section> \n </div> \n
```

```
</body>\n</html> \n\n\t<div>\n\n\t<div hidden id="complianceConfig" data-
exclusion-list='twitter.com,www.facebook.com,www.linkedin.com,www.youtube.com,ww
w.instagram.com, www.invesco.com, retirementsolutions.financialtrans.com, ir.invesc
o.com,careers.invesco.com,www.collegebound529.com,www.secureaccountview.com,www3
.financialtrans.com,www.blog.invesco.us.com,www.brainshark.com,dstvision.com,www
.secureaccountview.com, www.snwam.com, account-service.invesco.com, app.everviz.com
, bcove.video, betaretirementsolutions.financialtrans.com, cdn.unite529.com, event.o
n24.com,identity.invesco.com,invescocontributionmanager.financialtrans.com,www.s
ecureaccountview.com, players.brightcove.net, policies.google.com, invesco.com, smar
tiq.invesco.com,corporatereport.com,www.corporatereport.com,www.interactivebroke
rs.com,www.m1finance.com,robinhood.com,www.schwab.com,investor.vanguard.com,www.
fidelity.com'></div>\n\n<section id="compliance" role="dialog" data-
module="modal-comp" class="modal-comp " data-show-modal-onpageload="false">\n
<div class="modal-comp__container modal-comp__container-small">\n
                                                                       <button
class="modal-comp__container-close"></button>\n
                                                     <div class="modal-
comp__container-content">\n
                                      <h2 class="modal-comp__container-content</pre>
--title false">Leaving Invesco.com</h2>\n
                                                    <div class="modal-
comp_container-content--description">This link takes you to a site not
affiliated with Invesco. The site is for informational purposes only. Invesco
does not guarantee nor take any responsibility for any of the
                                 <button id="complianceBtn" data-href="" data-</pre>
content.\n</div>\n
target="" class="primary">Continue</button>\n
                                                    </div>\n
</div>\n</section>\n\n</div>\n\n\n\n\n\n\n
                                                       </div>\n
</div>\n</div>\n
                             \n
                                   \n
                                         n n
                                                   \n
                                                        \n
                                                                     <script
src="/etc.clientlibs/invesco/components/structure/article-page/clientlib-invesco
n\n
                 n\n
                               <script
type="text/javascript">_satellite.pageBottom();</script>\n\n
                                                                \n
                                                                      \n
               n\n
                           \n
                                     \n
                                           <script
type="text/javascript">\n\t\tdigitalData = window.digitalData ||
{};\n\t\tdigitalData = JSON.parse("{\n \x22page\x22: {\n
\x22page_author_name\x22: [\n
                                  \x22alessio de longis\x22\n
                                                                ],\n
\x22page_tag_program\x22: [\n
                                  \x22solutions\x22n
\x22page_error\x22: \x22\x22,\n
                                  \x22page\_campaign\_iid\x22: \x22\x22,\n
\x22page_tag_asset_class\x22: [\n
                                      \x22multi\u002Dasset\x22\n
\x22page_environment\x22: \x22prod\x22,\n
                                            \x22page_query_string\x22:
              \x22page id en\x22: \x22tactical\u002Dasset\u002Dallocation\u002D
\x22\x22,\n
outlook\u002Dnovember\u002D2020\x22,\n
                                         \x22page_tag_strategy\x22: [],\n
\x22page tag article author\x22: [\n
                                         \x22alessio de longis\x22\n
\x22page\_domain\x22: \x22\x22,\n
                                   \x22page_instance_id\x22: \x22PROD|tactical\
u002Dasset\u002Dallocation\u002Doutlook\u002Dnovember\u002D2020\x22,\n
x22page\_channel\\x22: \\x22\\x22,\\n
                                    \x22page_tag_topic\x22: [\n
                 \x22asset allocation\x22,\n
                                                x22markets and economyx22
asset\x22,\n
],\n
       \x22page_name\x22: \x22ivz
main\\u003eus\\u003een\\u003einsights\\u003etactical asset allocation outlook
november 2020\x22,\n
                       \x22page\_breadcrumb\x22: \x22\x22,\n
\x22page_tag_investment_vehicle\x22: \x22\x22,\n
                                                  \x22page_pathname_query\x22:
```

```
x22\x22,\n
               x22page_tag_person\\x22: \\x22\\x22,\\n
                                                       \x22page_region\x22:
                 \x22page\_tag\_business\_unit\x22: \x22\x22,\n
\x22na\x22,\n
\x22page_filter_results\x22: \x22\x22,\n
                                            x22page_sort\\x22: \\x22\\x22,\\n
\x22page_platform\x22: \x22aem\x22,\n
                                        \x22pageInstanceID\x22: \x22PROD:tactic
al\u002Dasset\u002Dallocation\u002Doutlook\u002Dnovember\u002D2020\x22,\n
                           \x22destinationURL\x22: \x22https:\/\/www.invesco.com
\x22pageInfo\x22: {\n}
\/content\/invesco\/us\/en\/insights\/tactical\u002Dasset\u002Dallocation\u002Do
utlook\u002Dnovember\u002D2020.audienceRole\u002Dinvesco_user\u002Drole___Insti
tutional.loginState\u002Dinvesco authentication loggedOut.html\x22,\n
\x22pageID\x22: \x22tactical\u002Dasset\u002Dallocation\u002Doutlook\u002Dnovemb
er\u002D2020\x22,\n
                         \x22pageName\x22: \x22Tactical asset allocation
outlook: November 2020 | Invesco US\x22,\n
                                                \x22referringURL\x22: \x22\x22\n
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               \x22page_tag_product\x22: [],\n
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\x22senior portfolio manager, head of global tactical asset allocation
solutions\x22\n
                   ],\n
                           \x22attributes\x22: {\n}
                                                        \x22investmentInfo\x22:
           x22investmentVehicle x22: x22 x22, n
                                                         \x22assetClass\x22: [\n
\x22Asset Class \/ Multi\u002DAsset\x22\n
                                                 ]\n
                                                          },\n
\x22event\x22: {\n}
                          \x22eventTitle\x22: \x22Tactical asset allocation
outlook: November 2020\x22,\n
                                     x22eventVenue x22: x22 x22, n
x22eventLocation x22: x22 x22, n
                                          \x22eventType\x22: \x22\x22\n
}.\n
          \x22content\x22: {\n}
                                      \x22topics\x22: [\n
                                                                   \x22Multi
                                                           \x22Markets and
Asset\x22,\n
                     \x22Asset allocation\x22,\n
                                 \x22publishDate\x22:
Economy\x22\n
                     ],\n
\x222020\u002D11\u002D11T17:03:00.000Z\x22,\n
                                                     \x22readTime\x22:
x22\x22,\n
                   \x22expirationDate\x22:
\x222022\u002D11\u002D30T17:11:00.000Z\x22,\n
                                                     \x22authors\x22: [\n
                                                   },\n
\x22Alessio de Longis\x22\n
                                   ]\n
                                            }\n
\x22page_tag_content_type\x22: \x22insight\x22,\n
                                                     \x22page_tag_user_role\x22:
[\n]
         x22institutional\\x22\\n
                                    ],\n
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\x22investment solutions\x22\n
                                          \x22category\x22: {\n}
                                  ],\n
\x22invescoEntity\x22: \x22\x22,\n
                                        \x22contentTemplate\x22: \x22Article
Page Template\x22,\n
                          \x22theme\x22: [\n
                                                    \x22Investment
solutions\x22\n
                     ],\n
                               \x22program\x22: [\n
                                                           x22Solutions x22\n
1.\n
          \x22contentType\x22: \x22Insight\x22\n
                                                    },\n
\x22page_tag_event_type\x22: \x22\x22\n },\n \x22visitor\x22: {\n}
\x22visitor audience role sub\x22: \x22\x22,\n
                                                  \x22visitor permissions\x22:
x22\x22,\n
              \x22visitor\_uuid\x22: \x22\x22,\n
\x22visitor_audience_role\x22: \x22\x22,\n
                                              \x22visitor_login_status\x22:
\x22\log d \out\x22\n \n}");\n\n
                                         (function () {\n
cookieArr = document.cookie ? document.cookie.split('; ') : [];\n
                                                                             var
                             for (var i = 0; i < cookieArr.length; i++) {\n</pre>
cookieObj = {};\n
var cur = cookieArr[i].split('=');\n
                                                    cookieObj[cur[0]] =
```

```
cur[1].toLowerCase();\n
                                   \n \n
                                                    var queryArr =
window.location.search ? window.location.search.replace('?', '').split('&') :
                                                 for (var i = 0; i <
                 var queryObj = {};\n
queryArr.length; i++) {\n
                                         var cur = queryArr[i].split('=');\n
queryObj[cur[0]] = cur[1].toLowerCase();\n
siteDistributor = document.querySelector('.navigation-header__distributor');\n
var hasSiteDistributor = siteDistributor && siteDistributor.offsetWidth > 0 &&
siteDistributor.offsetHeight > 0;\n
                                               var searchResultCount =
document.guerySelector('[data-search-results-count]');\n
searchPageResults = document.querySelector('[data-page-result]');\n
var searchTermSelector = document.querySelector('[data-search-term]');\n
var searchPageRangeSelector = document.querySelector('[data-search-page-
range]');\n\n
                         // digitalData.page\n
digitalData.page.page_anchor = window.location.hash.split('#').pop();\n
digitalData.page.page_audience_role = cookieObj['audienceRole'] ||
                          digitalData.page.page_country =
'anonymous';\n
document.documentElement.lang.split('-')[1].toLowerCase();\n
digitalData.page.page_charset = document.characterSet;\n
digitalData.page.page_campaign_cid = queryObj['cid'] || '';\n
digitalData.page.page_campaign_iid = queryObj['iid'] || '';\n
digitalData.page.page_entity = hasSiteDistributor ?
siteDistributor.innerText.toLowerCase() : '';\n
digitalData.page.page_url_full =
decodeURI(window.location.href.replace(window.location.protocol + '//', ''));\n
digitalData.page.page_hostname = window.location.hostname;\n
digitalData.page.page id =
decodeURI(window.location.pathname.split('.')[0].split('/').slice(-1)[0]);\n
digitalData.page.page_language = document.documentElement.lang.split('-')[0];\n
digitalData.page.page_locale = document.documentElement.lang;\n
digitalData.page.page number = queryObj['searchTerm'] ? queryObj['pageNum'] | |
'1' : '';\n
                       digitalData.page.page_number_count = searchResultCount &&
searchPageResults ? Math.ceil(searchResultCount.dataset.searchResultsCount /
searchPageResults.dataset.pageResult).toString() : '';\n
digitalData.page.page_pathname = decodeURI(window.location.pathname);\n
digitalData.page.page_pathname_query = decodeURI(window.location.pathname +
window.location.search); \n
                                      digitalData.page.page_query_string =
decodeURI(window.location.search);\n
                                                digitalData.page.page title =
window.document.title.toLowerCase();\n
                                                  digitalData.page.page_url =
decodeURI(window.location.host + window.location.pathname);\n
digitalData.page.page_search_term = searchTermSelector ?
searchTermSelector.dataset.searchTerm.toLowerCase() : '';\n
digitalData.page.page_search_count = searchResultCount ?
searchResultCount.dataset.searchResultsCount : '';\n
digitalData.page.page_search_range = searchPageRangeSelector ?
searchPageRangeSelector.dataset.searchPageRange : '';\n\t\t\n\n
                                                                             //
                                 digitalData.visitor.visitor_audience_role =
digitalData.visitor\n
cookieObj['audienceRole'] || 'anonymous';\n
```

```
[160]: html_list = ok_status_df['html'].to_list()
# soup = BeautifulSoup(html_list[100], 'html.parser')
# soup.prettify
ce = ContentExtractor(html_list[30])
parts = ce.run()
# parts.body
# import dataclasses
# dataclasses.asdict(parts)
parts.article_text_content()
```

[160]: 'Consumers and COVID: Spending patterns adjust to the new normal\n\nKey takeaways\nTrends have emerged amid the crisis\nSome noticeable trends have emerged, but we uncover less obvious changes in consumer behavior. \nPandemic fears hit spending\nAs fears over the coronavirus peaked in April, fell 16% year-over-year.\nServices spending remains low\nDespite a temporary boost in durables expenditure over the summer, services spending continues to suffer.\n\nSince the start of 2020, we have witnessed the most volatile period of consumer spending in US history. The primary catalyst has been the COVID-19 pandemic, which has taken almost 1 million lives globally.1\xa0It has been the worst pandemic since the Asian flu in 1957, which resulted in 1.1 million lives lost, including 100,000 in the US.2\xa0To minimize the chance of contracting the virus, millions of consumers have disrupted their lives to avoid contact with others. Businesses and local governments have also restricted commerce to enforce social distancing guidelines. These changes have caused consumer spending to plunge, driven by sharp declines in spending on services and consumer durables. While some obvious consumer trends have emerged from the COVID-19 crisis - such as the boon to online retailers and the devastating damage to the cruise industry - we analyze recent consumer data to uncover less obvious COVID-19-related trends and changes in consumer behavior.\n\nShifts in US consumer spending patterns\nUS consumer spending totaled some \$13 trillion in 2019.3\xa0Most spending was on services (\$8.5 trillion) followed by non-durable goods, like groceries (\$3 trillion), and durable goods, like appliances (\$1.8 trillion).3\xaOAfter the onset of the pandemic in March, US spending on nondurables spiked by around 7% year-over-year, as consumers stocked pantries to prepare for an\xa0extended home stay (Figure 1). Spending on durable goods and services, on the other hand, fell by around 8% (Figure 1). As fears over the coronavirus peaked in April, total spending fell an astounding 16% year-overyear, but consumption in certain services sectors, such as hotels and airlines, cratered by more than 80% versus the previous year. $4\n\$

```
[161]: # create new column to hold page content data
tqdm.pandas()
ok_status_df["text"] = ok_status_df.progress_apply(extract, axis=1)
```

```
[162]: #force output to display the full text retrieved from html
      pd.set_option('display.max_colwidth', -1)
      ok_status_df.head(1)
      /var/folders/b4/9v21tks179x1cywx6xc4hngh0000gn/T/ipykernel_17689/2336455474.py:2
      : FutureWarning: Passing a negative integer is deprecated in version 1.0 and
      will not be supported in future version. Instead, use None to not limit the
      column width.
        pd.set_option('display.max_colwidth', -1)
[162]: Path \
      0 /content/invesco/us/en/insights/election-2020-the-senate-is-definitely-in-
      play
                                                   Title \
      O Election 2020: The Senate is definitely in play
                                                           Template \
      0 /conf/invesco/settings/wcm/templates/article-page-template
                          Last Modified Tags \
      0 Tue, 3 Nov 2020 15:06:30 +0000 NaN
                                                           Topic Tags \
      O Legislative and regulatory; Washington update; Plan governance
          Program tags Theme tags Content type tags  User role tags \
      O Election 2020 Elections Insight
                                                     [Institutional]
        Replication Status \
      O NOT ACTIVATED
          Full Path \
      0 https://www.invesco.com/us/en/insights/election-2020-the-senate-is-
      definitely-in-play.html
         status_codes \
      0 200
      0 \n<!DOCTYPE HTML>\n<html xmlns:og="http://ogp.me/ns#" lang="en-us">\n\n
                  <meta charset="UTF-8"/>\n\t\n
                                                   <title>Election 2020: The Senate is
      <head>\n
      definitely in play | Invesco US</title>\n
                                                   \r\n<link rel="canonical"
      href="https://www.invesco.com/us/en/insights/election-2020-the-senate-is-
      definitely-in-play.html"/>\r\n<!-- Twitter Card data -->\r\n<meta
```

| 381/381 [02:35<00:00, 2.44it/s]

100%

```
name="twitter:card" content="summary"/>\r\n\r\n<meta name="twitter:title"
content="Election 2020: The Senate is definitely in play"/>\r\n<meta
name="twitter:description" content="Our US Government Affairs team discusses the
Senate elections and how they could shift the balance of political power.
"/>\r\n<meta name="twitter:image"
content="https://www.invesco.com/content/dam/invesco/us/en/images/insights/THMB-
election-2020-the-senate-is-definitely-in-play.jpg"/>\r\n\r\n<!-- Open Graph
data -->\r\n<meta property="og:title" content="Election 2020: The Senate is
definitely in play"/>\r\n<meta property="og:type" content="website"/>\r\n<meta
property="og:url"
content="https://www.invesco.com/us/en/insights/election-2020-the-senate-is-
definitely-in-play.html"/>\r\n<meta property="og:image"
content="https://www.invesco.com/content/dam/invesco/us/en/images/insights/THMB-
election-2020-the-senate-is-definitely-in-play.jpg"/>\r\n<meta
property="og:description" content="Our US Government Affairs team discusses the
Senate elections and how they could shift the balance of political power. "/>
\r\n
                                    \r\n
\r\n\n\t\r\n\n\r\n\n\n\n\n\n\n\n\n\seta name="description" content="Our US
Government Affairs team discusses the Senate elections and how they could shift
the balance of political power. "/>\n<meta name="template" content="article-
page-template"/>\n\n<meta name="viewport" content="width=device-width, initial-
scale=1.0, minimum-scale=1.0, user-scalable=yes"/>\n<meta name="viewport"
content="width=device-width, initial-scale=1"/>\n\n\n
                                                      <link rel="icon"</pre>
href="/etc.clientlibs/invesco/clientlibs/main/resources/images/favicon.ico"
type="image/x-icon"/>\n
                         <link rel="shortcut icon"</pre>
href="/etc.clientlibs/invesco/clientlibs/main/resources/images/favicon.ico"
type="image/x-icon"/>\n
                                 n\n
                         n\n
                                         \n
rel="stylesheet" href="/etc.clientlibs/invesco/components/structure/article-
page/clientlib-invescoBrand2.0.min.ACSHASH063df4f5112b98f7adb00337c05834de.css"
type="text/css">\n\n\n\n\n\n
                                             <script type="text/javascript" s</pre>
                                n\n
rc="//assets.adobedtm.com/34d5f70e9c24/3c8eecd4371c/launch-08464e2fc26e.min.js">
</script>\n\n\n\n
                       \n
                             \n
                                   r\n
                                            \n
                                                        \n
\n</head>\n
              <body class="article-page base-page page basicpage">\n
                                                                         \n
             n\n\n
                                n\n\n
                                            \n
rel="stylesheet" href="/etc.clientlibs/invesco/components/structure/base-
page/clientlib-invescoBrand2.0.min.ACSHASHc21b657ca5cf009ff2d2408e65bd9f16.css"
class="skip-navigation" href="#mainContentItem" data-tab-index="2" title="Skip
to content" data-module="skip-navigation">Skip to content</a> \n <!-- <sly
data-sly-test.useLanguageSwitcher="false"/> --> \n <!-- [optional] .has-
utility-top-nav --> \n <!-- [optional] .has-search --> \n <header
class="navigation-header navigation-header--light has-utility-nav" data-
<div hidden id="isBackgroundSolid" data-isbackgroundsolid="true"></div> \n
<div hidden id="logoPath" data-solid-bg-</pre>
logo="/content/dam/invesco/global/en/images/invesco-blue.svg" data-transparent-
bg-logo="/content/dam/invesco/global/en/images/invesco-white.svg"></div> \n
```

```
<div class="navigation-header__inner--wrapper"> \n
                                                      <div class="navigation-
header__inner"> \n
                       <div class="navigation-header__nav"> \n
class="navigation-header__nav-inner"> \n
                                               <div class="navigation-
                            <div class="navigation-header_brand"> \n
header_header "> \n
                                                                               <a
href="/us/en/institutional.html" data-tab-index="4" class="navigation-
header__logo" data-nav-path="logo" data-nav-style="navigation header|primary"
data-nav-type="logo|single" data-event-name="navigation interaction" data-event-
action="nav menu click" data-event-category="navigation header|primary|logo"
data-event-label="logo" data-event-element="icon|logo"> <span class="navigation-
header__logo-img--wrapper navigation-header__logo-img--wrapper-dynamic"> <img
data-dynamic-logo="true" class="navigation-header logo-img"
src="/content/dam/invesco/global/en/images/invesco-blue.svg" alt="Invesco US">
</span> </a> \n
                       </div> \n
                                        <div class="navigation-header action-</pre>
                     <button data-tab-index="5" aria-label="Search"</pre>
wrapper"> \n
class="navigation-header__magnify-button"></button> \n
class="navigation-header__burger" aria-haspopup="true" aria-expanded="false">
<span class="navigation-header_burger-text navigation-header_burger-text--</pre>
expand">Expand navigation</span> <span class="navigation-header_burger-text"
navigation-header_burger-text--collapse">Close navigation</span> </button> \n
</div> \n
                 <!-- %include __checkout widget cta --> \n
<!-- /_header --> \n
                            <div class="navigation-header__mobile-search"> \n
<form class="navigation-header__mobile-search-form"</pre>
action="https://invesco.com/us/global-search" autocomplete="off" method="GET"
data-event-name="internal search" data-event-action="search|term" data-event-
category="navigation header|primary|search form" data-event-element="search
                  <div class="navigation-header mobile-search-field "> \n
<div class="navigation-header__mobile-search-field-outer"> \n
aria-label="Search" class="navigation-header__mobile-search-label"></div> \n
<button data-tab-index="-1" aria-label="Search" class="navigation-</pre>
header_search-button" type="submit">Search</button> \n
                                                                   <input data-</pre>
tab-index="5" class="navigation-header__search mobile-search" aria-
label="search" type="search" name="keyword" placeholder="Search" data-
predictive-search-url="/content/invesco/us/en/navigation-header/navigation-
header-variation-03-Institutional/jcr:content/root/grid/navigation_header.predic
tivesearch.json" data-all-results-label="See all results" data-event-
name="navigation interaction" data-event-action="search|open" data-event-
category="navigation header|primary|search form" data-event-label="Search" data-
event-element="search form"> \n
                                          <button data-tab-index="5" id="search-</pre>
reset" type="button" class="navigation-header mobile-search-reset"></button> \n
<button data-tab-index="5" type="button" class="navigation-header__mobile-</pre>
search-cancel">Cancel</button> \n
                                           </div> \n
class="navigation-header__predictive-search-list"> \n
                                                                 \n
</div> \n
                 </form> \n
                                  </div> \n
                                                  <div class="navigation-
header__content"> \n
                            <div class="navigation-header__content-inner"> \n
<div class="navigation-header__primary-nav--wrapper"> \n
                                                                   <!-- %include
                              <form class="navigation-header_search-form"</pre>
__search-form --> \n
desktop" action="https://invesco.com/us/global-search" autocomplete="off"
```

```
method="GET" data-nav-path="search" data-nav-style="navigation header|primary"
data-nav-type="search form" data-event-name="internal search" data-event-
action="search|term" data-event-category="navigation header|primary|search form"
data-event-element="search form"> \n
                                              <div class="navigation-
header_search-field "> \n
                                     <div class="navigation-header_search-</pre>
label show-in-theme-2"></div> \n
                                           <button data-tab-index="-1" aria-</pre>
label="Search" class="navigation-header__search-button"
type="submit">Search</button> \n
                                           <input class="navigation-</pre>
header search" aria-label="search" type="search" name="keyword"
placeholder="Search" data-tab-index="5" data-predictive-search-
url="/content/invesco/us/en/navigation-header/navigation-header-variation-03-Ins
titutional/jcr:content/root/grid/navigation_header.predictivesearch.json" data-
all-results-label="See all results" data-event-name="navigation interaction"
data-event-action="search|open" data-event-category="navigation
header|primary|search form" data-event-label="Search" data-event-element="search"
form"> \n
                     \n
 \n
                  </div> \n
                                     </form> \n
                                                        <nav
class="navigation-header__primary-nav co-brand-logo-nav"> \n
                                                                     ul
class="navigation-header__primary-nav-list false" role="menubar"> \n
role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-clients-we-
serve/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header primary-nav-link drop-down-link "role="menuitem" data-nav-path="Clients
We Serve" data-nav-style="navigation header|primary" data-nav-type="menu tab"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Clients We Serve" data-event-element="nav item" data-title="Clients We
Serve">Clients We Serve</a> <span class="navigation-header_primary-nav-
expander"></span> \n
                                <!-- %include __secondary-nav --> \n
<div class="navigation-header__secondary-nav"> \n
                                                             <div
class="navigation-header__secondary-nav-inner"> \n
                                                               <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Clients We Serve</button> \n
                                                       <div class="navigation-</pre>
header__secondary-nav-content"> \n
                                                <div class="navigation-
header__secondary-nav-wrapper "> \n
                                                   <div class="navigation-
header__secondary-nav-section "> \n
                                                   <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                     <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                                                                        <div>
\n
                      <div class="navigation-header__secondary-nav-subtitle">\n
Clients We Serve \n
                                       </div> \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/clients/asset-management-for-defined-benefit-
plans.html" class="navigation-header__secondary-nav-link" role="menuitem" data-
nav-path-prefix="Clients We Serve" data-nav-path-sufix="Defined Benefit " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Defined Benefit
```

```
</a>  \n
                                 item" role="presentation"> <a href="/us/en/institutional/clients/asset-
management-for-defined-contribution-plans.html" class="navigation-
header_secondary-nav-link" role="menuitem" data-nav-path-prefix="Clients We
Serve" data-nav-path-sufix="Defined Contribution " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Defined Contribution </a> 
 <a</pre>
href="/us/en/institutional/clients/asset-management-for-insurance-
companies.html" class="navigation-header secondary-nav-link" role="menuitem"
data-nav-path-prefix="Clients We Serve" data-nav-path-sufix="Insurance
Companies" data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Insurance Companies</a>  \n
class="navigation-header__secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/clients/asset-management-for-liquidity-
investors.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Clients We Serve" data-nav-path-sufix="Global Liquidity
Investors " data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Global Liquidity Investors </a> 
                                                               \n
                                                   </div> \n
</div> \n
                          </div> \n
                        <div class="navigation-header_secondary-nav-section"</pre>
</div> \n
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                     </div> \n
                                              </div> \n
                                                                       <div
class="navigation-header__secondary-nav-section "> \n
                                                                   <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12"> \n
                                                                      </div>
\n
                  </div> \n
                                          <div class="navigation-
header secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                   </div> \n
</div> \n
                       </div>\n
                                             </div> \n
                                                                   </div> \n
</div>  \n
                         down-item" role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-investment-
capabilities/_jcr_content/root/grid/secondary_navigation.html"
class="navigation-header__primary-nav-link drop-down-link " role="menuitem"
data-nav-path="Investment Capabilities" data-nav-style="navigation
header|primary" data-nav-type="menu tab" data-event-name="navigation
interaction" data-event-action="nav menu click" data-event-category="navigation
header|primary|menu tab" data-event-label="Investment Capabilities" data-event-
element="nav item" data-title="Investment Capabilities">Investment
Capabilities</a> <span class="navigation-header__primary-nav-expander"></span>
              <!-- %include __secondary-nav --> \n
                                                            <div
class="navigation-header secondary-nav"> \n
                                                      <div
class="navigation-header__secondary-nav-inner"> \n
                                                             <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Investment Capabilities</button> \n
class="navigation-header__secondary-nav-content"> \n
                                                                <div
class="navigation-header__secondary-nav-wrapper "> \n
                                                                   <div
class="navigation-header__secondary-nav-section "> \n
                                                                   <div
```

```
class="aem-Grid aem-Grid--12 aem-Grid--default--12"> \n
                                                                      <div
class="link-list parbase aem-GridColumn aem-GridColumn--default--12">\n
< div > \n
                           <div class="navigation-header_secondary-nav-</pre>
subtitle">\n
                                Asset Class \n
 \n
 <a</pre>
href="/us/en/institutional/strategies/equities.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Equities" data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Equities</a> 
class="navigation-header secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/strategies/fixed-income.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Fixed Income " data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Fixed Income </a> 
                                                                    <li
class="navigation-header_secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/strategies/alternatives.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Alternatives " data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Alternatives </a> 
                                                                    <li
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/strategies/multi-asset.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Asset Class"
data-nav-path-sufix="Multi-Asset" data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Multi-Asset</a>  \n
class="navigation-header secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/strategies/money-market-and-liquidity.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Asset Class" data-nav-path-sufix="Money Market & Damp; Liquidity " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Money Market & amp;
Liquidity </a>  <math>n
                                          \n
                                                                   </div>
\n
                   </div> \n
                                             </div> \n
                                                                     </div>
                 <div class="navigation-header_secondary-nav-section"> \n
\n
<div class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
<div class="link-list parbase aem-GridColumn aem-GridColumn--default--12">\n
< div > \n
                           <div class="navigation-header__secondary-nav-</pre>
subtitle">\n
                               Solutions \n
                                                              </div> \n
 \n
class="navigation-header secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/solutions/custom-portfolios-and-analysis.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Custom Portfolios & amp; Analysis" data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Custom Portfolios
& Analysis</a> 
                                             header_secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/solutions/institutional-indexing.html"
class="navigation-header__secondary-nav-link" role="menuitem" data-nav-path-
```

```
prefix="Solutions" data-nav-path-sufix="Indexing" data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Indexing</a>  \n
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/solutions/alternative-investment-solutions.html"
class="navigation-header_secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Multi-Alternatives Platform" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Multi-Alternatives
Platform</a>  \n
                                        header secondary-nav-item" role="presentation"> <a
href="/us/en/institutional/solutions/insurance-solutions.html"
class="navigation-header secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Insurance " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">Insurance </a>  \n
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/institutional/solutions/dc-investment-solutions.html"
class="navigation-header_secondary-nav-link" role="menuitem" data-nav-path-
prefix="Solutions" data-nav-path-sufix="Defined Contribution " data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Defined Contribution
                                 </a>  \n
item" role="presentation"> <a href="/us/en/institutional/solutions/factor-</pre>
investing.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Solutions" data-nav-path-sufix="Factor Investing" data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Factor
Investing</a>  \n
                                         header__secondary-nav-item" role="presentation"> <a
href="/us/en/solutions/collective-trust-funds.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Solutions"
data-nav-path-sufix="Collective Trusts" data-nav-style="dropdown menu|text link"
data-nav-type="menu tab">Collective Trusts</a> 
 \n
                          </div> \n
                                                     </div> \n
                        </div> \n
</div> \n
                                                 <div class="navigation-
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                   </div> \n
                        <div class="navigation-header__secondary-nav-section"</pre>
</div> \n
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                     </div> \n
                                              </div> \n
</div>\n
                      </div> \n
                                           </div> \n
                                                                </div> 
             role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-
insights/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header__primary-nav-link drop-down-link "role="menuitem" data-nav-
path="Insights" data-nav-style="navigation header|primary" data-nav-type="menu
tab" data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Insights" data-event-element="nav item" data-
title="Insights">Insights</a> <span class="navigation-header_primary-nav-
```

```
expander"></span> \n
                               <!-- %include __secondary-nav --> \n
<div class="navigation-header__secondary-nav"> \n
class="navigation-header__secondary-nav-inner"> \n
                                                             <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Insights</button> \n
                                              <div class="navigation-</pre>
header__secondary-nav-content"> \n
                                               <div class="navigation-
header secondary-nav-wrapper "> \n
                                                  <div class="navigation-
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                    <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                      <div class="navigation-header__secondary-nav-subtitle">\n
\n
Thought Leadership \n
                                        </div> \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/insights/topic/markets-economy-insights.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Thought
Leadership" data-nav-path-sufix="Markets & amp; Economy " data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Markets & Discounty Economy
</a>  \n
                                 item" role="presentation"> <a href="/us/en/insights/topic/investment-
insights.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Investment "
data-nav-style="dropdown menu|text link" data-nav-type="menu tab">Investment
</a>  \n
                                 item" role="presentation"> <a href="/us/en/insights/topic/research-and-
analysis.html" class="navigation-header secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Research " data-
nav-style="dropdown menu|text link" data-nav-type="menu tab">Research </a> 
                      role="presentation"> <a href="/us/en/insights/topic/legislative-regulatory-
insights.html" class="navigation-header__secondary-nav-link" role="menuitem"
data-nav-path-prefix="Thought Leadership" data-nav-path-sufix="Legislative & amp;
Regulatory " data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Legislative & Regulatory </a> 
class="navigation-header__secondary-nav-item" role="presentation"> <a</pre>
href="/us/en/insights/topic/defined-contribution-insights.html"
class="navigation-header secondary-nav-link" role="menuitem" data-nav-path-
prefix="Thought Leadership" data-nav-path-sufix="Defined Contribution" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Defined
Contribution</a> 
                                            header__secondary-nav-item" role="presentation"> <a
href="/us/en/insights/topic/all-insights.html" class="navigation-
header__secondary-nav-link" role="menuitem" data-nav-path-prefix="Thought
Leadership" data-nav-path-sufix="All Insights" data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">All Insights</a>  \n
 \n
                          </div> \n
                                                     </div> \n
                                                 <div class="navigation-
</div> \n
                        </div> \n
```

```
header_secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                    <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                      <div class="navigation-header__secondary-nav-subtitle">\n
\n
Events \n
                            </div> \n
class="navigation-header__secondary-nav-list" role="menubar"> \n
 <a</pre>
href="/us/en/institutional/webcasts.html" class="navigation-header__secondary-
nav-link" role="menuitem" data-nav-path-prefix="Events" data-nav-path-
sufix="Webcasts" data-nav-style="dropdown menu|text link" data-nav-type="menu
tab">Webcasts</a>  \n
                                             header__secondary-nav-item" role="presentation"> <a
href="https://www.invesco.com/static/sf/leadership-exchange/index.html"
class="navigation-header_secondary-nav-link" role="menuitem" data-nav-path-
prefix="Events" data-nav-path-sufix="Invesco Leadership Exchange" data-nav-
style="dropdown menu|text link" data-nav-type="menu tab">Invesco Leadership
Exchange</a> 
                                         \n
                                                                  </div> \n
</div> \n
                         </div> \n
<div class="navigation-header__secondary-nav-section "> \n
                                                                        <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12 "> \n
                                                                      </div>
                  </div> \n
                                          <div class="navigation-
header secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                   </div> \n
                       </div>\n
                                             </div> \n
                                                                   </div> \n
</div> \n
</div>  \n
                          down-item" role="presentation"> <a data-tab-index="4" href="/us/en/navigation-
header/navigation-header-variation-03-Institutional/sec-nav-insti-account-
access/_jcr_content/root/grid/secondary_navigation.html" class="navigation-
header_primary-nav-link drop-down-link "role="menuitem" data-nav-path="Account
Access" data-nav-style="navigation header|primary" data-nav-type="menu tab"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|primary|menu tab" data-event-
label="Account Access" data-event-element="nav item" data-title="Account
Access">Account Access</a> <span class="navigation-header__primary-nav-
expander"></span> \n
                               <!-- %include __secondary-nav --> \n
<div class="navigation-header__secondary-nav"> \n
                                                            <div
class="navigation-header__secondary-nav-inner"> \n
                                                             <button data-
tab-index="4" class="navigation-header__secondary-nav-title" aria-label="Return
to main menu">Account Access</button> \n
                                                    <div class="navigation-
header secondary-nav-content"> \n
                                               <div class="navigation-
header__secondary-nav-wrapper "> \n
                                                  <div class="navigation-
header__secondary-nav-section "> \n
                                                  <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                    <div class="link-list
parbase aem-GridColumn aem-GridColumn--default--12">\n
                      <div class="navigation-header__secondary-nav-subtitle">\n
\n
                                    </div> \n
Account Access \n
                                                                ul
class="navigation-header__secondary-nav-list" role="menubar"> \n
```

```
class="navigation-header_secondary-nav-item" role="presentation"> <a</pre>
href="https://invesco.com/us/account-access/client-
summary?audienceType=Institutional" class="navigation-header__secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="Collective Trust Login " data-nav-style="dropdown menu|text link" data-
nav-type="menu tab">Collective Trust Login </a> 
 <a</pre>
href="https://invesco.com/us/account-access/ina-select-
portfolio?audienceType=Institutional" class="navigation-header__secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="CDO & Bank Loans Performance Login " data-nav-style="dropdown
menu|text link" data-nav-type="menu tab">CDO & amp; Bank Loans Performance Login
</a>  \n
                                item" role="presentation"> <a href="https://invesco.com/us/account-access-</pre>
ina/stable-value/bidding-specification" class="navigation-header_secondary-nav-
link" role="menuitem" data-nav-path-prefix="Account Access" data-nav-path-
sufix="Stable Value Wrap Providers Login " data-nav-style="dropdown menu|text
link" data-nav-type="menu tab">Stable Value Wrap Providers Login </a> 
 \n
                                                   </div> \n
                         </div> \n
</div> \n
                        </div> \n
                                               <div class="navigation-
header__secondary-nav-section "> \n
                                                <div class="aem-Grid aem-
Grid--12 aem-Grid--default--12 "> \n
                                                 </div> \n
</div> \n
                        <div class="navigation-header__secondary-nav-section"</pre>
"> \n
                     <div class="aem-Grid aem-Grid--12 aem-Grid--default--12</pre>
"> \n
                     </div> \n
                                             </div> \n
                                                                     <div
class="navigation-header__secondary-nav-section "> \n
                                                                 <div
class="aem-Grid aem-Grid--12 aem-Grid--default--12"> \n
                                                                    </div>
\n
                 </div> \n
                                        </div>\n
                                                             </div> \n
</div> \n
                    </div>  \n
                                             \n
                                                            </nav>\n
<!-- /_primary-nav --> \n
                                </div> \n
                                                <!-- %include __checkout
widget cta --> \n
                        <div class="navigation-header_utility-nav"> \n
 \n
class="navigation-header__utility-top-nav-item navigation-header__utility-top-
nav-item--contact" data-nav-style="navigation header|utility" data-nav-
type="contact us|link"> <a class="navigation-header__utility-top-nav-link no-
caret" href="/us/en/institutional/institutional-contact-us.html" target="_self"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|utility|contact us" data-event-
label="Contact Us" data-event-element="nav item" data-tab-index="3">Contact
Us</a>  \n
                        data-nav-style="navigation header|utility" data-nav-type="audience selector">
<button class="navigation-header__utility-top-nav-link utility-sector-label"</pre>
aria-label="" aria-haspopup="true" aria-expanded="false" data-event-
name="navigation interaction" data-event-action="nav menu|open" data-event-
category="navigation header|utility|audience role selector" data-event-
element="dropdown menu" data-tab-index="3" data-trigger-utility="sector" data-
is-dropdown></button>  \n
                                     \n
```

```
header__utility-bottom-nav-list"> \n
                                            \n
                                                            </div>\n
<!-- /_utility-top-nav --> \n
                               <div class="navigation-</pre>
header__distributor">\n
                               Invesco Advisers, Inc.\n
                                                               </div> \n
                                            <!-- %include __distributor -->
<!-- %include __utility-top-nav --> \n
                        <!-- /_content-inner --> \n
                                                          </div>\n
         </div>\n
/__content --> \n
                     </div>\n
                                  <!-- /_nav-inner --> \n
                                                               </div>\n
<!-- / nav --> \n
                     <!-- %include __utilities --> \n
class="navigation-header_utilities"> \n
                                           <div class="navigation-
header__utility navigation-header__utility--login" hidden data-utility="login">
        <button class="navigation-header__utility-back">Login</button> \n
<div class="navigation-header__login-content"> \n
                                                      <div class="navigation-
header__login-wrapper"> \n
                                 \n
                         <!-- /_sector-list --> \n
class="navigation-header__utility-header"> \n
                                                   </header> \n
                                                                      </div>
                      </div> \n
                                    <!-- /_utility--location --> \n
        </div> \n
<form method="POST" action="/bin/landingpage" name="userPrefrence"</pre>
id="userPrefrence" class="userPrefrence"> \n
                                                <input type="hidden"</pre>
id="langCode" name="langCode" value=""> \n
                                              <input type="hidden"</pre>
id="countryCode" name="countryCode" value=""> \n
                                                    <input type="hidden"</pre>
id="audienceRole" name="audienceRole" value=""> \n
                                                      <input type="hidden"</pre>
id="additionalParams" name="additionalParams" value=""> \n
                                                              <input
type="hidden" id="anchorHash" name="anchorHash" value=""> \n
                                                                <input
type="hidden" id="currentPageURL" name="currentPageURL" value=""> \n
<input type="hidden" id="loginState" name="loginState" value=""> \n
                                                                      <input
type="hidden" id="roleselectionrequired" name="roleselectionrequired"
value="false"> \n
                      <input type="hidden" id="langUrl" name="langUrl"</pre>
                                <div class="navigation-header__utility</pre>
value=""> \n
                 </form> \n
navigation-header__utility--sector" hidden data-utility="sector"> \n
<section class="navigation-header__sector"> \n
                                                   <div class="navigation-
header__sector-content"> \n
                                <div class="navigation-header_sector-</pre>
                     \n
wrapper"> \n
<div class="navigation-header_location-header">\n
                   header__sector-item"> <a href="/" class="navigation-header__sector-link"
audience" title="Individual Investor" data-event-name="navigation interaction"
data-event-action="audience role|select" data-event-category="navigation
header | utility | audience role selector data-event-label = "Individual Investor"
data-event-element="dropdown menu" data-sector="sector--0">Individual
Investor</a>  \n
                              class="navigation-header__sector-item"> <a href="/" class="navigation-
header__sector-link audience" title="Financial Professional" data-event-
name="navigation interaction" data-event-action="audience role|select" data-
event-category="navigation header|utility|audience role selector" data-event-
label="Financial Professional" data-event-element="dropdown menu" data-
sector="sector--1">Financial Professional</a>  \n
label="Institutional" class="navigation-header_sector-item"> <a href="/"
class="navigation-header__sector-link audience" title="Institutional" data-
```

```
event-name="navigation interaction" data-event-action="audience role|select"
data-event-category="navigation header|utility|audience role selector" data-
event-label="Institutional" data-event-element="dropdown menu" data-
sector="sector--2">Institutional</a> 
/ sector-list --> \n
                            <header class="navigation-header_utility-</pre>
header"> \n
                     <div class="navigation-header__utility-content-wrapper"</pre>
aria-live="polite" data-sector-content="sector--0"> \n
class="navigation-header__location-header navigation-header__location-header--
sector-back">\n
                           Individual Investor\n
                                                          </div> \n
<h2 class="navigation-header_utility-title">Individual Investor</h2> \n
Individual investors include: current
investors; prospective investors, and plan administrators.
<div class="navigation-header__sector-cta no-terms"> \n
class="navigation-header__checkbox">\n
                                                  Individual investors
include: current investors; prospective investors, and plan administrators.
              </div> \n
                                   <a href="/us/en/Individual-investor.html"</pre>
class="navigation-header button navigation-header button--segment-visit"
title="Visit Site" data-event-name="navigation interaction" data-event-
action="nav menu click" data-event-category="navigation header|utility|audience
role selector" data-event-element="nav item" data-type="IndividualInvestor"
data-label="Individual Investor">Visit Site</a> \n
</div> \n
                   <div class="navigation-header_utility-content-wrapper"</pre>
aria-live="polite" data-sector-content="sector--1"> \n
class="navigation-header location-header navigation-header location-header-
sector-back">\n
                           Financial Professional\n
                                                             </div> \n
<h2 class="navigation-header__utility-title">Financial Professional</h2> \n
Financial professionals include:
financial advisors, retail wholesalers; financial planners; broker/dealer home
office; wirehouses; registered financial advisors; and bank trusts.
<div class="navigation-header__sector-cta no-terms"> \n
class="navigation-header__checkbox">\n
                                                  Financial professionals
include: financial advisors, retail wholesalers; financial planners;
broker/dealer home office; wirehouses; registered financial advisors; and bank
trusts. \n
                          </div> \n
                                               <a href="/us/en/financial-
professional.html" class="navigation-header__button navigation-header__button--
segment-visit" title="Visit Site" data-event-name="navigation interaction" data-
event-action="nav menu click" data-event-category="navigation
header | utility | audience role selector data-event-element nav item data-
type="FinancialProfessional" data-label="Financial Professional">Visit Site</a>
             </div> \n
                                </div> \n
                                                    <div class="navigation-
header__utility-content-wrapper" aria-live="polite" data-sector-content="sector
                   <div class="navigation-header_location-header navigation-</pre>
header__location-header--sector-back">\n
                                                   Institutional\n
</div> \n
                    <h2 class="navigation-header__utility-</pre>
title">Institutional</h2> \n
                                      desc">  \n
                         <div class="navigation-header_sector-cta has-terms">
              <div class="navigation-header__checkbox"> \n
```

```
type="checkbox" id="utility_check_2" name="utility-3" data-event-
name="navigation interaction" data-event-action="checkbox|checked" data-event-
category="navigation header|utility|audience role selector" data-event-
element="checkbox"> \n
                                   <label
for="utility_check_2">Institutional includes  defined contribution and
defined benefit plans (corporate, public, Taft-Hartley), foundations and
endowments, insurers, corporate cash managers, consultants, and trust
administrators/custodians. This portion of the Invesco website is specifically
prepared for institutional investors in the US. The content and
investment strategies discussed may not be suitable for and/or available to all
investors. By checking the box and clicking continue, I confirm that I am an US
Institutional Investor.<br>   </label> \n
                                                        </div> \n
<a href="/us/en/institutional.html" class="navigation-header_button navigation-</pre>
header__button--segment-visit" title="Visit Site" data-event-name="navigation"
interaction" data-event-action="nav menu click" data-event-category="navigation
header|utility|audience role selector" data-event-element="nav item" data-
type="Institutional" data-label="Institutional">Visit Site</a> \n
                   </div> \n
                                       <div class="navigation-header_utility-</pre>
content-wrapper" aria-live="polite" data-sector-content="sector--3"> \n
<div class="navigation-header__location-header navigation-header__location-</pre>
header--sector-back">\n
                                   EDJONES\n
<h2 class="navigation-header_utility-title">Edward Jones</h2> \n
                                                                            <p
class="navigation-header__utility-desc">Edward Jones \n
                                                                      <div
class="navigation-header sector-cta no-terms"> \n
href="/us/en/financial-professional/edward-jones.html" class="navigation-
header button navigation-header button--segment-visit" title="Visit Site"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|utility|audience role selector" data-
event-element="nav item" data-type="edward-jones" data-label="EDJONES">Visit
                      </div> \n
Site</a> \n
                                          </div> \n
class="navigation-header__utility-content-wrapper" aria-live="polite" data-
sector-content="sector--4"> \n
                                         <div class="navigation-
header_location-header navigation-header_location-header--sector-back">\n
PFS\n
                 </div> \n
                                      <h2 class="navigation-header__utility-</pre>
title">PFS</h2> \n
                             PFS
              <div class="navigation-header__sector-cta no-terms"> \n
<a href="/us/en/financial-professional/primerica.html" class="navigation-</pre>
header__button navigation-header__button--segment-visit" title="Visit Site"
data-event-name="navigation interaction" data-event-action="nav menu click"
data-event-category="navigation header|utility|audience role selector" data-
event-element="nav item" data-type="p-f-s-investments-inc" data-
label="PFS">Visit Site</a> \n
                                        </div> \n
                                                            </div> \n
                     </div> \n
                                     </div> \n
                                                     </section>\n
                                                                        <!--
</header> \n
/__sector --> \n
                     </div>\n
                                  <!-- /_utility--sector --> \n
                             <!-- utility contact-us --> \n
utility contact-us --> \n
                                                                 </div> \n
          </div> \n </header> \n <span id="mainContentItem" hidden
title="Main content" data-module="main-content">Main content</span> \n
```

```
</body>\n</html>\n\n<script type="application/ld+json">\n{\n"@context":
"http://schema.org", \n"@type": "Article", \n"headline": "Election 2020: The
Senate is definitely in play", \n"image":
"https://www.invesco.com/content/dam/invesco/us/en/images/insights/ARTCL-HRO-
election-2020-the-senate-is-definitely-in-play.jpg", \n"author": "Andy Blocker,
Jennifer Flitton",\n"audience": "Institutional",\n"datePublished":
"2020-10-30",\n"description": "Our US Government Affairs team discusses the
Senate elections and how they could shift the balance of political power.
",\n"url": "https://www.invesco.com/us/en/insights/election-2020-the-senate-is-
definitely-in-play.audienceRole-invesco_user-role___Institutional.loginState-
invesco__authentication___loggedOut.html"\n}\n</script>\n\n<input id="pageUrl"</pre>
name="pageUrl" type="hidden"
value="/content/invesco/us/en/insights/election-2020-the-senate-is-definitely-
in-play.audienceRole-invesco_user-role___Institutional.loginState-
invesco_authentication__loggedOut.html"/>\n<div>\n\n
\n\n\n\n\n</div>\n<div>\n\n\n\n\n</div>\n<div id="js-pjax-wrapper">\n
                                                                           <div
class="js-pjax-container" data-template="home">\n
class="o-page_wrap">\n
                                  <div id="js-back-top"></div>\n
<main id="inv-main-content" role="main"><div>\n<div>\n\n\n
\n\n\n\n\n\n\n\n\n\n\n\div class="article-hero_wrapper">\n
                                                                 <section data-</pre>
                                <div class="article-hero">\n
module="article-hero">\n
                                                                         <div
class="article-hero__inner">\n
                                              <header class="article-</pre>
hero_header">\n
                                    <div class="article-hero_eyebrow">\n
Legislative and regulatory\n
                                                </div>\n
                                                                             <h1
class="article-hero__title">Election 2020: The Senate is definitely in
play</h1>\n
                               <div class="article-hero byline">\n
<div class="article-hero_supplemental">\n
class="article-hero_date" data-publishdate="2020-10-30">October 30,
2020</span>\n
                                         \n
                                                                    </div>\n
<div class="article-hero_author">\n
                                                                <section
class="author-card"/>\n\n
                             <div class="author-card_container ">\n
                                                                             <div
class="author-card__container--inner">\n
                                                    <div class="author-
card__img">\n
src="/content/dam/invesco/na/en/images/people/blocker-andy-THMB.jpg" alt="Andy
                        </div>\n
                                            <div class="author-card_name" data-</pre>
author="andy blocker, jennifer flitton">Andy Blocker</div>\n
                                                                       <div
class="author-card role">Head of US Government Affairs, Invesco</div>\n
            </div>\n \n
                           <div class="author-card_container">\n
                                                                           <div
class="author-card container--inner">\n
                                                    <div class="author-
card img">\n
src="/content/dam/invesco/na/en/images/people/jennifer-flitton-THMB.jpg"
alt="Jennifer Flitton"/>\n
                                                          <div class="author-
card_name" data-author="andy blocker, jennifer flitton">Jennifer Flitton
                    <div class="author-card_role">Vice President of Federal
Government Affairs </div>\n
                                               </div>\n \n
                                   </div>\n
                                                    </header>\n\n
</div>\n
                            </div>\n
<div class="article-hero_main-media">\n
                                                            \n
```

```
<picture class="article-hero_ image" aria-label="Election 2020: The Senate is</pre>
definitely in play">\n
                                                   <source media="(max-width:</pre>
767px)" srcset="/content/dam/invesco/us/en/images/insights/ARTCL-HRO-
election-2020-the-senate-is-definitely-in-play.jpg.ivz-size.750x422.jpg"/>\n
<source media="(max-width: 1247px)"</pre>
srcset="/content/dam/invesco/us/en/images/insights/ARTCL-HRO-election-2020-the-
senate-is-definitely-in-play.jpg.ivz-size.1112x626.jpg"/>\n
<source media="(min-width: 1248px)"</pre>
srcset="/content/dam/invesco/us/en/images/insights/ARTCL-HRO-election-2020-the-
senate-is-definitely-in-play.jpg.ivz-size.1280x720.jpg,
/content/dam/invesco/us/en/images/insights/ARTCL-HRO-election-2020-the-senate-
is-definitely-in-play.jpg.ivz-size.2496x1404.jpg 2x"/>\n
<img src="/content/dam/invesco/us/en/images/insights/ARTCL-HRO-</pre>
election-2020-the-senate-is-definitely-in-play.jpg" alt="Election 2020: The
Senate is definitely in play"/>\n
                                                           </picture>\n
<div class="article-hero_main-media-caption"></div>\n
                                                                            \n
<!-- IF VIDEO PLAYER -->\n
                                                                      <!-- END OF
                                               \n
VIDEO PLAYER -->\n
                                   </div>\n\
                                                             <div class="article-
hero_toolbar" role="toolbar" aria-label="Social Media Share buttons and
Download button">\n
                                        \n
                                                                   <button
class="article-hero_btn article-hero_btn--share" aria-
expanded="false"><span>Share</span></button>\n
                                                                        <div
class="article-hero_share-toolbar" role="toolbar" tabindex="-1">\n
\n
                                                                         \langle li \rangle \n
<button class="article-hero_share-btn article-hero_share-btn--close" aria-</pre>
label="Close the toolbar"></button>\n
                                           <a class="article-hero_share-btn</pre>
article-hero_share-btn--email" href="mailto:?subject=Invesco.com:
mailTitle&body=mailTitle
https://www.invesco.com/content/invesco/us/en/insights/election-2020-the-senate-
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</div>\n
Regardless of who wins the presidency, the
fortunes of the next administration rest solely in the hands of the
Senate.\r\n\n
                           </div>\n
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ago, anyone who looked at the map of Senate seats up in 2020 would have
concluded that Democrats had a difficult path back to the majority. Fast forward
a year and the persistent lead of former Vice President Joe Biden over President
Donald Trump, along with a gusher of campaign cash for Democratic candidates,
suddenly has Republicans playing defense in usually reliable red states. The
good news for Democrats is that there are more Republican seats in play than
Democratic seats. The bad news for Democrats is that many of those seats are in
red states.<b><u></u></b>\nWith a nation just days away from the
election, we consider the factors that give Democratic challengers hope and
Republican incumbents cause for concern, including:
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Moneylt's long been said that money is the mother's milk of politics, and that could not be more accurate than this year. The Democratic Senatorial Campaign Committee has raised more than \$244 million in this cycle compared to \$148 million in 2018. The National Republican Senatorial Committee has raised a similar amount this year, bringing in nearly \$220 million - about \$70 million more than they raised in 2018. Individual candidates are raising eye-popping sums as well, changing the shape of races once thought safe. This pattern of Democrats significantly outraising Republicans is playing out in battlegrounds across the country. $\n2)$ Potential Senate scenarios\nThe dream scenario for Democrats is a blue wave that washes over the nation, carries Biden to the White House, and gives him a majority in both the Senate and House of Representatives. The key questions in this scenario are how large a Senate majority may be and whether it will be enough to allow Biden to enact some of his more ambitious agenda items.\nA second scenario is a Biden victory and Republicans retaining the Senate. In this case, the Senate will continue to be the place where Democratic agenda items go to die.\nA third scenario is an evenly split Senate, 50-50. With a Trump victory, Vice President Pence would be the tiebreaking vote, leaving Republicans in control and two more years of status quo inside the Beltway. A Biden victory with Vice President Kamala Harris playing the role of tiebreaker may give Democrats control but no clear path to implementing a Biden agenda in the Senate.\nRead more about the implications of the 2020 election on the US Senate.\n\n</div>\n</section>\n\n $\n</div>\n\n</div>\n$ <script src="/etc.clientlibs/invesco/components/structure/base-page/clientlib-in</pre> vescoBrand2.0.min.ACSHASH21cdea8f97b67f30946282d9394c1b09.js"></script>\n\n\n< div > n n\n\n\n\n\n\class="legal-disclaimer" data-module="legal-<div class="legal-disclaimer__inner">\n disclaimer">\n class="legal-disclaimer__item ">\n <button class="legal-</pre> disclaimer__label" aria-expanded="true">\n <span class="legal-</pre> disclaimer_label-text legal-disclaimer_label-text--closed">Expand\n <span class="legal-disclaimer__label-text legal-disclaimer__label-text--</pre> opened">Collapse\n </button>\n <div class="legaldisclaimer__text" aria-expanded="true" aria-hidden="false">\n The opinions expressed are those of Andy Blocker and Jennifer Flitton as of Oct. 29, 2020 and are subject to change without notice. These opinions may differ from those of other Invesco investment professionals. $</div>\n$ $</div>\n$ <head></head>\n <body>\n <div class="primary-footer"> \n <section datamodule="primary-footer" class="primary-footer__inner"> \n class="primary-footer__groups__4-column"> \n <div class="primary-</pre> footer__group">\n <div class="primary-footer__link-container"> \n <p class="primary-footer__group-title">CLIENTS WE SERVE \n class="primary-footer__group-subtitle"> \n

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<i>Invesco is an independent investment management company built to help
individual investors, financial professionals, and institutions achieve their
financial goals. We offer a range of investment strategies across asset classes,
investment styles, and geographies. Our asset management capabilities include
mutual funds, ETFs, SMAs, model portfolios, indexing and insurance solutions,
and more.</i> \n
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                                      NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE
                   This information is intended for Institutional Investors that are US
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residents. <br >  \n
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Dsenate\u002Dis\u002Ddefinitely\u002Din\u002Dplay\x22,\n
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\x22Election 2020: The Senate is definitely in play | Invesco US\x22,\n
                                                                      \x22page filter applied\x22:
\x22referringURL\x22: \x22\x22\n
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                       \x22page_template\x22: \x22article page template\x22,\n
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                               \x22vice president of federal government affairs \x22\n
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            \x22attributes\x22: {\n}
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                                                                        \x22content\x22: {\n}
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                                              \x22Legislative and regulatory\x22,\n
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\x22publishDate\x22: \x222020\u002D10\u002D30T11:35:00.000\u002D04:00\x22,\n
\x22readTime\x22: \x22\x22,\n
                                                           \x22authors\x22: [\n
                                                                                                            \x22Andy
Blocker\x22,\n
                                      \x22Jennifer Flitton\x22\n
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              \x22institutional\x22\n
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\x22theme\x22: [\n
                          x22Elections x22\n
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           \x22Election 2020\x22\n
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                        \x22visitor_audience_role_sub\x22: \x22\x22,\n
\x22visitor\x22: {\n}
\x22visitor_permissions\x22: \x22\x22,\n
                                            \x22visitor\_uuid\x22: \x22\x22,\n
\x22visitor\_audience\_role\x22: \x22\x22,\n
                                              \x22visitor_login_status\x22:
\x22\log d out\x22\n \n\");\n\n
                                         (function () {\n
cookieArr = document.cookie ? document.cookie.split('; ') : [];\n
                                                                             var
                             for (var i = 0; i < cookieArr.length; i++) {\n</pre>
cookieObj = {};\n
var cur = cookieArr[i].split('=');\n
                                                    cookieObj[cur[0]] =
cur[1].toLowerCase();\n
                                   \n
                                                    var queryArr =
window.location.search ? window.location.search.replace('?', '').split('&') :
                var queryObj = {};\n
                                                 for (var i = 0; i <
queryArr.length; i++) {\n
                                         var cur = queryArr[i].split('=');\n
queryObj[cur[0]] = cur[1].toLowerCase();\n
                                                      \n
siteDistributor = document.querySelector('.navigation-header__distributor');\n
var hasSiteDistributor = siteDistributor && siteDistributor.offsetWidth > 0 &&
siteDistributor.offsetHeight > 0;\n
                                               var searchResultCount =
document.querySelector('[data-search-results-count]');\n
searchPageResults = document.querySelector('[data-page-result]');\n
var searchTermSelector = document.querySelector('[data-search-term]');\n
var searchPageRangeSelector = document.querySelector('[data-search-page-
range]');\n\n
                         // digitalData.page\n
digitalData.page.page anchor = window.location.hash.split('#').pop();\n
digitalData.page.page_audience_role = cookieObj['audienceRole'] ||
'anonymous';\n
                          digitalData.page.page country =
document.documentElement.lang.split('-')[1].toLowerCase();\n
digitalData.page.page_charset = document.characterSet;\n
digitalData.page.page_campaign_cid = queryObj['cid'] || '';\n
digitalData.page.page_campaign_iid = queryObj['iid'] || '';\n
digitalData.page.page_entity = hasSiteDistributor ?
siteDistributor.innerText.toLowerCase() : '';\n
digitalData.page.page_url_full =
decodeURI(window.location.href.replace(window.location.protocol + '//', ''));\n
digitalData.page.page_hostname = window.location.hostname;\n
digitalData.page.page_id =
decodeURI(window.location.pathname.split('.')[0].split('/').slice(-1)[0]);\n
digitalData.page.page_language = document.documentElement.lang.split('-')[0];\n
digitalData.page.page locale = document.documentElement.lang;\n
digitalData.page.page number = queryObj['searchTerm'] ? queryObj['pageNum'] ||
'1' : '';\n
                       digitalData.page.page number count = searchResultCount &&
searchPageResults ? Math.ceil(searchResultCount.dataset.searchResultsCount /
searchPageResults.dataset.pageResult).toString() : '';\n
digitalData.page.page_pathname = decodeURI(window.location.pathname);\n
digitalData.page.page_pathname_query = decodeURI(window.location.pathname +
window.location.search); \n
                                      digitalData.page.page_query_string =
decodeURI(window.location.search);\n
                                                digitalData.page.page_title =
```

text

O Election 2020: The Senate is definitely in play\nAndy Blocker\nHead of US Government Affairs, Invesco\nJennifer Flitton\nVice President of Federal Government Affairs\nKey takeaways\nRepublicans on the defensive\nBiden's lead and cash support for Democratic candidates have Republicans on the back foot in red states.\nGood and bad news for Democrats\nThere are more Republican seats in play, but many of them are in usually reliable red states.\nSeveral Senate scenarios to consider\nRegardless of who wins the presidency, the fortunes of the next administration rest solely in the hands of the Senate.\n\nA year ago, anyone who looked at the map of Senate seats up in 2020 would have concluded that Democrats had a difficult path back to the majority. Fast forward a year and the persistent lead of former Vice President Joe Biden over President Donald Trump, along with a gusher of campaign cash for Democratic candidates, suddenly has Republicans playing defense in usually reliable red states. The good news for Democrats is that there are more Republican seats in play than Democratic seats. The bad news for Democrats is that many of those seats are in red states.\nWith a nation just days away from the election, we consider the factors that give Democratic challengers hope and Republican incumbents cause for concern, including:\n1) Money\nIt's long been said that money is the mother's milk of politics, and that could not be more accurate than this year. The Democratic Senatorial Campaign Committee has raised more than \$244 million in this cycle compared to \$148 million in 2018. The National Republican Senatorial Committee has raised a similar amount this year, bringing in nearly \$220 million - about \$70 million more than they raised in 2018. Individual candidates are raising eye-popping sums as well, changing the shape of races once thought safe. This pattern of Democrats significantly outraising Republicans is playing out in battlegrounds across the country.\n2) Potential Senate scenarios\nThe dream scenario for Democrats is a blue wave that washes over the nation, carries Biden to the White House, and gives him a majority in both the Senate and House of Representatives. The key questions in this scenario are how large a Senate majority may be and whether it will be enough to allow Biden to enact some of his more ambitious agenda items.\nA second scenario is a Biden victory and Republicans retaining the Senate. In this case, the Senate will continue to be the place where Democratic agenda items go

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1.8 Applying Model

```
[163]: # imports
       import nltk
       from sklearn.cluster import KMeans
       from sklearn.feature_extraction.text import TfidfVectorizer
       from sklearn.cluster import KMeans
       from nltk.stem.wordnet import WordNetLemmatizer
       from nltk.corpus import stopwords
[164]: # todo: remove NaN target values
      Cleaning dataframe
[165]: column_list = ok_status_df.columns.to_list()
       column_list
[165]: ['Path',
        'Title',
        'Template',
        'Last Modified',
        'Tags',
        'Topic Tags',
        'Program tags',
        'Theme tags',
        'Content type tags',
        'User role tags',
        'Replication Status',
        'Full Path',
        'status_codes',
        'html',
        'text']
[166]: ok_status_df = ok_status_df.drop(columns=['Template', 'html'])
      Defining stop words
[167]: # downloading stopwords and wordnet for nltk
       nltk.download('stopwords')
```

```
nltk.download('wordnet')
       nltk.download('omw-1.4')
      [nltk_data] Downloading package stopwords to
      [nltk_data]
                      /Users/xaviergill/nltk_data...
      [nltk data]
                    Package stopwords is already up-to-date!
      [nltk_data] Downloading package wordnet to
      [nltk_data]
                      /Users/xaviergill/nltk_data...
      [nltk_data]
                    Package wordnet is already up-to-date!
      [nltk_data] Downloading package omw-1.4 to
                      /Users/xaviergill/nltk_data...
      [nltk data]
      [nltk_data]
                    Package omw-1.4 is already up-to-date!
[167]: True
[168]: stop_words: set = set(stopwords.words('english'))
[169]: # number of stop words in set
       len(stop words)
[169]: 179
[170]: | # all stop words
       ', '.join(list(stop_words))
[170]: "these, am, haven, their, few, wasn't, during, just, that'll, and, off, same,
      no, do, after, whom, mightn, shan, or, his, were, isn, me, having, ma, down, t,
       while, haven't, can, re, won, mustn, but, about, further, now, hadn, those,
      most, s, any, at, too, hasn't, did, as, if, nor, them, very, before, couldn,
       won't, again, you've, has, couldn't, on, all, between, he, into, above, a, your,
      you're, some, such, we, ain, our, aren, below, hasn, will, how, yours, yourself,
       so, shan't, had, aren't, who, have, which, wouldn't, you'd, don, she's, don't,
      needn't, ourselves, myself, themselves, its, himself, wasn, they, then, m,
       doesn't, than, mightn't, each, it, been, herself, hadn't, her, both, shouldn't,
       in, up, why, this, out, from, not, doing, until, of, should, she, own, was, i,
       isn't, didn't, theirs, the, other, by, are, where, with, ve, an, be, wouldn,
       for, you'll, doesn, that, itself, to, needn, weren't, does, 11, mustn't,
       shouldn, over, weren, him, hers, through, once, being, when, there, what, ours,
       only, o, d, y, against, didn, is, yourselves, you, because, my, more, should've,
       it's, under, here"
      Cleaning Text
[171]: # cleaning text
       cleaned_text = []
       def clean_text(row):
```

```
# remove case
        t: str = row['text'].lower()
         # remove punctuiation
        t = re.sub("[^a-zA-Z]", "", t)
         # remove special characters and digits
        t = re.sub("(\d|\W)+"," ",t)
         # split text into individual words
        split_text = t.split()
         # apply lemmatization to normalize text
        lem = WordNetLemmatizer()
        split_text = [lem.lemmatize(word) for word in split_text if not (word in_u

stop_words) and (len(word) > 2)]
         split_text = ' '.join(split_text)
        return split_text
[172]: ok_status_df['cleaned_text'] = ok_status_df.progress_apply(clean_text, axis=1)
      100%|
                | 381/381 [00:00<00:00, 489.02it/s]
[173]: ok_status_df.head(1)
[173]: Path \
      0 /content/invesco/us/en/insights/election-2020-the-senate-is-definitely-in-
      play
                                                   Title \
      O Election 2020: The Senate is definitely in play
                          Last Modified Tags \
      0 Tue, 3 Nov 2020 15:06:30 +0000 NaN
                                                           Topic Tags \
      O Legislative and regulatory; Washington update; Plan governance
          Program tags Theme tags Content type tags  User role tags \
      O Election 2020 Elections Insight
                                                     [Institutional]
        Replication Status \
      O NOT_ACTIVATED
          Full Path \
```

0 https://www.invesco.com/us/en/insights/election-2020-the-senate-is-definitely-in-play.html

status_codes \
0 200

text \

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cleaned_text

O election senate definitely play andy blocker head government affair invesco jennifer flitton vice president federal government affair key takeaway republican defensive biden lead cash support democratic candidate republican back foot red state good bad news democrat republican seat play many usually reliable red state several senate scenario consider regardless win presidency fortune next administration rest solely hand senate year ago anyone looked map senate seat would concluded democrat difficult path back majority fast forward year persistent lead former vice president joe biden president donald trump along gusher campaign cash democratic candidate suddenly republican playing defense usually reliable red state good news democrat republican seat play democratic seat bad news democrat many seat red state nation day away election consider factor give democratic challenger hope republican incumbent cause concern including money long said money mother milk politics could accurate year democratic senatorial campaign committee raised million cycle compared million national republican senatorial committee raised similar amount year bringing nearly million million raised individual candidate raising eye popping sum well changing shape race thought safe pattern democrat significantly outraising republican playing battleground across country potential senate scenario dream scenario democrat blue wave wash nation carry biden white house give majority senate house representative key question scenario large senate majority may whether enough allow biden enact ambitious agenda item second scenario biden victory republican retaining senate case senate continue place democratic agenda item die third scenario evenly split senate trump victory vice president penny would tie breaking vote leaving republican control two year status quo inside beltway biden victory vice president kamala harris playing role tiebreaker may give democrat control clear path implementing biden agenda senate read implication election senate

Vectorization

```
[335]: # vectorizer
vec = TfidfVectorizer(stop_words = stop_words)

# text transformation
vec_text = vec.fit_transform(ok_status_df['cleaned_text']).todense()

# get list of vectorized words
words = vec.get_feature_names()

for word in words:
    print(word)
```

aaa aapl aback abandon ${\tt abandoned}$

 ${\tt abandoning}$

abate

abated

abatement

abating

abc

abeyance

ability

abject

able

abnormally

abound

abounds

abraham

abreast

abroad

absence

absent

absentee

absolute

absolutely

absorb

absorption

abundance

abundant

abuse

abusing

aca

academic

academically

accelerate

accelerated

accelerates

accelerating

acceleration

accelerator

accentuate

 ${\tt accept}$

acceptable

 ${\tt acceptance}$

accepted

accepting

access

 ${\tt accessed}$

accessible

 ${\tt accessing}$

accident

acclimated

accommodate

accommodates

accommodating

accommodation

accommodative

accompanied

accompanies

accompanying

accompli

accomplish

accomplished

accomplishment

accord

according

accordingly

account

accountability

accountant

accounted

accounting

accumulate

accumulated

accumulation

accumulator

accuracy

accurate

accurately

accustomed

achieve

achieved

achieves

achieving

acknowledge

acknowledged

acknowledging

acquainted

acquire

acquired

acquires

acquiring

acquisition

acronym

across

act

acted

acting

action

actionable

active

actively

activism

activist

activity

actor

actual

actually

acute

adage

adam

 ${\tt adamant}$

adapt

adapted

adapting

adapts

add

added

addict

adding

addition

 ${\tt additional}$

additionally

additive

address

addressed

 ${\tt addressing}$

ade

adele

adept

adequacy

adequate

adhere

adhered

adherence

adhering

adjacent

adjust

adjusted

adjusting

adjustment

adjusts

administered

administers

administration

administrative

administrator

admit

admittedly

admitting

 ${\tt admonition}$

adopt

adopted

adopter

adopting

adoption

adp

adr

adrenaline

adult

advance

advanced

advancement

advancing

advantage

advantaged

adventure

adversary

adverse

adversely

advertising

advice

adviser

advisor

advisory

advocacy

advocasions

advocate

advocated

aerospace

affair

affect

affected

affecting

affiliate

affinity

 ${\tt affirm}$

affirming

 ${\tt afflicted}$

afflicting

affluence

 ${\tt affluent}$

affordability

affordable

afghanistan

afp

afraid

africa

african

aftermath

afternoon

afterward

ag

age

ageing

agency

agenda

agent

 ${\tt aggregate}$

aggressive

aggressively

aggressiveness

aggrieved

agility

aging

agnostic

ago

agree

agreeable

agreed

agreeing

agreement

agrees

agricultural

agriculture

ahead

aid

aide

aided

 aim

aimed

air

airbnb

airbus

 ${\tt airline}$

airport

 ${\tt airtime}$

 ${\tt airway}$

aisle

ait

ajp

aka

akin

ala

alan

alarm

alarming

alaska

alaskan

albeit

album

alcoholic

alerian

alerted

alessandro

alessio

alex

alexei

 ${\tt algorithm}$

ali

alibaba

alice

align

aligned

aligners

aligning

alignment

aligns

alike

allegation

allege

allegedly

alleviate

alliance

allocate

allocated

allocating

allocation

allocator

allotted

allow

allowed

allowing

allows

alloy

alluding

allure

ally

 ${\tt almost}$

 ${\tt alone}$

along

alongside

alpha

alphabet

already

also

altcoins

alter

alteration

altered

altering

alternate

alternative

although

 ${\tt altm}$

altogether

altus

 ${\tt aluminum}$

always

amazon

ambassador

ambiguous

ambitious

 ${\tt ambitiously}$

amc

 amd

amend

 ${\tt amended}$

amending

amendment

america

american

amid

amidst

amini

ammunition

amok

among

amongst

 ${\tt amortization}$

amount

ample

amplify

amplifying

 ${\tt amsterdam}$

 $\verb"amusement"$

amy

 \mathtt{amz}

amzn

ana

analogue

analogy

analysis

analyst

analytical

analytics

analyze

analyzes

analyzing

ananya

anchor

anchorage

anchored

anchoring

ancient

ancillary

anderson

andrew

andy

 ${\tt anecdotal}$

anecdotally

anemic

angela

angeles

angelique

anger

angle

animal

annexed

 ${\tt anniversary}$

announce

announced

announcement

announcing

annual

annualized

annually

annuity

annum

anomalous

anomaly

anonymously

another

answer

answered

 ${\tt answering}$

ant

 $\hbox{anthony}$

 ${\tt anti}$

 ${\tt antibiotic}$

antibody

anticipate

anticipated

anticipates

 ${\tt anticipating}$

anticipation

antigen

antipoverty

antiquity

antitrust

anton

antony

anxiety

anxious

anxiously

anyone

anything

anytime

anyway

anywhere

apace

apartment

api

apnea

apology

app

apparatus

apparently

appeal

appealed

appealing

appear

appeared

appears

appetite

applauded

apple

appliance

application

applied

applies

apply

applying

 ${\tt appointed}$

appointment

appoints

appraisal

appreciate

appreciated

appreciating

appreciation

apprehension

 ${\tt approach}$

approached

approaching

appropriate

appropriately

appropriation

appropriator

approval

approve

approved

 ${\tt approximate}$

approximately

apps

april

apt

aptly

arab

arabia

arbitrary

 arc

archegos

architect

architectural

area

arena

arguably

argue

argued

argues

arguing

argument

aria

arise

arisen

arises

arizona

arkansas

 arm

armed

 ${\tt army}$

arnab

around

arrangement

arranging

array

arrears

arrest

arrival

arrive

arrived

arrives

arriving

arsenal

art

arthur

article

articulate

articulated

articulates

articulation

artificial

artist

asa

ascension

ascent

ascertain

asearly

ash

ashley

ashtead

asia

asian

aside

ask

asked

asking

asks

asleep

aspect

aspiration

aspirational

ass

assassinated

assassination

assemble

assembly

assert

 ${\tt asserted}$

asserting

assertion

asserts

assessing

 ${\tt assessment}$

asset

assign

assist

assistance

assistant

associate

associated

 ${\tt association}$

assorted

assuage

assume

assumed

assumes

assuming

 ${\tt assumption}$

assurance

assured

assuring

assyrian

 ${\tt astonishing}$

astonishingly

astounding

astrazeneca

astronomical

astute

asymmetric

asymmetry

ate

atelier

atlanta

atlantic

atlm

atmospheric

atrophy

attached

attack

attacked

attain

attaining

attempt

attempted

attempting

attend

attendance

attended

attendee

attending

attention

attest

attitude

attorney

attract

attracted

attracting

attraction

attractive

attributable

attribute

attributed

attuned

auction

audience

audio

audit

auditor

aug

augment

august

 aum

 $\verb"aunt"$

austin

australia

 $\verb"australian"$

author

authored

authority

authorization

authorize

authorized

authorizes

authorizing

 ${\tt auto}$

automate

 $\verb"automated"$

automatic

automatically

automating

automation

 ${\tt automobile}$

 ${\tt automotive}$

 $\verb"autonomy"$

 ${\tt autopilot}$

autotrader

availability

available

avenue

average

averaged

averse

aversion

avert

averted

aviation

avoid

avoidable

avoidance

avoided

avoiding

avoids

await

awaited

awaits

award

aware

awareness

awash

away

awe

awful

axthelm

aylward

azar

baby

back

backburner

backdrop

backed

backfill

backfire

Dackille

background

backing

backlash

backlog

backpack

backstop

backward

 ${\tt backwardation}$

backwards

bacon

bad

badly

bag

baguette

bailey

bake

baked

baker

Dance

bakery

 ${\tt baking}$

balance

balanced

balancing

 ${\tt balenciaga}$

bali

balking

ball

ballistic

balloon

ballot

baltimore

ban

band

bank

banker

 ${\tt banking}$

 ${\tt banknote}$

bankrupt

bankruptcy

banned

banning

bar

barack

barbell

barbelling

barber

barclays

barely

bargaining

barometer

barrasso

barrel

barrier

barring

base

based

baseline

basic

basically

basin

basis

basket

basketball

basler

bass

batch

bated

battery

battle

battleground

battling

bbb

bbdxy

bcf

beacon

bear

bearing

bearish

beat

beatable

beaten

beating

beauty

became

become

becomes

becoming

bed

bee

beef

beeping

began

begin

beginning

begs

begun

behalf

behaved

behavior

behavioral

behemoth

behind

beige

beijing

belarus

belarusian

belgian

belgium

belief

believe

believed

bell

bellevue

bellwether

belong

belonging

belongs

belt

beltway

belvieu

bempeg

ben

benchmark

benchmarking

bending

beneath

beneficial

beneficiary

benefit

benefited

benefiting

benefitted

benefitting

benign

benjamin

bennett

bent

benzel

bernanke

bertrand

besides

best

bet

beta

better

bettered

betting

beverage

beyond

bhavtosh

bi

bias

biased

bico

bid

bidder

bidding

biddle

biden

bif

bifurcate

bifurcation

big

bigger

biggest

bike

bill

billed

billion

billy

bin

bind

binding

biocartis

biofuels

bioinformatics

biology

biomarker

biomass

biontech

biopsy

biotech

biotechnology

bipartisan

birth

birthed

birx

bismol

bit

bitcoin

bite

black

blackberry

blackrock

blame

blamed

blast

blatantly

blavatnik

blend

blessing

blew

blind

blindsided

blink

blinken

blip

bloated

block

blockade

blockchain

blocker

blocking

blog

blood

bloodier

bloody

bloomberg

blossoming

blow

blown

blowout

blue

blueprint

bluetooth

blundell

blur

blush

bnef

board

boarding

 ${\tt boardroom}$

boasberg

boat

boc

bode

bodily

body

boe

boeing

bofa

bold

bolster

bolstered

bolt

bombshell

bonafide

bond

bondholder

bonus

boo

book

 ${\tt bookending}$

booking

 ${\tt boom}$

boomer

booming

boon

boost

boosted

booster

boosting

booth

border

boredom

boring

_ .

 ${\tt boris}$

 ${\tt borne}$

borrow

borrowed

borrower

borrowing

boseman

boston

bottega

bottle

bottleneck

bottom

 $\verb|bottomed|$

bottoming

bought

bounce

bounced

bound

boundary

boundless

bout

bowl

box

boy

boycott

bpd

 ${\tt bpmp}$

bps

braava

brace

bracing

bradley

brain

brainer

brainstorm

brake

branch

branco

brand

branding

brash

brazen

brazil

breach

breached

breaching

bread

breadbasket

breadth

break

breakaway

breakdown

breaker

breakeven

breakevens

breaking

breakneck

breakthrough

breast

breath

breathed

breathtaking

breed

breeding

breeze

brent

brewing

brexit

brexiteer

brian

bribe

brick

bridge

brief

briefcase

briefing

briefly

bright

brighten

brighter

brightest

brightly

brignac

brill

bring

bringing

brings

brink

brinkmanship

brinksmanship

bristol

british

broach

broad

broadband

broaden

broader

broadly

broadway

broke

broken

broker

brokerage

brookfield

brookings

brother

brought

brown

brownsville

bruce

brushing

brutal

btu

bubble

buck

bucket

buckled

buckley

bud

budding

budged

budget

budgeting

buff

buffer

buffet

buffett

build

builder

building

built

bulb

bulgari

bulk

bull

bullard

bullish

bump

bumper

bumpy

bund

bunds

burden

burdened

bureau

bureaucracy

bureaucrat

burger

burn

burned

burner

burning

burst

bursting

bus

bush

business

bust

busy

buttigieg

 $\verb|button|$

buy

buyer

buying

buzzing

bypass

cab

cabin

 ${\tt cabinet}$

cactus

 ${\tt cafe}$

cafeteria

caixin

 ${\tt cake}$

 ${\tt calamitous}$

calamity

calculate

calculating

 ${\tt calculation}$

calculator

calendar

calibrate

california

call

callaway

called

calling

calm

calmed

came

camera

camp

campaign

campaigned

camper

canada

canadian

cancel

cancellation

cancelled

cancer

candidate

canned

cannister

cannot

canoe

canvas

canvasser

cap

capability

capable

capacity

capex

capital

capitalism

capitalist

capitalization

capitalized

capitalizing

capitol

capitulated

capping

capricious

captivating

capture

captured

capturing

caput

car

carbon

carcass

card

cardboard

cardiac

care

cared

career

careful

carefully

caregiving

carl

carnival

 ${\tt carolina}$

carper

carpet

carried

carrier

carrot

carry

carrying

cart

cartel

cartner

carton

carved

cascade

case

cash

cashflow

cast

casting

casual

 ${\tt catalyst}$

 ${\tt catalytic}$

catastrophe

catastrophic

catch

catching

 ${\tt catchment}$

categorizing

 ${\tt category}$

caterer

catharsis

cato

catwalk

caucus

caught

cause

caused

causing

caution

cautionary

cautious

cautiously

caveat

caved

cbo

cbr

ccus

cdc

 cdma

cdp

cease

ceased

ceasefire

ceiling

celebrate

celebrating

celebrity

cell

cellular

celsius

cement

census

center

centered

centerpiece

central

centre

centric

century

ceo

cepp

ceqp

ceremony

certain

certainly

certainty

certificate

 ${\tt certified}$

certify

cervical

 ${\tt cessation}$

cfa

cfp

chadwick

chain

chainsaw

chair

chairman

chairperson

chairwoman

challenge

challenged

challenger

challenging

chamber

chance

chancellor

change

changed

changer

changing

channel

channeled

chao

chaos

chaotic

chaperone

 ${\tt chapter}$

characteristic

characterization

 ${\tt characterized}$

charge

charged

charging

charity

charles

chart

chartbook

charting

 ${\tt chase}$

chasing

chat

chatted

chatter

cheap

 ${\tt cheaper}$

check

checking

 ${\tt checklist}$

checkpoint

checkup

cheer

chekhov

chemical

 ${\tt chemically}$

chemistry

chemo

chemotherapy

chevron

chicago

chicken

chief

chiefly

child

childcare

 ${\tt childhood}$

chill

china

chinese

chip

chloride

chock

chocolate

choice

choke

choking

choose

choosing

chorus

chose

chosen

chris

christian

christine

chromium

chuck

 ${\tt chudnoff}$

churn

 ${\tt cicilline}$

cie

cindy

cips

circadian

circle

circularity

circulation

circumstance

cited

citing

citizen

city

civil

civilian

civilized

claim

clarida

clarified

clarifies

clarion

clarity

clash

class

classic

classified

claw

clawing

clean

cleaned

cleaner

cleaning

cleanup

clear

clearer

clearly

cleric

cleveland

clic

click

clicking

client

clientele

climate

climb

climbed

climbing

clinic

clinical

clinton

clock

 ${\tt clocked}$

 ${\tt clocking}$

clockwork

clone

close

closed

closely

closer

closest

closing

closure

clothes

cloud

club

clue

clutch

cmb

cme

cnav

cnbc

coach

coal

coalesced

coast

coaster

coating

cobbled

cocktail

coddled

code

coetzee

cognex

cognitive

coherent

cohesion

cohort

coi

coiled

coin

coinbase

coincided

coincidence

coincidentally

coincides

coinciding

coined

cold

colder

collaborate

collaborated

collaboration

collaborative

collaboratively

collabs

collapse

collapsing

collar

collateral

colleague

collected

collecting

collection

collective

collectively

college

collegebound

cologuard

colon

colonial

colonoscopy

color

colorado

colossal

columbia

com

coma

combat

combating

combative

combination

combine

combined

combining

combusted

come

comedic

comfort

comfortable

comfortably

 ${\tt comforted}$

coming

command

commence

commenced

commencement

commences

 ${\tt commencing}$

comment

commentary

commentator

commerce

commercial

commission

commit

commitment

committed

committee

committing

 ${\tt commoditized}$

commodity

common

commonality

commonly

communicate

 ${\tt communicated}$

communicating

communication

communique

communist

community

companion

company

companywide

comparable

comparative

compare

compared

comparing

comparison

compass

compassion

compatible

compel

compelled

compelling

compensate

compensation

compete

competent

competing

competition

competitive

competitiveness

competitor

compiled

complaining

complaint

complement

complementary

complemented

complete

completed

completely

completing

completion

complex

complexity

compliance

complicated

complicates

complicating

compliment

comply

component

compose

composed

composite

composition

compound

compounded

compounders

compounding

comprehensive

compress

compressed

compression

comprise

comprised

comprises

comprising

compromise

 ${\tt compromised}$

compulsory

computational

compute

computer

 ${\tt computing}$

conceals

conceivably

concentrate

concentrated

concentration

concept

concern

concerned

concerning

concert

concerted

concession

concierge

concise

concisely

conclude

concluded

concludes

conclusion

concomitant

concur

concurrently

condition

conducive

conduct

 ${\tt conducted}$

conducting

 ${\tt conductor}$

conference

confess

confidence

confident

confirm

confirmation

confirmed

confirms

conflated

conflict

conflicting

confluence

confront

confronted

confuse

confused

confusing

confusion

congestion

conglomerate

congratulation

congress

congressional

congressionally

congruence

conjugate

conjunction

connect

connected

connection

connectivity

conscious

consciously

consciousness

consecutive

consensus

consequence

consequential

consequently

conservation

conservative

conservatively

consider

considerable

considerably

consideration

considered

considering

considers

consistency

consistent

consistently

consisting

consists

consolidated

consolidation

conspired

constant

constantly

consternation

constituent

constitutional

constrained

constraint

construct

constructed

constructing

 ${\tt construction}$

constructive

consult

consultant

consultation

consulting

consume

consumed

consumer

consuming

 ${\tt consumption}$

contact

contactless

contagion

contagious

contain

contained

container

containing

containment

contains

contaminated

contemplate

contemplated

contemplates

contemplating

contend

contending

content

contentious

contest

contested

context

continual

continually

continuation

continue

continued

continues

continuing

continuity

continuous

continuum

contract

contracted

contracting

 ${\tt contraction}$

contractor

contradict

contradictory

 ${\tt contrarian}$

contrary

contrast

contribute

 ${\tt contributed}$

contributes

contributing

contribution

contributor

control

controllable

controlled

controlling

controversial

controversy

convene

convened

convenes

convenience

convenient

convention

conventional

converge

converged

convergence

 ${\tt conversation}$

conversely

convert

converted

converter

convertible

convicted

conviction

convince

convinced

convoy

cook

cooking

cooler

cooling

cooperating

cooperative

coordinate

coordinated

coordination

coordinator

cop

cope

copied

coping

copper

corcoran

core

corn

corner

cornerstone

corona

coronavirus

corp

corporate

corporates

corporation

correct

corrected

correction

correctly

correlated

correlation

corresponding

corrosion

corruption

cosmetic

cost

costing

costly

couch

could

council

counsel

counseled

counselor

 ${\tt count}$

counted

counter

counterintuitively

counterpart

counterpoint

counting

countless

country

county

couple

coupled

coupling

coupon

courage

course

court

cov

covax

cover

coverage

 ${\tt covered}$

covering

covid

COW

coward

cowboy

coworkers

cpi

cpu

crack

crackdown

craft

crafted

crafting

crafty

crash

cratered

crave

craved

crayon

 ${\tt crb}$

create

created

creates

creating

creation

creative

creativity

credential

 ${\tt credibility}$

credit

creditor

creeping

 ${\tt crested}$

crestwood

crew

crimea

crippling

crisis

crispr

criterion

 critic

critical

critically

 $\operatorname{criticism}$

criticize

criticized

critique crm

crooked

crop

cross

crossed

crow

crowd

crowded

crucial

crude

cruel

cruise

crush

crutch

cry

crypto

cryptocurrencies

cryptocurrency

cryptography

cryptos

crystal

crystalized

csrdf

cuban

cube

cubic

cudgel

cue

cuisine

culminate

culmination

 $\operatorname{culprit}$

cult

cultivate

cultural

culture

cummings

cumulative

cunningham

curated

curatorial

 curb

cure

cured

curiosity

curious

currency

current

currently

curtail

curtailed

curtain

curtin

curve

cushion

cushioned

custard

custom

customer

customizable

customization

customize

customized

cut

cutback

cutoff

cutting

cvx

cyber

cyberattack

cyberattacks

cybersecurity

 ${\tt cyberspace}$

cycle

cyclical

cyclicality

cyclically

cyclicals

czech

da

daily

dakota

dallas

dam

damage

damaged

damaging

dampen

dampening

dance

danger

dangerous

dapl

darin

dark

dashed

data

database

 ${\tt datamining}$

date

dated

dating

daughter

daunting

david

day

daycare

dead

deadline

deadlocked

deadly

deal

dealer

dealership

dealing

dealt

dear

dearth

death

deb

debate

debated

debating

debilitating

deborah

debt

dec

decade

decadent

 ${\tt decarbonization}$

decarbonizing

decelerate

decelerated

decelerating

deceleration

december

decency

decennial

decent

decentralization

decentralized

decide

decided

decidedly

decides

decimal

decipher

decision

decisive

decisively

declared

decline

declined

declining

decomposition

 ${\tt deconstruct}$

decoupled

decoupling

decrease

decreased

decreasing

decumulation

dedicate

dedicated

dedication

deductible

deduction

deemed

deems

deep

deepen

deepening

deeper

deeply

deese

ueese

 ${\tt default}$

defect

 ${\tt defend}$

defending

defense

defensive

deferral

deferred

deficiency

deficit

defied

define

defined

defines

defining

definitely

definition

 ${\tt definitive}$

definitively

deflation

deflationary

degree

delano

delay

delayed

delaying

delegate

delegating

 ${\tt delegation}$

deleveraging

delhi

deli

deliberate

deliberation

delicate

delineated

delist

delisting

deliver

deliverable

delivered

delivering

delivers

delivery

deloitte

delta

deluge

demand

demanded

demanding

demicks

demise

democracy

democrat

democratic

democratization

 ${\tt demographic}$

demonize

demonstrate

demonstrated

demonstrates

demonstrating

 ${\tt demonstration}$

deng

denial

denied

denmark

dennis

denominated

density

departed

department

departure

depend

depended

dependence

dependency

dependent

depending

depends

deploy

deployed

deployment

deport

deposit

depositary

deposited

depositing

depreciation

depress

depressed

depression

depth

derail

derailed

derailing

derivative

derive

derived

derives

describe

described

describes

describing

description

deserves

design

designated

designation

designed

designer

designing

desirable

desire

desired

desk

desperate

desperately

despite

destabilized

destabilizing

destination

destroying

destroys

accord

destruction

destructive

detail

detailed

detect

detecting

detection

deter

detergent

deteriorate

deteriorating

deterioration

determinant

determination

determinative

determine

determined

determining

deterred

detrimental

devaluation

devalued

devastated

devastating

devastation

develop

developed

developer

developing

development

developmental

developmentally

develops

deviate

deviation

device

devising

devoted

devoting

diabetes

 ${\tt diagnose}$

diagnosed

 ${\tt diagnosis}$

diagnostic

diagnostics

dial

dialing

dialogue

diamondback

diana

diaper

diced

dichotomous

dick

dictate

dictated

didi

die

died

diego

diesel

differ

difference

different

differential

differentiate

differentiated

differentiates

differentiating

differentiator

differently

differs

difficult

difficulty

diffused

diffuses

dig

digest

digesting

digit

digital

digitalization

digitalize

digitalized

 ${\tt digitization}$

 ${\tt digitize}$

digitized

dilemma

diligence

diligent

dime

dimensional

diminish

diminished

diminishing

dimmed

dining

dinner

diocese

dior

dip

diplomacy

diplomatic

dire

direct

directed

directing

direction

directional

directly

director

directory

directs

dirt

dirty

disability

 ${\tt disadvantage}$

disadvantaged

disagree

disappoint

disappointed

disappointing

disappointment

disappoints

disaster

disastrous

 ${\tt discernable}$

discerning

discipline

disciplined

disclose

disclosure

discomfort

disconnect

disconnected

discontinuing

discount

discounted

discounter

discounting

discover

discovered

discovering

discovery

discrepancy

discrete

discretion

discretionary

discrimination

discriminatory

discus

discussed

discussing

discussion

disease

disengaging

disgraced

dishmon

disinfecting

disinflationary

disinformation

disingenuous

disk

dislocation

dismal

dismiss

 ${\tt dismissed}$

dismissing

disney

disorderly

disparity

dispel

disperse

dispersion

displacement

displacing

display

displaying

disposable

disposal

disproportionately

dispute

disputed

disqualified

disrupt

disrupted

disrupting

disruption

disruptive

disruptors

disrupts

dissect

dissension

dissident

dissimilar

dissipate

dissipating

dissipation

dissolution

distance

distancing

distant

distilled

distinct

distinction

distorted

distracted

distraction

distribute

distributed

distributing

distribution

district

distrust

 ${\tt disturbance}$

disturbing

dive

diverge

divergence

divergent

diverse

diversification

diversified

diversifier

 ${\tt diversifiers}$

diversify

diversifying

diversity

divert

diverted

divest

divestment

divide

divided

dividend

diving

division

divorced

dizzying

dna

doc

dock

doctor

document

documented

dog

doj

dol

doldrums

dollar

domestic

domestically

domestication

domiciled

dominance

 ${\tt dominant}$

dominate

 ${\tt dominated}$

dominic

donald

donation

done

donor

door

dormant

dornbusch

dos

dose

dosing

dot

dotcom

double

doubled

doubling

doubt

dovetail

dovish

dovishness

dow

downcast

downcycle

downgrade

downgraded

download

downplays

downside

downsize

downstream

downtown

downturn

downward

downwardly

dozen

draconian

draft

drag

dragged

dragging

dragon

drama

dramatic

dramatically

drastic

drastically

draw

drawback

drawdown

drawdowns

drawing

drawn

dreaded

dream

dress

dressing

drill

drilled

drilling

drink

 ${\tt drinker}$

drive

 ${\tt driven}$

driver

driving

drop

dropped

dropping

drove

drucker

drug

drumbeat

drunk

dual

dubbed

ducs

due

duke

dull

JULL

dumb

dumped

dung

dunphy

durability

durable

durables

durably

duration

dusk

dust

duty

dwa

dwarf

dying

dynamic

dysfunction

dysfunctional

 ${\tt dystopian}$

eafe

eager

eagerly

eagle

eagleclaw

ear

earlier

earliest

early

earmark

earmarked

earn

earned

earner

earning

 ${\tt earnings}$

earns

earth

eas

ease

eased

easier

easiest

easily

easing

east

easter

eastern

easy

easyjet

eat

eating

ebbed

ebitda

ebrahim

ecb

eccentric

echo

echoed

echoing

economic

economically

economics

 ${\tt economist}$

economy

ecosystem

edge

edged

editing

edition

editor

edmund

educated

educating

education

educational

educationally

edward

 ${\tt effect}$

effective

effectively

effectiveness

efficacy

efficiency

efficient

efficiently

effort

egg

egypt

egyptian

eia

eiffel

eight

eis

either

elaborate

elaborated

elated

elder

elderly

elect

elected

election

elector

electoral

electorate

electric

electrical

electricity

electrification

electrolysis

electronic

electronics

elegant

element

elevate

elevated

elevator

eleventh

eliciting

eligible

eliminate

eliminated

eliminates

eliminating

elite

 ${\tt elizabeth}$

elon

elongated

eloquently

else

elsewhere

elude

email

embargo

embarked

embarking

embassy

embedded

embellish

emblematic

emboldened

embrace

embraced

embracing

emea

emerge

emerged

emergence

emergency

emergent

emerges

emerging

emilie

emission

emitter

emitting

emmanuel

emotion

emotional

 ${\tt emotionally}$

empathetic

empathize

emphasis

emphasized

emphatic

emphatically

empire

employ

employed

employee

employer

employing

employment

empower

empowered

 ${\tt empowerment}$

empowers

emptive

emptively

empty

enable

enabled

enables

enabling

enact

 ${\tt enacted}$

enacting

enacts

enb

enbl

enbridge

encapsulated

encompass

encompassing

encounter

encountered

encourage

 ${\tt encouraged}$

encouragement

encouraging

encouragingly

end

endangered

endeavor

ended

endemic

endgame

ending

endless

endorsed

endorsement

endowed

endure

 ${\tt endured}$

enduring

enduringly

enemy

energetic

energized

energy

enforce

enforcement

engage

engaged

engagement

engages

engaging

engine

engineer

engineered

engineering

england

english

enhance

enhanced

enhancement

enhancing

enjoy

enjoyed

enjoying

enjoys

enlc

enlightened

enlightening

enlink

enormous

enough

enrollment

enshrined

ensuing

ensure

ensures

ensuring

entail

enter

entered

entering

 ${\tt enterprise}$

entertained

 ${\tt entertaining}$

entertainment enthusiasm

enthusiastic

enticed

entire

entirely

entirety

entitled

entity

 ${\tt entrant}$

entrepreneurial

entry

envelope

environment

 ${\tt environmental}$

environmentally

envision

envisioned

envisioning

envoy

envy

enzyme

epd

epic

epicenter

epidemiologist

epidemiology

episode

episodic

eps

equal

equality

equally

equate

equates

equating

equation

equilibrium

equipment

equipped

equitable

equity

equivalent

equivocate

era

ercot

eric

erisa

erode

erodes

err

erratic

error

erupted

esa

esas

escalate

 ${\tt escalated}$

escalates

escalation escalator

escape

escaped

esg

esgintel

especially

espn

essence

essential

essentially

est

establish

established

establishing

establishment

estate

esther

estimate

estimated

estimating

estimation

etc

etched

etf

ethereum

ethic

etouch

euphoria

euphoric

euro

eurofins

europe

european

eurozone

ev

evade

evaluate

evaluated

evaluating

evaluation

evans

evaporate

evaporation

eve

evelyn

even

evening

evenly

event

eventful

eventual

eventually

ever

evergrande

every

everybody

everyday

everyone

everything

everywhere

evidence

evidenced

evident

evil

evolution

evolutionary

evolve

evolved

evolves

evolving

exacerbate

exacerbated

exacerbates

exacerbating

exact

exactly

examine

examines

examining

example

exceed

exceeded

exceeding

exceeds

excel

excellence

excellent

excelling

except

exception

exceptional

excess

excessive

excessively

exchange

excited

excitement

exciting

exclude

excluded

excludes

excluding

exclusion

exclusionary

exclusive

exclusively

exclusivity

excuse

executable

execute

executed

execution

executive

exempt

exercise

exercised

exercising

exert

exhausted

exhaustive

exhibit

exhibited

exhibiting

exist

existence

existential

existing

 ${\tt exit}$

exited

exiting

exorbitant

expand

expanded

expanding

expansion

expansionary

expansive

expect

expectancy

expectation

expected

expecting

expects

expedited

expeditious

expenditure

expense

expensive

experience

experienced

experiencing

experiment

experimental

expert

expertise

expiration

expire

expired

explain

explained

explaining

explains

explanation

explicit

exploitation

exploration

exploratory

explore

explored

explores

exploring

exponential

export

exportable

exported

exporter

exporting

expose

exposed

exposure

express

expressed

expression

expressionless

extend

extended

extending

extends

extension

extensive

extensively

extent

external

externality

externally

extra

extraction

extractive

extraordinarily

extraordinary

extrapolate

extrapolated

extravagant

extreme

extremely

extricate

exuberance

eye

eyed

eyewear

faang

face

facebook

faced

facet

facilitate

facilitating

facilitation

facility

facing

fact

factly

factor

factory

factset

fad

fade

fading

faegre

fail

failed

failing

fails

failure

fair

fairly

fairness

 ${\tt fait}$

faith

faithful

fall

fallen

falling

fallout

false

faltering

fame

famed

familiar

familiarize

family

famous

famously

fan

fang

fanged

fanning

far

fare

fared

farfetch

farm

farmed

farmer

farming

farther

fascinating

fascination

fashion

fast

fasten

faster

fastest

fatality

fate

fatigue

fatigued

fauci

fault

favor

favorable

favorably

favored

favoring

favorite

favourable

fear

feared

fearful

feature

featured

feb

february

fed

federal

 ${\tt federation}$

fedspeak

fee

feed

feedback

feeding

feedstock

feel

feeling

fell

fellow

felt

fema

female

fence

fencing

feng

ferber

ferc

fertility

festivity

feud

fever

fevertree

fewer

feyerer

fiat

fiber

fickle

fidelity

fiduciary

field

fifteen

fifth

fight

fighting

figuratively

figure

file

filed

filibuster

filing

fill

 ${\tt filled}$

filling

filter

final

finalize

finally

finance

financed

financial

financially

financials

financing

find

finding

fine

finer

finger

fingerprint

finish

finished

finite

fintech

fire

fired

firepower

firewall

firm

firmer

firming

firmly

firmness

first

firstly

fiscal

fish

fishing

fit

fitch

fitness

five

fix

fixate

fixating

fixed

fixing

fixture

fjord

flagging

flagship

 ${\tt flanagan}$

flash

flat

flatten

flattened

flattening

flattens

flatter

flattering

flavored

flawed

flee

fleet

fleeting

flexibility

flexible

flexing

flight

flinched

flip

flippant

flipped

flitton

floated

floating

flocked

floor

flop

florida

floridian

flourishing

flow

flowed

flowing

flu

fluctuation

fluid

flurry

flush

flushed

flustered

flux

fly

flying

fnav

focus

focused

focusing

fodder

follow

followed

following

follows

 ${\tt fomc}$

food

foodservice

foot

football

foothold

footing

footprint

footstep

forbidden

force

forced

 ${\tt forceful}$

forcefully

forcing

ford

forecast

forecasted

forecaster

forecasting

forefront

forego

foregone

foreign

foreigner

foremost

foresee

foreseeable

foresees

 ${\tt foreshadowed}$

foreshadowing

foreshadows

forest

forewarn

forge

forget

forging

forgiving

forgot

form

formal

formality

formalized

formally

format

formed

former

formerly

formidable

forming

formula

formulated

formulation

fors

forth

forthcoming

fortitude

fortress

fortunate

fortunately

fortune

forward

forwarder

fossil

foster

fostering

found

foundation

foundational

founded

foundry

four

fourth

fps

frac

fraction

fractionator

fragile

fragment

fragmented

frame

framed

framework

franc

france

francis

francisco

frank

franklin

 ${\tt frankly}$

fraud

fraudulent

fraught

fray

fred

free

freedom

freeing

freeze

freezing

freight

french

frenetic

frequency

frequent

frequently

fresh

freshly

fretted

fretting

frey

fricke

friction

friday

friedman

friend

friendly

friendship

frightening

fringe

front

frontier

frontline

froth

frothy

froze

frozen

frugal

fruit

fruition

frustrated

frustrating

frustration

fry

fsb

ftc

ftse

fuel

fueled

fueling

fulfill

fulfilled

 ${\tt fulfilling}$

 ${\tt fulfillment}$

full

fully

fumio

fun

function

 ${\tt functionality}$

 ${\tt functioning}$

fund

fundamental

fundamentally

 ${\tt funded}$

 $\quad \hbox{funding} \quad$

fungus

funk

funny

furlough

furnace

furniture

furthermore

fuss

future

gagnon

gain

 ${\tt gained}$

gaining

galaxy

gambler

gambling

game

gamechanger

 ${\tt gamestop}$

 ${\tt gaming}$

 $\operatorname{\mathtt{gamma}}$

gao

gap

garage

garden

 ${\tt garnering}$

gary

gas

gaslog

gasoline

gasp

gate

 ${\tt gatekeeper}$

gateway

gather

gathered

 ${\tt gatherer}$

gathering

gauge

gave

gbps

gdp

gear

geared

gee

gen

gender

gene

general

generalist

generally

 ${\tt generate}$

generated

 ${\tt generates}$

generating

generation

generational

 ${\tt generator}$

generic

generous

genetic

genetics

 ${\tt genmab}$

genome

genomic

genomics

gensler

gentler

genuine

genuinely

geographic

 ${\tt geographical}$

geographically

 ${\tt geography}$

 ${\tt geopolitical}$

 ${\tt geopolitics}$

george

georgia

ger

gerald

gerber

german

germany get ${\tt getting}$ gfc giant gift gifting gig gigatons gilmore gilt gin gina gingerly girl ${\tt gita}$ give given ${\tt giving}$ glad glance glasgow glass ${\tt glean}$ ${\tt glide}$ ${\tt glimpse}$ glitch glng global globalization ${\tt globalize}$ globally globe glog gloved glue gmlp go goal going golar gold golden goldilocks golf

gone good goodbye goog

googl

google

gop

gopinath

gore

gory

got

gotten

govern

governance

governed

governing

 ${\tt government}$

governmental

governor

grace

grad

grade

gradual

gradually

 ${\tt graduate}$

 ${\tt graduated}$

graduation

grail

 ${\tt grain}$

 grand

 ${\tt grandchild}$

 ${\tt granddaddy}$

grandparent

granholm

grant

granted

granularity

 ${\tt graphic}$

graphical

grapple

grappled

grasp

grateful

gravina

 ${\tt gravitational}$

gravity

gray

grease

great

greater

greatest

greatly

greed

greek

green

greener

greenhouse

greening

 ${\tt greenspan}$

 ${\tt greenwashing}$

greg

 ${\tt gregorian}$

gregory

grew

grey

grid

gridlock

grievance

grieving

 ${\tt grim}$

grind

grinding

gripe

gripped

gripping

grocery

gross

ground

 ${\tt groundbreaking}$

grounded

groundhog

groundwater

group

 ${\tt groupon}$

grow

growing

 ${\tt grown}$

grows

growth

 ${\tt growthspotting}$

growthy

grumbling

gsa

 ${\tt guarantee}$

guard

guardant

 ${\tt guardrail}$

gucci

guess

guidance

guide

guided

guideline

guiding

gulf

gun

 ${\tt gunderson}$

guru

gusher

gut

guy

gwyneth

gym

gyrating

gyration

haaland

habit

hack

hacking

haghbin

hailing

hair

haircut

hairy

half

hall

halloween

halt

halted

halting

halve

hamper

hampered

hamstring

hand

handful

handicap

handily

handle

handled

handling

handwringing

handy

hang

hanging

happen

happened

happening

happens

happier

happiest

happily

happy

harbinger

hard

harder

hardest

hardline

hardly

hardship

hardware

harm

harmful

harmless

harmonize

harmony

harris

harsh

harshly

harvard

nar var c

harvest

harvesting

harvey

hasten

hate

haul

havoc

hawk

hawkish

hawkishness

hawley

hayes

hazard

hdhp

head

headache

headcount

headed

heading

headline

headlined

headwind

heal

health

healthcare

healthful

healthier

healthy

hear

heard

hearing

heart

heartbreaking

heat

heath

heavier

heaviest

heavily

heavy

heck

hedge

hedged

hedging

heed

heel

heeled

heightened

heightening

heinous

held

helm

help

helped

helpful

helping

hemisphere

hence

herculean

herd

heritage

herring

herron

hesitant

hey

hiccup

high

higher

highest

highlight

highlighted

highly

highway

hike

hiking

hill

hilli

hinder

hindrance

hint

hire

hiring

hispanic

historic

historical

historically

history

hit

hitherto

hitting

hnw

hobby

hold

holder

holding

holdout

hole

holiday

holistic

holland

hollywood

holt

home

homebuilder

homeless

hometown

honda

hone

honest

honestly

honeymoon

hong

honor

honorable

honored

hood

hooper

hope

hoped

hopeful

hopefully

hoping

horizon

horizontal

hormone

horned

horrible

horror

hospital

hospitality

hospitalization

hospitalized

host

hostage

hosted

hostile

hostility

hosting

hot

hotel

hotter

hour

hourly

house

housed

household

housing

houston

however

hsa

hsas

huawei

hub

huddle

huge

human

humane

humble

humid

humidity

humility

hundred

hunter

hunting

hurdle

hurricane

hurry

hurt

hurting

hurtling

hvac

hxc

hybrid

hydro

hydrocarbon

hydrofluorocarbon

hydrogen

hygo

hyman

hypertransmissible

hypothesis

hypothetical

hysteric

ibes

ibrd

ice

icon

iconic

ida

idea

ideal

idealistic

ideally

identical

identified

identifies

identify

identifying

ideologue

ideology

idiosyncratic

iea

ifi

ifid

ifo

ignore

ignored

ignoring

ihs

iigcc

iii

iija

ill

illegal

illinois

illiquid

illiquidity

illiterate

illness

illogical

illumina

illuminate

illustrate

illustrated

illustrates

illustration

illustrative

image

imagination

imagine

imagined

imagining

imbalance

imf

immaterial

immediate

immediately

immense

immersive

immigrant

imminent

immortal

immune

immunity

immunization

immuno

 ${\tt immunologist}$

immunotherapy

immutable

impact

impacted

impactful

impacting

impaired

impasse

impeachment

impediment

impending

imperative

impetus

implement

implementable

implementation

implemented

implementing

implication

implied

implies

imply

implying

imponderable

import

importance

important

importantly

importer

importing

impose

imposed

imposing

imposition

 ${\tt impossible}$

impractical

impressed

impression

impressive

improve

improved

improvement

improves

improving

improvisation

impulse

inability

inaccurate

inadequate

inakazu

inaugural

inaugurated

inauguration

inc

incapable

 ${\tt incensed}$

incented

incentive

incentivizing

inception

inch

incidence

 ${\tt incident}$

 ${\tt inclined}$

include

included

includes

including

inclusion

inclusive

income

incoming

inconspicuous

incorporate

incorporated

incorporates

incorporating

incorporation

increase

increased

increasing

increasingly

incredible

incredibly

increment

incremental

incrementally

incubate

incumbent

incur

incurred

indeed

indefinitely

indelible

independence

independent

independently

index

indexation

indexed

indexing

india

indian

indiana

indicate

indicated

indicates

indicating

indication

indicative

 $\verb"indicator"$

indigestion

 ${\tt indirect}$

indirectly

indiscriminate

indiscriminately

individual

individualized

individually

indonesia

indoor

induce

induced

industrial

industrialization

industrials

industry

ineffective

inequality

inescapable

inevitable

inevitably

inexorable

inexorably

inexpensive

 $\verb"infamous"$

infamously

infected

infection

infectious

inferno

inflate

inflating

 ${\tt inflation}$

inflationary

inflection

inflict

inflicted

inflow

influence

influencer

influencers

influencing

influenza

influx

infographic

inform

informal

information

 $\verb"informative"$

informed

informs

infrastructure

ing

ingenuity

ingleside

ingot

ingredient

inherent

inherently

inhibit

inhibitor

initial

initially

initiate

initiated

initiating

initiation

initiative

inject

injected

injecting

injection

injunction

injustice

ink

inline

inner

inning

 ${\tt innovate}$

innovating

 ${\tt innovation}$

innovative

innovator

 ${\tt inoculated}$

 ${\tt inoculating}$

 ${\tt inopportune}$

input

inquiring

inquiry

inroad

insatiable

insert

inserted

inside

insidious

insight

insist

insisted

insisting

insole

 ${\tt inspection}$

inspector

inspirational

inspire

inspires

inspiring

instability

instacart

instagram

install

installed

instance

instant

instantaneously

instead

instinct

institute

instituted

instituting

institution

institutional

instructed

instruction

instructive

instrument

instrumental

insulate

insulation

insulin

insurance

insurer

insurmountable

intact

intake

integral

 ${\tt integrate}$

 ${\tt integrated}$

integrating

integration

integrator

intellect

intellectual

intellidex

intelligence

intelligent

intend

intended

intends

intense

intensified

intensify

intensifying

intensity

intensive

intent

intention

intentional

intentionally

intently

inter

interact

interactive

interacts

interbank

interdependence

interest

interested

interesting

interestingly

interface

interfere

interim

interior

interleukin

intermediate

intermediated

intermediation

intermittent

internal

internally

 ${\tt international}$

internationally

internet

internship

interplay

interpret

interrogation

interrupted

interruption

intersection

intersperse

interspersed

interstate

interval

intervened

intervention

interview

intimacy

intimidation

intra

intraday

 ${\tt intragovernmental}$

intraparty

intricately

intriguingly

intrinsic

introduce

introduced

introduces

introduction

intrusion

intuitive

invade

invaded

invades

invalidate

invasion

invented

invention

 ${\tt inventor}$

inventory

inverse

inverts

invesco

invest

investable

invested

investible

investigating

investigation

investing

investment

investopedia

investor

invited

involve

involved

involvement

involves

involving

inwards

ioer

ip

iphone

ipo

ira

iran

iranian

iraq

ire

ireland

irish

irobot

iron

ironic

ironically

irrational

irrationally

irregularity

irresistible

irrespective

irs

island

ism

isolated

isolation

israel

israeli

issuance

issue

issued

issuer

issuing

italian

italy

 ${\tt itc}$

itching

item

iteration

ivario

ivnqx

ivy

jab

jack

jackson

jake

jam

james

jan

janet

january

japan

japanese

jargon

jarring

jason

java

jaw

jawboning

jay

jcpoa

jeff

jenkins

jennifer

jennings

jeopardize

jerk

jerome

jerusalem

jet

jettisoned

jewelry

jiechi

jim

jinping

jitter

job

jobless

joe

joel

johan

john

johnson

join

joined

joint

jointly

joke

jolt

jolted

jones

joseph

josh

 ${\tt journal}$

journey

jousting

joy

judge

judged

 ${\tt judgement}$

judgment

judiciary

juice

july

jump

jumped

jumping

jumpstarting

juncture

june

junior

justice

justifiable

justification

justified

justify

justin

kailvas

kamala

kansa

kaplan

karate

katherine

keenly

keep

keeping

keith

ken

kennedy

kentucky

kept

kering

kerkove

kerry

kevin

key

keynote

khamenei

kick

kicked

kicking

kid

kidnap

kiev

kill

killed

killer

killing

kind

kinder

kindleberger

kinetrex

king

kingdom

kink

kippur

kishida

klobuchar

kmi

knew

knock

know

knowing

knowledge

known

kong

korea

kpmg

kristina

kubler

kuehne

kumbaya

kuwait

kwh

kyrsten

lab

label

labeled

labor

laborious

lack

lackluster

lag

lagarde

laggard

lagged

lagging

laid

lake

lambda

lamenting

laminating

land

lander

landfill

landing

landlord

landscape

lane

language

languishes

lap

lapsed

large

largely

larger

largesse

largest

larosiliere

laser

lasso

last

lasted

lasting

lastly

latch

late

lately

later

latest

latin

latitude

latrine

latter

laugh

laughed

launch

launched

launching

laundry

laura

laurent

laurie

law

lawmaker

lawnmowing

lawrence

lawsuit

lay

layer

layering

laying

le

lead

leader

leadership

leading

leaf

leak

lean

leaning

learn

learned

learning

lease

leasing

least

leave

leaving

led

ledger

left

leftover

leg

legal

legally

legendary

leger

legged

legislate

legislation

legislative

legislature

legitimacy

legitimate

lehman

lei

leisure

leisurely

lending

length

lens

lent

lessening

lesser

 ${\tt lesson}$

lest

let

letter

letting

level

leveled

lever

leverage

leveraged

leveraging

levered

leverenz

levitt

lgbt

liability

liaison

liberal

liberia

liberty

license

licensing

lid

lie

lieu

life

lifestyle

lifetime

lift

lifted

lifting

liftoff

light

lighting

lightly

lightning

lightweight

lii

like

likelihood

likely

liken

likened

likeness

likening

likewise

limelight

limit

limitation

limited

limiting

limp

linchpin

lincoln

linda

line

linear

lineup

lingers

linguine

lining

link

linked

linkedin

linking

lip

lipstick

liquefaction

liquefied

liquid

liquidity

liquified

liquor

list

listed

listen

listened

listening

listing

lite

litecoin

literally

literary

lithography

litigation

litmus

little

liu

live

lived

livengood

living

11c

lloyd

llp

lng

load

loaded

loan

local

locality

localized

located

location

lock

lockdown

locked

locking

lodaya

lodging

lofty

logged

logic

logistical

logistics

logjam

lombardi

long

longer

longest

longevity

longingly

longis

longstanding

longtime

look

looked

looking

lookout

loom

looming

loonie

loop

loophole

loose

loosened

loosening

loosest

looted

lopsided

loro

los

lose

loser

losing

loss

lost

lot

loud

loudly

louis

louisiana

lovable

love

loved

low

lower

lowered

lowering

lowest

loyal

loyalty

ltd

luck

lucky

lucrative

luggage

luke

lumber

lump

lunar

lunch

lundgren

lurking

luther

luxembourg

luxury

lvmh

lymph

lymphoma

lynch

lyndon

macbeth

machine

machinery

macklem

macro

macroeconomic

macroeconomy

macron

mad

made

madison

magic

magical

 ${\tt magnitude}$

mail

main

mainframe

mainland

mainly

mainstream

maintain

maintained

maintaining

maintains

major

majority

make

maker

making

malaysia

 ${\tt maligned}$

mall

mammoth

man

manage

manageable

managed

management

manager

managing

manchin

mandate

mandated

mandating

mandatory

maneuver

manhattan

mania

manifest

manner

mantra

manufacture

manufactured

manufacturer

manufacturing

many

mao

map

marathon

 ${\tt march}$

marching

marcus

 ${\tt margin}$

marginal

marginalized

marginally

maria

marina

marine

maritime

mark

marked

markedly

market

marketed

marketing

marketplace

 ${\tt markit}$

marriage

married

marry

marrying

mart

martel

martial

martin

marty

mary

mask

masked

masking

maslansky

mass

massacre

masse

massive

massively

master

 ${\tt mastercard}$

match

matched

matching

material

materialise

materiality

materialize

 ${\tt materialized}$

materially

math

matrix

 \mathtt{matt}

matter

mattison

mature

matured

matures

maturing

maturity

max

maximize

maximizing

maximum

may

maybe

mccarthy

mcchesney

mcconnell

mcdonald

meager

meal

mean

meaning

meaningful

meaningfully

meant

meantime

meanwhile

measure

 ${\tt measured}$

measurement

measuring

meat

mechanical

mechanism

mechanizing

median

medicaid

medical

medicare

medicine

mediocrity

meditate

 ${\tt medium}$

medtech

 ${\tt medtronic}$

meeks

meet

meeting

mega

meggan

meh

meituan

melt

meltdown

melting

member

membership

memorandum

memory

men

menacing

mental

mentality

mentally

mention

mentioned

mentioning

menu

mep

meps

merchandising

merchant

mercifully

merck

mercury

mere

merely

merge

merged

merger

merging

merit

merkel

merriam

merrill

message

 ${\tt messaging}$

messy

met

metal

metaphor

meteoric

 ${\tt methanation}$

methane

method

methodically

 ${\tt methodology}$

 ${\tt metric}$

metro

mexican

mexico

mi

michael

michele

michigan

micro

microchip

microsoft

mid

midcontinent

middle

midland

midnight

midst

midstream

midterm

midwest

midwestern

might

milanovic

mild

mildly

mile

milestone

milevsky

militant

military

 ${\tt milk}$

mill

millennial

millennials

miller

million

millionaire

milton

 ${\tt mimic}$

 $\min d$

minded

 ${\tt mindful}$

mindset

mine

mined

mineral

mini

minimal

 ${\tt minimize}$

minimizing

minimum

mining

miniscule

minister

minneapolis

minnesota

minor

minority

minsky

minted

minus

minute

miracle

miraculous

miraculously

mired

mirror

misaligned

miscalculated

miserably

misinterpreted

misinterpreting

misleading

mismatch

misperceptions

misplaced

miss

missed

missile

missing

mission

missouri

mistake

mistaken

misunderstood

mit

mitch

mitigate

mitigating

mitigation

mix

mixed

mixer

mixture

 ${\tt mlp}$

mlps

 ${\tt mmbbls}$

 ${\tt mmbtu}$

mmcf

mnuchin

mobile

mobility

moda

mode

model

modeled

modeling

modem

moderate

moderated

moderately

moderating

moderation

moderator

modern

moderna

modernize

modest

modestly

modification

modified

module

mold

moldability

molding

molecular

molecule

molnupiravir

mom

moment

momentous

momentum

moncef

monday

monetarist

monetary

monetization

 ${\tt monetize}$

money

monitor

monitoring

monologue

monopolist

monopolistic

 ${\tt monopoly}$

monrovia

monster

mont

montana

month

monthly

mood

moon

mop

mopping

moral

morale

moratorium

morbidity

moreover

morgan

morning

morningstar

morphosys

mortal

mortality

mortar

mortgage

morton

mosaic

mosers

moshe

mostly

mother

motion

motivate

 ${\tt motivated}$

motivating

motivation

motivational

motivator

motor

mountain

mounting

move

moved

movement

movie

moving

mowi

mr

mri

mrna

msci

msft

msg

much

mucormycosis

multi

multibrand

multifamily

multilateral

multilateralism

multinational

multiple

multiplier

multitude

mummy

mundane

muni

municipal

municipals

munis

murdered

murderer

muscle

museum

music

musk

must

mutant

mutated

mutates

mutation

muted

mutual

myers

myriad

mysterious

myth

mythology

nadel

naftali

nagel

nagging

naic

name

named

namely

nancy

nap

narrative

narrow

narrowed

narrower

narrowing

nascent

nasdaq

natical

nation

national

nationally

nato

natural

naturally

nature

naught

nav

navalny

navigate

navigated

navigating

navigational

navios

navitas

naysayer

nba

nblx

ncaa

ndaa

ndc

near

nearing

nearly

nears

nearshoring

nebulous

necessarily

necessary

 ${\tt necessitated}$

necessitates

necessity

need

needed

needing

needle

negative

negatively

neglect

neglected

negotiate

negotiated

negotiating

negotiation

neighbor

neighborhood

neil

neilson

neither

nektar

nervous

nervousness

neste

net

netflix

network

neutral

nevada

never

nevertheless

new

newcomer

newer

newest

newly

newness

news

newsletter

next

nfe

ng

ngl

ngls

nice

nicely

nicer

niche

nick

nickel

nicknamed

nidec

nield

night

nightmare

 ${\tt nike}$

niklas

nile

nimble

nine

nipped

nitrite

nixon

nktr

nmci

nmm

noble

nobody

nod

node

noel

noise

nolen

nominal

nominated

nomination

nominee

non

none

nonelective

nonessential

nonetheless

nonfarm

nonmanufacturing

nonprofit

nord

nordenfelt

nordic

norge

norm

normal

normalcy

normalization

normalize

normalized

normalizes

normalizing

normally

north

northeast

northern

norway

norwegian

notable

notably

notched

note

noted

noteworthy

nothing

notice

noticeable

noticed

noting

notion

notorious

notoriously

notwithstanding

nov

novel

november

novick

novozymes

nowadays

nowhere

npr

nreca

nuance

nuanced

nuclear

nullmeyer

number

numbered

numerous

nurtured

nustar

nut

nutritious

nymex

nyse

oak

oasis

ob

obama

object

objective

obligation

obligatory

observable

observation

observed

 ${\tt observer}$

obsessed

obstacle

obtain

obvious

obviously

occasion

occasional

occasionally

occupy

occur

occurred

occurrence

occurring

occurs

ocean

oceana

oceanic

oct

october

odd

odds

oddsmakers

oems

oerth

ofac

offender

offer

offered

offering

office

officer

official

officially

offing

offline

offs

offset

offshore

often

oftentimes

ohcs

ohio

oil

oke

oklahoma

old

older

oldest

olympics

omar

omicron

ominous

ominously

omnibus

omnichannel

omp

 ${\tt oncology}$

oncotype

one

oneok

onerous

ongoing

online

onset

onshore

onshoring

onstage

 $\verb"onto"$

opam

opdivo

opec

open

opened

opening

operate

operated

operates

operating

operation

operational

operationally

opine

opined

opinion

oppenheimer

opportunistic

opportunity

opposed

opposes

opposite

opposition

oppressive

ops

opt

opted

optic

optimal

optimism

optimist

optimistic

optimistically

optimization

optimize

optimized

optimizes

optimizing

option

optionality

oral

orchestrate

order

ordered

ordering

orderly

ordinary

oreal

oregon

oregonian

organ

organic

organically

organization

organize

organized

orientation

oriented

origin

original

originally

originated

originating

originator

orphan

orsted

orthodontic

orthodox

orthopedic

oryx

ostensibly

others

otherwise

ought

outage

 ${\tt outbreak}$

outburst

outcome

outdated

outdone

outdoor

outer

outfitter

outflow

outgoing

outgrow

outlet

outlier

outline

04011110

outlined

outlive

outlook

outmaneuver

outpaced

outpacing

 ${\tt outperform}$

outperformance

outperformed

outperformers

outperforming

output

outraising

outright

outset

 $\verb"outside"$

 ${\tt outsized}$

outsource

 ${\tt outsourcing}$

outstanding

outstrip

outweigh

outweighed

outweighs

oven

overall

overarching

overblown

overbought

overcome

overcoming

overcrowded

overdue

overestimate

overestimating

overexposed

overfishing

overhauled

overheat

overheating

overlap

overlapped

overlapping

overlook

overlooked

overly

overnight

overpaid

overpay

overreact

overreacting

overreliance

overseas

oversee

overseeing

overseen

oversees

overshadowed

overshoot

overshooting

oversight

oversized

oversold

 ${\tt overstate}$

overstating

oversupply

overtook

overturn

 ${\tt overturning}$

overvaluation

overview

overweight

overweighting

overwhelmed

overwhelming

owe

owed

owes

owned

owner

ownership

owning

owns

oxfam

oxford

oxygen

paa

pace

paced

pacemaker

pacific

pacifier

pack

package

packaged

 ${\tt packaging}$

packed

packing

page

pagp

paid

pain

painstakingly

paint

pair

pairing

palatable

pale

palestinian

palette

pall

 ${\tt palladium}$

paltrow

paltry

pandemic

panel

panic

panicked

panicking

pantry

paolo

pap

paper

paradigm

paradoxical

paradoxically

parallel

 ${\tt paralyzed}$

parent

parenting

paris

park

parkour

parkway

parliament

parsing

part

partial

partially

participant

participate

 ${\tt participated}$

participates

 ${\tt participating}$

 ${\tt participation}$

particular

particularly

partisan

partly

partner

partnered

 ${\tt partnering}$

partnership

party

partygoer

partying

pas

passage

passed

passenger

passing

passion

passionate

passive

past

pastime

pat

patch

patent

patented

paternal

path

pathway

patience

 ${\tt patient}$

patiently

 ${\tt pattern}$

patton

paul

pause

paused

pave

 ${\tt paving}$

pay

paycheck

paydowns

 ${\tt paying}$

payment

payors

payouts

paypal

payroll

рс

pcaob

рсе

pcr

peace

pcacc

peaceful

 ${\tt peace making}$

peak

peaked

peaking

peculiar

pedal

peel

peer

pegged

pegging

pegylated

pegylation

pej

pelosi

pen

penalizing

penalty

pencil

pending

penetration

 ${\tt pennsylvania}$

penny

pension

pent

people

pepto

per

perceive

perceived

perceives

 ${\tt percent}$

 ${\tt percentage}$

 ${\tt perception}$

perch

 ${\tt perfect}$

perfectly

perform

performance

 ${\tt performed}$

 ${\tt performer}$

performing

 ${\tt performs}$

perfunctory

perhaps

perilous

period

periodic

periodically

periphery

 ${\tt permanent}$

permanently

permeates

 ${\tt permian}$

permit

permitted

permitting

perpetuated

perry

persist

persistence

 ${\tt persistent}$

persistently

persists

person

personal

personality

personalize

personalized

personally

personnel

perspective

persuade

persuading

persuasive

pervasive

peso

 ${\tt pessimism}$

pessimistic

pet

pete

peter petition ${\tt petroleum}$ pfizer pharma ${\tt pharmaceutical}$ pharmacy ${\tt phase}$ phelps ${\tt phenomenal}$ phenomenon pheromone philadelphia philanthropic ${\tt philanthropist}$ ${\tt phillips}$ philosopher ${\tt philosophical}$ philosophically philosophy phishing phobia phone photo php phrase physical physically physician piana pick picked picking pickup picture piece pike pile piled pill pillarpilot pin pinduoduo

pioneer
pioneering

pipe
pipeline

pitchbook

pivot

pivotal

pivoting

placate

place

placed

placing

plain

plainly

plaintiff

plan

plane

planet

planned

planner

planning

plant

plastic

plate

plateaued

platform

play

playable

playbook

played

player

playground

playing

playwright

plc

pleasant

pleasantry

please

pleased

pledge

pledged

plentiful

plenty

plot

plumbing

 ${\tt plummeted}$

plummeting

plunge

plunged

plus

pmi

pmis

poach

pocket

pocketbook

podcast

 ${\tt point}$

pointed

pointing

 ${\tt poised}$

poison

poisoning

poisonous

polar

pole

policy

policymakers

 ${\tt politburo}$

polite

politely

political

politically

politician

politics

poll

1 --

 ${\tt pollackov}$

polled

polling

polluting

 ${\tt pollyanna}$

polyester

polymer

 ${\tt polymerase}$

polyvinyl

pompeii

ponder

pool

poor

poorly

pop

 ${\tt popcorn}$

pope

popped

popping

popular

popularity

populated

population

 ${\tt pork}$

porsche

port

portend

portfolio

 ${\tt portion}$

pose

posed

posing

posit

posited

position

positioned

positioning

positive

positively

positivity

posse

possibility

 ${\tt possible}$

possibly

post

postal

posted

posthumously

posting

postmarked

 ${\tt postpone}$

postponed

posture

pot

potent

potential

potentially

 ${\tt pounce}$

pound

pouring

poverty

powder

powell

power

powered

powerful

powerfully

powerhouse

ppi

ppis

practical

practicality

practically

practice

practiced

practitioner

prada

prague

praise

pray

prayer

praying

pre

preachy

precarious

 ${\tt precaution}$

precautionary

precedent

precedes

preceding

precious

precipitously

precise

precisely

precision

predator

predatory

predecessor

predicated

predict

predictability

 ${\tt predictable}$

predicted

predicting

prediction

predictit

 ${\tt predictive}$

predictor

predisposed

preeminent

preemptively

prefer

preferable

preferably

preference

preferrals

preferred

preferring

preliminary

 ${\tt premature}$

prematurely

premia

premier

premise

premium

prep

prepaid

preparation

prepare

prepared

 ${\tt preparedness}$

prepares

 ${\tt preparing}$

prepay

prerequisite

presage

presaged

prescient

prescribed

prescription

presence

present

 ${\tt presentation}$

 ${\tt presented}$

 ${\tt presenter}$

presenting

 ${\tt presently}$

 ${\tt preservation}$

 ${\tt preserve}$

 ${\tt presided}$

presidency

president

presidential

press

pressing

 ${\tt pressure}$

presumably

presume

presumed

presumes

pretending

prettily

pretty

prevailed

prevailing

prevails

prevalence

 ${\tt prevalent}$

prevent

preventing
prevention

preventive

prevents

preview

previous

previously

pri

price

priced

priceless

pricing

pride

primarily

primary

 ${\tt prime}$

primed

 ${\tt primetime}$

prince

principal

principally

principle

print

printed

printer

printing

prior

prioritize

prioritizes

priority

 ${\tt prison}$

privacy

private

privately

privilege

 ${\tt prix}$

prize

pro

 ${\tt proactive}$

proactively

probability

 ${\tt probable}$

probably

problem

problematic

procedure

 ${\tt proceed}$

proceeding

proceeds

process

processing

 ${\tt processor}$

procurement

procuring

 ${\tt produce}$

produced

 ${\tt producer}$

 ${\tt producing}$

 ${\tt product}$

production

productive

productivity

prof

profession

professional

professionally

 ${\tt professor}$

profile

profiling

profit

profitability

profitable

profligacy

profound

prognosis

prognosticator

program

programmable

programming

progress

progressed

progressive

progressively

prohibit

prohibited

prohibiting

prohibition

prohibits

 ${\tt project}$

projected

projecting

projection

proliferate

proliferated

 ${\tt proliferation}$

prologue

prolong

prolonged

 ${\tt promise}$

 ${\tt promised}$

promising

 ${\tt promote}$

promoting

 ${\tt prompt}$

prompted

prompting

promulgating

prone

prong

pronged

pronounced

proof

propane

propel

propelled

propensity

proper

properly

property

proponent

proportion

proposal

propose

proposed

proposes

proposing

proposition

proprietary

proscribed

 ${\tt prospect}$

prospective

prosperity

prosperous

prostate

protect

protected

 ${\tt protecting}$

 ${\tt protection}$

protective

 ${\tt protein}$

protest

protester

protestors

protocol

 ${\tt prototype}$

protracted

prove

proved

 ${\tt proven}$

proverbial

 ${\tt provide}$

provided

provider

provides

providing

 ${\tt proving}$

 ${\tt provision}$

provisionally

proximate

proxy

prudent

prudential

prudently

psrhbf

psx

psxp

 ${\tt psychological}$

psychologist

ptc

 ${\tt pth}$

pub

public

publication

publicly

published

publishing

puerto

pull

pullback

pulled

pulling

pullout

pulse

 ${\tt pump}$

pumping

 ${\tt punch}$

punctual

punctuated

 ${\tt pundit}$

punished

 ${\tt punishment}$

purchase

 ${\tt purchased}$

 ${\tt purchaser}$

 ${\tt purchasing}$

pure

purely

purpose

purposely

purse

pursue

pursues

pursuing

pursuit

push

pushed

pushing

pushy

put

putin

putting

 ${\tt puzzle}$

pva

pvc

qatar

qbi

qdia

qqjg

 \mathtt{qqmg}

qqq

qqqj

qqqm

 ${\tt quadrilateral}$

 ${\tt quadruple}$

 ${\tt quadrupled}$

quadrupling

 ${\tt qualcomm}$

 ${\tt qualification}$

qualified

qualify

qualitative

qualitatively

 ${\tt quality}$

 ${\tt quant}$

quantified

quantify

 ${\tt quantitative}$

 ${\tt quantitatively}$

quantity

quantum

 ${\tt quarantine}$

quarter

quarterly

 ${\tt quartile}$

quasi

quaterly

queen

query

question

 ${\tt questioned}$

 ${\tt questioning}$

 ${\tt quick}$

 ${\tt quickening}$

quickly

quiet

quietly

quintile

quipped

 ${\tt quite}$

quitting

quizzically

quo

quote

quoted

race

 ${\tt raced}$

racial

rack

 ${\tt racking}$

radar

rage

raging

rail

rain

rainmaker

raise

raised

raisi

raising

rallied

rally

rallying

 ${\tt ramification}$

ramming

ramp

 ${\tt ramped}$

 ${\tt ramping}$

ran

rand

randall

random

range

ranged

ranging

rank

ranked

ranking

ransomware

rapid

rapidly

rare

rarely

rat

ratcheted

rate

rated

rather

rating

ratio

rational

rationale

rationality

rationing

rattle

rattled

rattler

rattling

raucous

ravioli

raw

razor

rba

rbc

reacceleration

reach

reached

reaching

react

reacted

reacting

 ${\tt reaction}$

reactive

reacts

read

reader

readily

readiness

reading

ready

reaffirmed

reagan

real

realign

realistic

reality

realization

realize

realized

realizes

really

realm

reapplied

reappointment

rear

rearview

reason

reasonable

reasonableness

reasonably

reassess

reassurance

reassure

reassured

reassures

reassuring

reath

rebalance

rebalancing

rebound

rebounded

rebounding

rebrand

rebuild

rebuilt

rebuke

recalibrated

recalibration

recall

recap

recapturing

recast

recede

recedes

receipt

receive

received

receives

receiving

recent

recently

receptor

recession

recessionary

recharge

reciprocity

reckons

recognition

recognize

recognized

recognizes

recognizing

recommend

 ${\tt recommendation}$

recommended

recommends

reconceived

reconcile

reconciliation

reconsider

reconsidered

reconstituted

reconstruction

reconvened

record

recorded

recording

recordkeeper

recordkeepers

recount

recover

recovered

recovering

recovers

recovery

recreation

recreational

recruit

recruiting

recruitment

recurrent

recyclability

recycling

red

reddit

redeem

redefined

redefinition

redemption

redesign

redfield

redistribution

redistricting

redress

reduce

reduced

reduces

reducing

reduction

redundancy

reed

reemerged

reemergence

refer

reference

referenced

referendum

referral

referred

refers

refinancing

refine

refined

refining

refinitiv

reflation

reflect

reflected

reflecting

reflection

reflective

reflects

refocusing

reform

reformulated

refrain

refrigerator

refund

refusal

refuse

refused

refusing

regain

regained

regaining

regan

regard

regarded

regarding

regardless

regasification

regime

regimen

region

regional

regionally

register

registered

regular

regularly

regulate

regulated

regulating

regulation

regulator

regulatory

rehabilitation

rehearsal

rehire

rehmeier

reimagined

reimagining

reimpose

reimposing

rein

reinforce

reinforced

reinforces

reinforcing

reinstated

reinstating

reinvest

reinvested

reinvesting

reinvigorating

reish

reit

reiterate

reiterated

reiterates

reiterating

rejected

rejection

rejoiced

rejoin

rejoined

rejoining

relate

related

relation

 ${\tt relationship}$

relative

relatively

relaxation

relaxed

relay

release

released

relevant

reliability

reliable

reliance

reliant

relied

relief

relies

relishing

relocation

reluctance

reluctant

rely

relying

remain

remainder

remained

remaining

remains

remark

remarkable

remarked

remediate

remediating

remedy

remember

remembering

remind

reminded

reminder

reminiscent

remiss

remote

remotely

removal

remove

removed

removing

renaissance

render

rendering

rending

rene

renewable

renewables

renewed

renminbi

rent

rental

renter

reopen

reopening

reopens

reorient

reoriented

repaid

repair

repay

repayment

repeal

repeat

repeatable

repeated

repeatedly

repeating

repercussion

repetitive

replace

replaced

replacement

replicate

replicated

replication

reply

repo

report

reported

reportedly

reporting

reposition

repositioning

represent

representative

represented

representing

represents

repressed

repriced

repricing

- op- - o-me

reprieve

republic

republican

repudiated

repurchase

repurposed

reputation

request

requested

requesting

require

required

requirement

requires

requiring

requisite

resale

rescheduled

rescue

research

researched

researcher

researching

reservation

reserve

reset

reshape

reshaped

reshaping

reshuffling

reside

residency

resident

residential

residing

residual

resignation

resilience

resiliency

resilient

resist

resistance

resistant

resisting

resmed

resolution

resolve

resolved

resolving

resonate

resonates

resonating

resort

resource

resourced

respect

respected

respective

respectively

respond

responded

respondent

responder

responding

responds

response

responsibility

responsible

responsibly

responsive

rest

restart

restarted

restaurant

rested

restfully

restore

restoring

restrain

restraint

restrict

restricted

restricting

restriction

restrictive

restructure

restructuring

result

resulted

resulting

resume

resumed

resumption

resurface

resurgence

resurgent

retail

retailer

retain

retainer

retaining

retaken

retaliation

retaliatory

retention

reticent

retire

retired

retiree

retirement

retort

retracement

retreat

return

returned

returning

reuters

revamp

reveal

revealed

revealing

reveals

revelation

revenue

revered

reversal

reverse

reversed

revert

reverting

review

reviewed

revised

revision

revisit

revisited

revisiting

revive

revived

reviving

revolution

revolutionary

revolutionized

revolutionizing

revulsion

reward

rewarded

rewarding

reyna

rfp

rheon

rhode

rhythm

rich

richard

richemont

richer

richly

richness

rick

rico

rid

ridden

ride

ridge

rife

rifle

rig

right

rightly

rigorous

ring

rioting

rip

ripple

rise

risen

rising

risk

risked

riskier

risky

rite

ritual

rival

river

riyadh

 ${\tt rmb}$

rng

road

roadmap

roaming

roast

robert

robo

robot

robotic

robotics

robust

robustly

robustness

rock

rockefeller

role

roll

rollback

rolled

roller

rollercoaster

rolling

rollout

rollouts

rollover

ronald

roof

rooftop

 ${\tt room}$

roomba

roommate

 ${\tt roosevelt}$

root

rooted

rope

rose

rosengren

rosneft

ross

rosy

rotate

rotates

rotating

 ${\tt rotation}$

rough

roughly

round

routine

routinely

row

roy

royal

royalty

royce

rpm

rrp

rsg

rsp

rspe

rtlr

rub

rubik

ruble

rudi

ruin

rule

ruled

rulemaking

ruling

rumor

run

runaway

rundown

rung

running

runoff

runup

rural

rush

rushed

russell

russia

russian

rust

 ${\tt rutherford}$

ryanair

sad

sadder

sadly

safe

safeguard

safely

safety

saga

said

sailor

saint

sake

salary

sale

salesman

salesperson

salient

sally

salmon

sam

samantha

sample

sampling

samuel

san

sanction

sanctioned

 ${\tt sanctioning}$

 ${\tt sandvik}$

sang

sanguine

sanitation

sanitizers

sanity

sank

santoro

sao

sars

sashimi

sat

satiate

 ${\tt satisfaction}$

satisfied

satisfy

satisfying

saudi

save

saved

saver

saving

savviest

savvy

saw

say

saying

scalable

scale

scaling

scandal

scanner

scarce

scarcity

scare

scared

scarring

scary

scenario

scene

schedule

scheduled

school

schooled

schumer

science

scientific

scientist

scope

score

scotland

scott

scrambled

scrap

scrapbook

scrapped

scream

screamed

screen

screening

screenwriter

screw

scripps

script

scrubber

scrutinized

scrutiny

sdgs

sea

seaboard

seafood

seal

seamless

seamlessly

search

searching

season

seasonal

seasoned

seat

seatbelt

seating

sec

second

secondary

secret

secretary

section

sector

secular

secure

secured

securing

securitization

security

see

seed

seeing

seek

seeker

seeking

seem

seemed

seemingly

seems

seen

seesaw

segment

segmentation

segmented

seize

select

selected

selecting

selection

selective

self

sell

seller

selling

selloff

seltzer

semblance

semi

semiannual

semiconductor

seminar

senate

senator

senatorial

send

sending

sends

senior

seniority

sens

sense

senselessly

sensitive

sensitivity

sensor

sent

sentence

sentiment

sep

separate

separated

separately

separation

sept

september

sequel

sequence

sequencing

sequential

sequestered

sequestration

serf

series

serious

seriously

serve

served

server

service

servicing

serving

session

set

setback

setting

settle

settled

settlement

setup

seven

several

severe

severely

severity

sewer

shack

shadow

shake

shakeout

shakespeare

shaky

shallow

shanghai

shape

shaped

shaping

share

shared

shareholder

sharing

shark

sharp

sharpen

sharply

shave

shawn

shed

shedding

sheer

sheet

shelf

shell

shellacking

shelling

sheltered

sheltering

sherman

shibor

shift

shifted

shifting

shiller

shine

ship

shipped

shipper

shipping

shlx

shock

shocked

shocker

shocking

shoe

shone

shook

shooting

shop

shoppable

shopper

shopping

shore

shoring

short

shortage

shortcoming

shorted

shortened

shorter

shortest

shortfall

shortly

shot

shoulder

shoutin

show

showcase

showdown

 ${\tt showed}$

showing

shown

showtime

shrimp

shrinking

shrugged

shrunk

shuddered

shut

shutdown

shuttered

shuttering

shutting

sia

sick

side

sided

sideline

sigh

sight

sign

signal

signaled

signaling

signalling

signatory

signature

signed

signer

significance

significant

significantly

signifies

signing

silent

silicon

silo

siloed

silver

similar

similarity

similarly

simple

simpler

simplest

simplicity

simplified

simplify

simplistic

simply

simultaneously

since

sine

sinema

singapore

single

singlehandedly

singling

sings

singular

sinister

sioux

sip

sisi

sit

site

sits

sitting

situation

six

size

sizeable

sized

skate

skeptic

skeptical

skepticism

skewed

skewing

skid

skill

skilled

PVIII

skin

 ${\tt skip}$

sky

skyrocket

skyrocketing

slack

slammed

slaoui

slashed

slate

slated

sleep

sleepaway

sleeping

sleepy

sleeve

slept

sliced

slide

slight

slightly

slim

slip

slipped

slm

slog

slogan

slope

slow

slowdown

slowed

slower

slowing

slowly

slows

small

DINGLL

smaller

 ${\tt smart}$

smarter

smartphone

smartphones

smear

smell

smiled

smith

smokeshack

 ${\tt smooth}$

smoother

smoothly

snapshot

sneeze

soared

sober

soccer

social

socialism

socially

societal

society

socioeconomic

sock

soda

sofie

soft

soften

softened

softening

softer

softness

software

solace

solar

sold

sole

solely

solid

solidarity

solidly

solution

solve

solved

solves

solving

somber

someday

somehow

someone

something

sometime

sometimes

somewhat

somewhere

son

song

soon

sooner

sophisticated

sophistication

sorely

sort

sorting

sought

sound

sounding

sour

source

sourced

sourcing

soured

south

southeast

southern

southwest

southwestern

sovereign

sovereignty

soviet

space

spain

span

spanning

spare

spark

spdr

speak

speaker

speaking

speared

special

. . .

specialist

specialization

specialized

specializes

specialty

specific

specifically

specificity

specified

specifies

specify

spectacular

specter

spectrum

speculate

speculated

speculating

speculation

speculative

speech

speed

speedily

speedy

spend

spending

spends

spent

spider

spike

spiked

spiking

spill

spilled

spin

spinning

spinrad

spiral

spirit

spiritual

spite

split

splitting

spoiling

spoke

spoken

sponsor

sponsored

spook

spooked

sport

sporting

sportscaster

spot

spotify

spotlight

spouse

sprang

sprawling

spread

spreading

spreadsheet

spree

spring

sprinkled

sprinted

sps

spur

spurred

spurring

spurt

sputtering

squabbling

square

squarely

squeeze

stability

stabilization

stabilize

stabilized

stabilizing

stable

stack

stadium

staff

staffing

stage

staged

stagflation

stagflationary

staggering

stagnation

stake

stakeholder

stale

stall

stalled

stalling

stance

stand

standard

standardized

standing

standoff

standouts

standpoint

standstill

staple

star

stark

starring

start

started

starting

starved

state

stated

statehood

statement

statewide

static

stating

station

statistic

statistical

status

statute

statutory

stave

stay

staying

steadier

steadily

steady

steam

steel

steelpath

steep

steepen

steepened

steepeners

steepening

steeper

steer

stem

stemming

step

stephanie

stepped

stepping

sterling

steroid

steven

steward

stewardship

stick

sticker

stickier

sticky

stifle

stifling

still

stimulate

stimulates

stimulative

stimulus

sting

stipulating

stock

stocked

stockpile

stockpiled

stoked

 ${\tt stomach}$

stone

stonepeak

stood

stool

stop

stoppage

stopped

stopping

storage

store

storefront

storm

story

storyline

storyselling

stoxx

straight

straightforward

strain

strained

stranded

strange

stranger

strapped

strategic

strategically

strategist

strategy

stratified

stratify

stratosphere

stratospheric

strawberry

stray

streak

stream

streaming

streamlined

street

streetwear

strength

strengthen

strengthened

strengthening

strengthens

stress

stressed

stressful

stretch

stretched

strews

strict

strictly

stride

strife

strike

striking

stringency

stringent

strip

strive

stroke

strolling

strong

stronger

strongest

strongly

struck

structural

structurally

structure

structured

structuring

struggle

struggled

struggling

stuart

stuck

student

studied

studio

study

studying

stuff

stumbled

stunning

style

sub

subcommittee

subdivision

subject

 ${\tt submitted}$

suboptimal

subordinated

subscribe

subscriber

subsector

subsequent subsequently

subset

subsided

subsides

subsidiary

subsidizing

subsidy

subsistence

substance

substantial

substantially

substitute

substituted

subtler

suburb

succeed

success

successful

successfully

successive

successor

succumb

sudden

suddenly

sue

sued

suffer

suffered

suffering

suffice

sufficient

sufficiently

suga

sugar

suggest

suggested

suggesting

suggestion

suggestive

suggests

suisse

suit

suitability

suitable

suite

suited

sullivan

sum

 $\operatorname{summarize}$

summary

summer

summit

sun

sunday

sunoco

sunset

super

supercycle

superfund

superintendent

superior

supermajority

supersede

superspreader

supervision

supplement

supplementary

supplied

supplier

supply

supplying

support

supported

supporter

supporting

supportive

suppose

supposed

suppress

suppressed

supremacy

supreme

sure

surface

surge

surged

surgeon

surgical

surging

surpass

surpassed

surpasses

surpassing

surplus

surprise

surprised

surprising

surprisingly

surrogate

surrounded

surrounding

surveillance

survey

surveyed

surveying

survival

survive

survived

survives

surviving

survivor

sushi

suspect

suspected

suspend

suspended

suspending

suspends

suspense

suspicion

suspicious

sustain

sustainability

sustainable

sustainably

sustained

sustaining

swan

swap

swapping

sweden

swedish

sweep

sweeping

sweet

swept

swift

swifter

swiftest

swiftly

swing

swinging

swirling

swiss

switch

switzerland

swn

swoon

sword

symbolize

symposium

symptom

symptomatic

syndrome

synergistic

synergy

synonymous

synthetic

syrinx

system

systematic

systematically

systematized

systemic

systemically

table

tablet

tackle

tackling

tactic

tactical

tactically

tag

tai

tail

tailed

tailor

tailored

tailoring

tailwind

taiwan

taiwanese

take

takeaway

taken

takeout

takeover

taking

talent

talented

talk

talked

talking

tall

talley

tame

tamed

tamiflu

tamped

tamping

tangible

tank

tanking

tantrum

taoist

tap

taper

tapering

tapping

targa

target

targeted

targeting

tariff

tarmac

task

tasked

taste

tasty

taught

tax

taxable

taxation

taxed

taxpayer

taylor

tcja

tcp

teach

teacher

teaching

 ${\tt team}$

teamed

teaming

 ${\tt teammate}$

teamwork

tear

tech

technical

technically

technician

technique

technocratic

technological

 ${\tt technologically}$

technology

ted

tee

teekay

teeter

teetered

teeth

tehran

telecommunication

telegraph

telegraphed

telemedicine

television

tell

telling

telltale

temp

temperamentally

temperate

temperature

tempered

tempering

template

temporarily

temporary

temptation

tempted

tempting

ten

tenant

tencent

tend

tended

tendency

tending

tends

tenet

tennis

tense

tension

tent

tenth

tenuous

tenure

tenured

tepla

terawatt

term

terminal

terminaling

terminated

terra

terrible

terribly

territory

terrorism

terrorist

tesla

test

tested

testimony

testing

tether

texas

textbook

texted

textile

texture

tgp

thailand

thank

thankful

thanks

thanksgiving

theater

theatre

theft

thematic

theme

themself

theoretically

theory

therapeutic

therapy

thereafter

thereby

therefore

thermal

theselines

thesis

thin

thing

think

thinking

third

thirdly

thirst

thk

thorny

thorough

though

thought

thoughtful

thousand

thread

threat

threaten

threatened

threatening

threatens

three

threshold

threw

thrift

thrive

thrived

thriving

throe

throughout

throughput

throughs

throw

throwing

thrown

thru

thrust

thunderbird

thunderstorm

thursday

thus

thwarted

ticker

ticket

ticking

tide

tie

tiebreaker

tied

tiff

tight

tighten

tightened

tightening

tighter

tightly

 ${\tt tightness}$

tightrope

tilapia

tilden

tilt

tilted

tilting

tim

time

timeframe

timeframes

timeless

timeline

timely

timer

timing

tin

tina

tinkering

tip

tissue

titanium

titled

tlrs

tltros

tmall

tobacco

today

toddler

toe

together

toilet

tokyo

told

tolerance

tolerant

tolerate

tolerated

toll

tom

tomorrow

ton

tone

tonic

tony

took

tool

toolkit

toolkits

top

topic

topical

topol

topping

torrent

tossing

total

totaled

totaling

totally

totexas

touch

touchscreen

tough

tougher

tourism

tourist

tournament

touted

touting

tow

toward

towards

town

toxic

toy

toyota

tpi

traceability

tracey

tracing

track

tracked

tracker

tracking

traction

trade

traded

trader

trading

traditional

traditionally

traffic

tragedy

trail

trailing

train

trained

trainer

training

trait

trajectory

tranche

transact

transacted

transacting

transaction

transactional

transatlantic

transcended

transcendent

transcends

transcript

transfer

transferred

transform

transformation

transformational

transformative

transformed

transforming

transient

transistor

transit

transition

transitory

translate

transmissibility

transmissible

transmission

transmitted

transparency

transparent

transpires

transplant

transport

transportation

transporting

trap

trapped

trash

travel

traveling

treadmill

treasury

treat

treated

treating

treatment

treaty

tremendous

tremendously

trend

trended

trending

trepidation

trgp

triage

trial

tribe

tricked

trickle

tricky

tried

trigger

triggered

triggering

trillion

trilogy

trip

tripadvisor

triple

troop

trophy

tropical

trouble

troubling

trough

troughed

trp

truck

trudeau

true

truly

trump

trust

trusted

trustworthy

truth

try

trying

tsa

tube

tuesday

tui

tuition

tulip

tumble

tumbling

tumor

tumultuous

tuna

tune

tuned

tunnel

turbulence

turbulent

turkey

turmoil

turn

turnaround

turned

turner

turning

turnout

turnover

tutor

tutoring

tweet

twelve

twentieth

twh

twice

twist

twisting

two

twofold

type

typical

typically

tyson

uber

ubiquity

ugift

uglier

ugly

uhnw

ujjwala

ukraine

ukrainian

ultimate

ultimately

ultra

unable

unacceptable

unaided

unanchored

unappreciated

unavoidable

unaware

unbridled

uncertain

uncertainty

unchanged

unchecked

uncle

unclear

uncoil

uncomfortably

uncommon

uncompleted

unconventional

uncoupled

uncoupling

uncover

uncovered

underappreciated

undercounting

undercutting

underestimate

underestimated

underexposed

undergo

undergone

undergraduate

underlying

undermine

underneath

underowned

underpay

underperform

underperformance

underperformed

underperforming

 ${\tt underrepresentation}$

underscore

underscored

underscoring

understand

understandable

understandably

understanding

understands

understatement

understood

undertaking

underutilized

underway

underweight

underweighted

underwhelmed

underwhelming

underwrite

underwriting

undesirable

undeveloped

undone

undoubtedly

unduly

unease

uneasiness

uneasy

unelected

unemotional

unemployed

unemployment

uneven

unevenness

unexpected

unfair

unfairly

unfavorable

unfavorably

unfavourably

unfazed

unfilled

unfold

 ${\tt unfolded}$

unfolding

unfolds

unforeseen

unfortunately

unfriendly

unfulfilled

unglued

unicorn

unified

unifies

unilateral

unintended

uninterested

uninvestable

union

unique

uniquely

uniqueness

unit

united

unitholders

universal

universe

university

unknown

unleash

unleashed

unleashes

unleashing

unless

unlevel

unlike

unlikely

unload

unlock

unlocking

unloved

unmasking

unmet

 ${\tt unmistakable}$

unnecessary

unnerving

unnoticed

unorthodox

unowned

unpopular

unprecedented

unpredictability

unpredictable

unprepared

unrealistic

unregulated

unrelated

unrest

unscientific

 ${\tt unseat}$

unsecured

unselfish

unsettled

unsettling

unskilled

unspooling

unstable

unstoppable

unsure

unsustainability

unsustainable

untapped

untethered

untroubled

unum

unusual

unusually

unvaccinated

unveiled

unverified

unwavering

unwinding

upcoming

update

updated

upgrade

upgraded

uphill

uplift

uplifting

upon

upper

ups

upset

upshot

upside

upstart

upstream

upsurge

upswing

uptake

uptick

uptrend

upward

upwardly

urban

urbanization

urbanize

urge

urgency

uri

ursiny

us

usace

usage

usaid

usd

use

useable

used

useful

usefulness

useless

user

usher

ushering

using

uspstf

usual

usually

utility

utilization

utilize

utilized

utilizes

utilizing

utterance

utters

vacation

vaccinate

vaccinated

vaccinates

vaccinating

vaccination

vaccine

vacillate

vacuum

vacuuming

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ventilator

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whichever

whisper

whisperer

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widespread

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wildfire

william

williams

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winner

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woman

wonder

wondered

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wonderfully

wondering

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workforce

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workout

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worksheet

workshop

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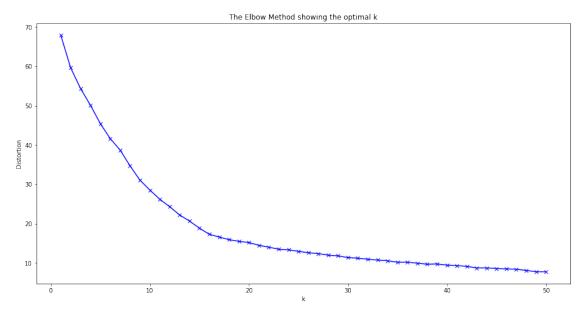
xinjiang

xly

```
yahoo
      yang
      yaskawa
      year
      yearyield
      yell
      yelled
      yellen
      yellow
      yen
      yes
      yesterday
      yesteryear
      yet
      yield
      yielded
      yielding
      ynap
      yom
      york
      yoshihide
      yougov
      young
      younger
      youngest
      yoy
      ytd
      yuan
      zedong
      zero
      zew
      zibelli
      zillow
      zinc
      zodiac
      zone
      zoom
      zoomed
      zte
      Principal Component Analysis
[440]: from sklearn.decomposition import PCA
       pca = PCA( 0.2, random_state=2140)
       data_pca = pca.fit_transform(np.asarray(vec_text))
```

Implementing K-Means

```
[441]: # initializing K-Means
       # kmeans = KMeans()
[442]: # determining number of clusters with model inertia
       distortions = []
       K = range(1, 51)
       for k in tqdm(K):
        model = KMeans(n_clusters=k)
        model.fit(data_pca)
         distortions.append(model.inertia_)
      100%|
                | 50/50 [00:07<00:00, 6.64it/s]
[443]: # for index, distortion in enumerate(distortions):
          print(f'{index + 1}: {distortion}')
[444]: import matplotlib.pyplot as plt
       %matplotlib inline
       plt.figure(figsize=(16,8))
       plt.plot(K, distortions, 'bx-')
       plt.xlabel('k')
       plt.ylabel('Distortion')
       plt.title('The Elbow Method showing the optimal k')
       plt.show()
```



```
[510]: # kmeans setup
       n_{clusters} = 20
       model = KMeans(n_clusters = n_clusters, init='k-means++', n_init=50,__
       →random_state=2140)
       model.fit(np.asarray(vec_text))
[510]: KMeans(n_clusters=20, n_init=50, random_state=2140)
[511]: common_words = model.cluster_centers_.argsort()[:,-1:-11:-1]
       for num, centroid in enumerate(common_words):
           print(str(num) + ' : ' + ', '.join(words[word] for word in centroid))
      0 : value, stable, compelling, team, financial, conversation, strategy,
      maslansky, word, consulting
      1: fed, inflation, market, rate, cycle, tapering, hike, tightening, yield,
      policy
      2 : emerging, market, equity, growth, portfolio, alternative, china, investor,
      investment, asset
      3 : debt, ceiling, program, student, unum, loan, employee, limit, kpmg,
      retirement
      4: market, risk, growth, global, asset, policy, allocation, china, term, cycle
      5 : biden, president, government, election, administration, infrastructure,
      democrat, senate, affair, state
      6: inflation, stock, fed, market, year, week, economy, economic, vaccine, covid
      7 : site, location, change, gregorian, gravina, gravitational, gravity, greater,
      greatly, greek
      8 : plan, provider, dol, risk, advice, audit, fiduciary, language,
      cybersecurity, maslansky
      9: midstream, gas, amz, month, bps, quarter, natural, nyse, distribution, mlp
      10 : esg, income, fixed, loan, investor, rate, investing, invesco, factor, bond
      11 : plan, retirement, participant, saving, employee, contribution, sponsor,
      employer, account, woman
      12: etf, pollackov, grade, capital, eric, digital, investment, market, fund,
      investor
      13 : company, tech, industry, year, opportunity, trend, investor, digital,
      quality, growth
      14 : estate, real, insurer, asset, industrial, property, retail, commercial,
      sector, inflation
      15: nasdaq, index, company, concentration, qqq, qqqj, etf, investor, invesco,
      cap
      16: professional, client, financial, module, personality, designed, card,
      curiosity, help, research
      17: yield, rate, bond, term, benzel, tim, rise, year, short, treasury
      18: team, client, practice, member, business, structure, room, clientele,
      service, prospective
      19: municipal, benzel, tim, fixed, market, income, grade, senior, update,
```

quarter

```
[512]: # def pred(row):
           model.predict()
      # preditiction_df = ok_status_df.apply()
      predicted_clusters = model.predict(vec.transform(ok_status_df['cleaned_text']).
       →todense())
      predicted_clusters
[512]: array([5, 4, 4, 11, 11, 3, 1, 4, 11, 11, 4, 14, 2, 11, 5, 5,
             13, 13, 4, 18, 13, 18, 13, 16, 13, 10, 13, 18, 0, 13, 19, 13, 13,
             14, 13, 18, 12, 4, 4, 18, 10, 8, 18, 18, 0, 18, 11, 6, 13, 18,
                        0, 16, 18, 18, 18, 18, 18, 18, 8, 16, 16, 13, 16, 18,
             18, 16,
                     2,
             13, 18, 13, 6, 4, 13, 15, 13, 6, 5, 5,
                                                       5, 5,
                                                              9, 13,
                                                                      2,
             13, 5, 6,
                        6, 6, 6, 13, 15, 13, 6, 5,
                                                      5, 6,
                                                              6, 9,
                 6, 13, 4, 18,
                                1, 6, 10, 13, 1, 10,
                                                      6, 10, 1, 17, 19, 19,
                 4, 17, 1, 13,
                                6, 16, 0, 13, 4, 13, 6, 6, 13, 7,
             17,
                                5, 16, 13, 13, 16, 12, 13, 12, 17, 13,
                 6, 13, 6, 4,
             14, 4, 13, 11, 17,
                                6, 4, 19, 13, 6, 13, 6, 4, 13, 9, 15,
             16, 16, 0, 16, 0, 18, 10,
                                       6, 15, 10,
                                                  4, 6,
                                                          4, 13, 13,
             4, 11, 6, 11, 10,
                                2, 5,
                                        6, 4, 4, 13, 14, 4, 6, 15, 13, 13,
             13, 13, 13, 13, 13,
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                                       6, 13, 4, 19, 14,
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                                        9, 9, 2, 1,
                                                      3, 13, 13, 13,
                 9, 19, 14,
                            1,
             2, 13, 19, 6, 3, 13,
                                   2,
                                       9, 13, 6, 12, 13,
                                                          4,
                                                               5,
                            3, 2, 13,
                                       1, 17, 10,
                                                   5, 6, 5, 5,
                 2, 8, 11,
                                                                 5,
             4, 9, 13, 6, 6, 15, 15, 15, 2, 6,
                                                  2, 13,
                                                          1. 4. 13.
                                                      5,
                                    9,
             6, 12,
                     2, 13, 11,
                                6,
                                       1, 4, 13,
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                                                          5, 5, 13,
                                                                      5, 17,
             13, 10, 13, 6, 13, 9, 3, 5, 11, 11, 13, 13, 13, 13, 6, 6, 4,
             6, 1, 4, 4, 6, 14, 17, 19, 11, 14, 11, 11, 3, 11, 11, 14, 11,
                     1, 1, 11, 13, 6, 1, 1, 3, 1, 13, 4, 1, 13, 10,
             11, 19,
             12, 13, 6, 14, 10, 9, 8, 11, 4, 12, 13, 1, 11, 0, 13, 9, 14,
             12, 6, 13, 13, 4, 6, 14], dtype=int32)
[513]: prediction_df = ok_status_df.copy()
      prediction_df['predicted_cluster'] = predicted_clusters
      prediction_df.to_csv('data/predictions.csv')
[522]:
[518]: # plot existing theme tag counts
      tt_counts = prediction_df['Theme tags'].value_counts()
      tt_counts
      # tt_counts_df = prediction_df
[518]: Your practice
                                                               48
      Macroeconomics & outlook
                                                               26
```

```
4
       Elections
       Targeting growth; Factor investing
                                                                     3
                                                                     3
       Factor investing
                                                                     3
       Russia Ukraine crisis
       Coronavirus
                                                                     3
                                                                     3
       Targeting growth
                                                                     2
       Research
       Solutions
                                                                     2
       Innovation
                                                                     2
       Your clients
                                                                     2
       Investment solutions
                                                                     2
       Your portfolio
                                                                     2
                                                                     2
       College savings
       Investment solutions; Solutions
                                                                     1
       Investment solutions; Innovation
                                                                     1
       Managing volatility
                                                                     1
       Diversifying income; Managing volatility; Targeting growth
                                                                     1
       Government regulation & legislation
                                                                     1
       Macroeconomics & outlook; Elections
                                                                     1
       Diversifying income
                                                                     1
       Market behavior
                         commentary
                                                                     1
                                                                     1
       Market behavior
                         commentary;Macroeconomics & outlook
       Name: Theme tags, dtype: int64
[519]: # plot predicted theme tag counts
       ptt_counts = prediction_df['predicted_cluster'].value_counts()
       ptt_counts
[519]: 13
             81
       6
             52
       4
             37
       5
             26
       11
             24
       1
             20
       18
             20
       2
             14
       14
             13
       10
             12
       9
             12
       16
             12
       19
             9
       17
             9
       0
             8
             8
       12
       15
             8
       3
             7
       7
             5
```

```
Name: predicted_cluster, dtype: int64
[525]: # cluster mappings
       cluster_map: dict = {
           0: 'Your Practice / IGC',
           1: 'Federal Reserve / Fiscal Policy',
           2: 'Equities / Emerging Markets',
           3: 'Debt',
           4: 'Economic Outlook & Insight',
           5: 'President / Executive Action / Elections', # confirmed
           6: 'Macroeoconomics', # confirmed
           7: 'Research', # defined contribution can also be here
           8: 'Your Practice / Audit', # similar to cluster 0
           9: 'Steelpath',
           10: 'Product Research',
           11: 'Retirement',
           12: 'Equities',
           13: 'Trends',
           14: 'Real Estate',
           15: 'Growth & Innovation',
           16: 'Your Practice', # confirmed
           17: 'Fixed Income',
           18: 'Your Practice - Team Specific',
           19: 'Fixed Income & Municipals Updates'
       }
[526]: def map_clusters(pred_cluster: int) -> str:
           return cluster_map[pred_cluster]
       prediction_df['predicted_topic_tag'] = prediction_df['predicted_cluster'].
        →progress_apply(map_clusters)
      100%|
                | 381/381 [00:00<00:00, 200631.49it/s]
[530]: prediction_df.to_csv('data/predictions.csv')
```

8