

Loading a csv-file from a path:

```
In [46]: import csv

with open(r'C:\Bilder\all_ECB_speeches.csv', encoding = 'utf-8') as csvfile:
    read_in_new1 = csv.reader(csvfile, delimiter='|')
    for row in read_in_new1:
        print(row)
```

IOPub data rate exceeded.

The notebook server will temporarily stop sending output to the client in order to avoid crashing it.

To change this limit, set the config variable

`--NotebookApp.iopub_data_rate_limit`.

Current values:

NotebookApp.iopub_data_rate_limit=1000000.0 (bytes/sec)

NotebookApp.rate_limit_window=3.0 (secs)

```
['2017-10-12|Benoît Cœuré|The known unknowns of financial regulation|Panel co
ntribution by Benoît Cœuré, Member of the Executive Board of the ECB, at the
conference on Rethinking Macroeconomic Policy IV, Washington D.C., 12 October
2017| The known unknowns of financial regulation Panel contribution by Ben
oît Cœuré, Member of the Executive Board of the ECB, at the conference on Ret
hinking Macroeconomic Policy IV, Washington D.C., 12 October 2017 Financial i
ntermediation is at a crossroads. Arguably, never before in history have bank
s faced as many significant challenges as they do today. Exceptionally low in
terest rates and more rigorous post-crisis regulation are weighing on banks']
```

Loading only line 9 from the csv-file

```
In [12]: import csv
L = [8]

with open(r'C:\Bilder\all_ECB_speeches.csv', encoding = 'utf-8') as csvfile:
    read_in_new = csv.reader(csvfile, delimiter='|')
    for i, line in enumerate(read_in_new):
        if i in L:
            print (line)
            x = line
            break
```

['2023-03-22', 'Christine Lagarde', 'The path ahead', 'Speech by Christine Lagarde, President of the ECB, at “The ECB and Its Watchers XXIII” conference ', ' SPEECH The path ahead Speech by Christine Lagarde, President of the ECB, at “The ECB and Its Watchers XXIII” conference Frankfurt am Main, 22 March 2023 The euro area has been hit by an inflation shock, which is now working its way through the economy. While headline inflation is likely to decline steeply this year, driven by falling energy prices and easing supply bottlenecks, underlying inflation dynamics remain strong. In such an environment, our ultimate goal is clear: we must – and we will – bring down inflation to our medium-term target in a timely manner. But to achieve this goal we need a robust strategy, which takes into account the high levels of uncertainty we are facing today. As John Maynard Keynes once observed, “it would be foolish, in forming our expectations, to attach great weight to matters which are very uncertain”. In current conditions, a robust strategy calls for a data-dependent approach to making policy and a clear reaction function so that the public understands the sources of information that will be important to us. To that end, our future policy path will be determined by three factors: our assessment of the inflation outlook in light of the incoming economic and financial data, the dynamics of underlying inflation and the strength of monetary transmission. At the same time, I have made clear that there is no

```
In [13]: x
```

```
Out[13]: ['2023-03-22',
'Christine Lagarde',
'The path ahead',
'Speech by Christine Lagarde, President of the ECB, at “The ECB and Its Watchers XXIII” conference ',
' SPEECH The path ahead Speech by Christine Lagarde, President of the ECB, at “The ECB and Its Watchers XXIII” conference Frankfurt am Main, 22 March 2023 The euro area has been hit by an inflation shock, which is now working its way through the economy. While headline inflation is likely to decline steeply this year, driven by falling energy prices and easing supply bottlenecks, underlying inflation dynamics remain strong. In such an environment, our ultimate goal is clear: we must – and we will – bring down inflation to our medium-term target in a timely manner. But to achieve this goal we need a robust strategy, which takes into account the high levels of uncertainty we are facing today. As John Maynard Keynes once observed, “it would be foolish, in forming our expectations, to attach great weight to matters which are very uncertain”. In current conditions, a robust strategy calls for a data-dependent approach to making policy and a clear reaction function so that the public understands the sources of information that will be important to us. To that end, our future policy path will be determined by three factors: our
```

```
In [14]: type(x)
```

```
Out[14]: list
```

```
In [15]: x[4]
```

```
Out[15]: ' SPEECH The path ahead Speech by Christine Lagarde, President of the EC  
B, at "The ECB and Its Watchers XXIII" conference Frankfurt am Main, 22 Marc  
h 2023 The euro area has been hit by an inflation shock, which is now w  
orking its way through the economy. While headline inflation is likely to dec  
line steeply this year, driven by falling energy prices and easing supply bot  
tlenecks, underlying inflation dynamics remain strong. In such an environmen  
t, our ultimate goal is clear: we must - and we will - bring down inflation t  
o our medium-term target in a timely manner. But to achieve this goal we nee  
d a robust strategy, which takes into account the high levels of uncertainty  
we are facing today. As John Maynard Keynes once observed, "it would be fooli  
sh, in forming our expectations, to attach great weight to matters which are  
very uncertain". In current conditions, a robust strategy calls for a data-d  
ependent approach to making policy and a clear reaction function so that the  
public understands the sources of information that will be important to us.  
To that end, our future policy path will be determined by three factors: our  
assessment of the inflation outlook in light of the incoming economic and fin  
ancial data, the dynamics of underlying inflation and the strength of monetar  
y policy transmission. At the same time, I have made clear that there is no  
trade-off between price stability and financial stability. We have plenty of  
tools to provide liquidity support to the financial system if needed and to
```

```
In [16]: corpus = x[4]
```

```
In [17]: corpus[:500]
```

```
Out[17]: ' SPEECH The path ahead Speech by Christine Lagarde, President of the EC  
B, at "The ECB and Its Watchers XXIII" conference Frankfurt am Main, 22 Marc  
h 2023 The euro area has been hit by an inflation shock, which is now w  
orking its way through the economy. While headline inflation is likely to dec  
line steeply this year, driven by falling energy prices and easing supply bot  
tlenecks, underlying inflation dynamics remain strong. In such an environmen  
t, our ultimate goal is clear: we must - '
```

```
In [18]: type(corpus)
```

```
Out[18]: str
```

```
In [19]: len(corpus)
```

```
Out[19]: 20749
```

Generating the text corpus:

In [26]: *# Only extract text of the speech*

```
corpus1=corpus.lstrip(corpus[0:157])
```

In [27]: corpus1

Out[27]: '3 The euro area has been hit by an inflation shock, which is now working its way through the economy. While headline inflation is likely to decline steeply this year, driven by falling energy prices and easing supply bottlenecks, underlying inflation dynamics remain strong. In such an environment, our ultimate goal is clear: we must – and we will – bring down inflation to our medium-term target in a timely manner. But to achieve this goal we need a robust strategy, which takes into account the high levels of uncertainty we are facing today. As John Maynard Keynes once observed, “it would be foolish, in forming our expectations, to attach great weight to matters which are very uncertain”. In current conditions, a robust strategy calls for a data-dependent approach to making policy and a clear reaction function so that the public understands the sources of information that will be important to us. To that end, our future policy path will be determined by three factors: our assessment of the inflation outlook in light of the incoming economic and financial data, the dynamics of underlying inflation and the strength of monetary policy transmission. At the same time, I have made clear that there is no trade-off between price stability and financial stability. We have plenty of tools to provide liquidity support to the financial system if needed and to preserve the smooth transmission of monetary policy. In my remarks today, I will discuss our medium-term strategy, our strategy for the short term, and our strategy for the long term.'

In [28]: corpus1[:500]

Out[28]: '3 The euro area has been hit by an inflation shock, which is now working its way through the economy. While headline inflation is likely to decline steeply this year, driven by falling energy prices and easing supply bottlenecks, underlying inflation dynamics remain strong. In such an environment, our ultimate goal is clear: we must – and we will – bring down inflation to our medium-term target in a timely manner. But to achieve this goal we need a robust strategy, which takes into account'

In [29]: corpus2=corpus1.rstrip(corpus1[18040:])

In [30]: corpus2[17000:]

Out[30]: ' and medium-sized enterprises. While more restrictive credit conditions are part of the mechanism by which our tightening ultimately reins in excess price pressures and brings inflation back to target, we will make sure that the process will be orderly throughout. Conclusion Let me conclude. Voltaire said “Uncertainty is an uncomfortable position. But certainty is an absurd one.” Faced with new and overlapping shocks, we have no choice today but to deal with uncertainty. But the public can be certain about one thing: we will deliver price stability, and bringing inflation back to 2% over the medium term is non-negotiable. We will do so by following a robust strategy that is data-dependent and embeds a readiness to act, but that does not entertain trade-offs around our primary objective. Faced with a world that is changing faster than any of us could have imagined, we need to be both focused on our goal and robust in our strategy to achieve it. Lagarde, C. (2022), “Monetary policy in a high inflation environment:'

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In [31]: corpus3=corpus2.rstrip(corpus2[17969:])
```

```
In [32]: corpus3[17000:]
```

```
Out[32]: ' and medium-sized enterprises. While more restrictive credit conditions are a part of the mechanism by which our tightening ultimately reins in excess price pressures and brings inflation back to target, we will make sure that the process will be orderly throughout. Conclusion Let me conclude. Voltaire said "Uncertainty is an uncomfortable position. But certainty is an absurd one." Faced with new and overlapping shocks, we have no choice today but to deal with uncertainty. But the public can be certain about one thing: we will deliver price stability, and bringing inflation back to 2% over the medium term is non-negotiable. We will do so by following a robust strategy that is data-dependent and embeds a readiness to act, but that does not entertain trade-offs around our primary objective. Faced with a world that is changing faster than any of us could have imagined, we need to be both focused on our goal and robust in our strategy to achieve it. L'
```

```
In [33]: corpus4=corpus3.lstrip(corpus3[:3])
```

```
In [34]: corpus4[:500]
```

```
Out[34]: 'The euro area has been hit by an inflation shock, which is now working its way through the economy. While headline inflation is likely to decline steeply this year, driven by falling energy prices and easing supply bottlenecks, underlying inflation dynamics remain strong. In such an environment, our ultimate goal is clear: we must - and we will - bring down inflation to our medium-term target in a timely manner. But to achieve this goal we need a robust strategy, which takes into account the hi'
```

```
In [35]: corpus5=corpus4.rstrip(corpus4[17957:])
```

```
In [36]: corpus5[17000:]
```

```
Out[36]: 'ium-sized enterprises. While more restrictive credit conditions are part of the mechanism by which our tightening ultimately reins in excess price pressures and brings inflation back to target, we will make sure that the process will be orderly throughout. Conclusion Let me conclude. Voltaire said "Uncertainty is an uncomfortable position. But certainty is an absurd one." Faced with new and overlapping shocks, we have no choice today but to deal with uncertainty. But the public can be certain about one thing: we will deliver price stability, and bringing inflation back to 2% over the medium term is non-negotiable. We will do so by following a robust strategy that is data-dependent and embeds a readiness to act, but that does not entertain trade-offs around our primary objective. Faced with a world that is changing faster than any of us could have imagined, we need to be both focused on our goal and robust in our strategy to achieve it.'
```

```
In [37]: # erase spaces, adjust for formatting
corpus5 = corpus5.strip().replace('\n', ' ').replace('"', "'").replace('"""', ''
```



```
In [44]: # create a dictionary of the text corpus, with word counts
word_counts = {}

for i in wrds:
    if i not in word_counts:
        word_counts[i] = 1
    else:
        word_counts[i] += 1

# display the words, with their frequency, in descending order
# a list of tuples is displayed
sorted_word_counts = sorted(word_counts.items(), key=lambda i: i[1], reverse=True)

sorted_word_counts[:10]
```

```
Out[44]: [('the', 160),
('to', 90),
('and', 85),
('of', 84),
('in', 61),
('is', 55),
('a', 53),
('that', 50),
('inflation', 48),
('we', 48)]
```

In [47]: *# Dictionary of the text corpus, with words that occur more than once, and pur*

```
stop_words = ['a', 'about', 'across', 'after', 'an', 'and', 'any', 'are', 'as',
              'be', 'because', 'but', 'by', 'did', 'do', 'does', 'for', 'from',
              'get', 'has', 'have', 'if', 'in', 'is', 'it', 'its',
              'many', 'more', 'much', 'no', 'not', 'of', 'on', 'or', 'out',
              'so', 'some', 'than', 'the', 'this', 'that', 'those', 'through',
              'very', 'what', 'where', 'whether', 'which', 'while', 'who', 'wi

common_words = []
for i in sorted_word_counts:
    if i[0] not in stop_words:
        if i[1] > 1:
            common_words.append(i)
        else:
            break

common_words[:20]
```

Out[47]: [('inflation', 48),
('we', 48),
('our', 33),
('will', 33),
('policy', 27),
('underlying', 14),
('monetary', 14),
('demand', 14),
('labour', 13),
('path', 12),
('financial', 12),
('transmission', 11),
('price', 11),
('last', 11),
('rates', 11),
('could', 11),
('energy', 10),
('time', 10),
('rate', 10),
('also', 10)]

In []:

In []: