SurveyPrep

March 22, 2016

0.1 Upload data for all candidates

```
In [1]: from textstat.textstat import textstat
        import csv
        import pandas
        import matplotlib
        #matplotlib.style.use(’ggplot’)
        %matplotlib inline
        import ast
        pandas.options.display.max_colwidth = 10000
```

```
In [2]: trump_df = pandas.read_csv(’data/all_trump_w_topics.csv’)
        trump_df[’candidate’] = ’trump’
        clinton_df = pandas.read_csv(’data/all_clinton_w_topics.csv’)
        clinton_df[’candidate’] = ’clinton’
        sanders_df = pandas.read_csv(’data/all_sanders_w_topics.csv’)
        sanders_df[’candidate’] = ’sanders’
        cruz_df = pandas.read_csv(’data/all_cruz_w_topics.csv’)
        cruz_df[’candidate’] = ’cruz’
        ORGS = [’nyt’, ’wsj’, ’cnn’, ’fox’, ’ap’, ’reuters’, ’politico’, ’mcclatchy’, ’buzzfeed’, ’huff
```

```
In [3]: n = len(clinton_df)
        clinton_df.index = xrange(len(trump_df), (len(trump_df) + n))
        m = len(sanders_df)
        sanders_df.index = xrange(max(clinton_df.index), max(clinton_df.index) + m)
        c = len(cruz_df)
        cruz_df.index = xrange(max(sanders_df.index), max(sanders_df.index) + c)
```

```
In [4]: all_df = pandas.concat([trump_df,clinton_df, sanders_df, cruz_df])
        all_df[’gunning_fog’] = all_df[’body’].apply(lambda x: textstat.gunning_fog(x) if type(x) == st
        all_df[’flesch’] = all_df[’body’].apply(lambda x: textstat.flesch_kincaid_grade(x) if type(x) =
        all_df[’readability’] = all_df[’body’].apply(lambda x: textstat.flesch_reading_ease(x) if type(
```

0.2 Topic Processing

```
In [5]: all_df[’topic_dict’] = all_df[’topic’].apply(lambda d: ast.literal_eval(d))
        all_df[’top_topics’] = all_df[’topic_dict’].apply(lambda d: {k:v for k, v in d.iteritems() if v
        all_df[’topic_list’] = all_df[’top_topics’].apply(lambda d: d.keys())
        all_df[’top_topic’] = all_df[’topic_dict’].apply(lambda d: max(d, key=lambda i: d[i]))
```

0.3 Remove Personality Topic (it’s uncategorized)

```
In [8]: all_nop = all_df[all_df[’top_topic’]!= "Personality"]
        t = len(all_nop)
        print "TOTAL, NO P:", t
        low_nop = all_nop[all_nop['flesch'] < 6]
        high_nop = all_nop[all_nop['flesch'] > 12]
        mid_nop = all_nop[(all_nop['flesch'] > 8) & (all_nop['flesch'] < 10)]
        print "LESS THAN 6:", len(low_nop), '%.2f' % (100* len(low_nop)/(len(all_nop) * 1.0)), '%'
        print "GREATER THAN 12:", len(high_nop), '%.2f' % (100* len(high_nop)/(len(all_nop) * 1.0)), '%
        print "MIDDLE 8-10:", len(mid_nop), '%.2f' % (100* len(mid_nop)/(len(all_nop) * 1.0)), '%'
```

```
TOTAL, NO P: 2108
LESS THAN 6: 86 4.08 %
GREATER THAN 12: 190 9.01 %
MIDDLE 8-10: 775 36.76 %
```

```
In [13]: all_nop.to_csv('data/all_candidates_nop.csv')
```

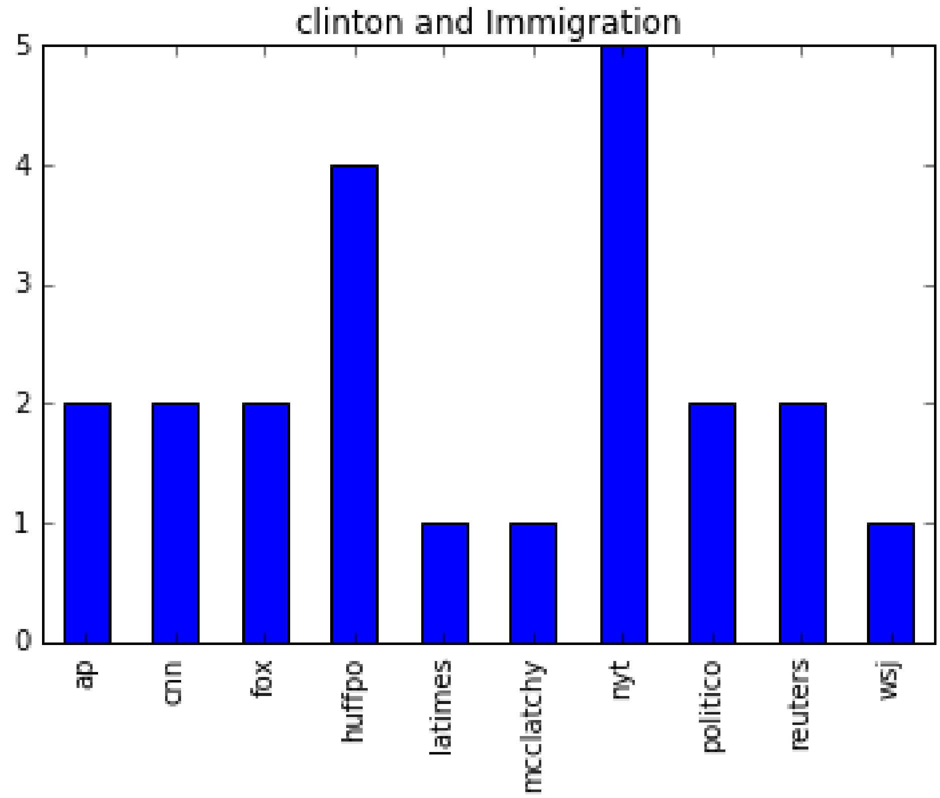
0.4 Split into Topic and +/-/o per candidate

```
In [44]: CANDIDATES = ['clinton', 'sanders', 'trump', 'cruz']
         TOPICS = ['Immigration', 'Campaign Finance', 'Foreign Policy/National Security',
                   'Abortion', 'Health Care', 'Economy', 'Ethics', 'Racial Issues',
                   'Financial Regulation', 'LGBT Issues']
```

```
In [60]: for c in CANDIDATES:
             #all_nop[all_nop['candidate'] == c]['top_topic'].value_counts().plot(kind="bar", title="To
             #matplotlib.pyplot.show()
             print c
             print
             for t in TOPICS:
                 print t
                 #print all_nop[(all_nop['candidate'] == c) & (all_nop['top_topic'] == t)]['org'].value_
                 all_nop[(all_nop['candidate'] == c) & (all_nop['top_topic'] == t)]['org'].value_counts
                                     .sort_index()\
                                     .plot(kind="bar", title= c + " and " + t)
                 matplotlib.pyplot.show()
                 all_nop[(all_nop['candidate'] == c) & (all_nop['top_topic'] == t)]['flesch'].value_cou
                                     .sort_index()\
                                     .plot(kind="bar", title= c + " and " + t)
                 matplotlib.pyplot.show()
                 print
```

```
clinton

Immigration
```


clinton and Immigration
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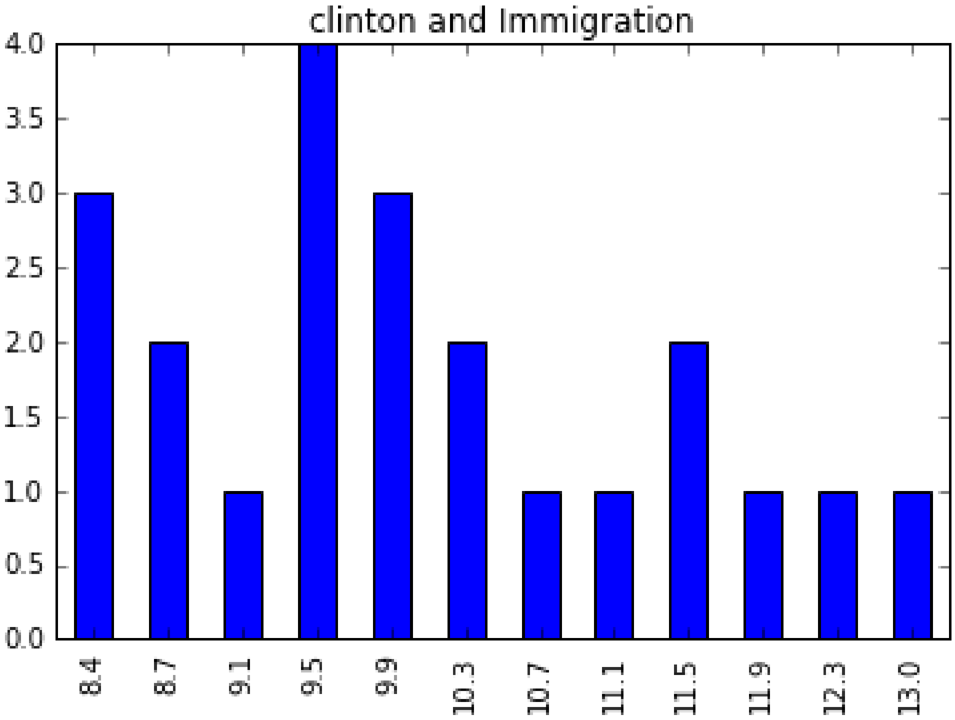
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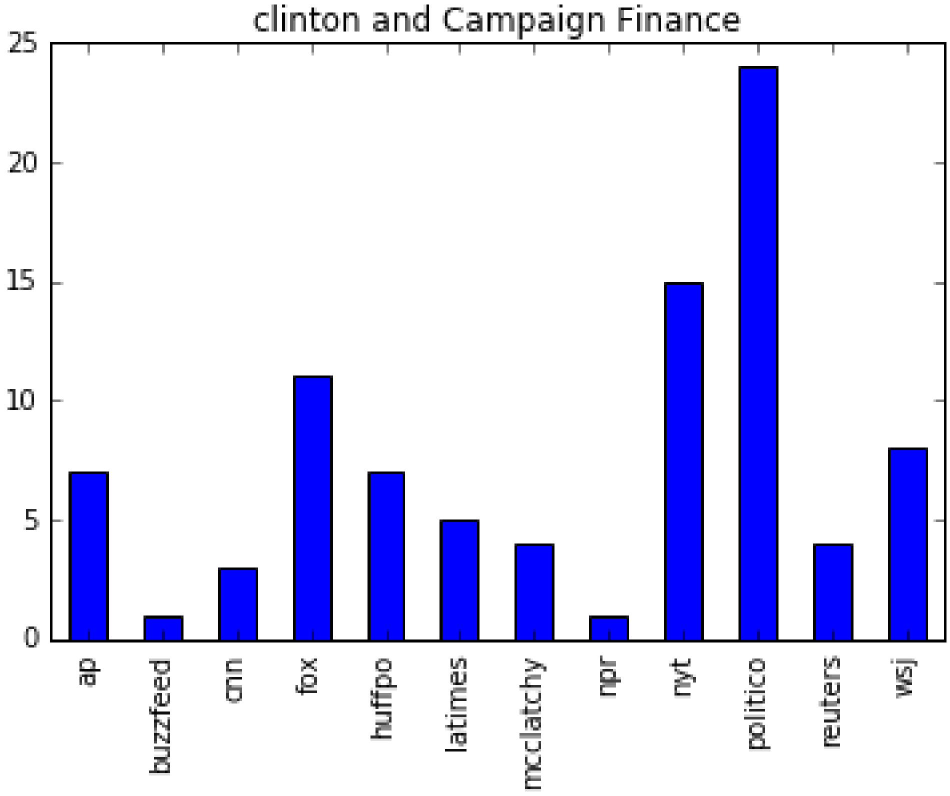
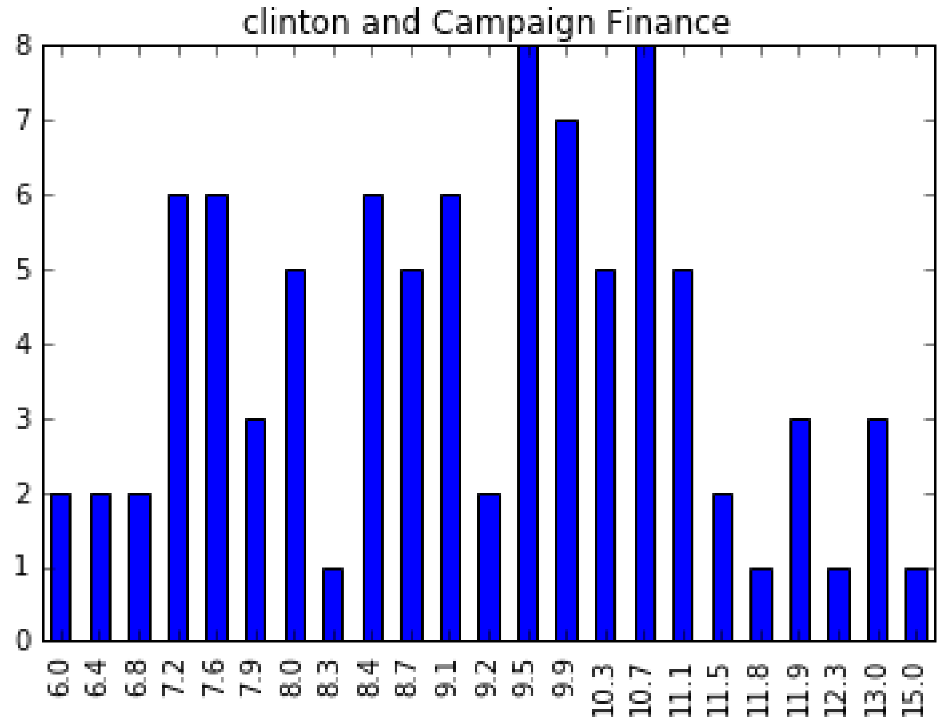
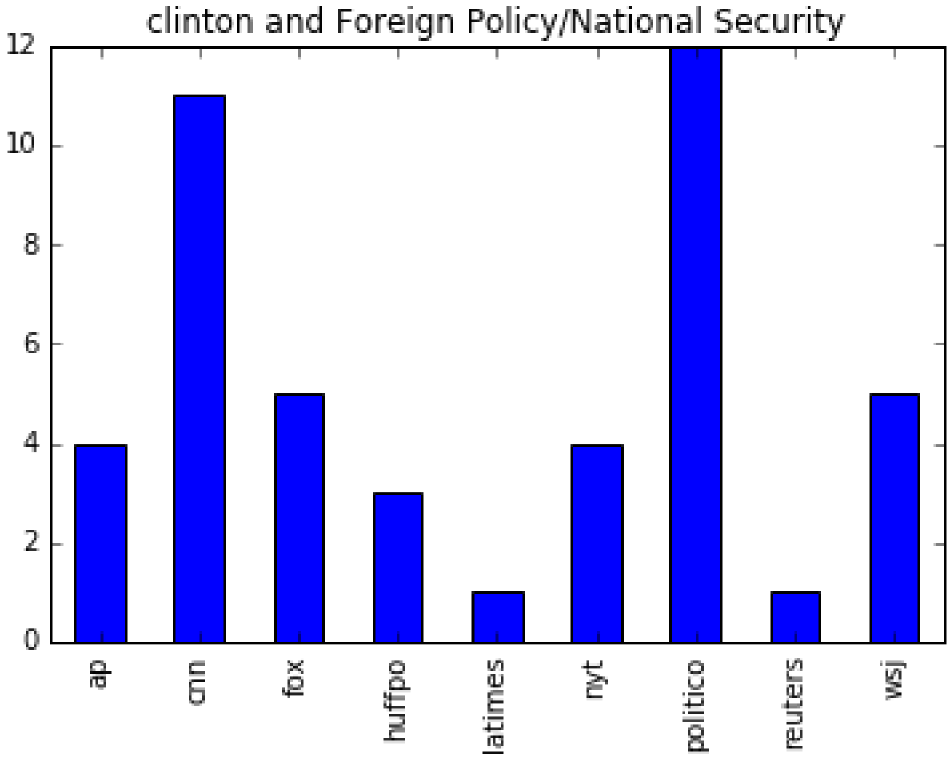
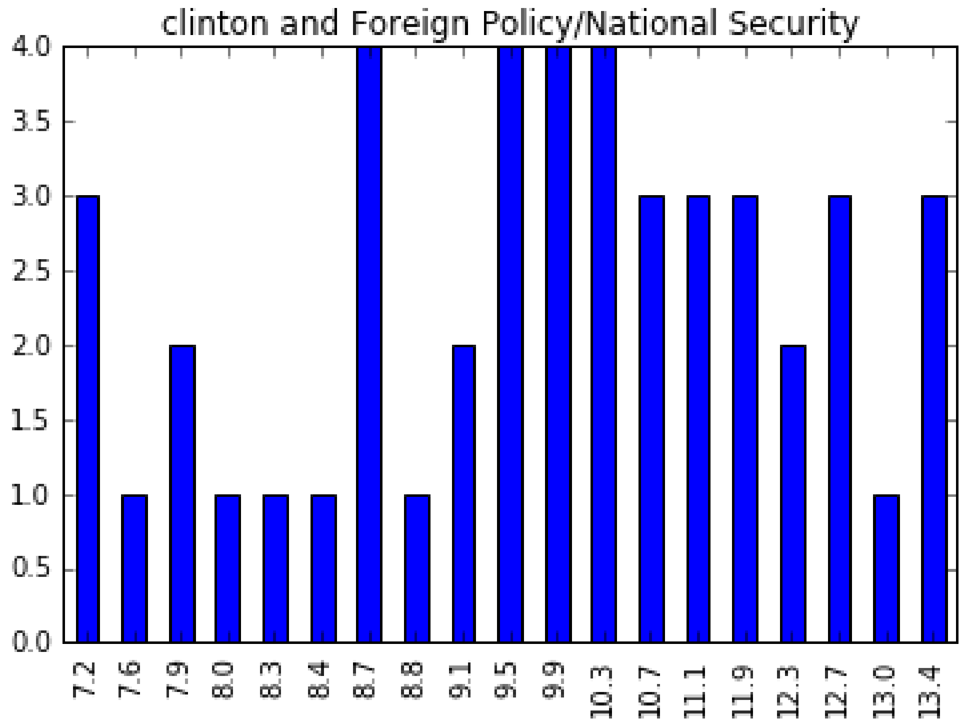
Campaign Finance





Foreign Policy/National Security

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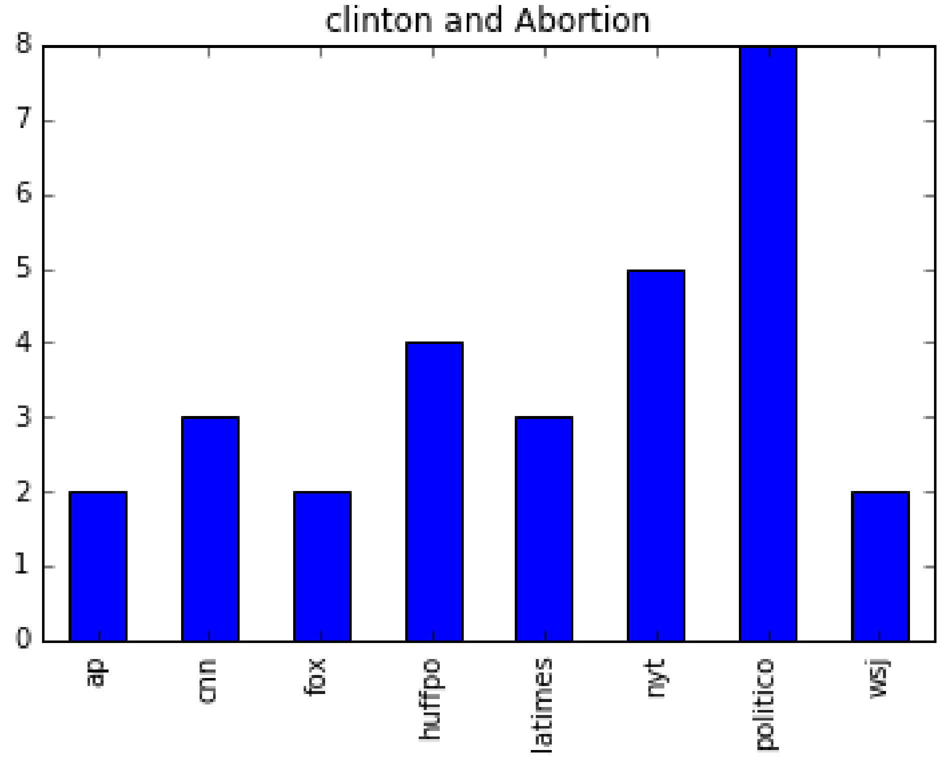
Abortion


clinton and Abortion
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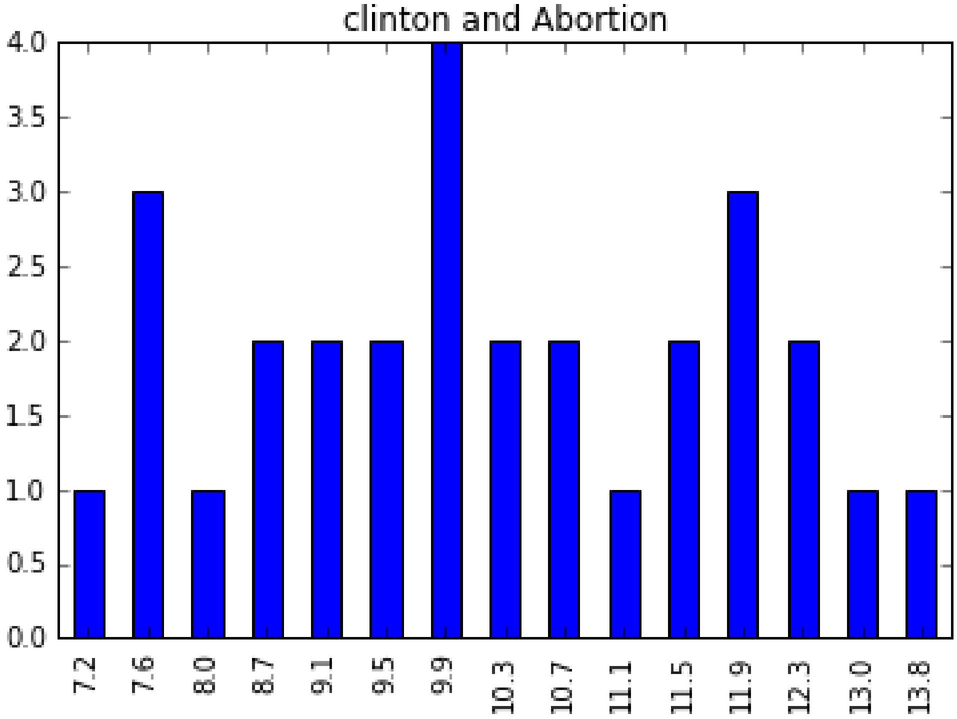
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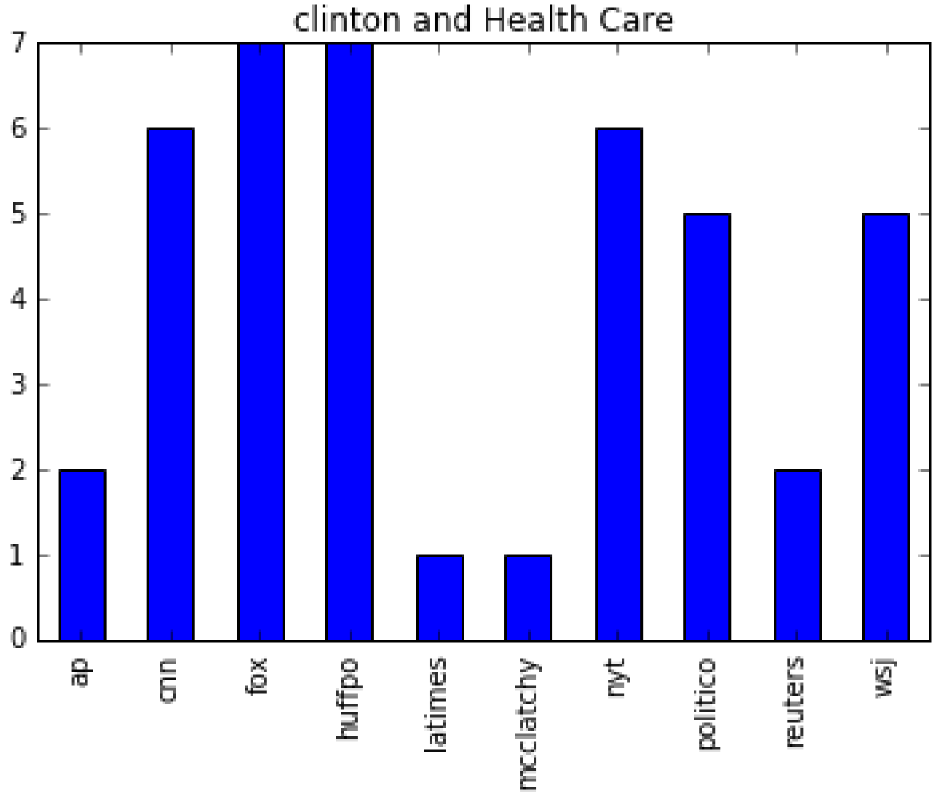
Health Care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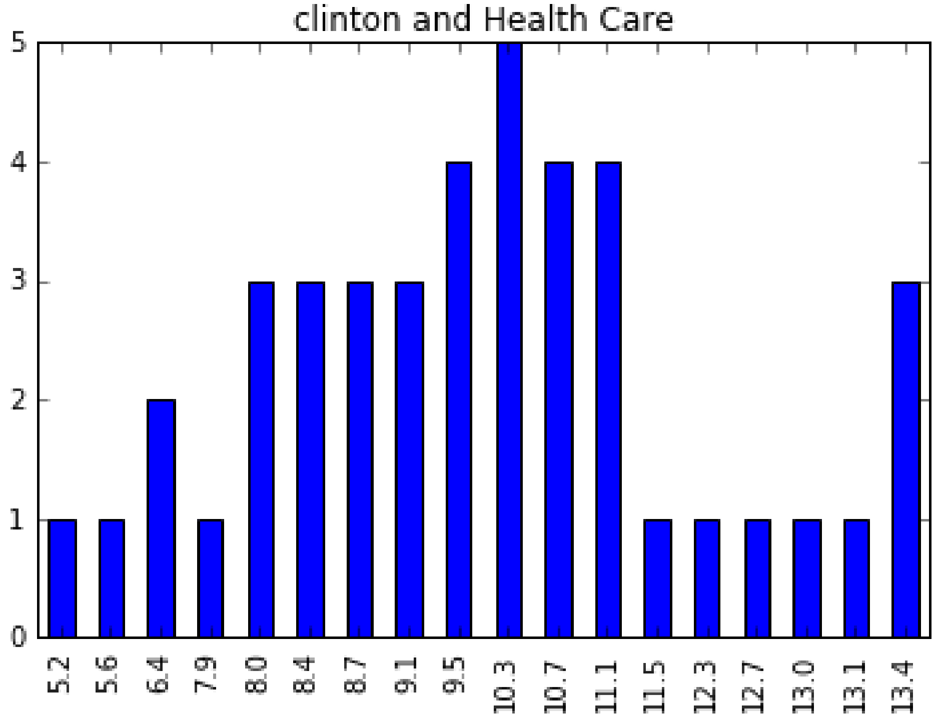
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Economy
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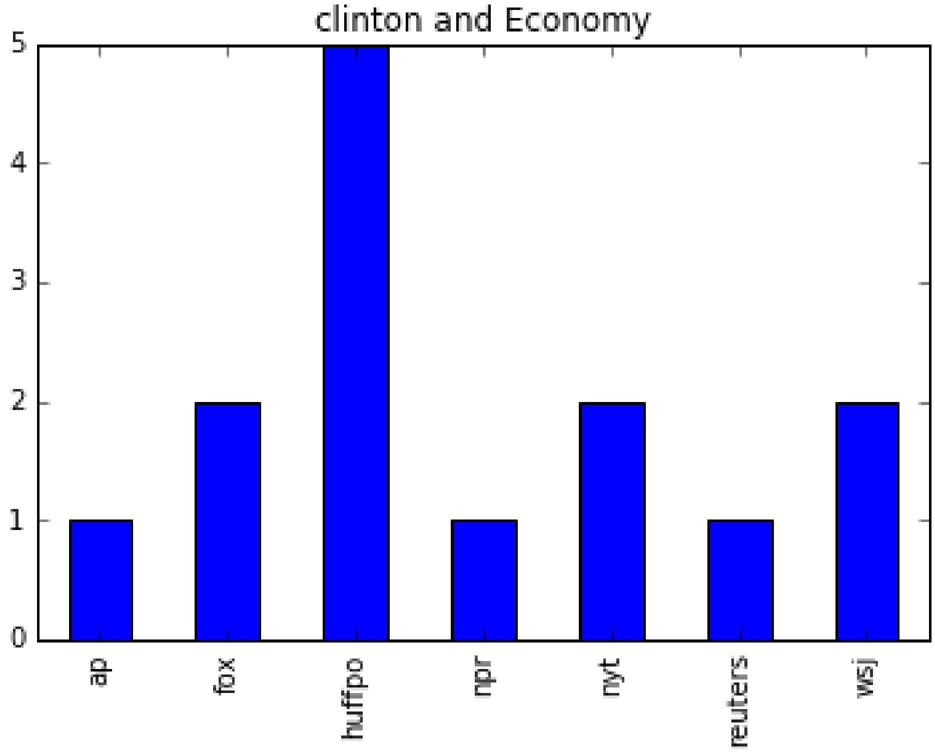
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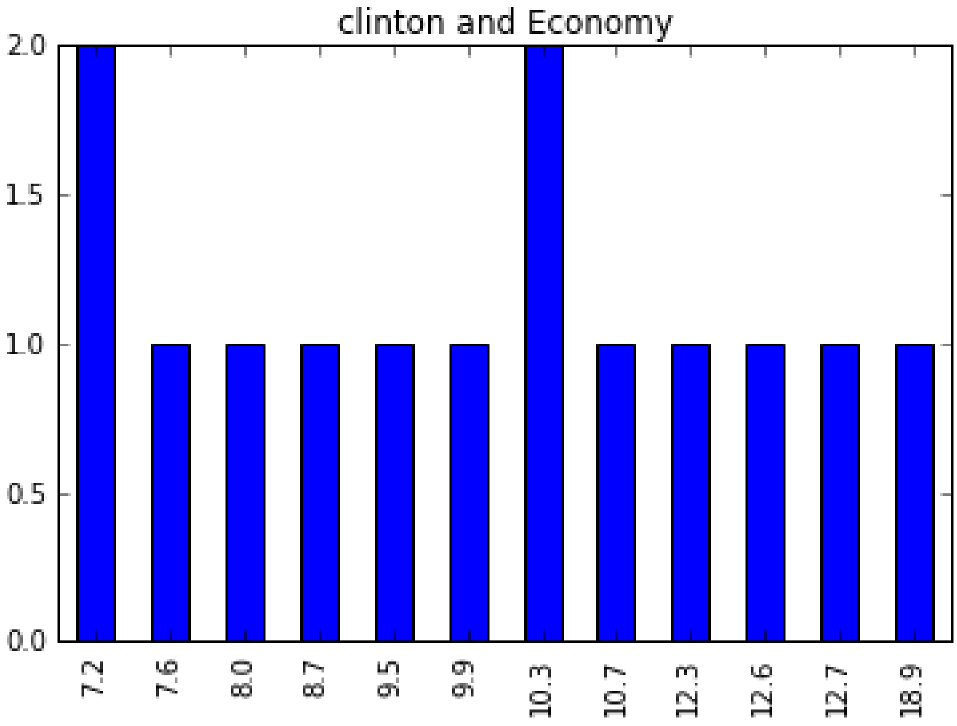
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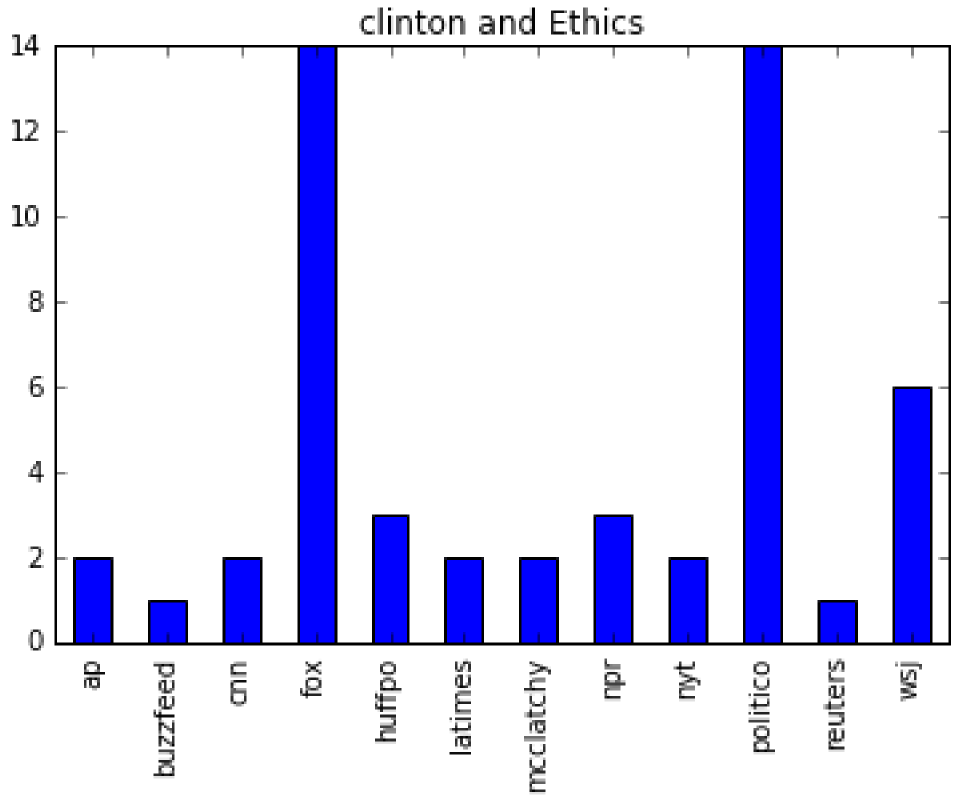
Ethics


clinton and Ethics
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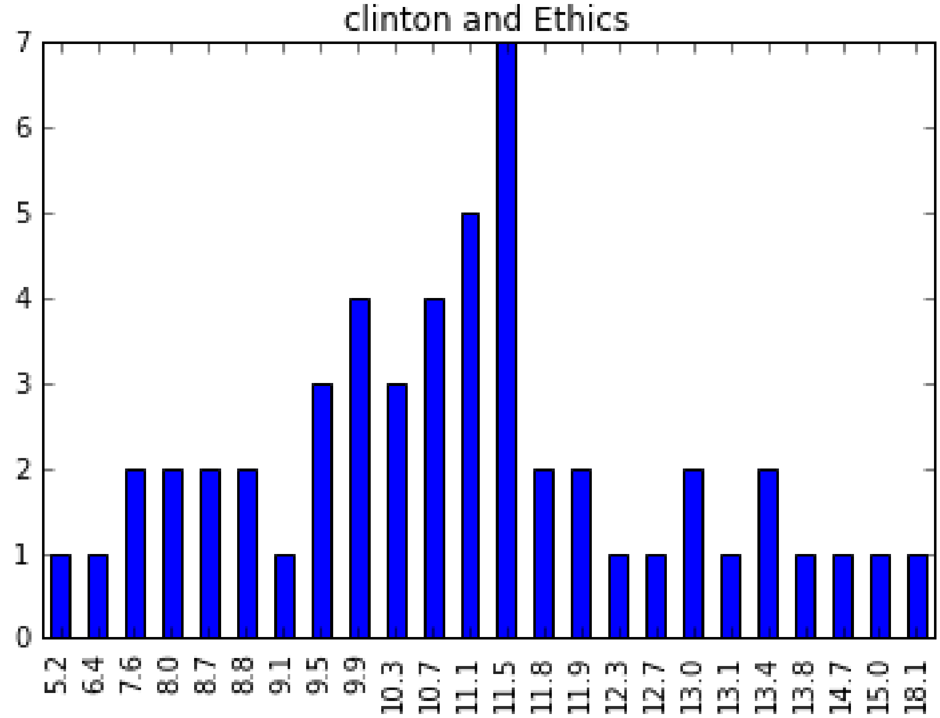
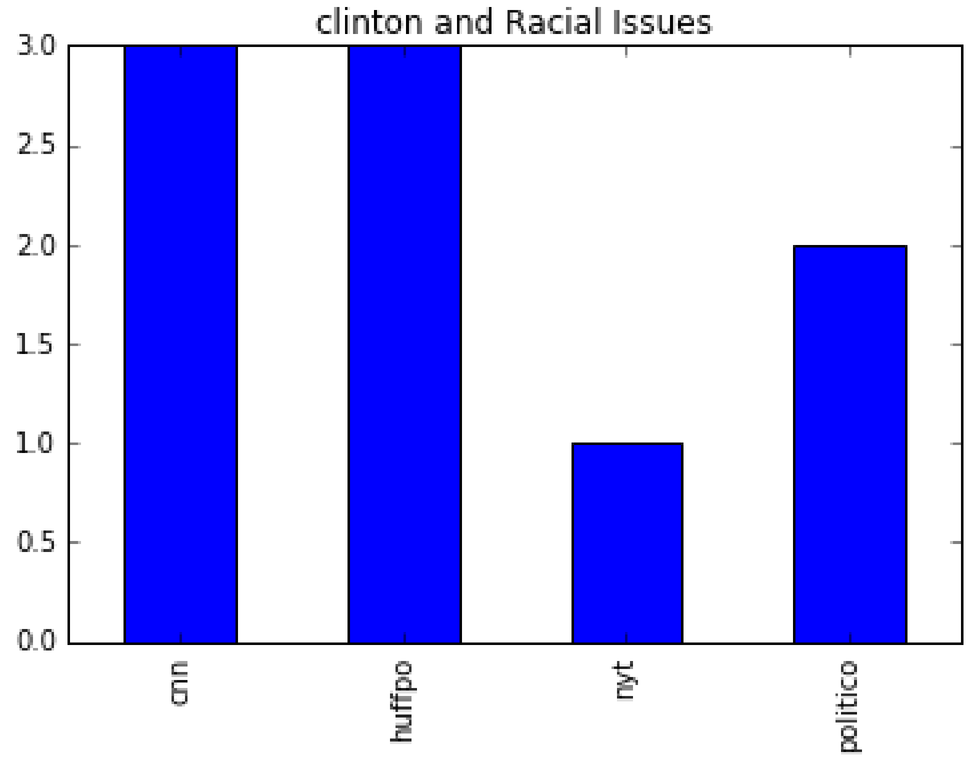


Racial Issues


clinton and Racial Issues
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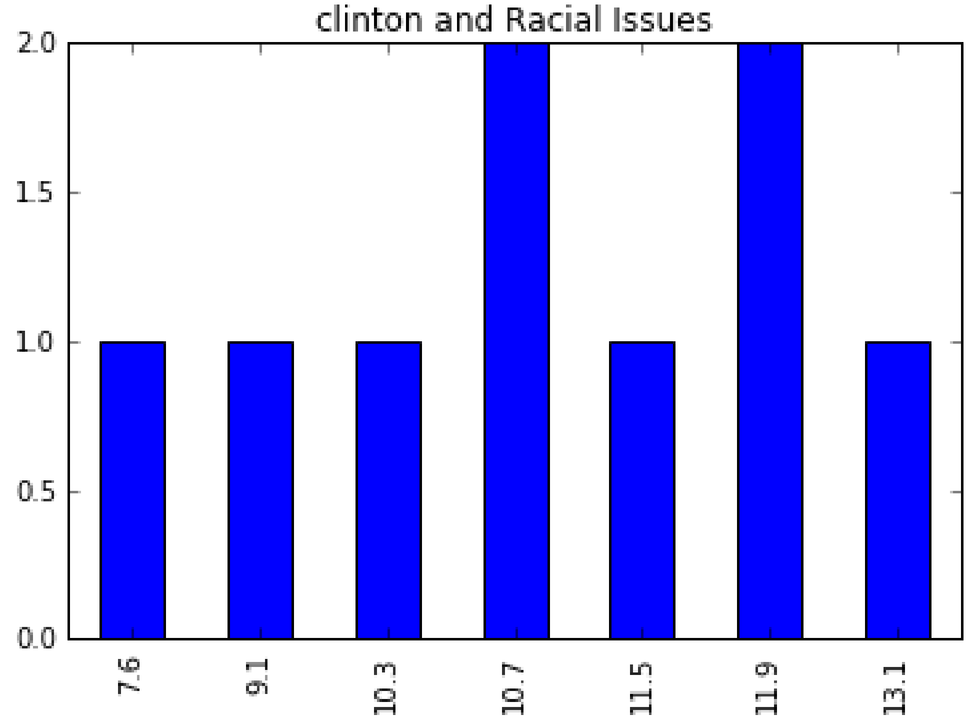
clinton and Racial Issues
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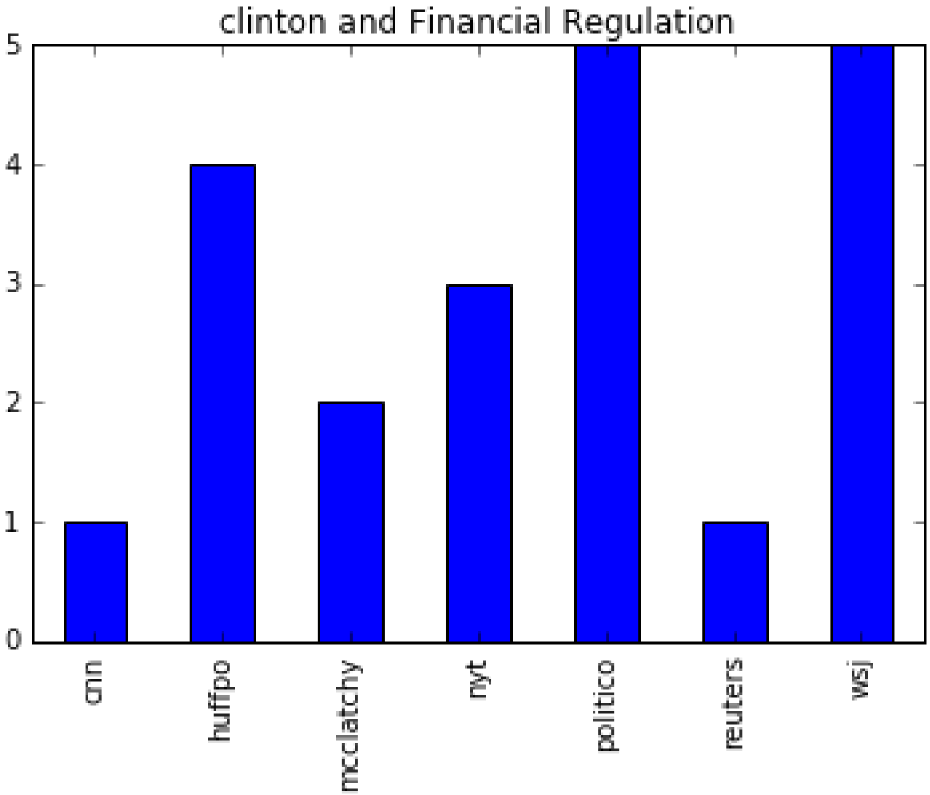
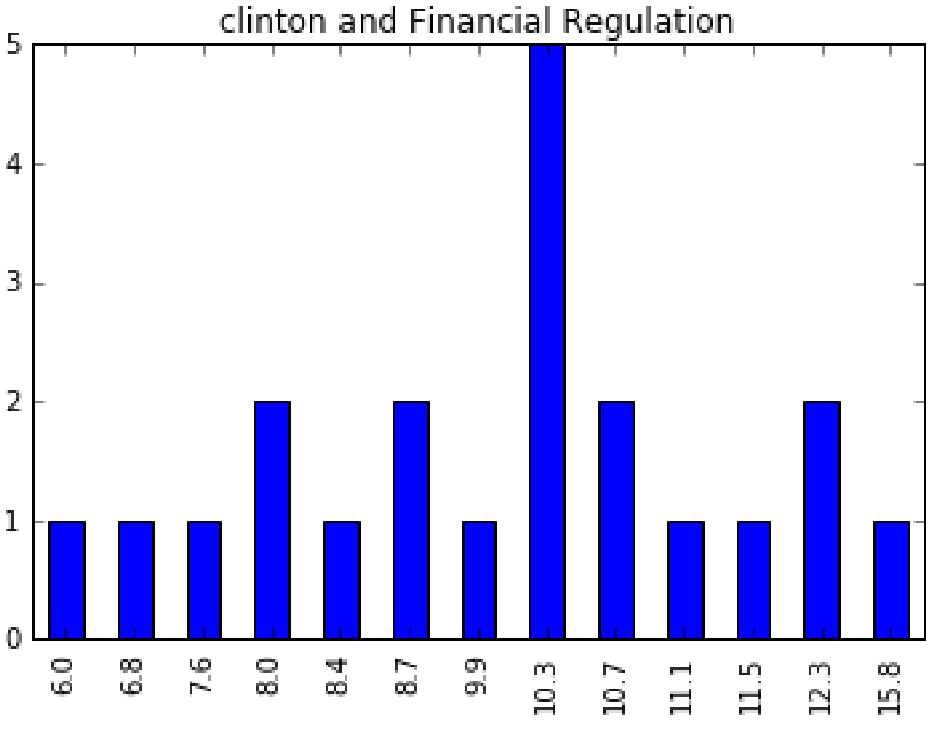
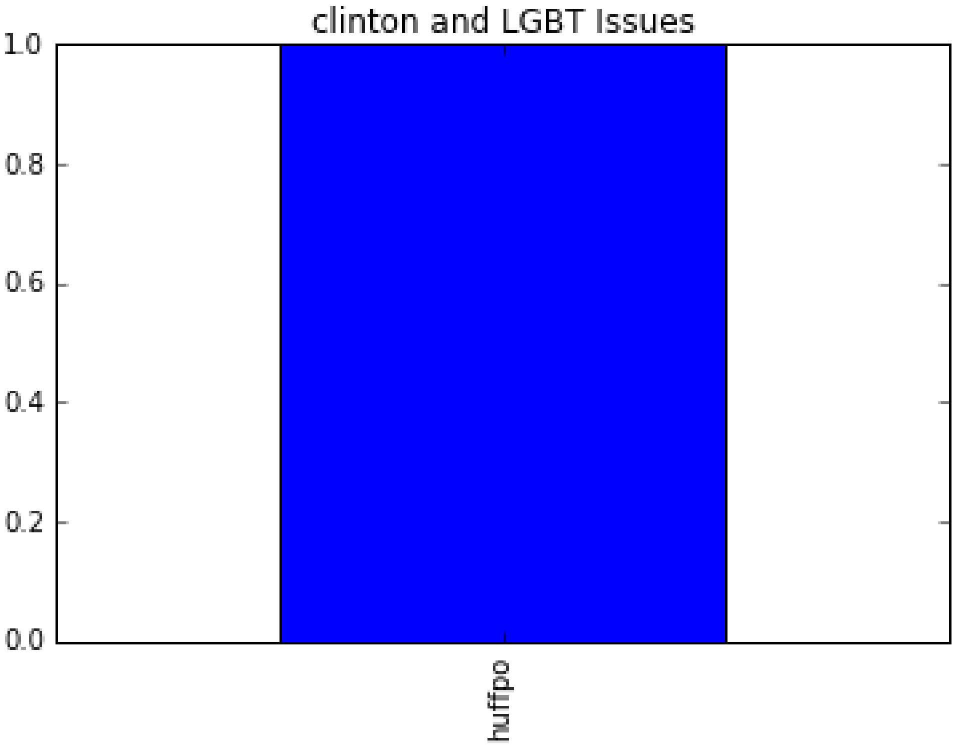
Financial Regulation





LGBT Issues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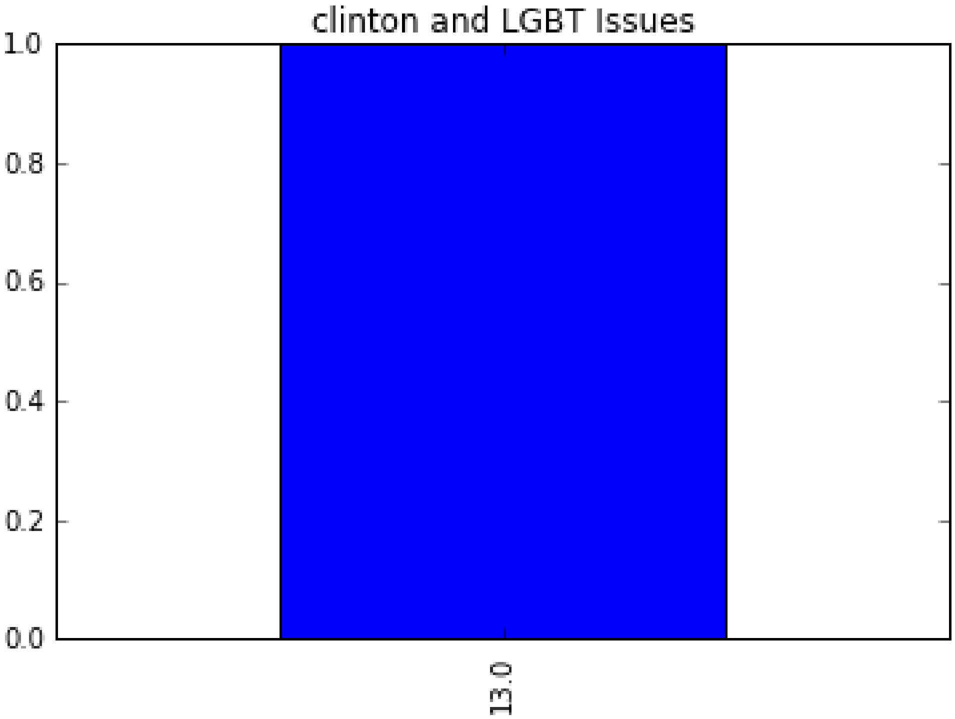
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sanders

Immigration
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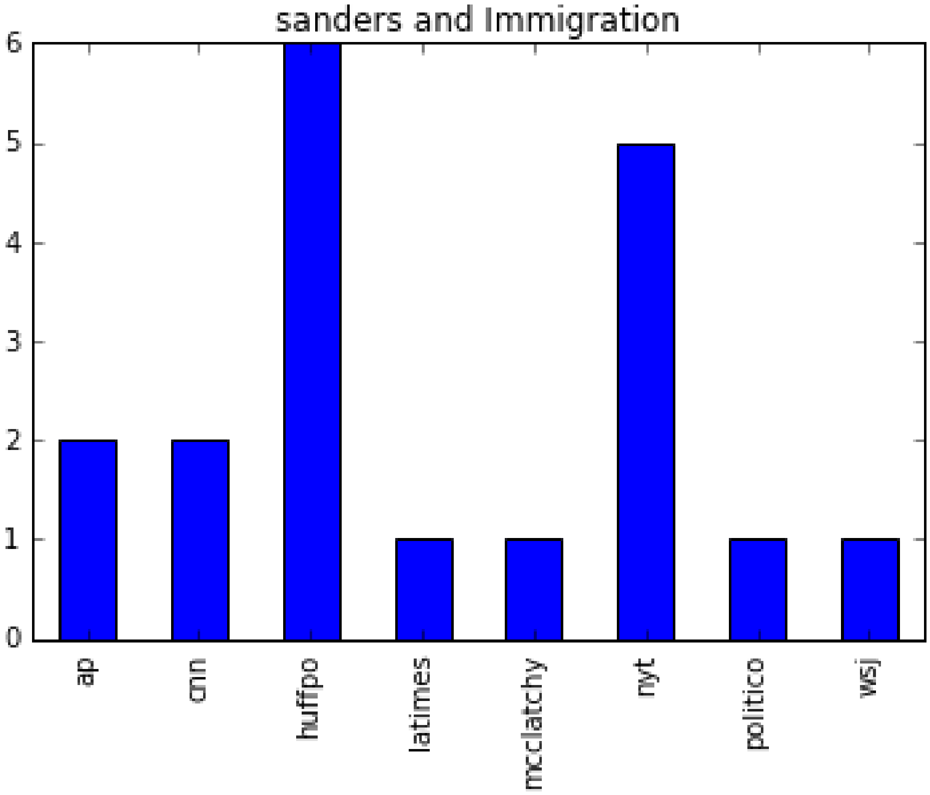
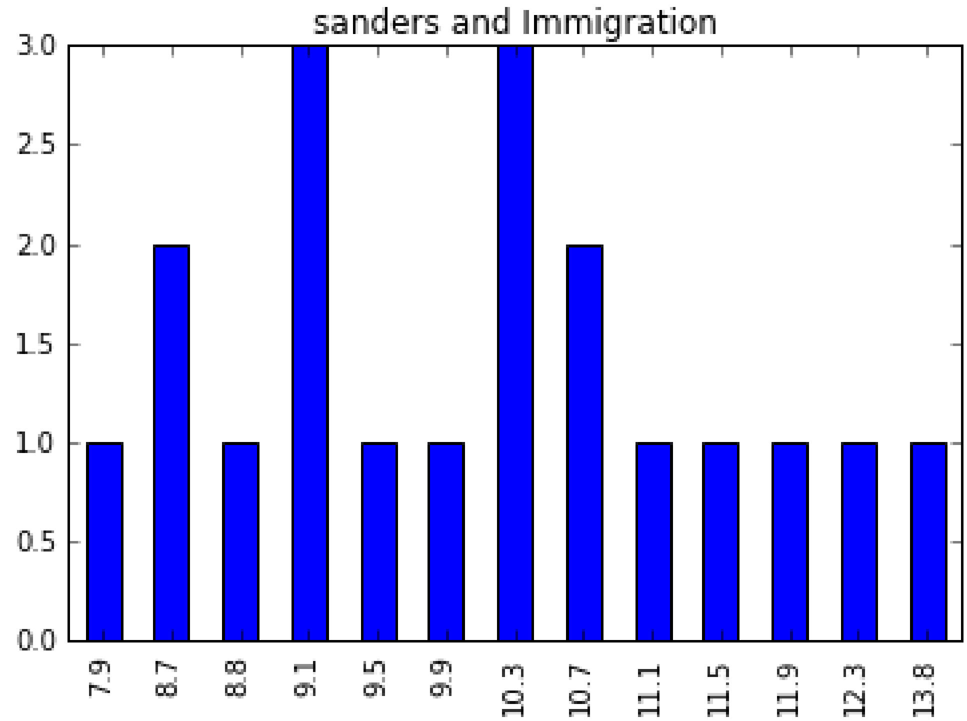
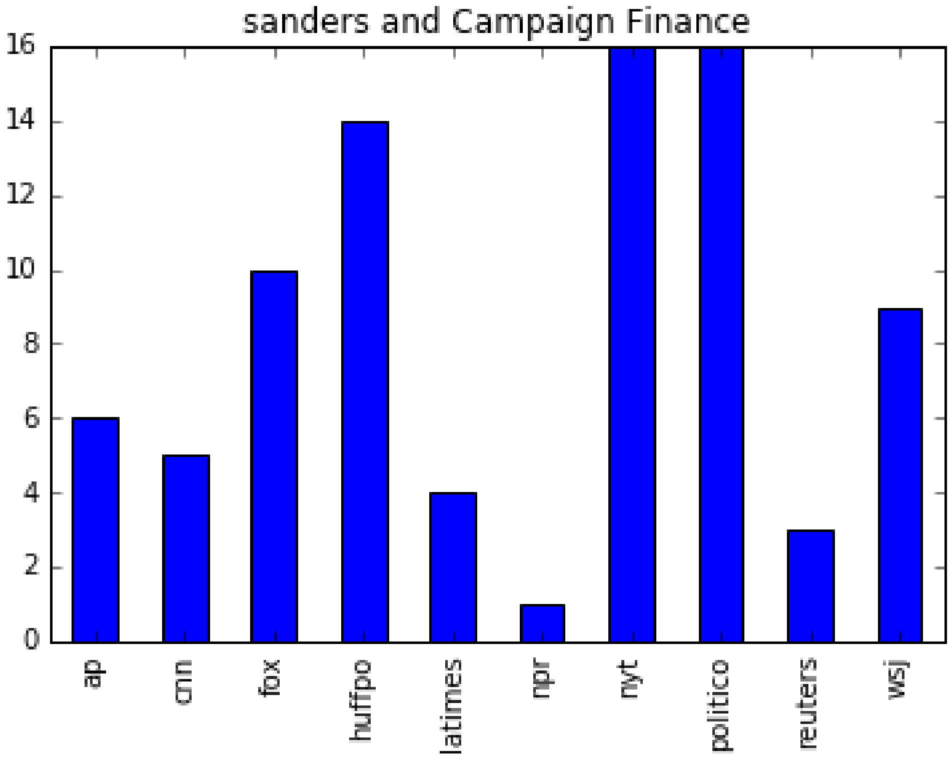
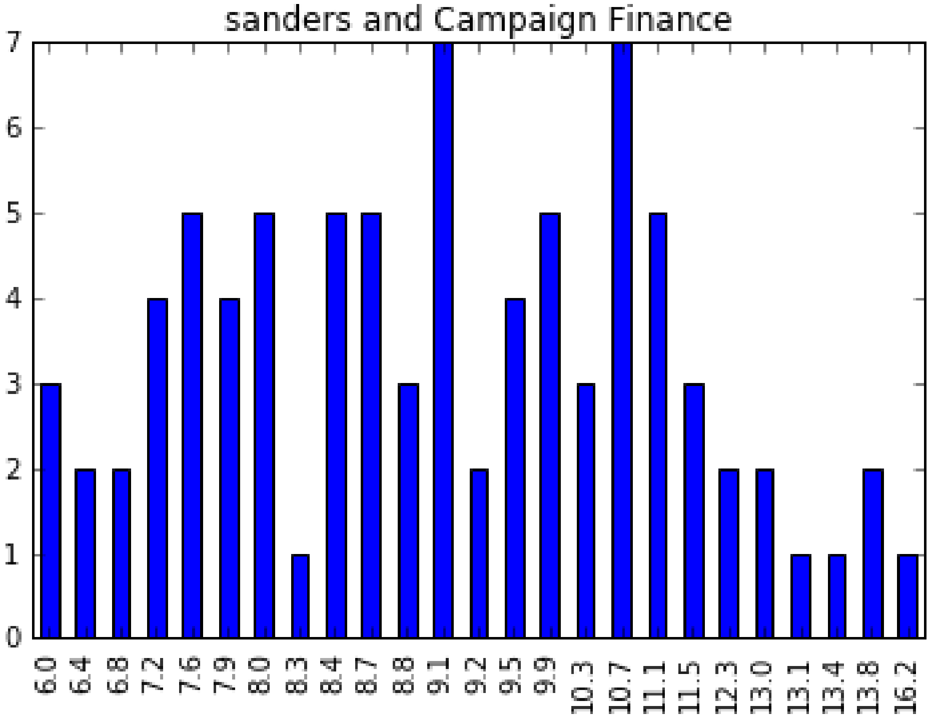




Campaign Finance





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Foreign Policy/National Security
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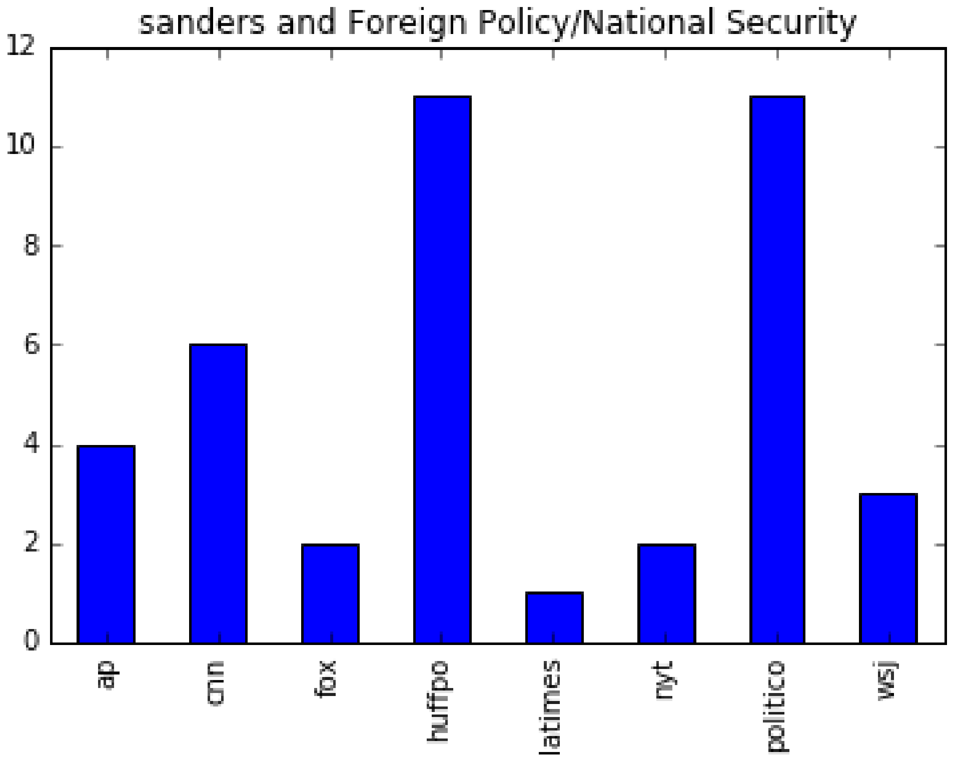
sanders and Foreign Policy/National Security
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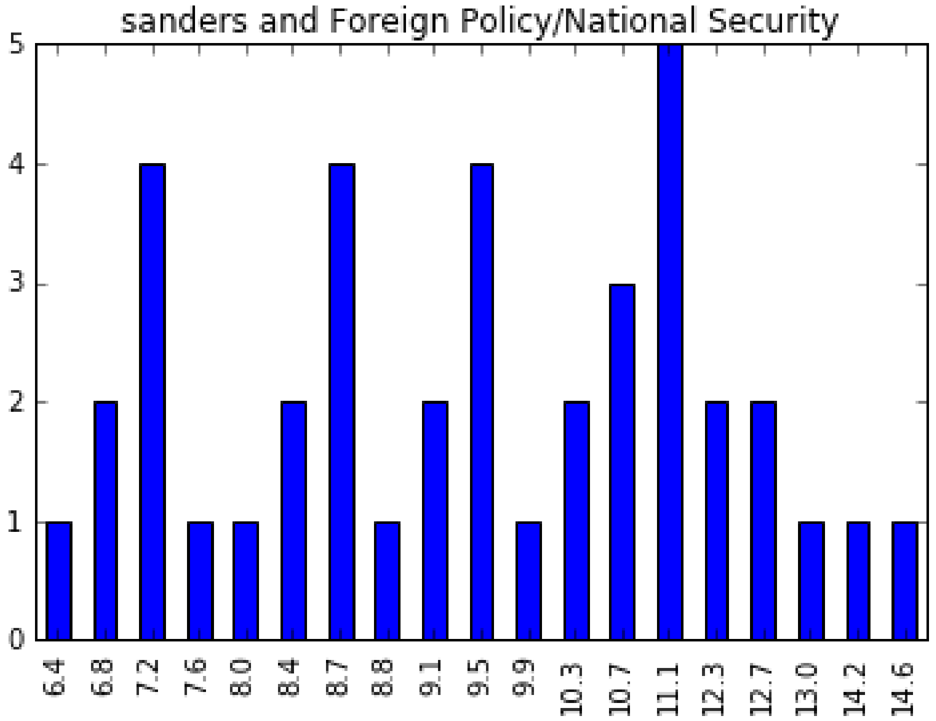
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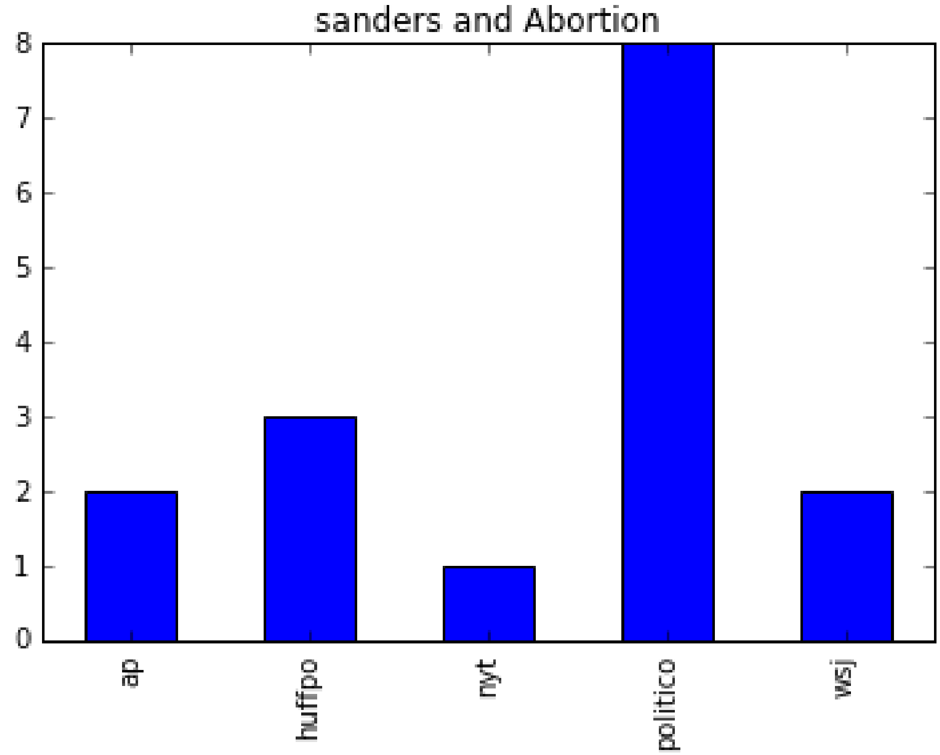
`Abortion`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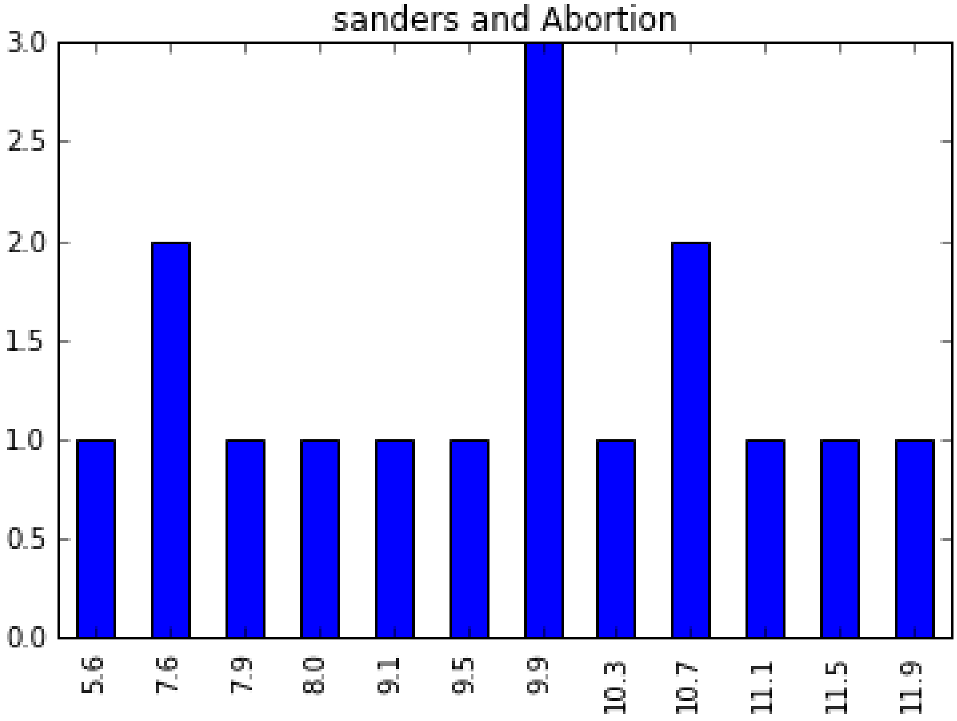
sanders and Abortion
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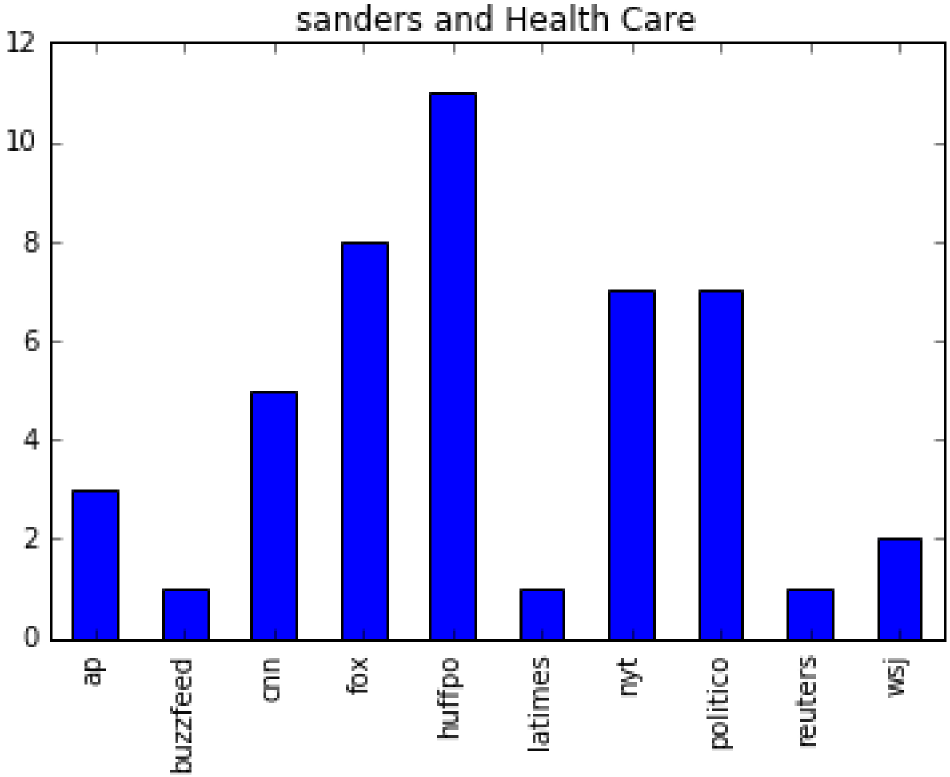
Health Care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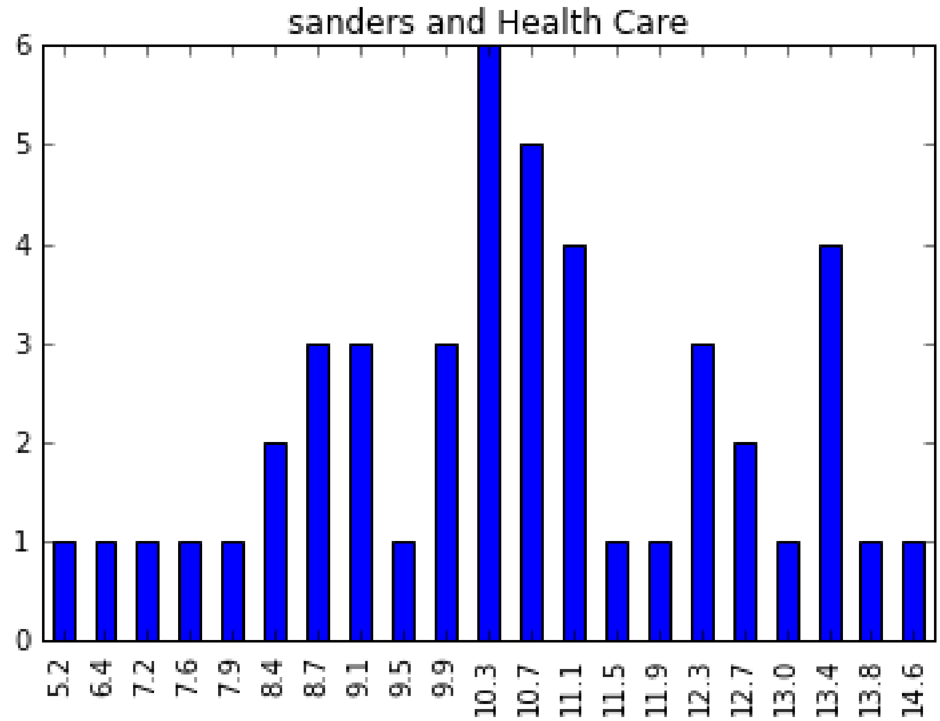
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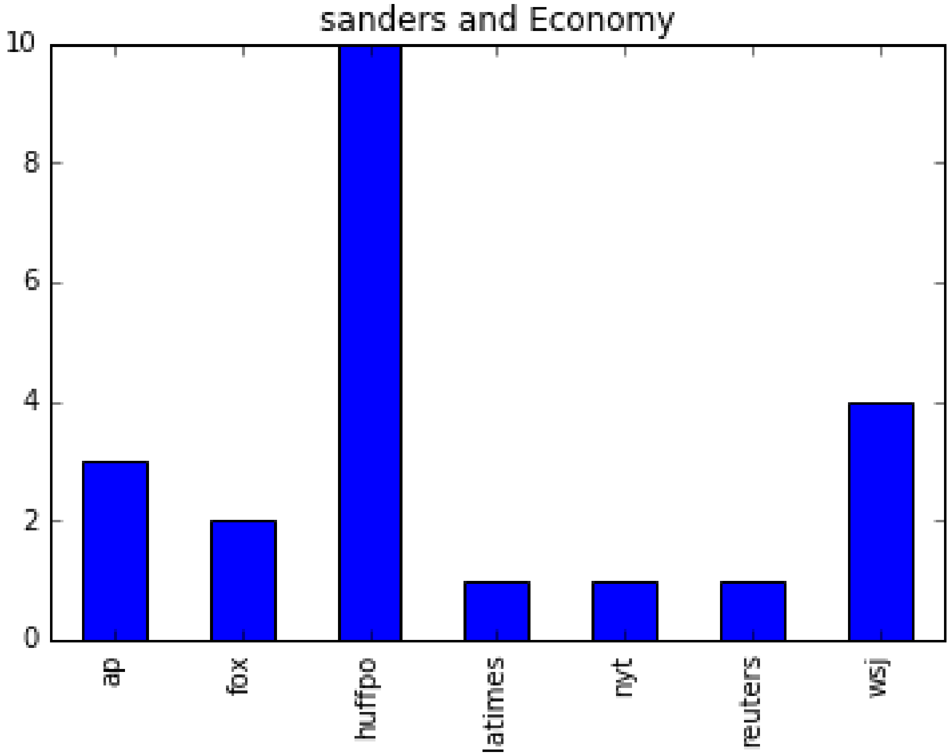
Economy
```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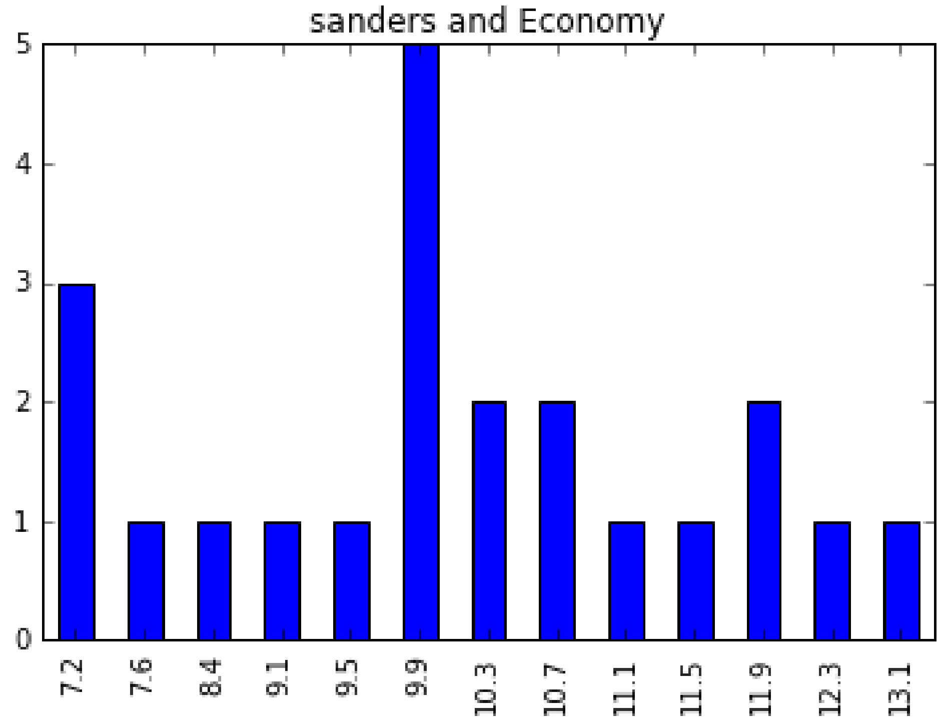
sanders and Economy
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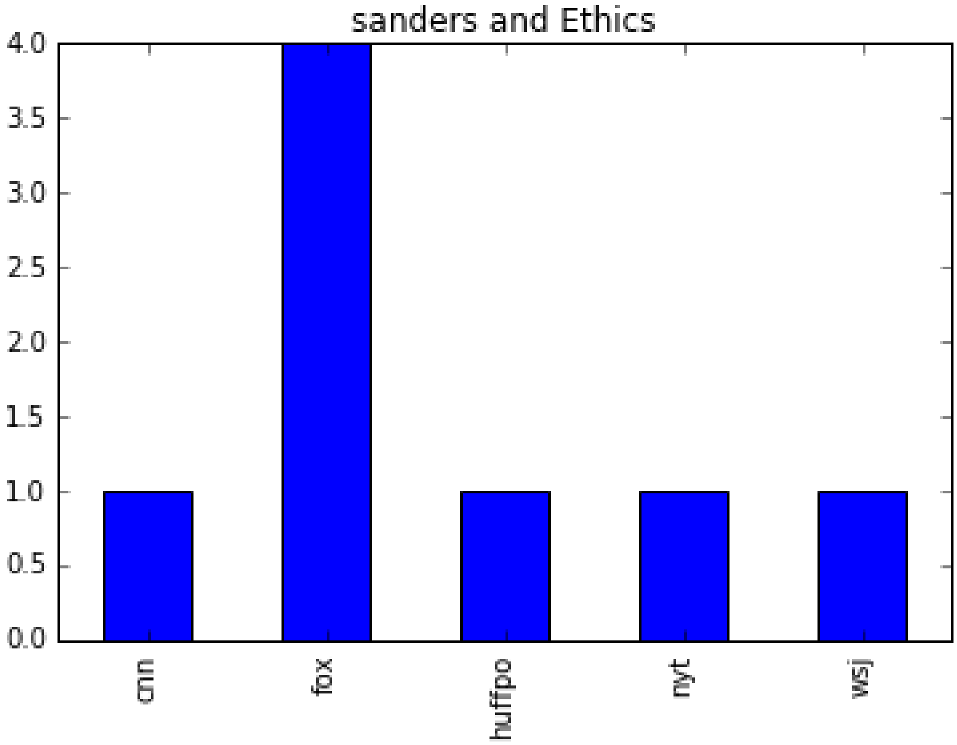
Ethics


sanders and Ethics
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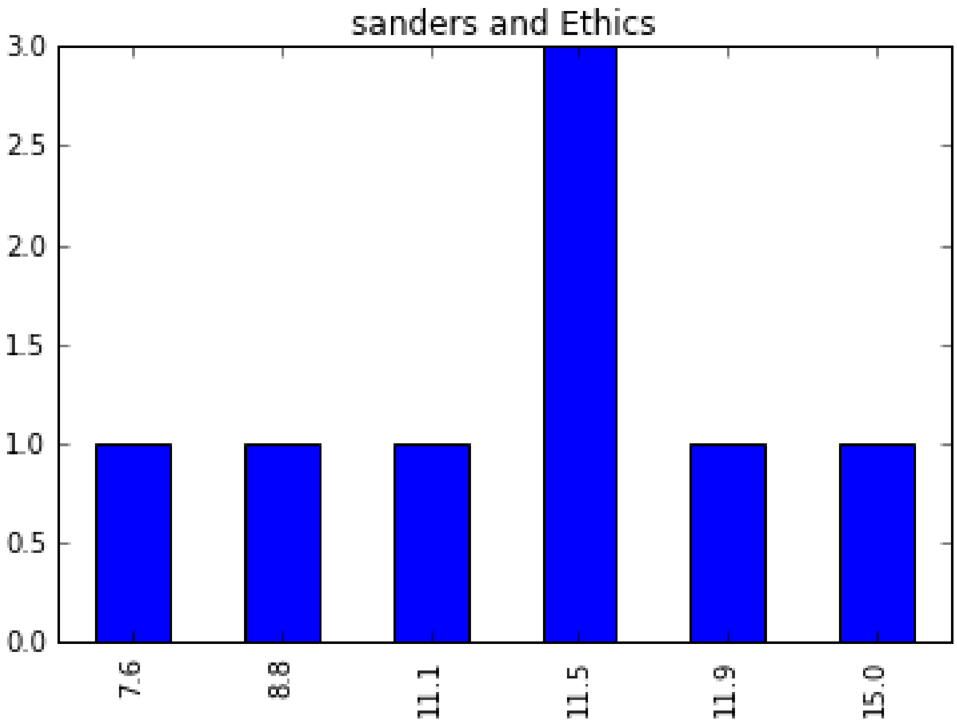

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Racial Issues
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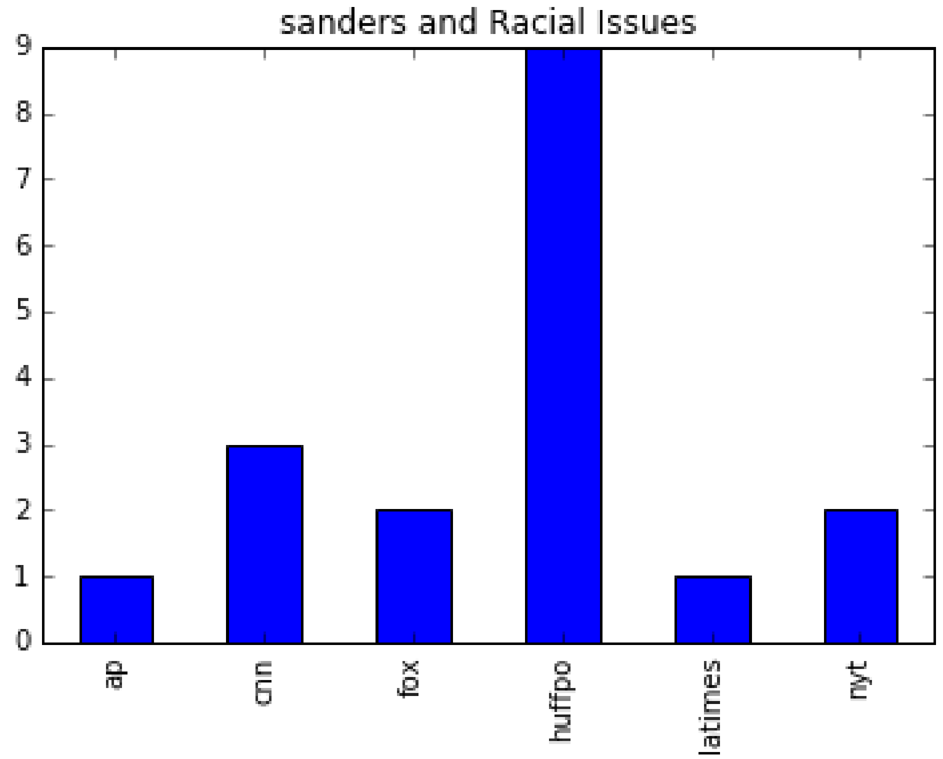
sanders and Racial Issues
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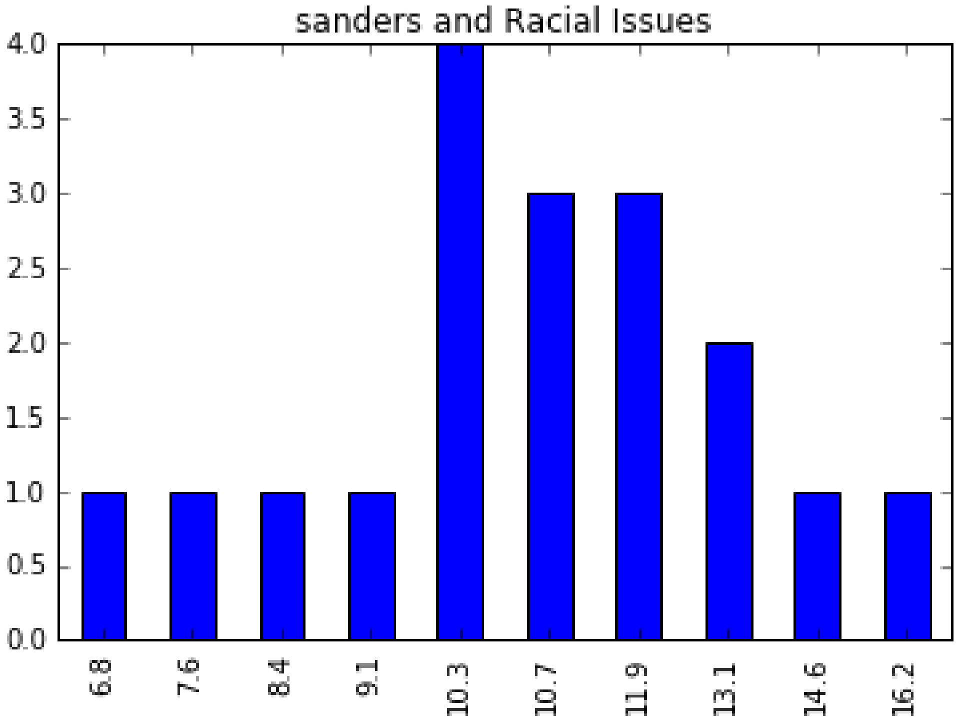
sanders and Racial Issues
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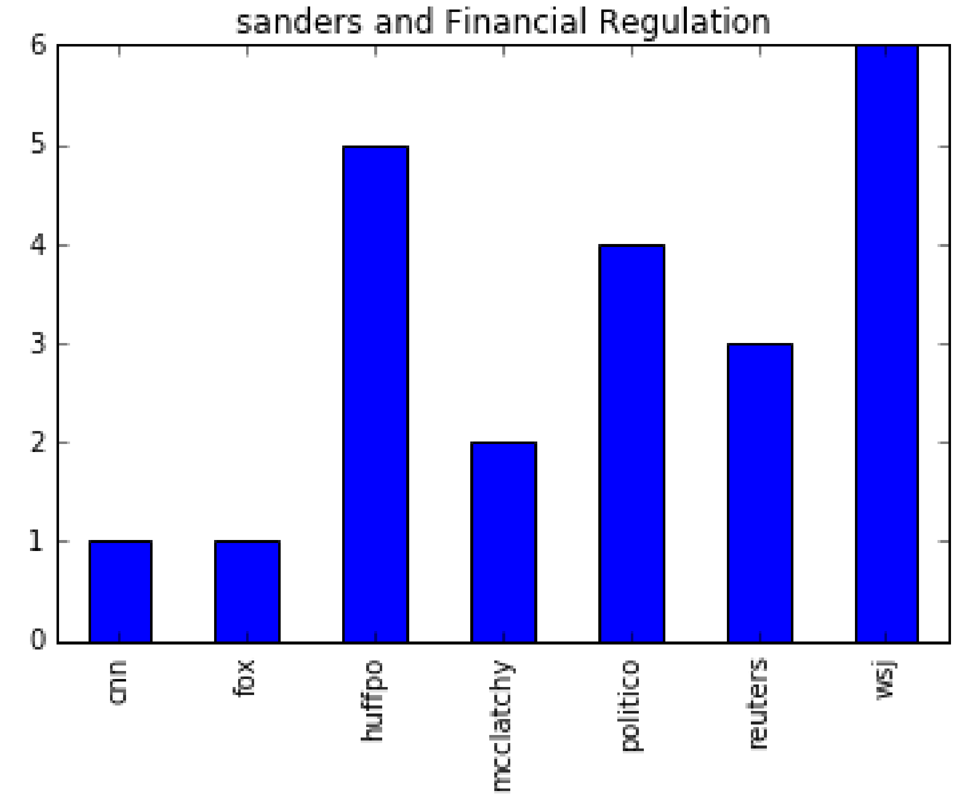
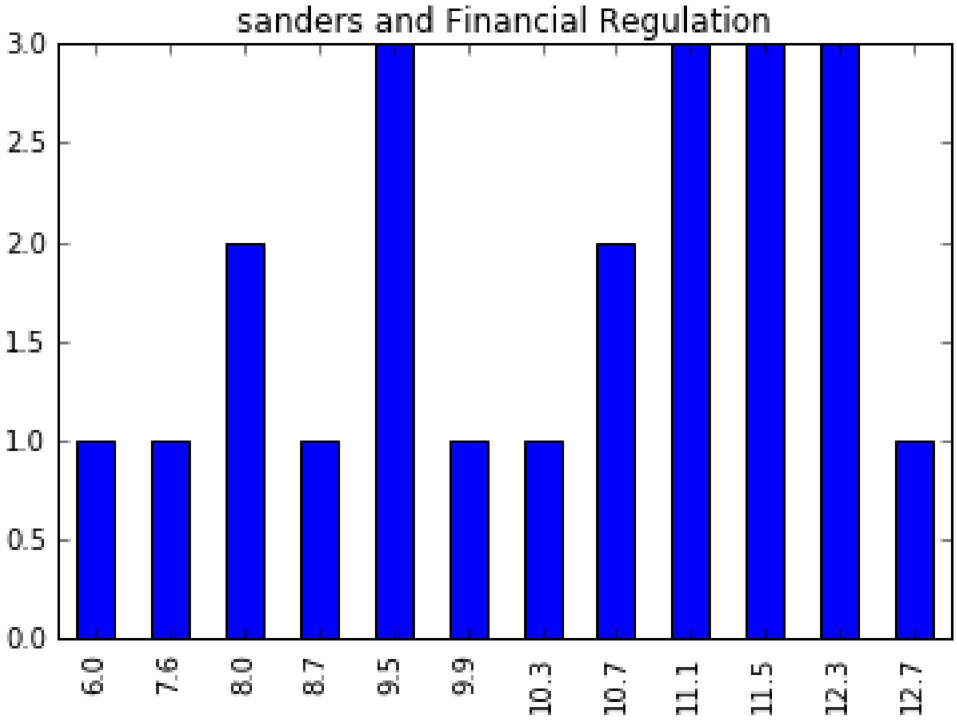
Financial Regulation





LGBT Issues

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    ---------------------------------------------------------------------------

    TypeError                                 Traceback (most recent call last)

    <ipython-input-60-a33e10b3435e> in <module>()
      7         print t
      8         #print all_nop[(all_nop['candidate'] == c) & (all_nop['top_topic'] == t)]['org'].valu
----> 9         all_nop[(all_nop['candidate'] == c) & (all_nop['top_topic'] == t)]['org'].value_count
     10         matplotlib.pyplot.show()
     11         all_nop[(all_nop['candidate'] == c) & (all_nop['top_topic'] == t)]['flesch'].value_co


    /usr/local/lib/python2.7/site-packages/pandas/tools/plotting.pyc in __call__(self, kind, ax, figs
   3495                            colormap=colormap, table=table, yerr=yerr,
   3496                            xerr=xerr, label=label, secondary_y=secondary_y,
-> 3497                            **kwds)
   3498     __call__.__doc__ = plot_series.__doc__
   3499


    /usr/local/lib/python2.7/site-packages/pandas/tools/plotting.pyc in plot_series(data, kind, ax,
   2585                  yerr=yerr, xerr=xerr,
   2586                  label=label, secondary_y=secondary_y,
-> 2587                  **kwds)
   2588
   2589


    /usr/local/lib/python2.7/site-packages/pandas/tools/plotting.pyc in _plot(data, x, y, subplots,
   2382         plot_obj = klass(data, subplots=subplots, ax=ax, kind=kind, **kwds)
   2383
-> 2384     plot_obj.generate()
   2385     plot_obj.draw()
   2386     return plot_obj.result


    /usr/local/lib/python2.7/site-packages/pandas/tools/plotting.pyc in generate(self)
    983     def generate(self):
    984         self._args_adjust()
--> 985         self._compute_plot_data()
    986         self._setup_subplots()
    987         self._make_plot()


    /usr/local/lib/python2.7/site-packages/pandas/tools/plotting.pyc in _compute_plot_data(self)
   1092         if is_empty:
   1093             raise TypeError('Empty {0!r}: no numeric data to '
-> 1094                             'plot'.format(numeric_data.__class__.__name__))
   1095
```

```
       1096         self.data = numeric_data


        TypeError: Empty ’DataFrame’: no numeric data to plot
```

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In [ ]:
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In [ ]:
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