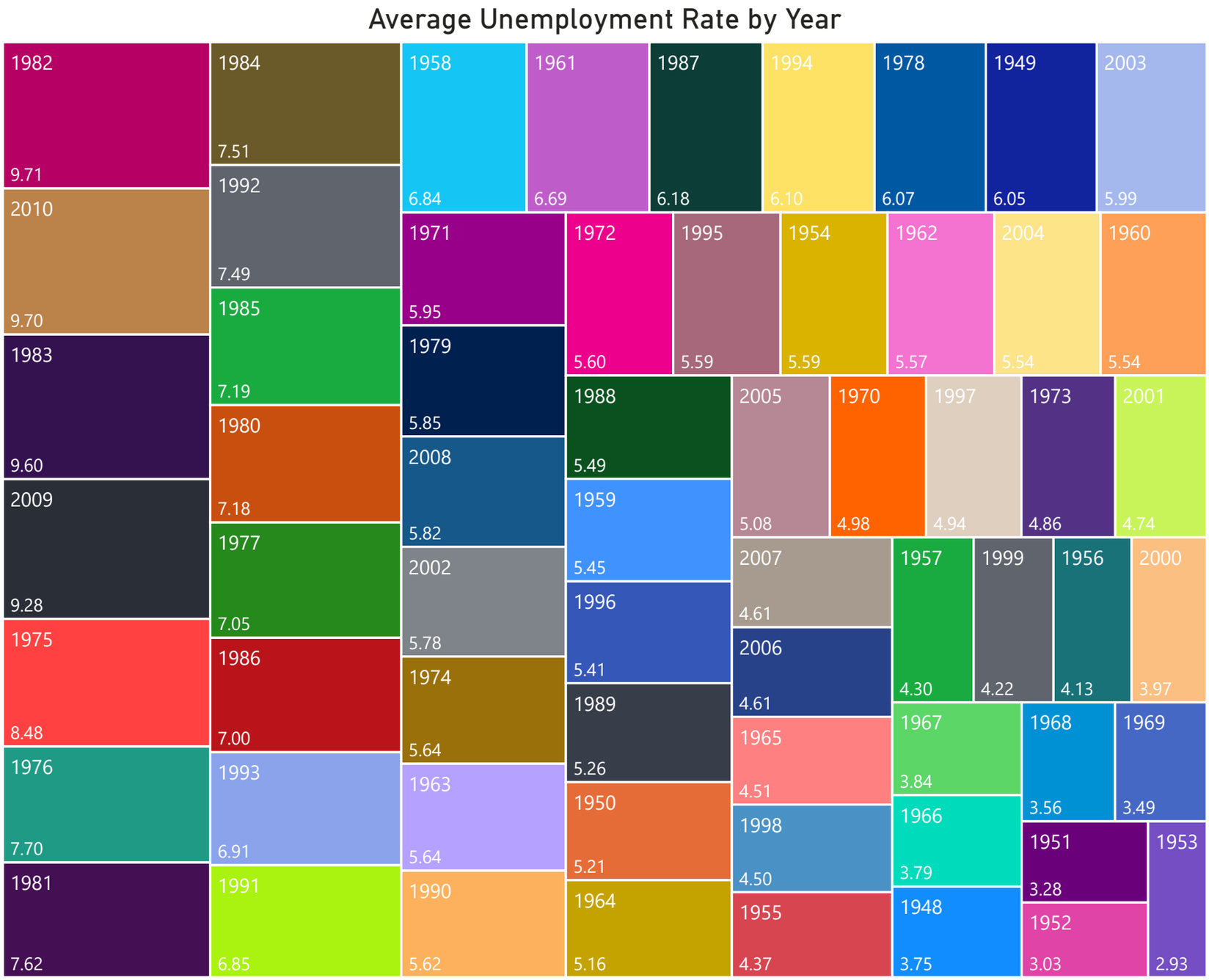
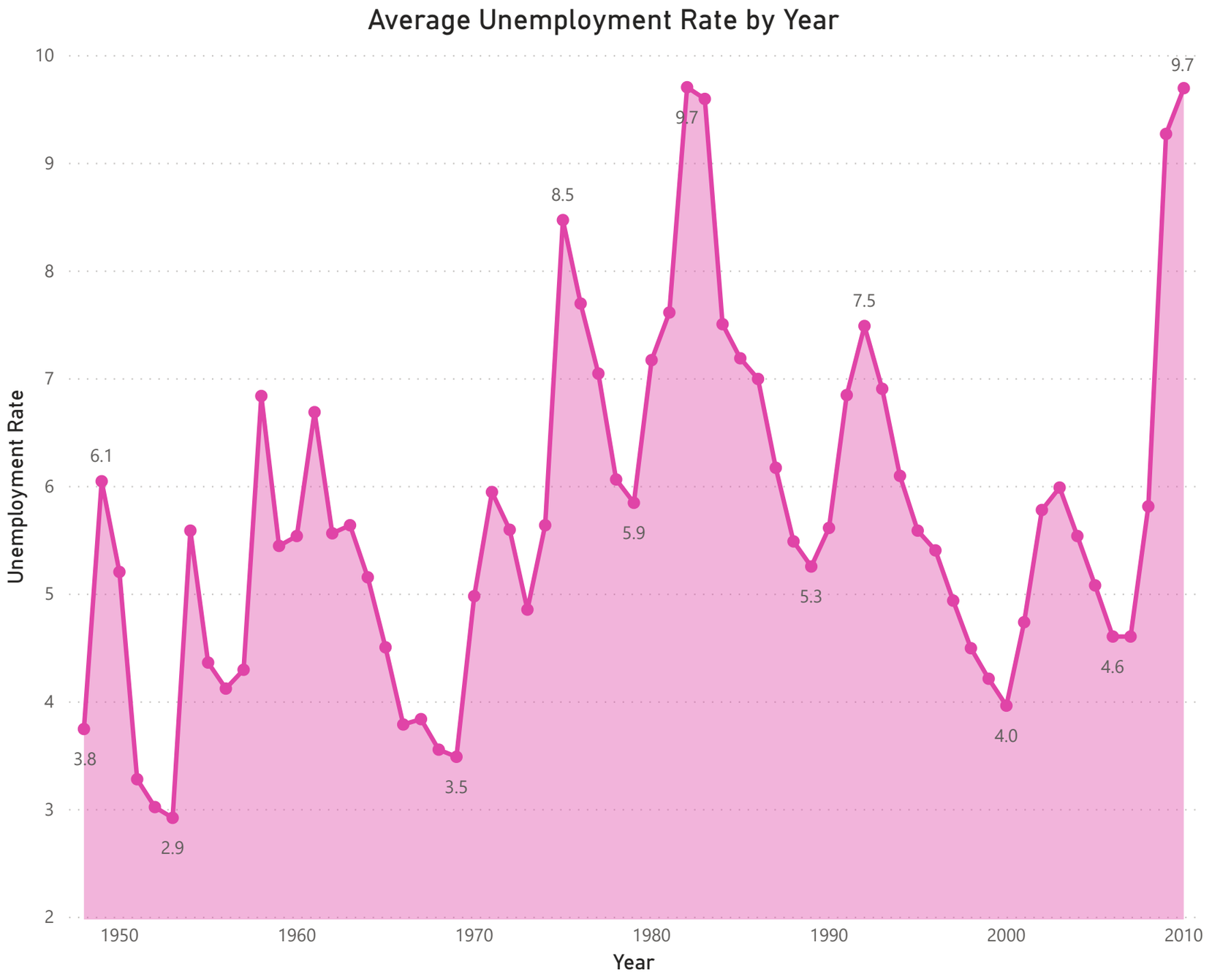
Power Bi Visuals

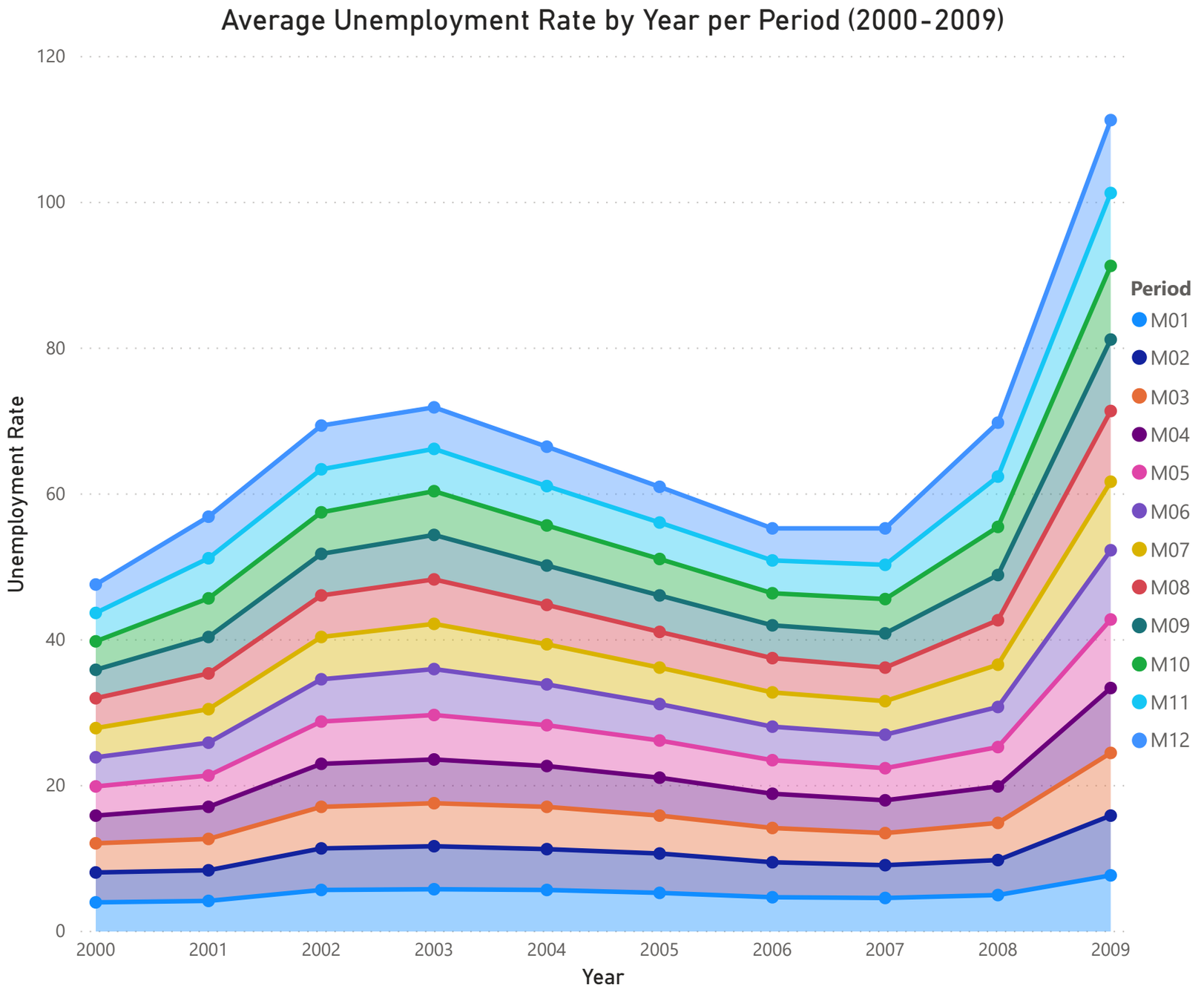
Tree Map



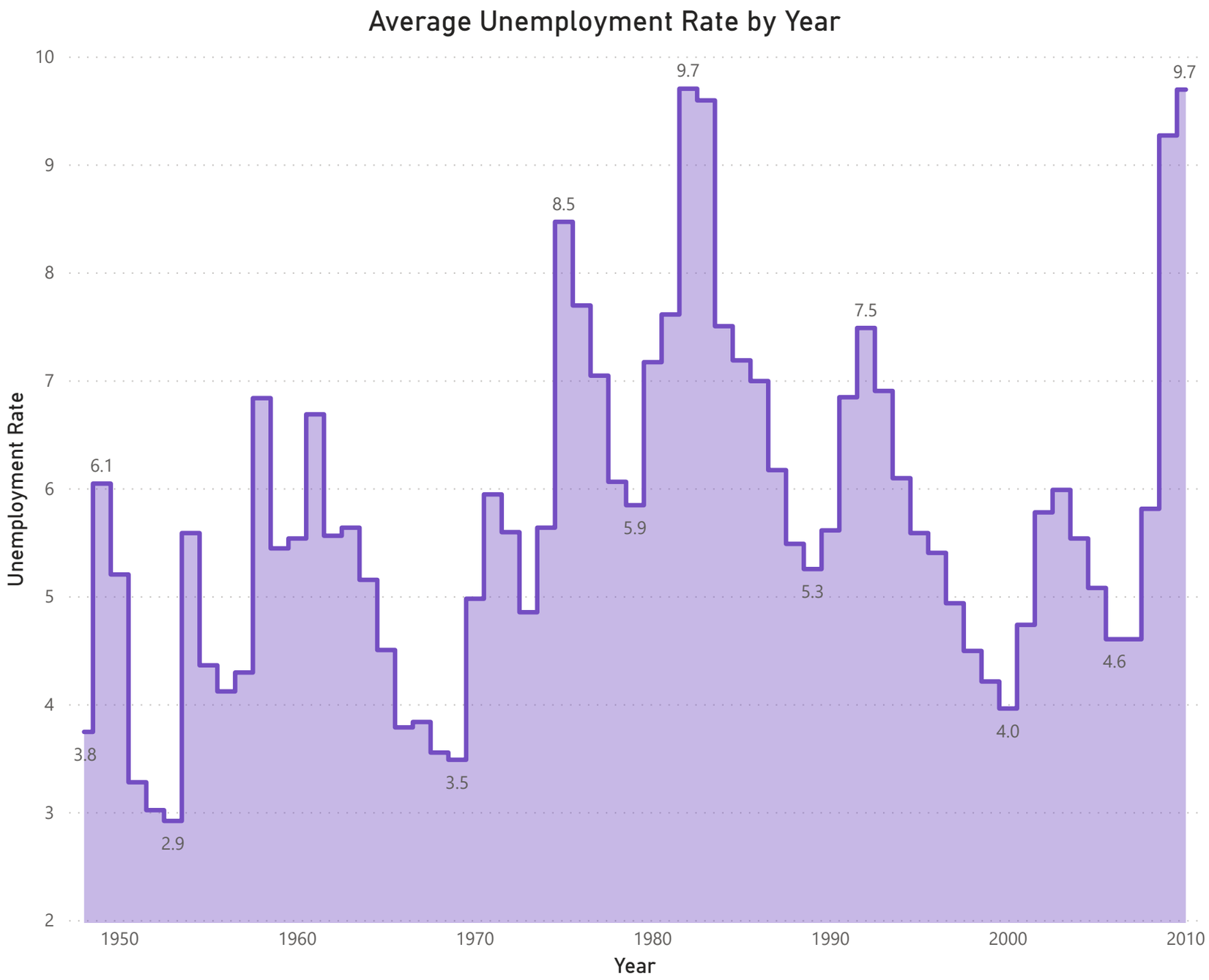
Area Chart


Average Unemployment Rate by Year
Unemployment Rate
Year
10
9
8
7
6
5
4
3
2
1950
1960
1970
1980
1990
2000
2010
3.8
6.1
2.9
5.6
6.9
5.6
5.6
3.8
3.5
6.0
8.5
5.9
9.7
9.7
7.5
5.3
4.0
4.6
9.7

Stacked Area Chart



Step Chart


Average Unemployment Rate by Year
Unemployment Rate
Year
10
9
8
7
6
5
4
3
2
1950
1960
1970
1980
1990
2000
2010
3.8
6.1
2.9
3.5
8.5
5.9
9.7
5.3
7.5
4.0
4.6
9.7

2.2 Charts - R Visuals

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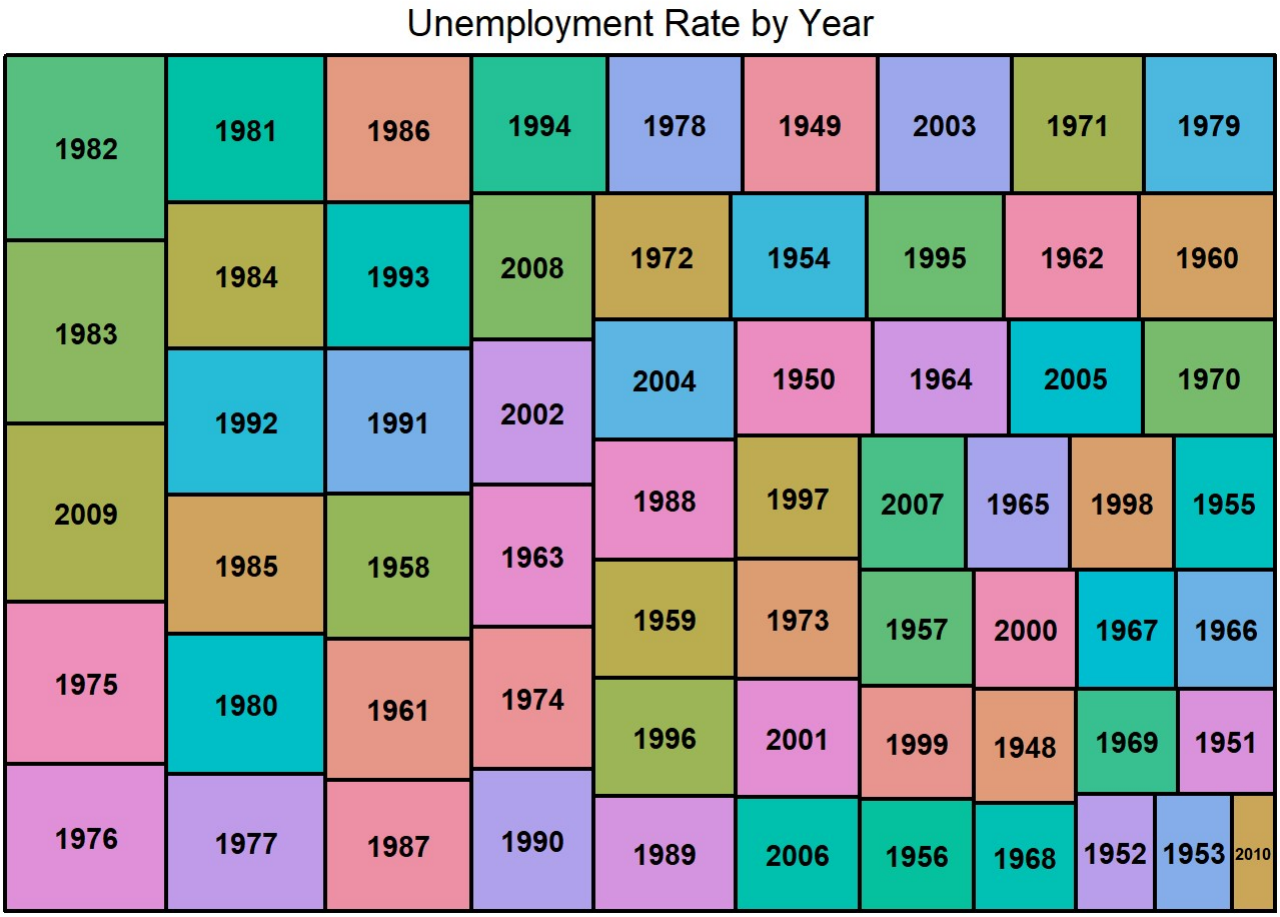
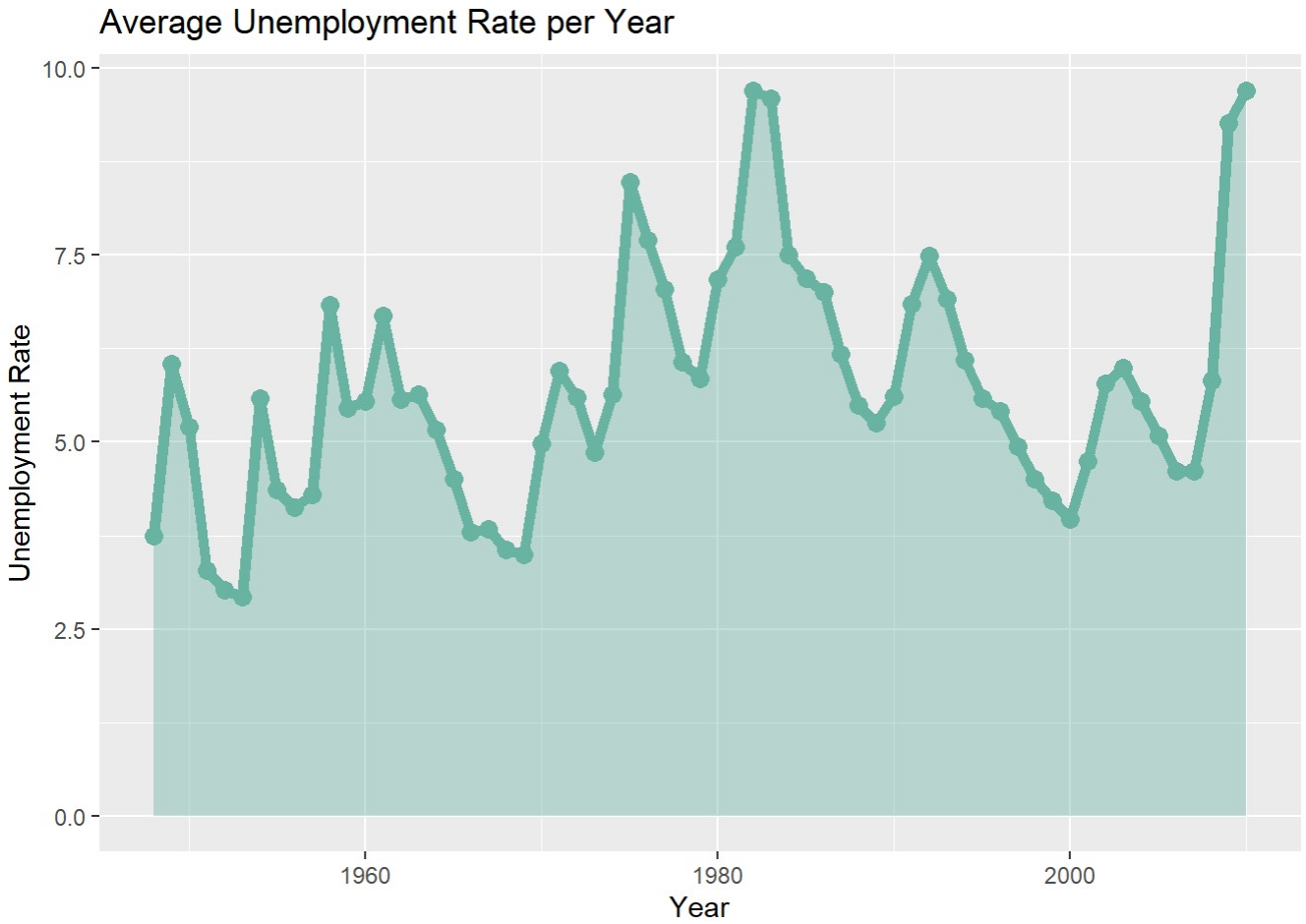
6/21/2020

R Visuals

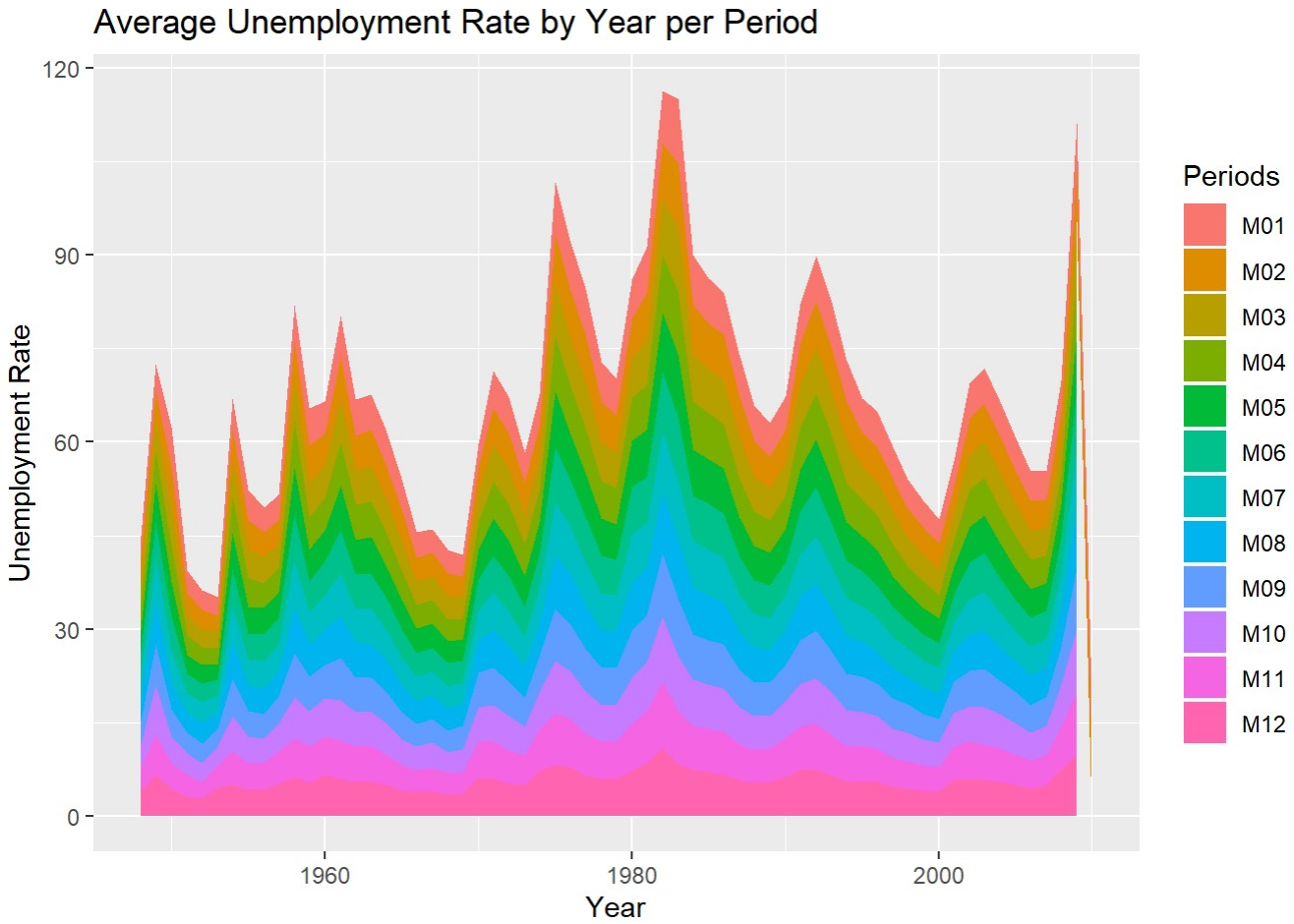
Tree Map



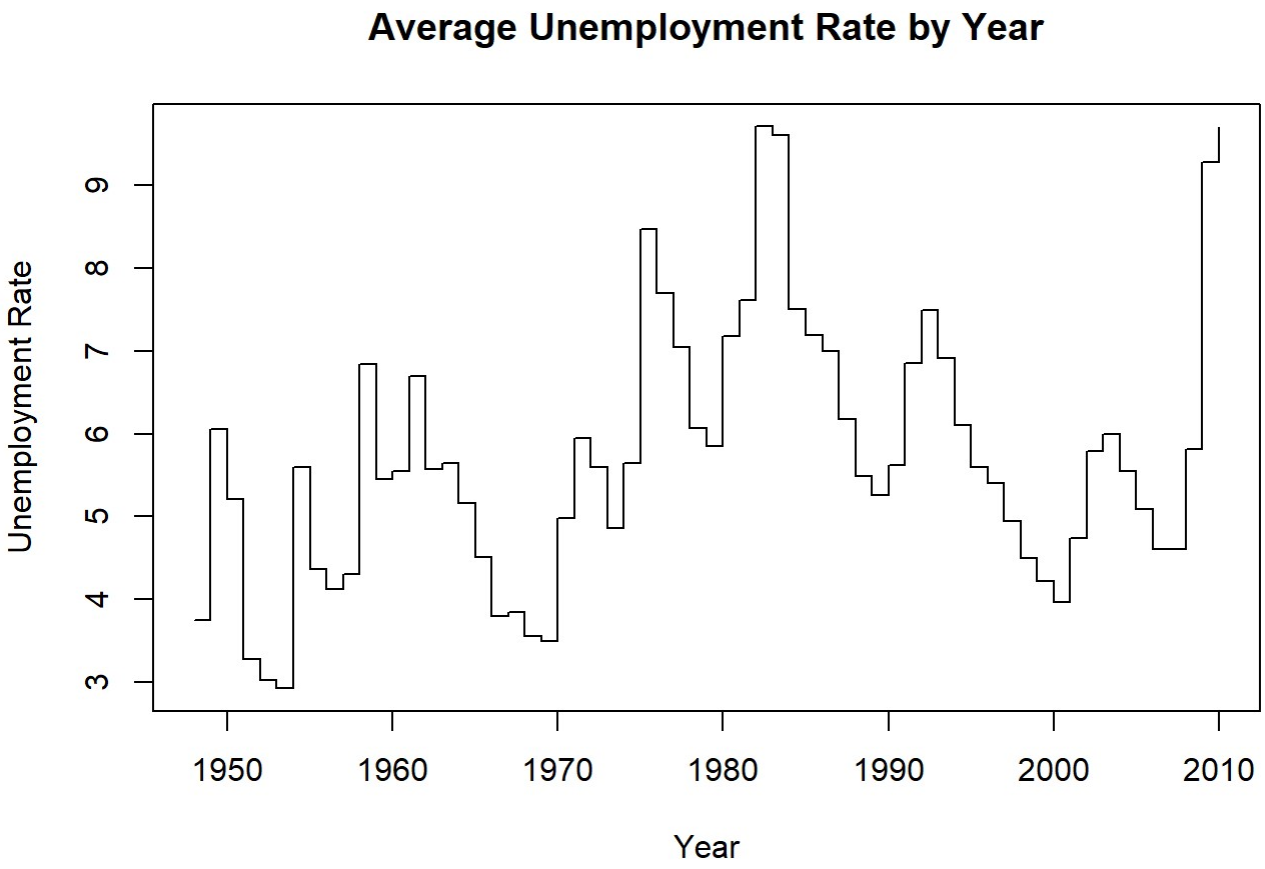
Area Chart



Stacked Area Chart


Average Unemployment Rate by Year per Period
Unemployment Rate
120
90
60
30
0
1960
1980
2000
Year
Periods
M01
M02
M03
M04
M05
M06
M07
M08
M09
M10
M11
M12

Step Chart


Average Unemployment Rate by Year
Unemployment Rate
3
4
5
6
7
8
9
1950
1960
1970
1980
1990
2000
2010
Year

In [1]:
```
# Python Visuals
```

In [1]:
```
# Import libraries
import pandas as pd
import matplotlib.pyplot as plt
import squarify
import numpy as np
```

In [2]:
```
# Import Data
unemployment_df = pd.read_csv('unemployement-rate-1948-2010.csv')
unemployment_df.head()
```

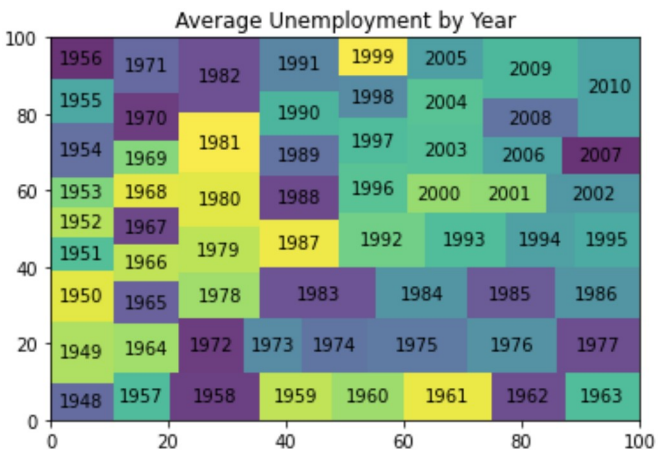
Out[2]:

	Series id	Year	Period	Value
0	LNS14000000	1948	M01	3.4
1	LNS14000000	1948	M02	3.8
2	LNS14000000	1948	M03	4.0
3	LNS14000000	1948	M04	3.9
4	LNS14000000	1948	M05	3.5

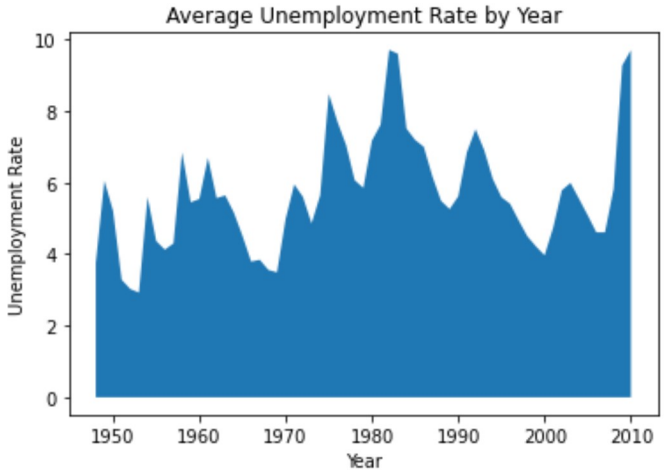
In [3]:
```
unemployment_year_avg = unemployment_df.groupby('Year').mean()
unemployment_year_avg['Year'] = range(1948, 2011)

unemployment_period_avg = unemployment_df.groupby('Period').mean()
unemployment_period_avg['Year'] = unemployment_period_avg['Year'].apply(np.ceil)
unemployment_period_avg.insert(1, "Period", ["M01", "M02","M03","M04","M05","M06","M07","M08","M09","M10","M11","M12"])
```

In [4]:
```
# Tree Map
squarify.plot(sizes=unemployment_year_avg['Value'], label=unemployment_year_avg['Year'], alpha=0.8)
plt.title('Average Unemployment by Year')
plt.show()
```

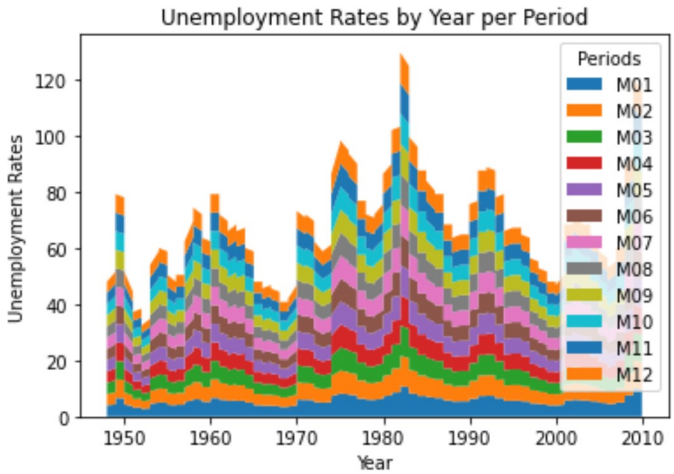


In [5]:
```
# Area Chart
plt.fill_between(unemployment_year_avg['Year'], unemployment_year_avg['Value'])
plt.xlabel('Year')
plt.ylabel('Unemployment Rate')
plt.title('Average Unemployment Rate by Year')
plt.show()
```



In [6]:
```
# Stacked Area Chart
plt.stackplot(unemployment_df['Year'], unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'],unemployment_df['Value'], labels=unemployment_df['Period'])
plt.title('Unemployment Rates by Year per Period')
plt.xlabel('Year')
plt.ylabel('Unemployment Rates')
plt.legend(title='Periods')
```

Out[6]:
```
<matplotlib.legend.Legend at 0x18f86806a08>
```



In [7]:
```
# Step Chart
plt.step(unemployment_year_avg['Year'], unemployment_year_avg['Value'])
plt.xlabel('Year')
plt.ylabel('Unemployment Rate')
plt.title('Average Unemployment Rate by Year')
plt.plot()
plt.show()
```