# Economic Analysis Project

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ENTER

# ECONOMIC DATA ANALYSIS using Python

- FRED: Federal Reserve Economic Data
- Publicly available online database
- Data Scraping using API key

In [3]:
```python
# Import API key from other notebook
def load_secrets(notebook_path):
    with open(notebook_path, "r", encoding="utf-8") as f:
        notebook = nbformat.read(f, as_version=4)
        global_vars = {}
        for cell in notebook['cells']:
            if cell['cell_type'] == 'code':
                try:
                    exec(cell['source'], global_vars)
                except Exception as e:
                    print(f"Error executing cell: {e}")
        return global_vars

# Load the secrets notebook
secrets = load_secrets("secrets.ipynb")

# Access the API key
fred_key = secrets.get("MyFREDAPI")
```

# Data Search and Basic Plotting

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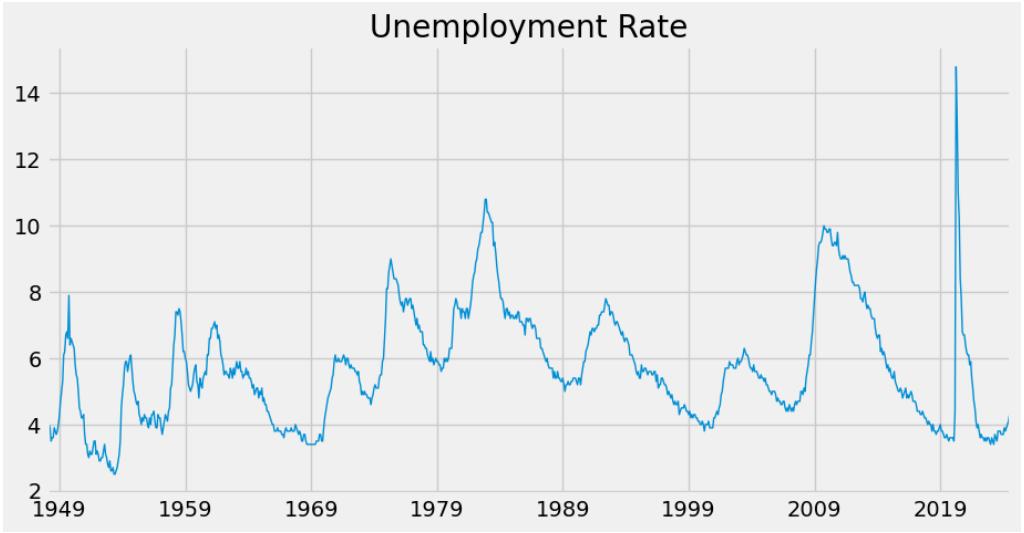
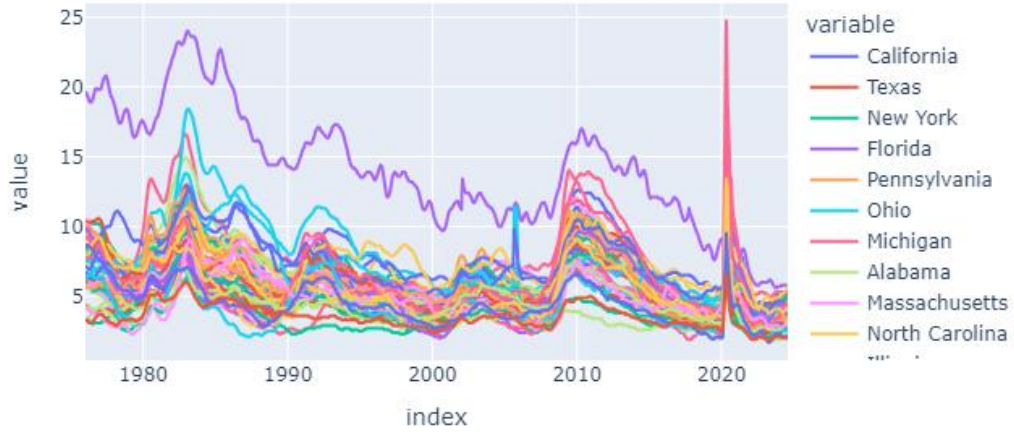
[43]:
```
unrate_search = fred.search('Unemployment', order_by = 'popularity')
unrate = fred.get_series(series_id = 'UNRATE')
unrate.plot(figsize=(10,5),title = 'Unemployment Rate',lw=1)
```



# Unemployment % by States

```
uemp_states = uemp_results.copy()  #.drop('UNRATE', axis=1)
uemp_states = uemp_states.dropna()
id_to_state = unemp_df['title'].str.replace('Unemployment Rate in ','').to_dict()
uemp_states.columns = [id_to_state[c] for c in uemp_states.columns]
```

```
px.line(uemp_states)
```



# Unemployment rate in May 2020

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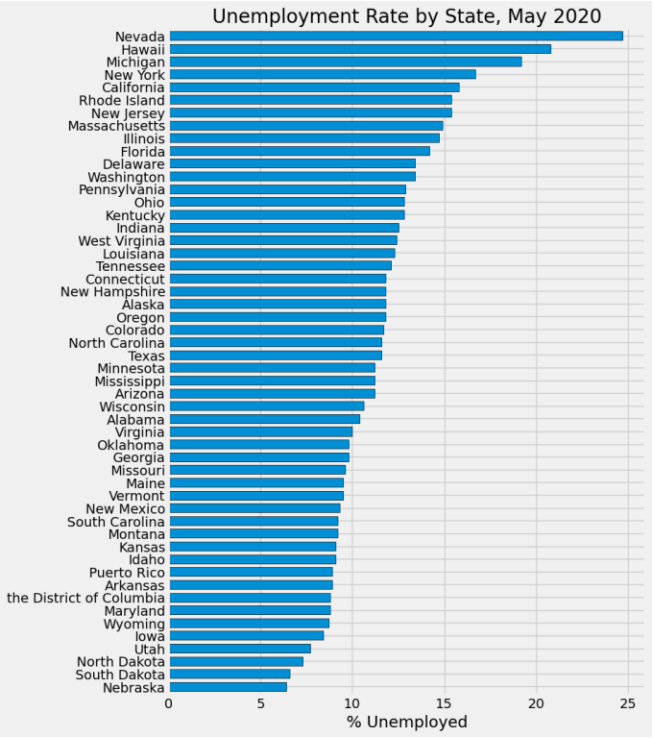
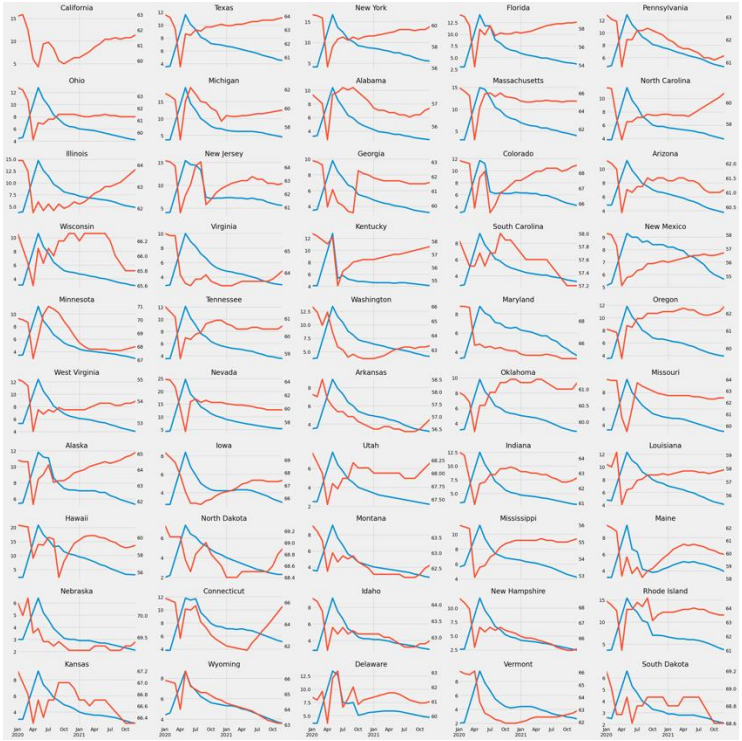
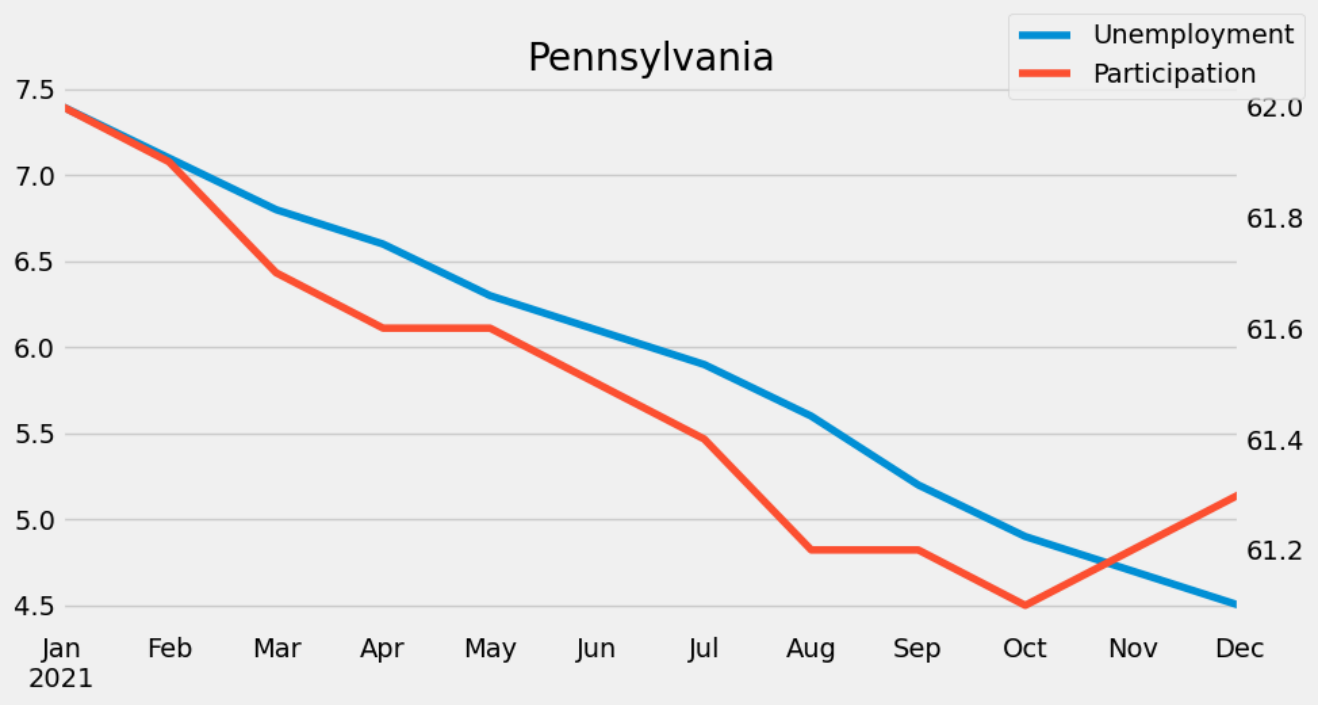
```
ax = uemp_states.loc[uemp_states.index == '2020-05-01'].T \
    .sort_values('2020-05-01') \
    .plot(kind='barh', figsize=(8, 12), width=0.7, edgecolor='black',
          title='Unemployment Rate by State, May 2020')
ax.legend().remove()
ax.set_xlabel('% Unemployed')
plt.show()
```



# Unem % and LFPR by States



# Unemployment% vs LFPR in PA



# Implications for Stakeholders

- **Policymakers** could use this data to identify regions that require more job-creation programs to decrease unemployment rate.
- **Economists** and **business owners** can also use this data to forecast economic-growth.
- **Job seekers** could also benefit from understanding unemployment trends, allowing them to make more informed decision

# Potential Societal Implications

- Unemployment rate often affects **Economic Inequality, Social Well-being**, and **Public Policy**.
- This project can help informing **policy decisions** and **raising awareness** using data-driven approaches.

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# Thank you!

Questions?