**Outcome Variable Data Source**

Bureau of Labor Statistics: <https://data.bls.gov/dataViewer/view/timeseries/LNS14000000>

FRED’s U3: <https://fred.stlouisfed.org/series/UNRATE>

**Interim Data Sources and Meta Data**

| Source | Date range | Frequency | # Rows | # Cols |
| --- | --- | --- | --- | --- |
| [CPI](https://fred.stlouisfed.org/series/CPIAUCSL) | 1948-01 to 2024-09 | Monthly | 933 | 1 |
| [EFFR](https://fred.stlouisfed.org/series/EFFR) | 2000-07-03 to 2024-11-09 | Daily | 1828 | 1 |
| [IMPGS](https://fred.stlouisfed.org/series/IMPGS) | 1948 Q1 to 2024 Q3 | Quarterly | 233 | 1 |
| [EXPGS](https://fred.stlouisfed.org/series/EXPGS) | 1948 Q1 to 2024 Q3 | Quarterly | 233 | 1 |
| [GDI](https://fred.stlouisfed.org/series/GDI) | 1948 Q1 to 2024 Q3 | Quarterly | 233 | 1 |
| [GDP](https://fred.stlouisfed.org/series/GDP) | 1948 Q1 to 2024 Q3 | Quarterly | 233 | 1 |
| [WAPT](https://fred.stlouisfed.org/series/LFWA64TTUSM647S) | 1977-01 to 2024-09 | Monthly | 572 | 1 |
| [CPI\_Rent](https://fred.stlouisfed.org/series/CUSR0000SEHA) | 1981-01 to 2024-09 | Monthly | 524 | 1 |
| [Annual Inflation](https://fred.stlouisfed.org/series/FPCPITOTLZGUSA) | 1960-01-01 | Yearly | 64 | 1 |
| [Gas Price](https://fred.stlouisfed.org/series/GASREGW) | 1990-08-20 | Weekly | 1786 | 1 |
| [Disposable Personal Income](https://fred.stlouisfed.org/series/DSPI) | 1959-01-01 to 2024-09 | Monthly | 788 | 1 |

**Chronological Periods**

1948 (post-recession) - present

**Prediction strategies**

Treat all data as time series data and aim to predict the total unemployment rate at t1 using data before t1. E.g. Use all data before and including November 2024 to predict December 2024’s U3 unemployment rate. We’ll combine relevant datasets, imputing/calculating values as necessary, for modeling. We will try different statistical models to find the best one (in terms of prediction accuracy).

# 

# **(originals below)**

# **Outcome Variable Data Source**

Bureau of Labor Statistics: <https://data.bls.gov/dataViewer/view/timeseries/LNS14000000>

FRED’s U3: <https://fred.stlouisfed.org/series/UNRATE>

# **Meta Data**

| **source** | DatsRange | frequency |
| --- | --- | --- |
| **Civilian Labor Force Level** | 1948 Q1 to 2024 Q3 | Monthly |
| **Labor Force Participation Rate** | 1948 Q1 to 2024 Q3 | Monthly |
| **Employment Level** | 1948 Q1 to 2024 Q3 | Monthly |
| **Employment-Population Ratio** | 1948 Q1 to 2024 Q3 | Monthly |
| **Employed, Usually Work Full Time** | 1968 Q1 to 2024 Q3 | Monthly |
| **Employed, Usually Work Part Time** | 1968 Q1 to 2024 Q3 | Monthly |
| **Unemployment Level** | 1948 Q1 to 2024 Q3 | Monthly |
| **Unemployment Rate** | 1948 Q1 to 2024 Q3 | Monthly |
| **Average Weeks Unemployed** | 1967 Q1 to 2024 Q3 | Monthly |
| **Not in Labor Force** | 1967 Q1 to 2024 Q3 | Monthly |
| **Total unemployed** | 1948 Q1 to 2024 Q3 | Monthly |
| **Multiple Jobholders** | 1967 Q1 to 2024 Q3 | Monthly |
| **Multiple Jobholders as a Percent of Employed** | 1979 Q1 to 2024 Q3 | Monthly |

| Source | Date range | Frequency |
| --- | --- | --- |
| [CPI](https://fred.stlouisfed.org/series/CPIAUCSL) | 1948-01 to 2024-09 | Monthly |
| [EFFR](https://fred.stlouisfed.org/series/EFFR) | 2000-07-03 to 2024-11-09 | Daily |
| [IMPGS](https://fred.stlouisfed.org/series/IMPGS) | 1948 Q1 to 2024 Q3 | Quarterly |
| [EXPGS](https://fred.stlouisfed.org/series/EXPGS) | 1948 Q1 to 2024 Q3 | Quarterly |
| [GDI](https://fred.stlouisfed.org/series/GDI) | 1948 Q1 to 2024 Q3 | Quarterly |
| [GDP](https://fred.stlouisfed.org/series/GDP) | 1948 Q1 to 2024 Q3 | Quarterly |
| [WAPT](https://fred.stlouisfed.org/series/LFWA64TTUSM647S) | 1977-01 to 2024-09 | Monthly |
| [CPI\_Rent](https://fred.stlouisfed.org/series/CUSR0000SEHA) | 1981-01 to 2024-09 | Monthly |
| [Annual Inflation](https://fred.stlouisfed.org/series/FPCPITOTLZGUSA) | 1960-01-01 | Yearly |
| [Gas Price](https://fred.stlouisfed.org/series/GASREGW) | 1990-08-20 | Weekly |
| [Disposable Personal Income](https://fred.stlouisfed.org/series/DSPI) | 1959-01-01 to 2024-09 | Monthly |

# **Chronological Periods**

1948 (post-recession) - present

# **Data Sources for Feature Variables**

From US Bureau of Labor Statistics:

* [Possible data sets](https://data.bls.gov/toppicks?survey=ln) that include employment-related metrics

From FRED

* [Consumer Price Index](https://fred.stlouisfed.org/series/CPIAUCSL) **(CPI)**
* [Effective Federal Funds rate (interest rate)](https://fred.stlouisfed.org/series/EFFR) **(EFFR)**
* [Total Value of Imported Goods and Services](https://fred.stlouisfed.org/series/IMPGS) **(IMPGS)**
* [Total Value of Exported Goods and Services](https://fred.stlouisfed.org/series/EXPGS) **(EXPGS)**
* [Gross Domestic Income](https://fred.stlouisfed.org/series/GDI) **(GDI)**
* [Gross Domestic Product](https://fred.stlouisfed.org/series/GDP) **(GDP)**
* [Infra-Annual Labor Statistics: Working-Age Population Total: From 15 to 64 Years for United States](https://fred.stlouisfed.org/series/LFWA64TTUSM647S) **(WAPT)**
* [Consumer Price Index for All Urban Consumers: Rent of Primary Residence in U.S. City Average](https://fred.stlouisfed.org/series/CUSR0000SEHA) **(CPI\_Rent)**
* [Annual Inflation](https://fred.stlouisfed.org/series/FPCPITOTLZGUSA) (FRED)
  + [Inflation - Economic Data Series | FRED | St. Louis Fed](https://fred.stlouisfed.org/tags/series?t=inflation) (other options)
  + <https://fred.stlouisfed.org/series/T5YIFR>
* [US Regular All Formulations Gas Price](https://fred.stlouisfed.org/series/GASREGW) **(GASREGW)**
* [Personal Savings](https://fred.stlouisfed.org/series/A071RC1A027NBEA)(not really usable because stopped updating in 2023)
* [Disposable Personal Income](https://fred.stlouisfed.org/series/DSPI)(DPSI)

From other sources:

* [US dollar value](https://tradingeconomics.com/united-states/currency)
* [S&P 500](https://fred.stlouisfed.org/series/SP500)(SP500)

# **Prediction strategies**

Treat all data as time series data, and aim to predict the total unemployment rate at t1 using data before t1. E.g. Use all data before and including 2024 Q3 to predict 2024 Q4’s U3 unemployment rate. We’ll combine relevant datasets, imputing/calculating values as necessary, for modeling. We will try different statistical models to find the best one (in terms of prediction accuracy).