

# Preliminary Unemployment Visualizations

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```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr      1.1.3      v readr      2.1.4
## v forcats    1.0.0      v stringr   1.5.0
## v lubridate  1.9.3      v tibble    3.2.1
## v purrr      1.0.2      v tidyr     1.3.0
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
## Linking to GEOS 3.11.0, GDAL 3.5.3, PROJ 9.1.0; sf_use_s2() is TRUE
```

## Map showing unemployment in election years compared to national average

```
# Load spatial data for Ohio counties
ohio_counties <- st_read("tl_2016_39_cousub.shp", options = "SHAPE_RESTORE_SHX=YES")

# Define the election years of interest
election_years <- seq(from = 2020, to = 1992, by = -4)

combinedData <- combinedData %>%
  filter(Year %in% election_years)

national_rates <- combinedData %>%
  filter(County == "National") %>%
  select(Label, rate = Value)

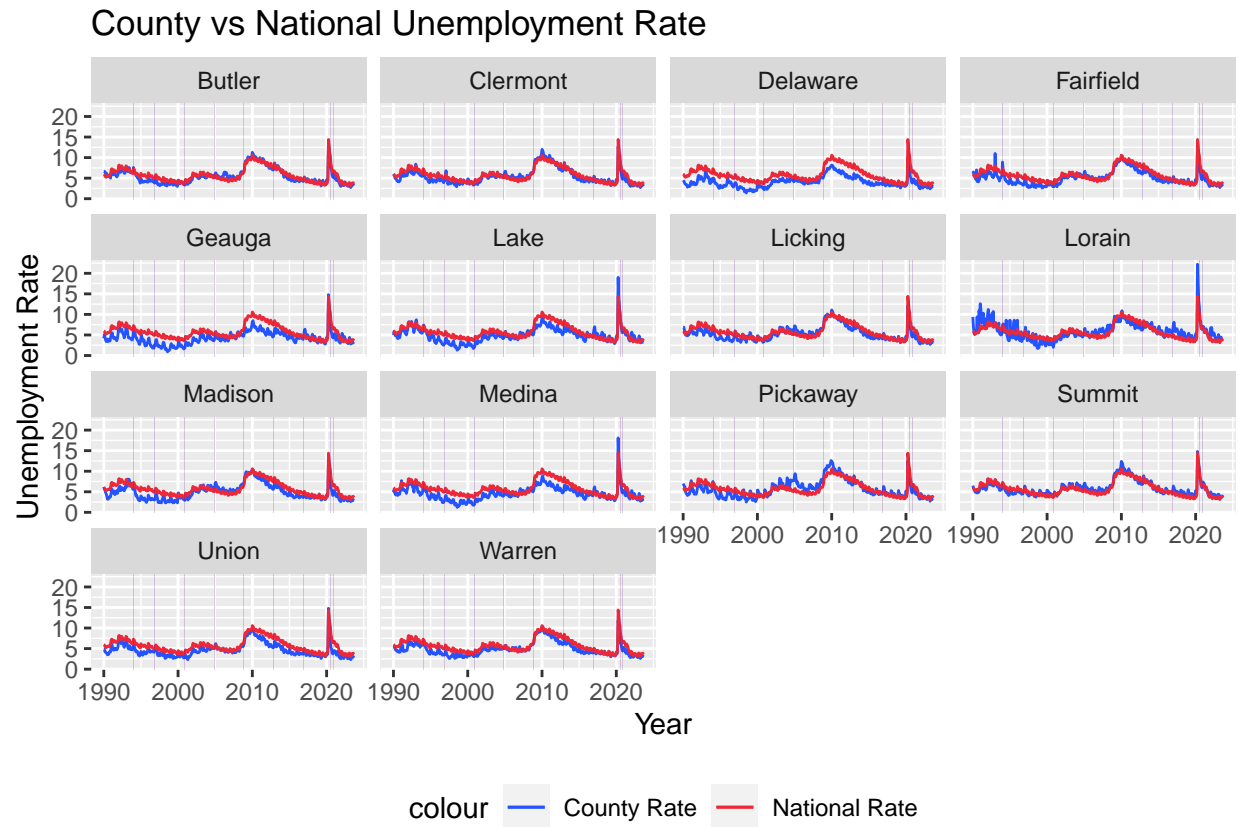
# Now, join this national rate back to the combined data
combinedData <- combinedData %>%
  left_join(national_rates, by = c("Label" = "Label"))

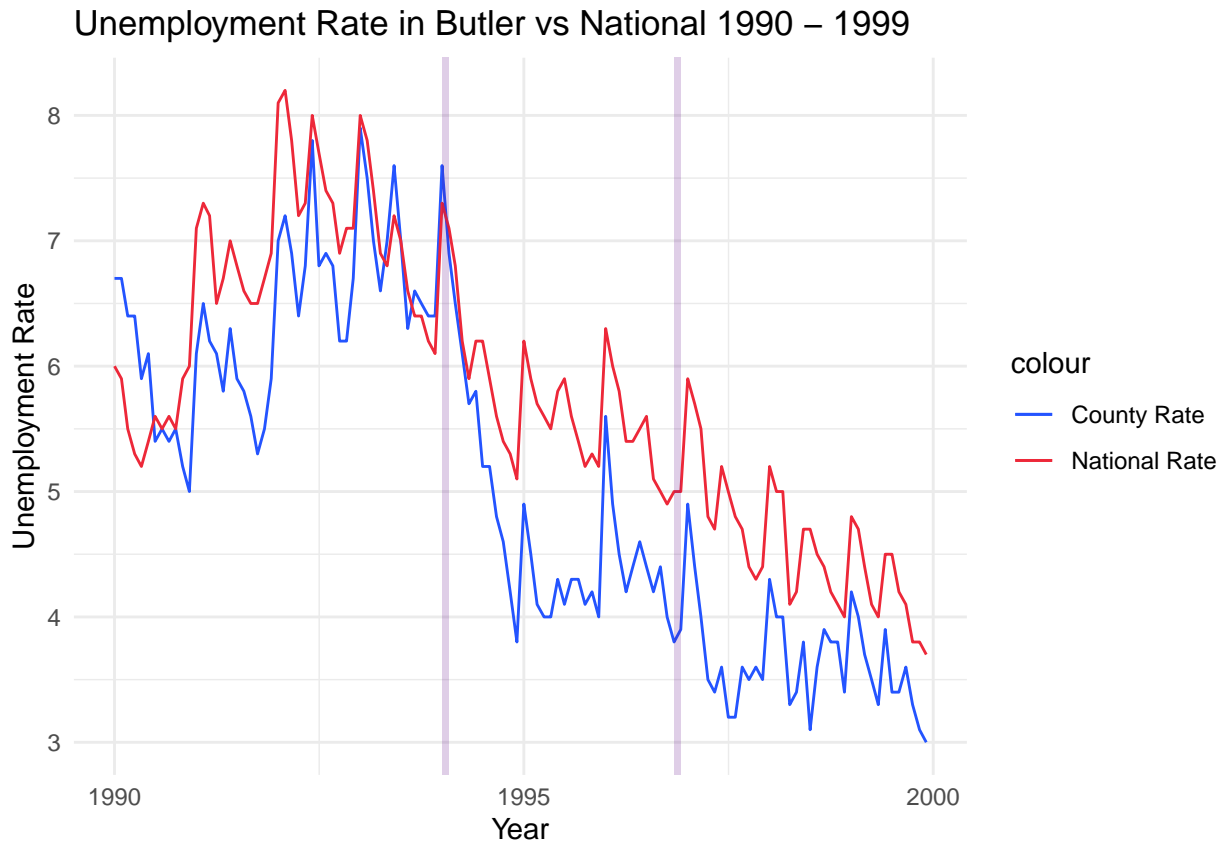
# Subtract the national rate from each county's rate
combinedData <- combinedData %>%
  mutate(relative_unemployment_rate = Value - rate)

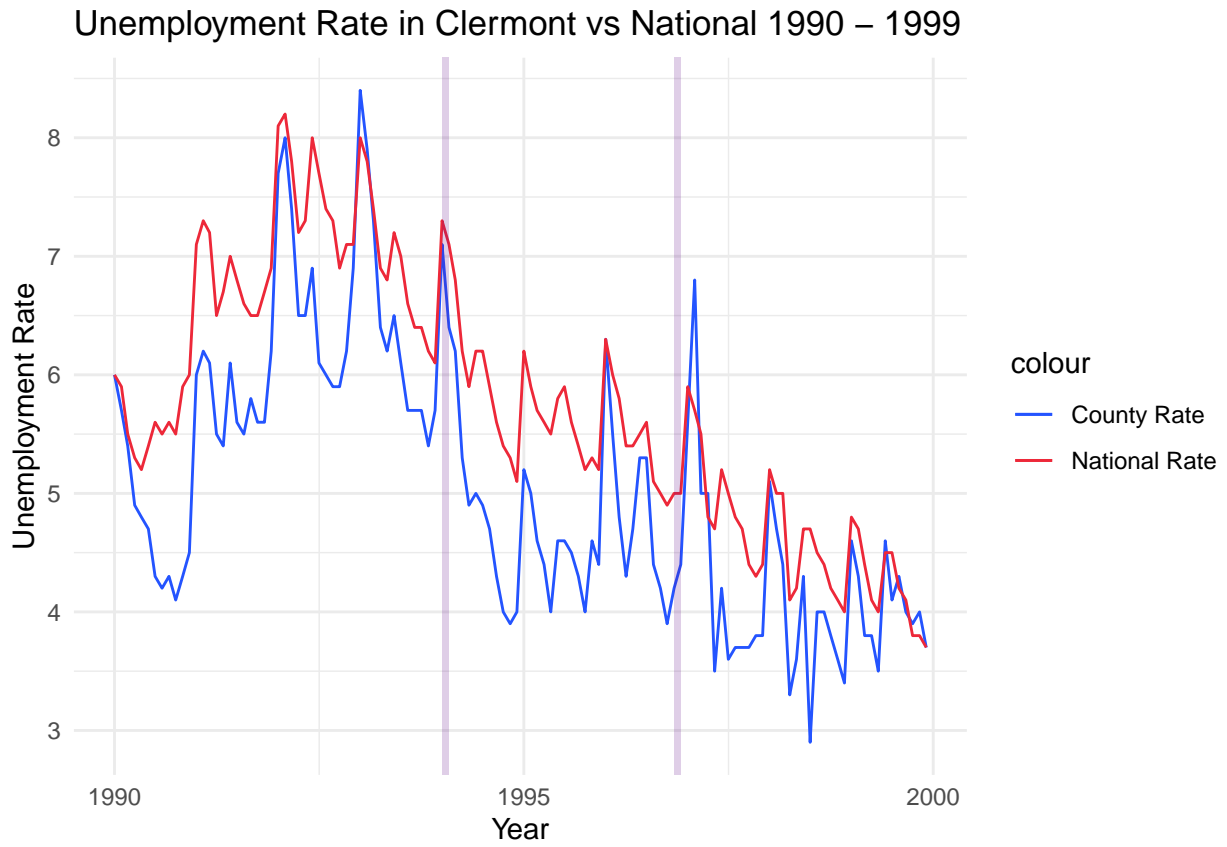
# Remove the national data if you no longer need it for the map
combinedData <- combinedData %>%
  filter(County != "National")

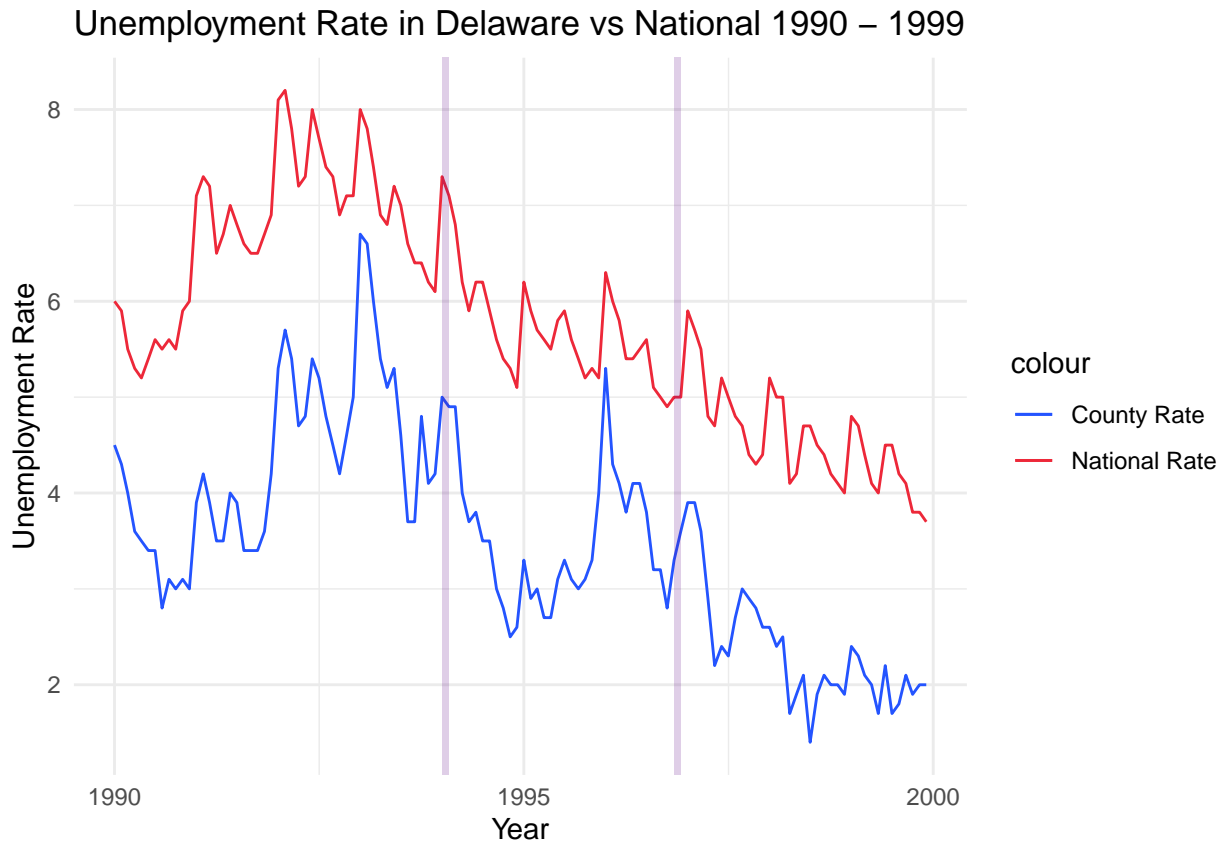
# Merge the spatial data with the filtered unemployment data
ohio_unemployment <- ohio_counties %>%
  left_join(combinedData, by = c("NAME" = "County"))
```

```
# Plot the map with facets for election years
ggplot(data = ohio_unemployment) +
  geom_sf(aes(fill = relative_unemployment_rate, color = relative_unemployment_rate)) +
  facet_wrap(~Year)
  scale_fill_viridis_c(option = "C") +
  labs(fill = "Unemployment Compared to National Average") +
  theme_minimal()
```

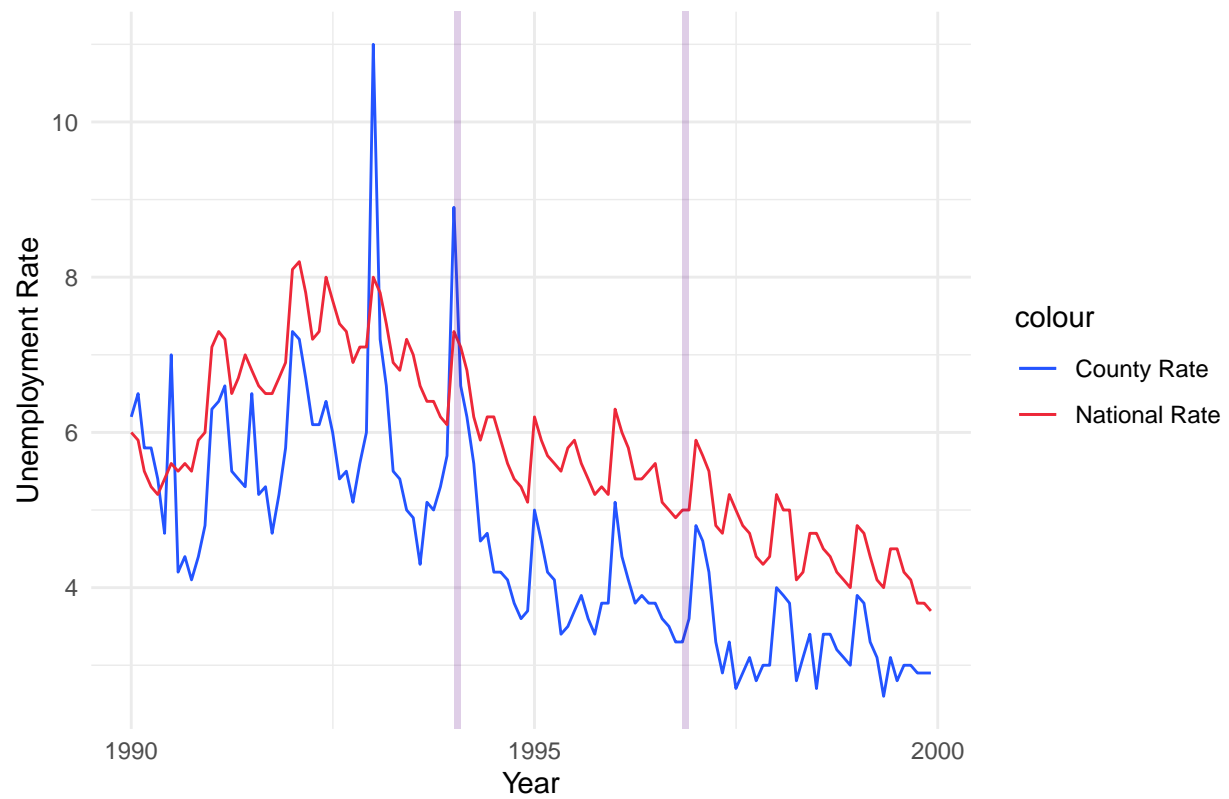


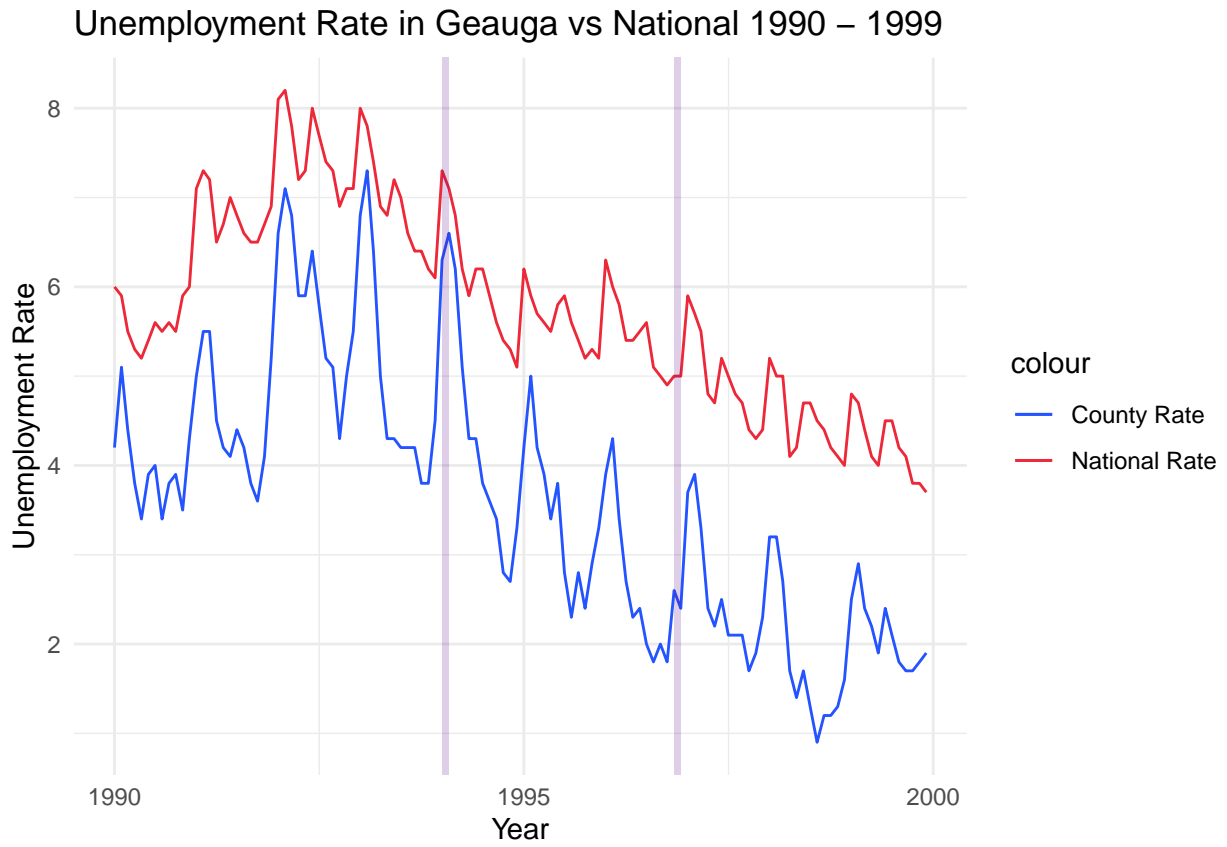




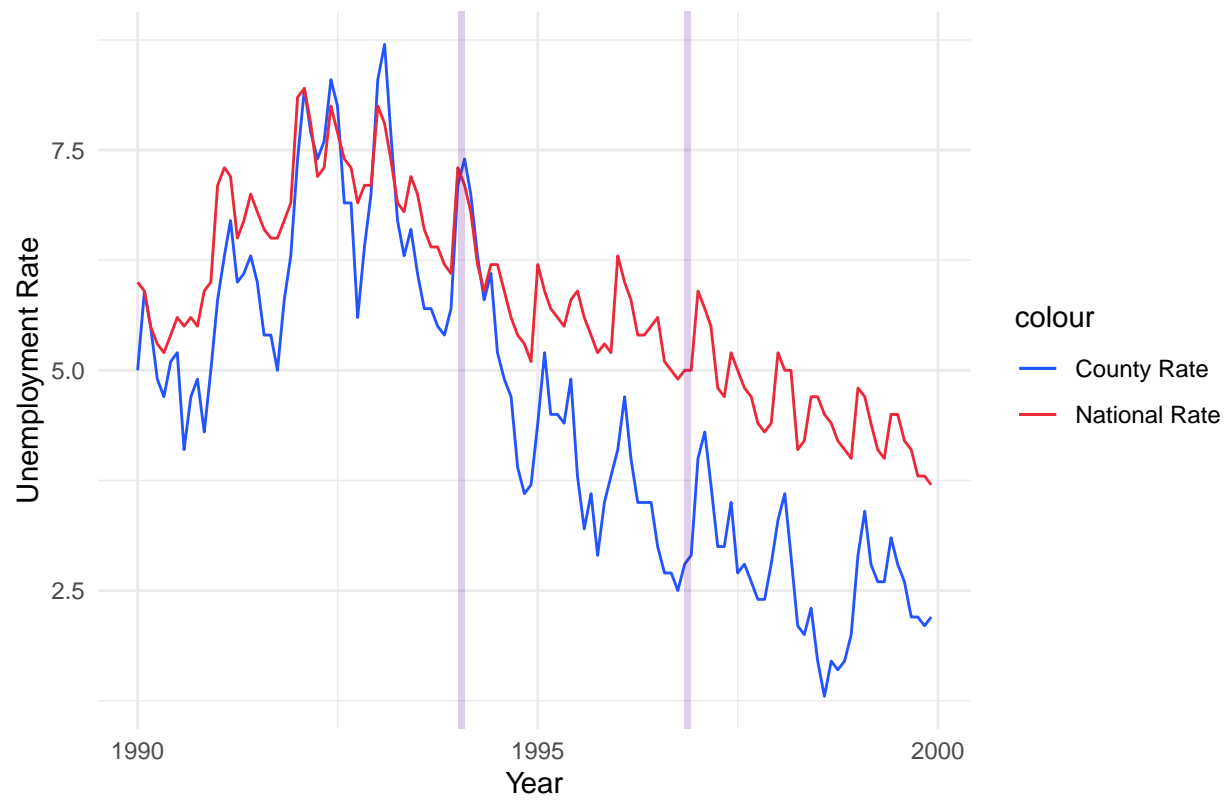


Unemployment Rate in Fairfield vs National 1990 – 1999

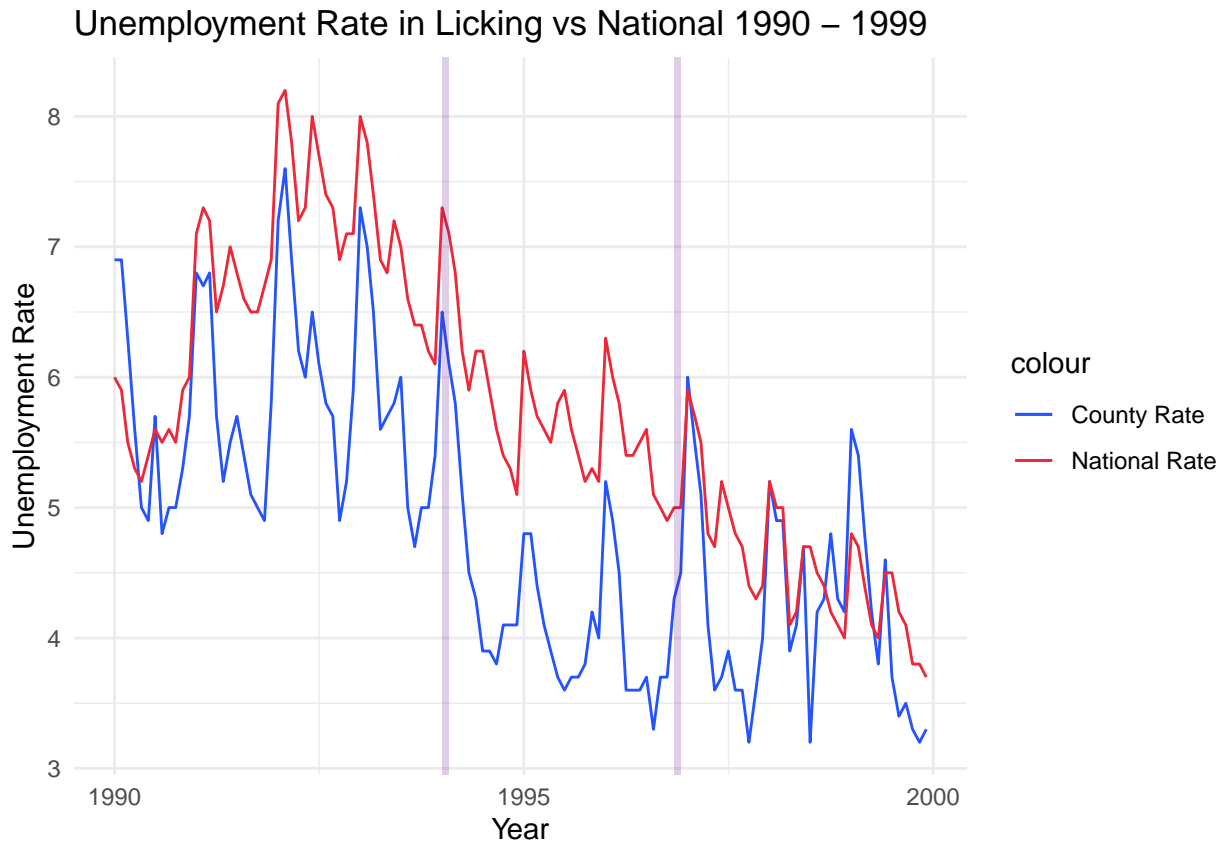


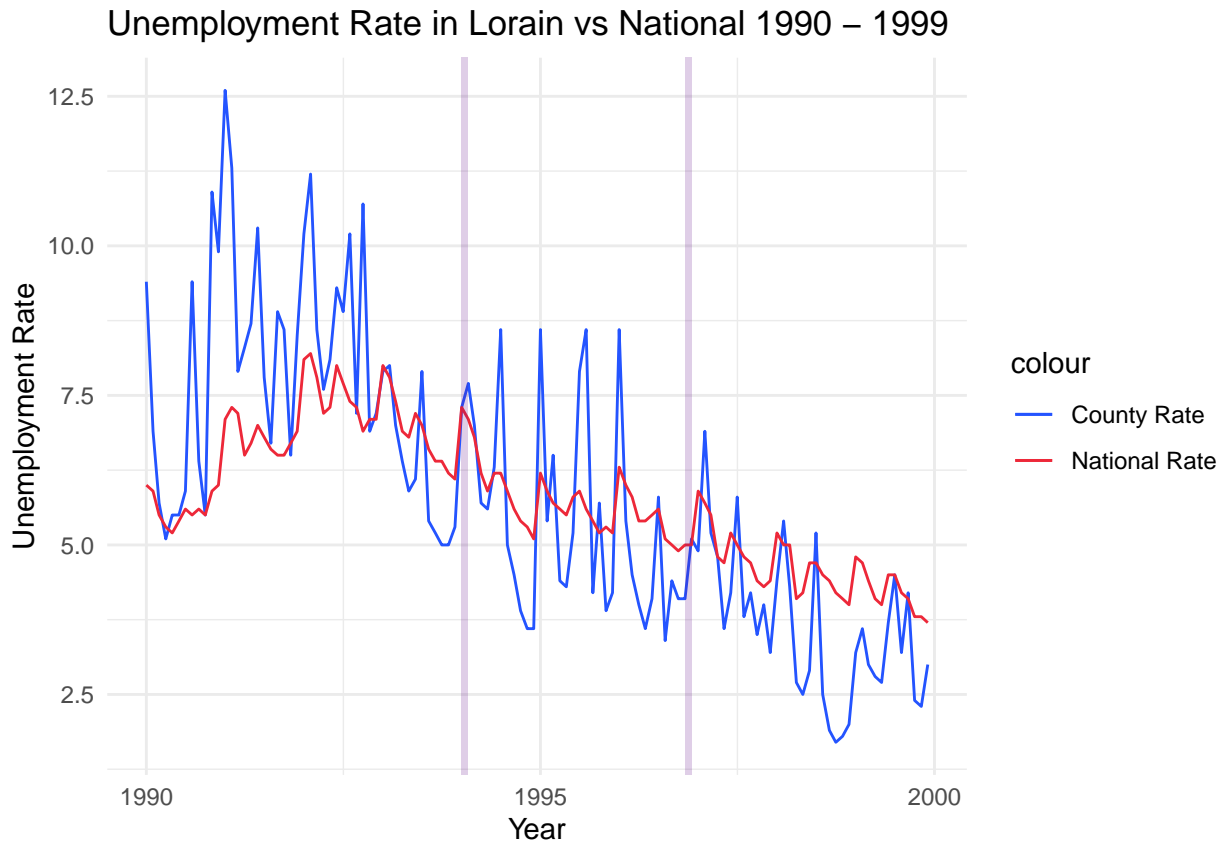


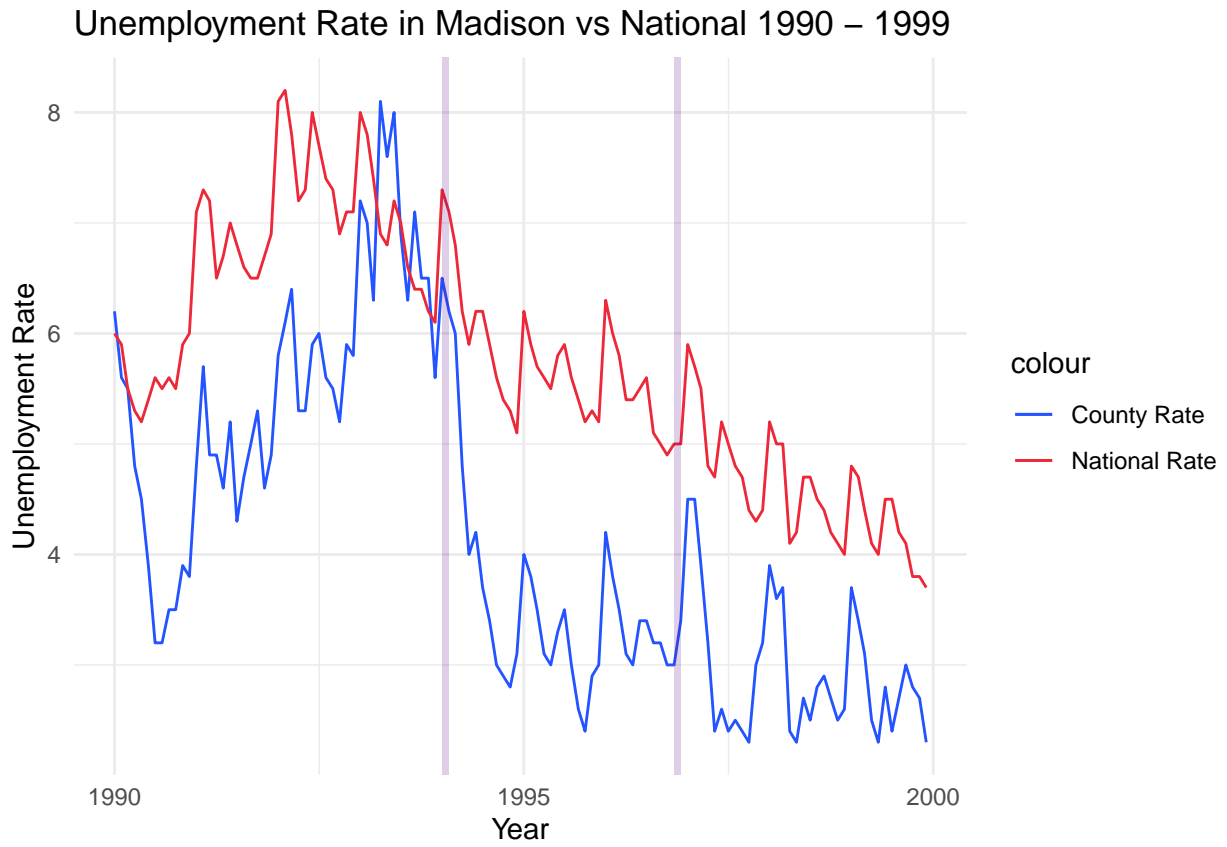
Unemployment Rate in Lake vs National 1990 – 1999

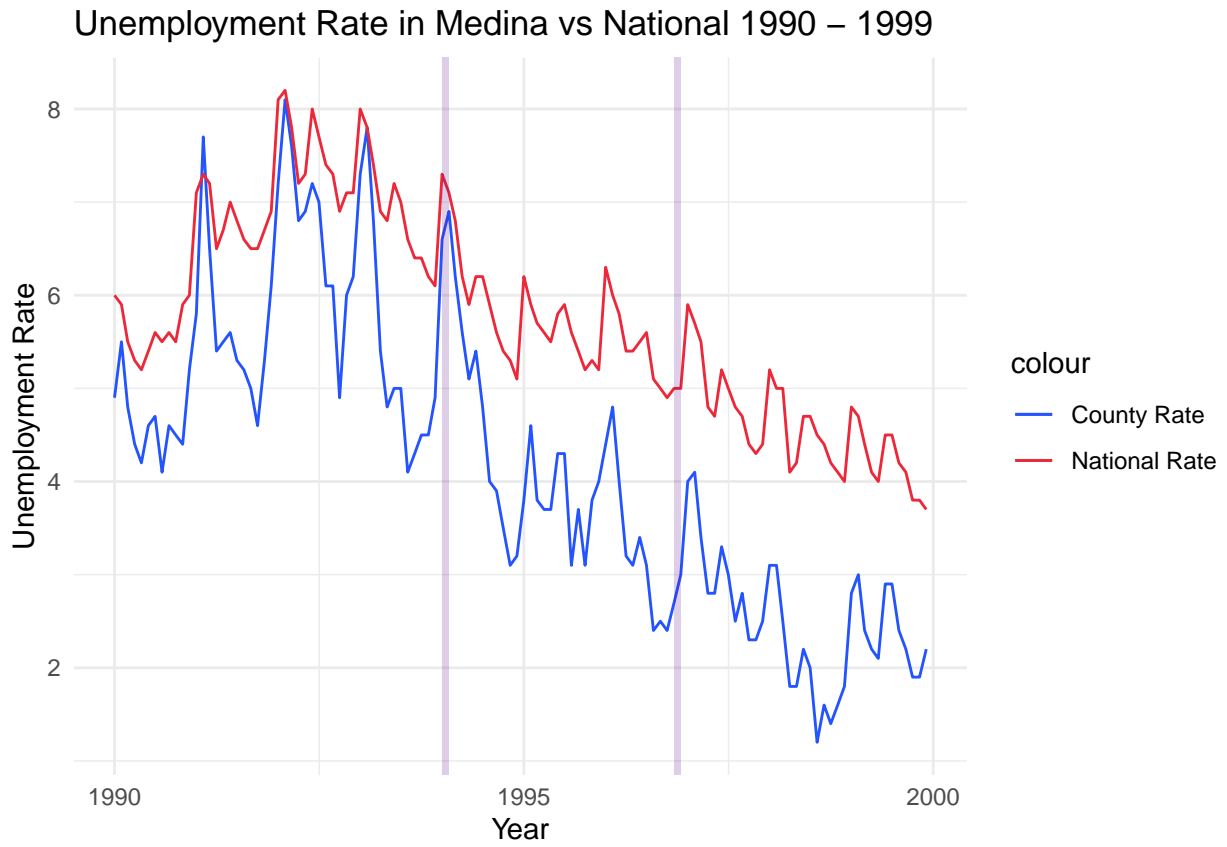


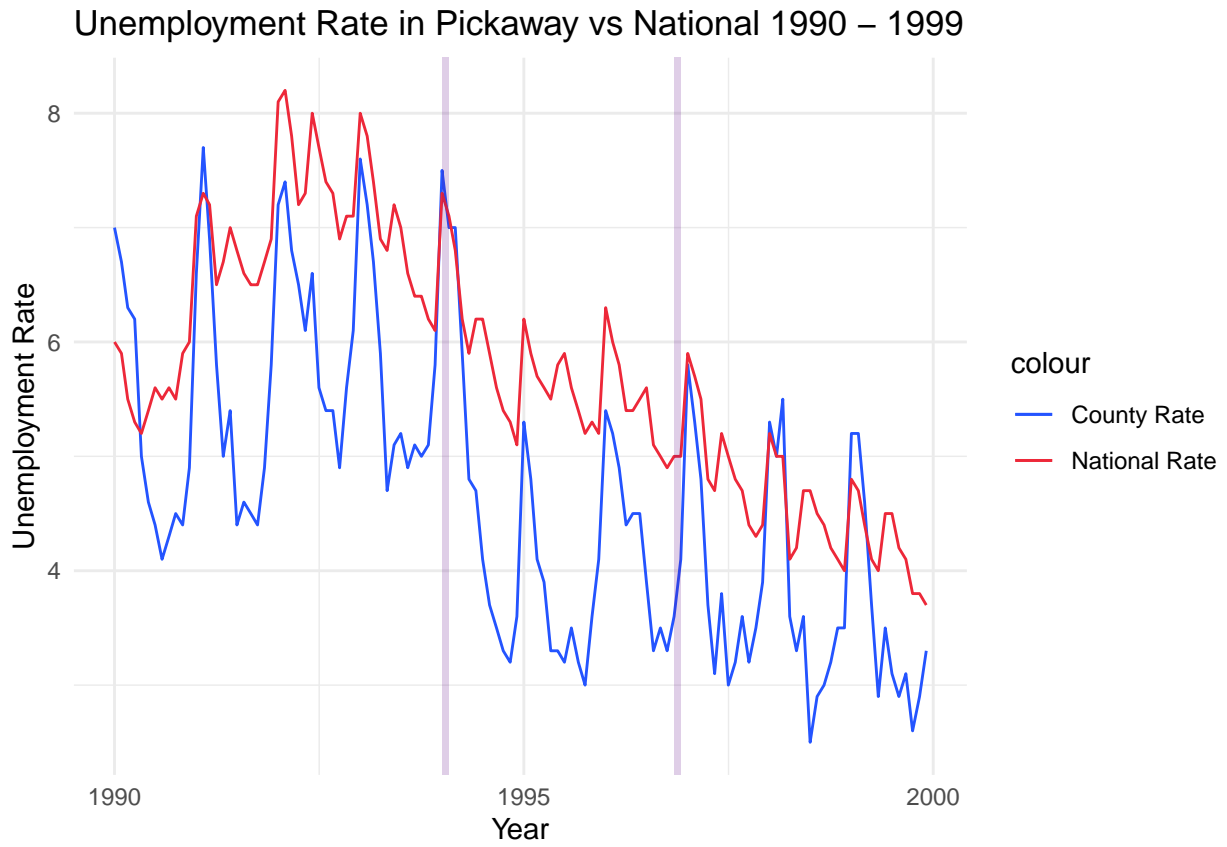


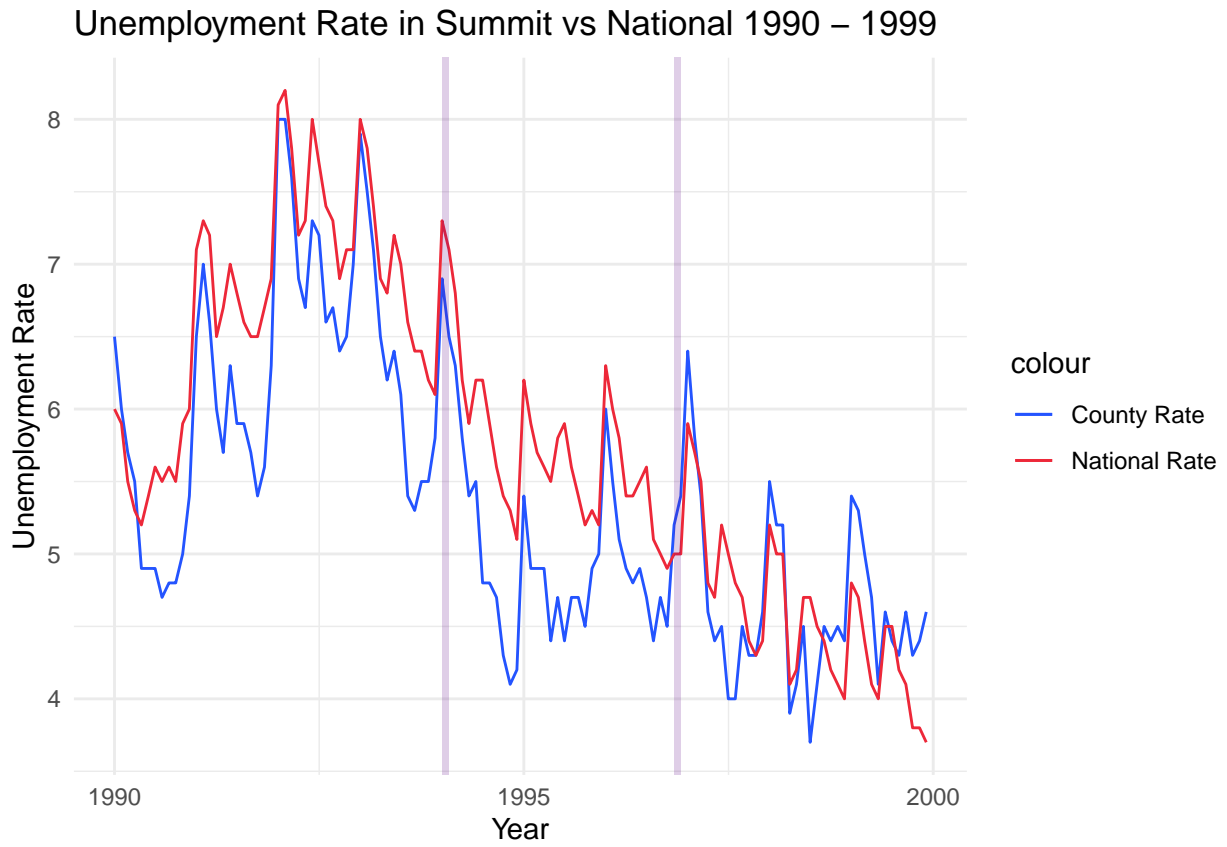


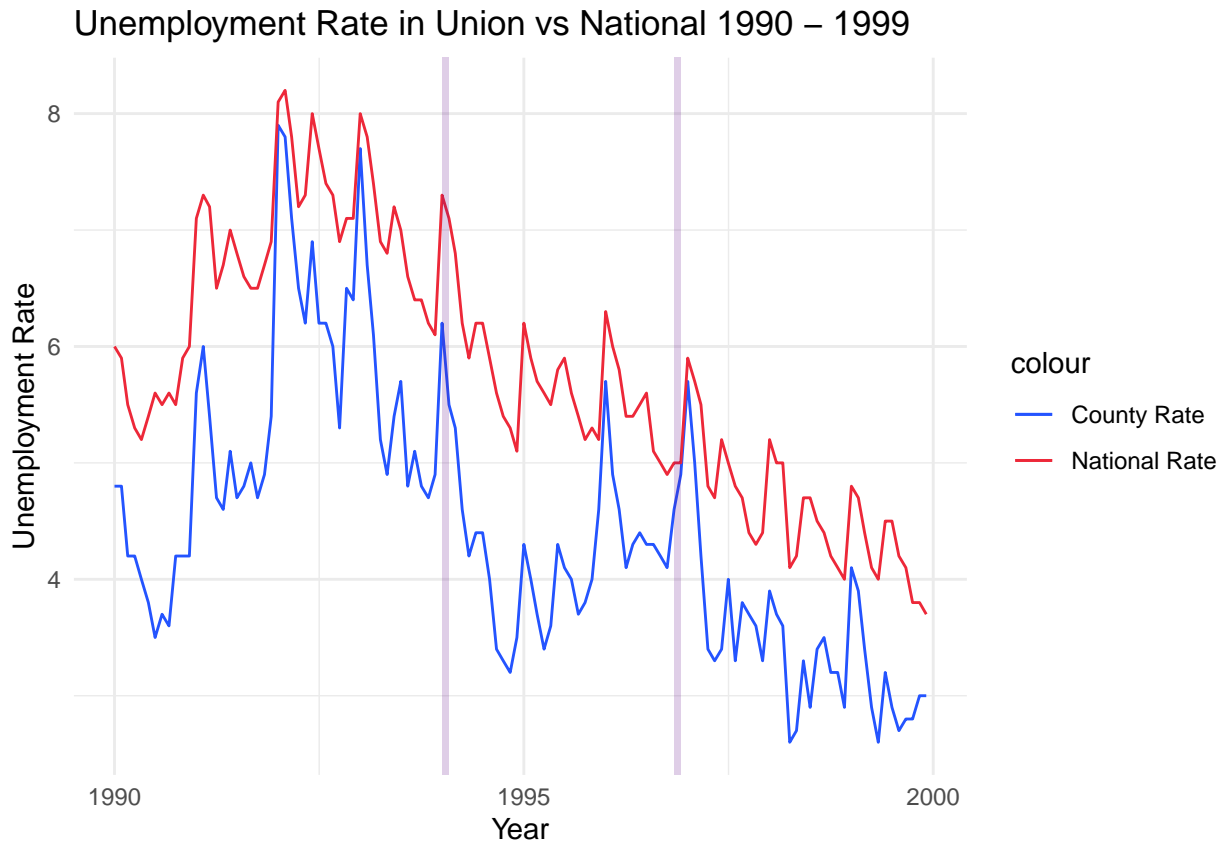


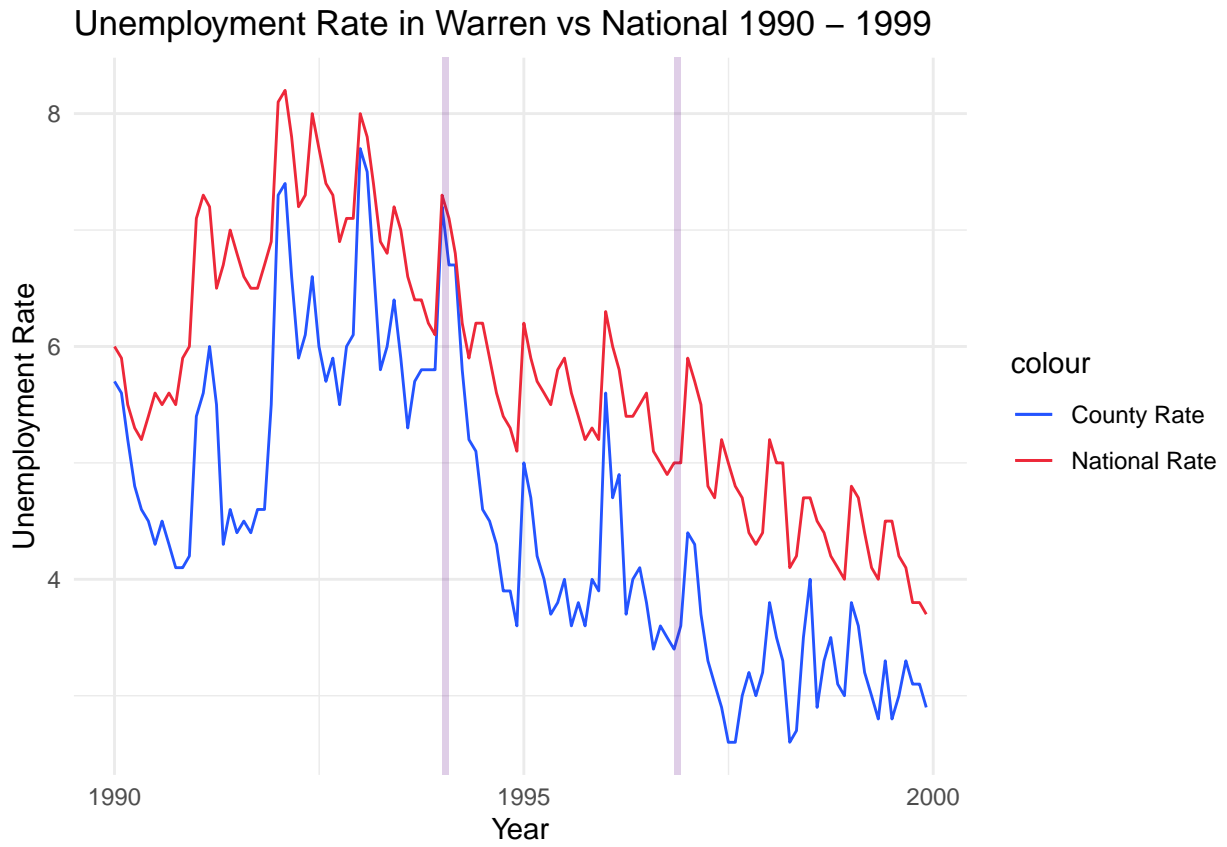






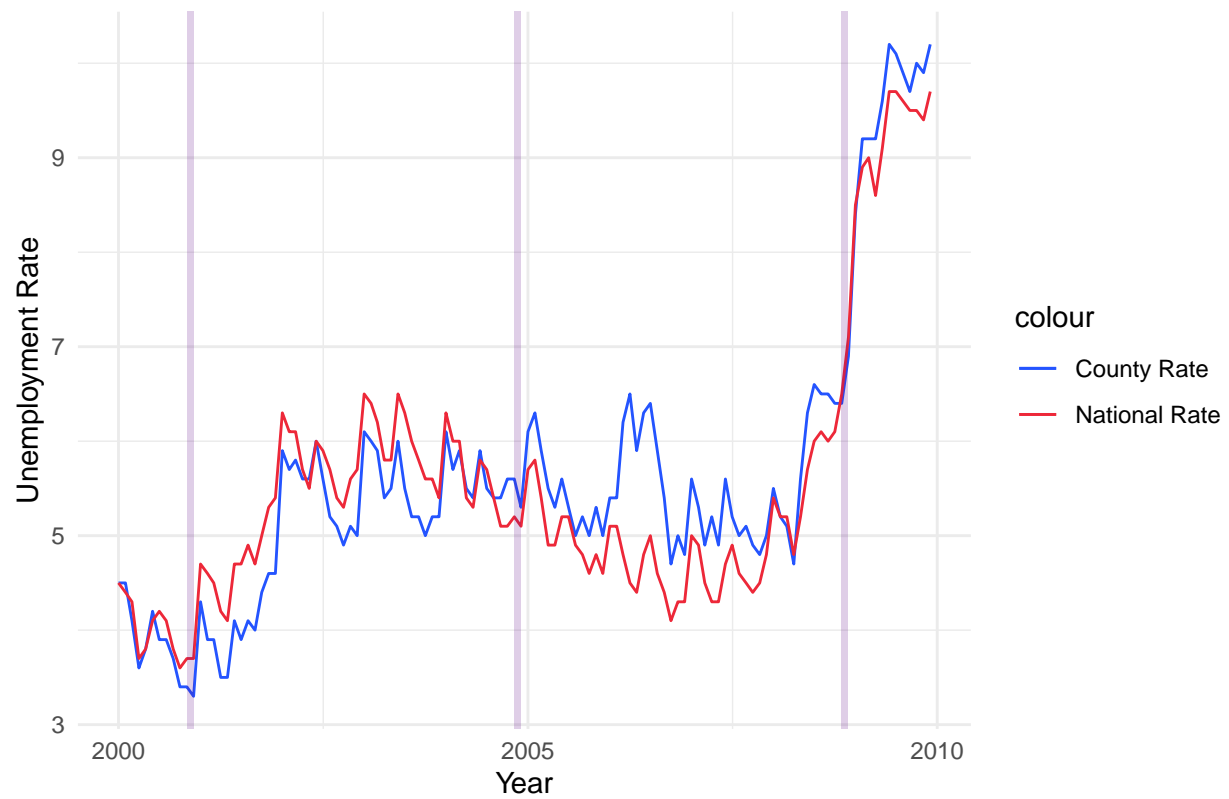




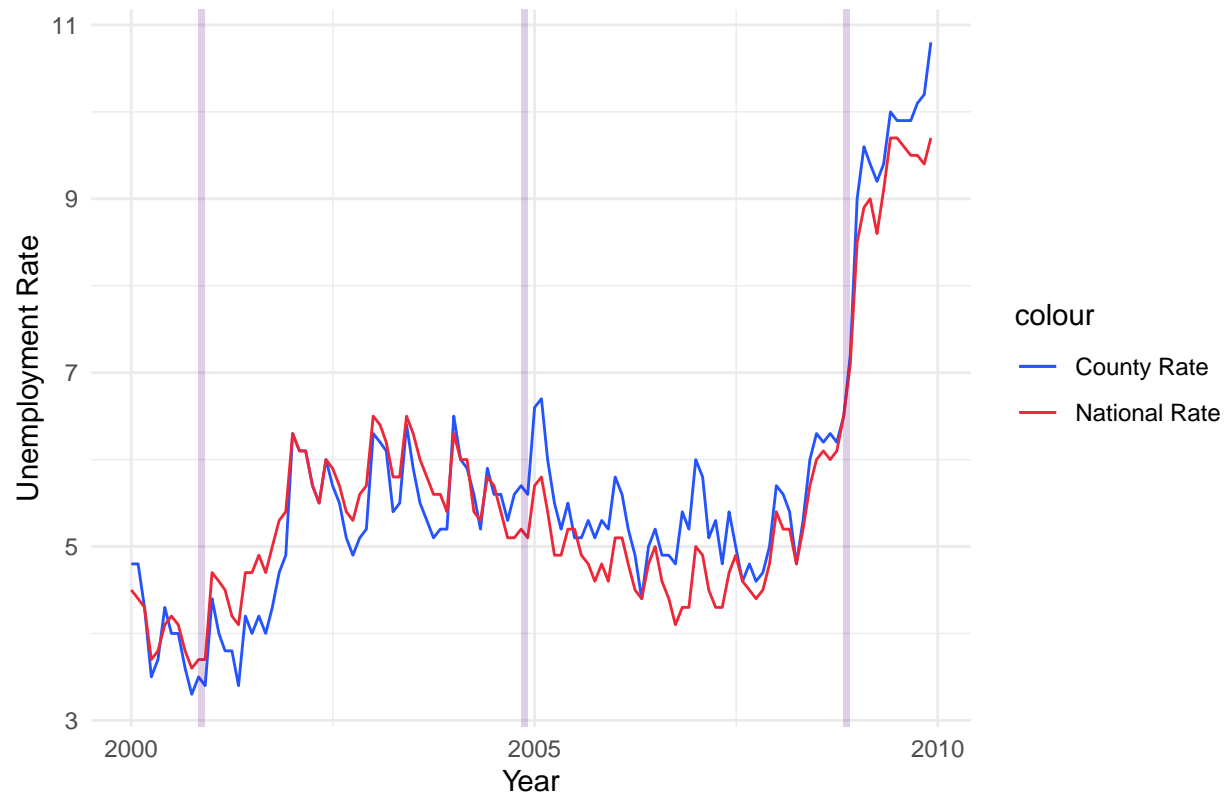


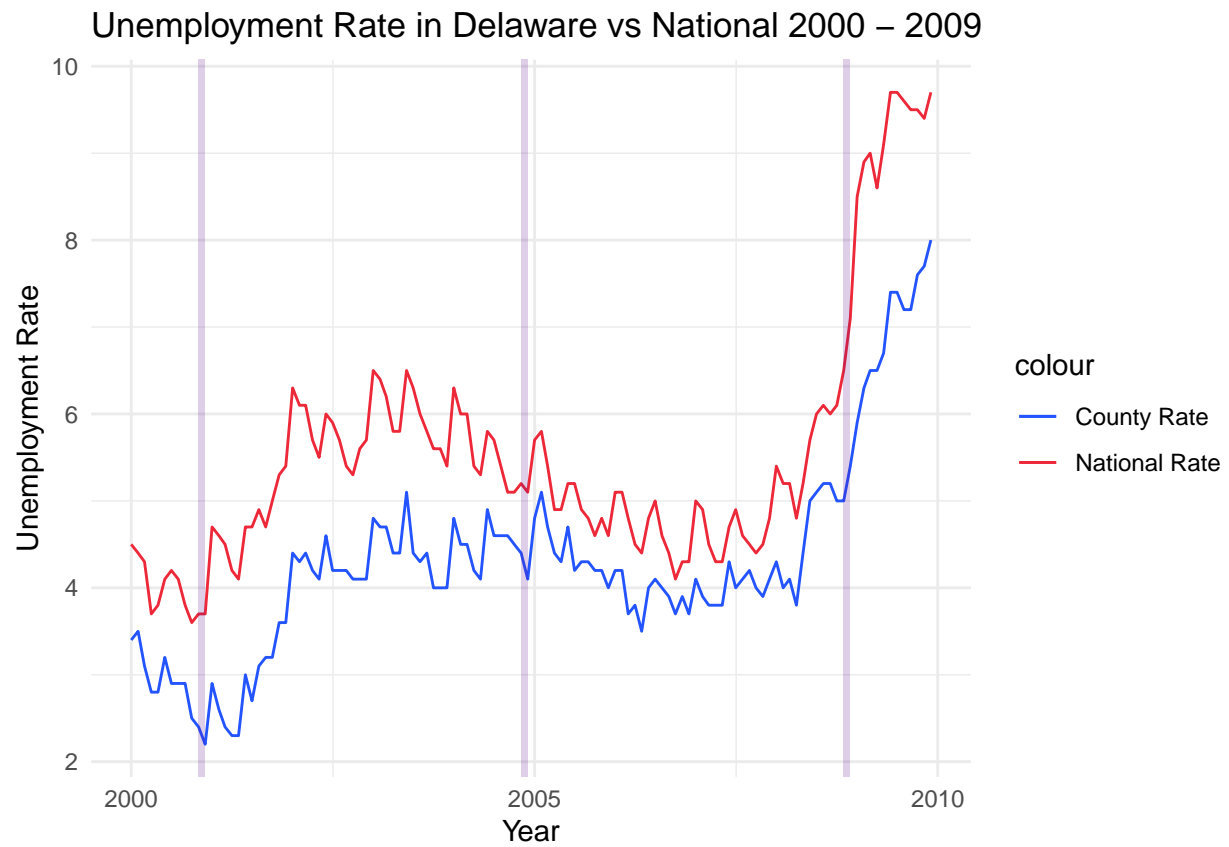


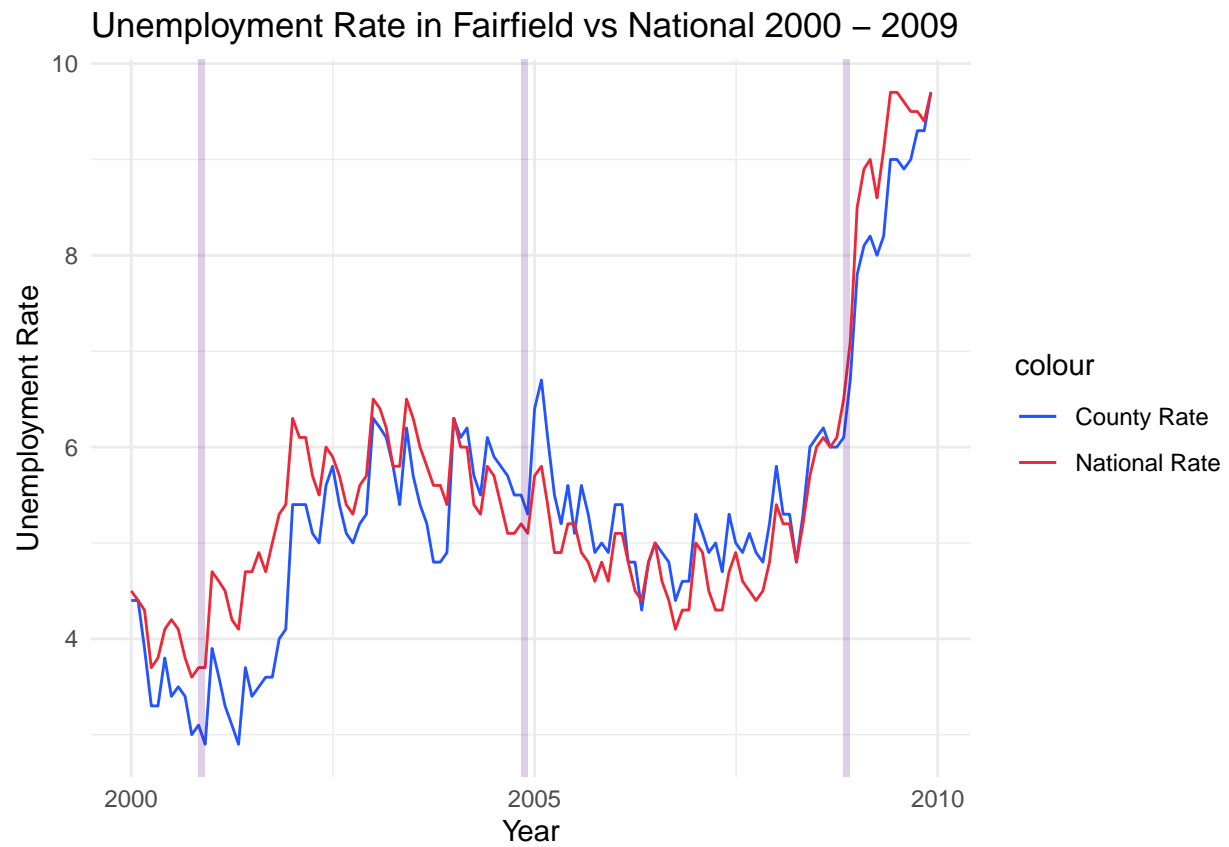
Unemployment Rate in Butler vs National 2000 – 2009

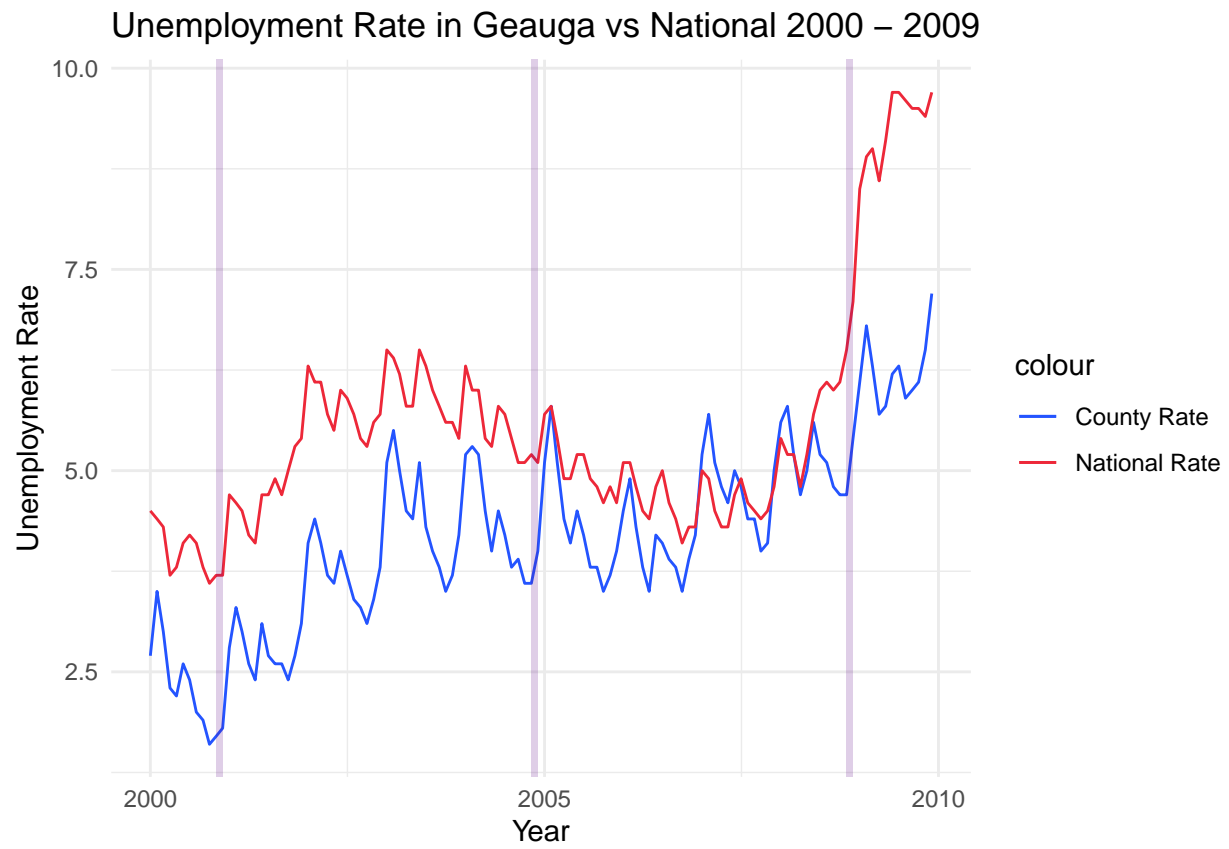


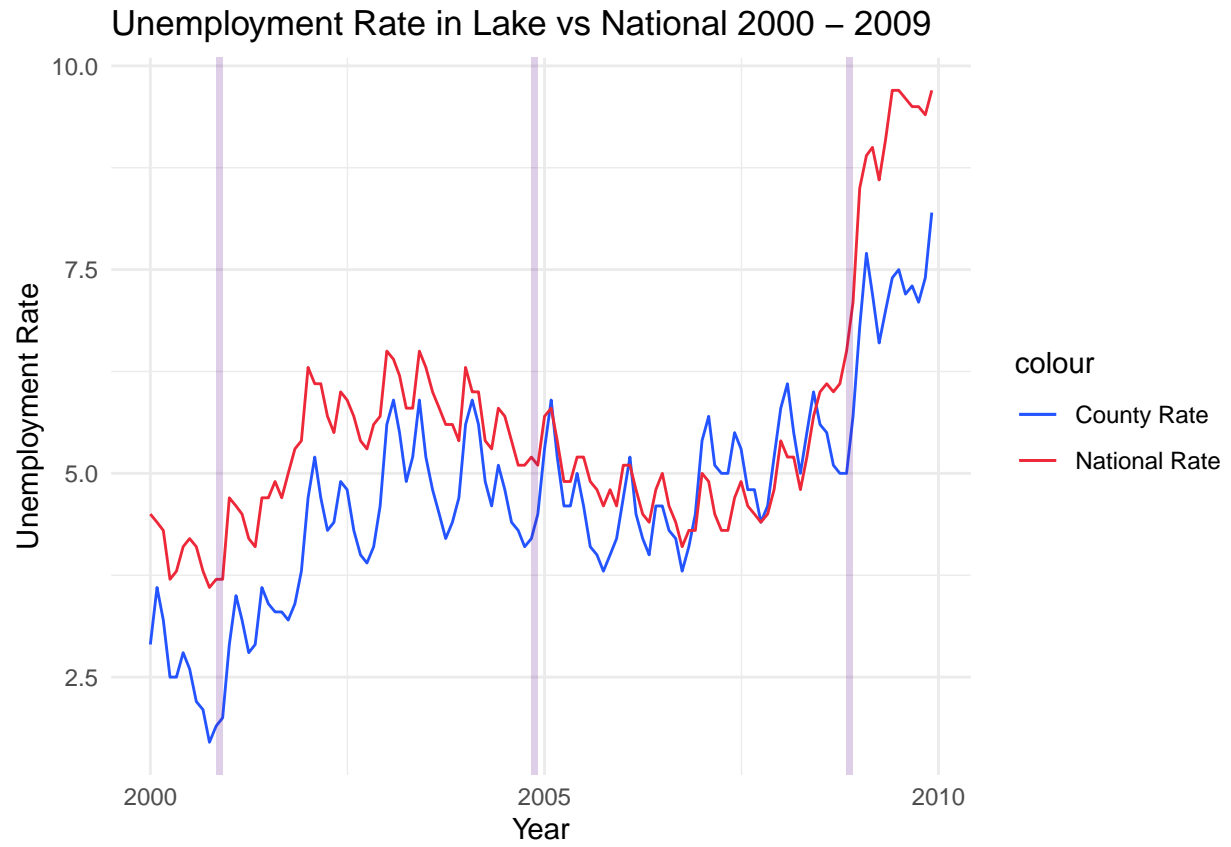
Unemployment Rate in Clermont vs National 2000 – 2009



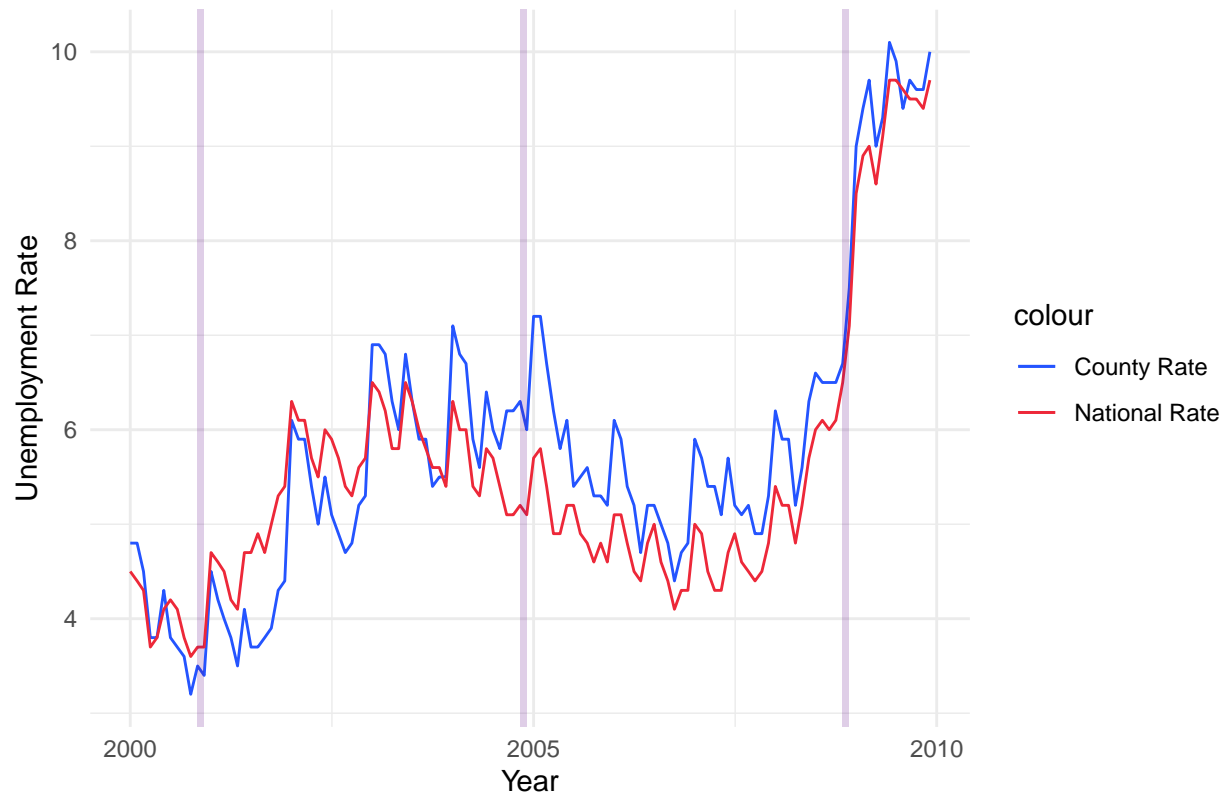


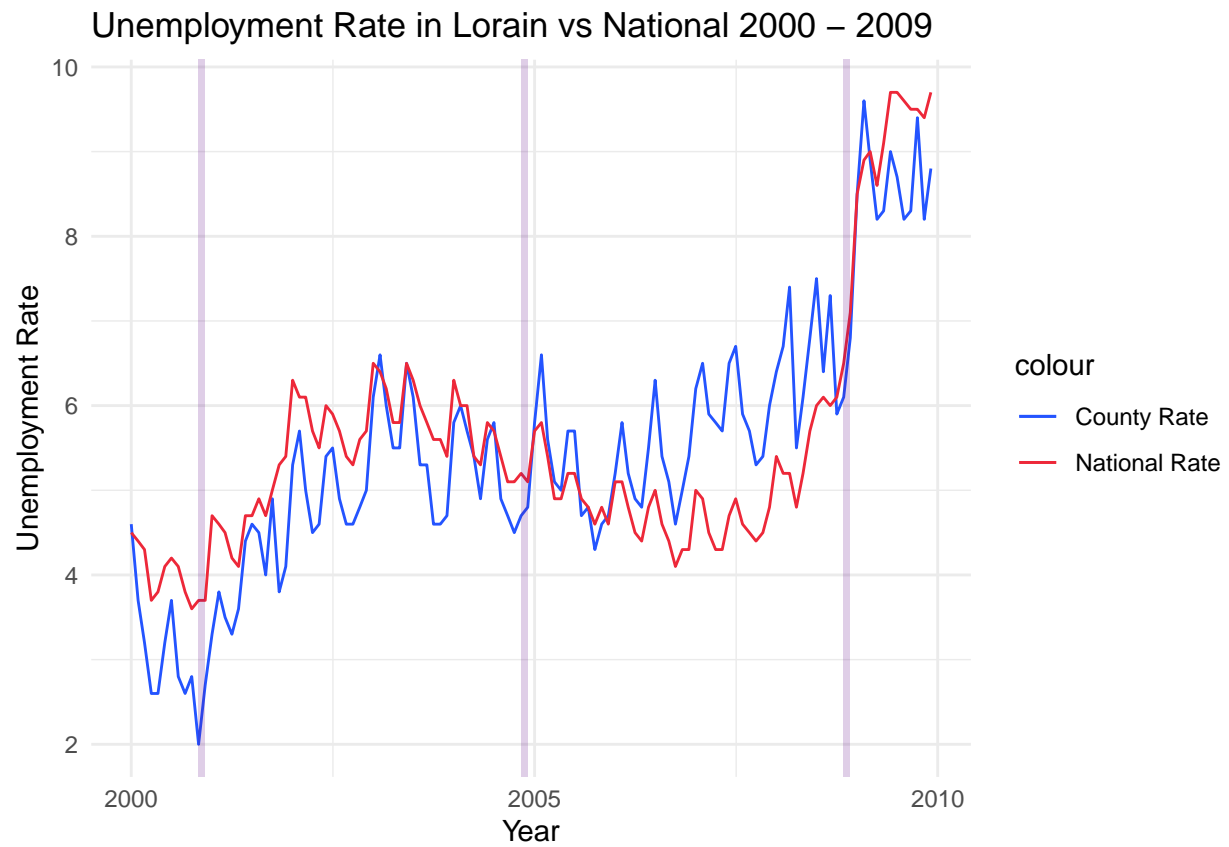






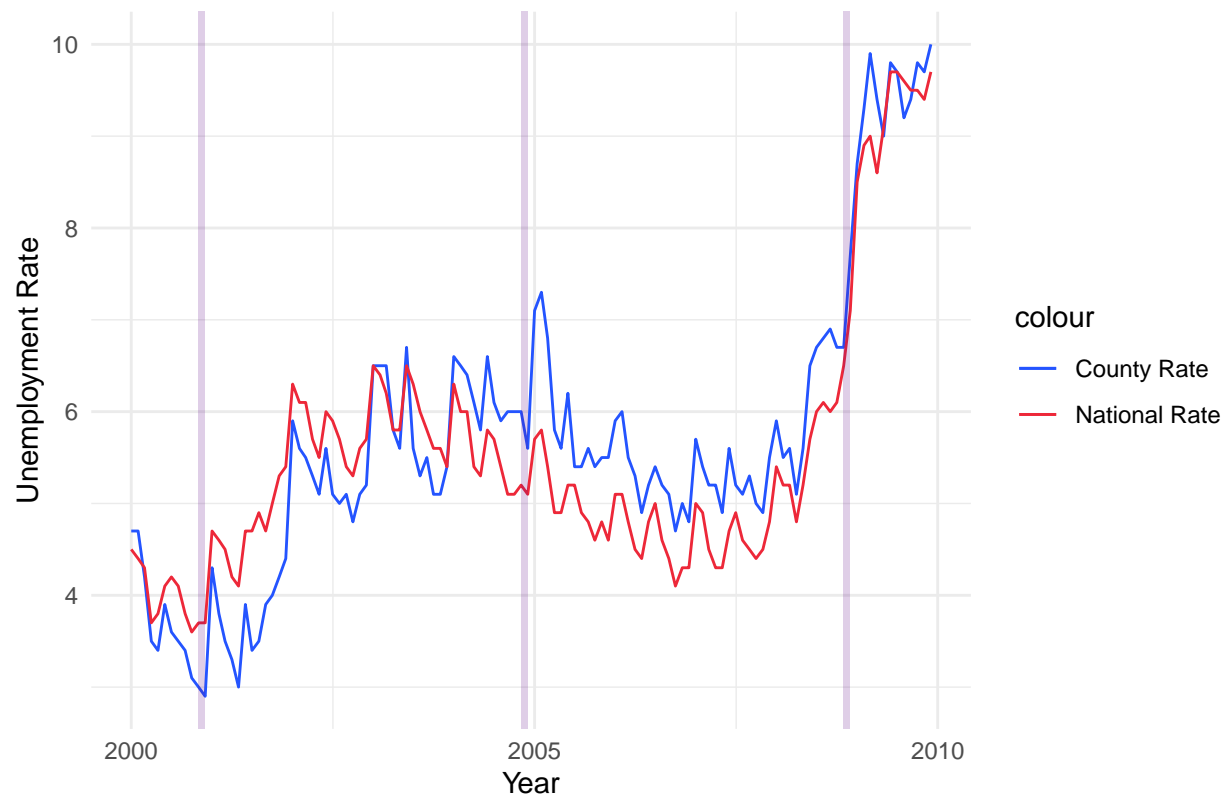
Unemployment Rate in Licking vs National 2000 – 2009

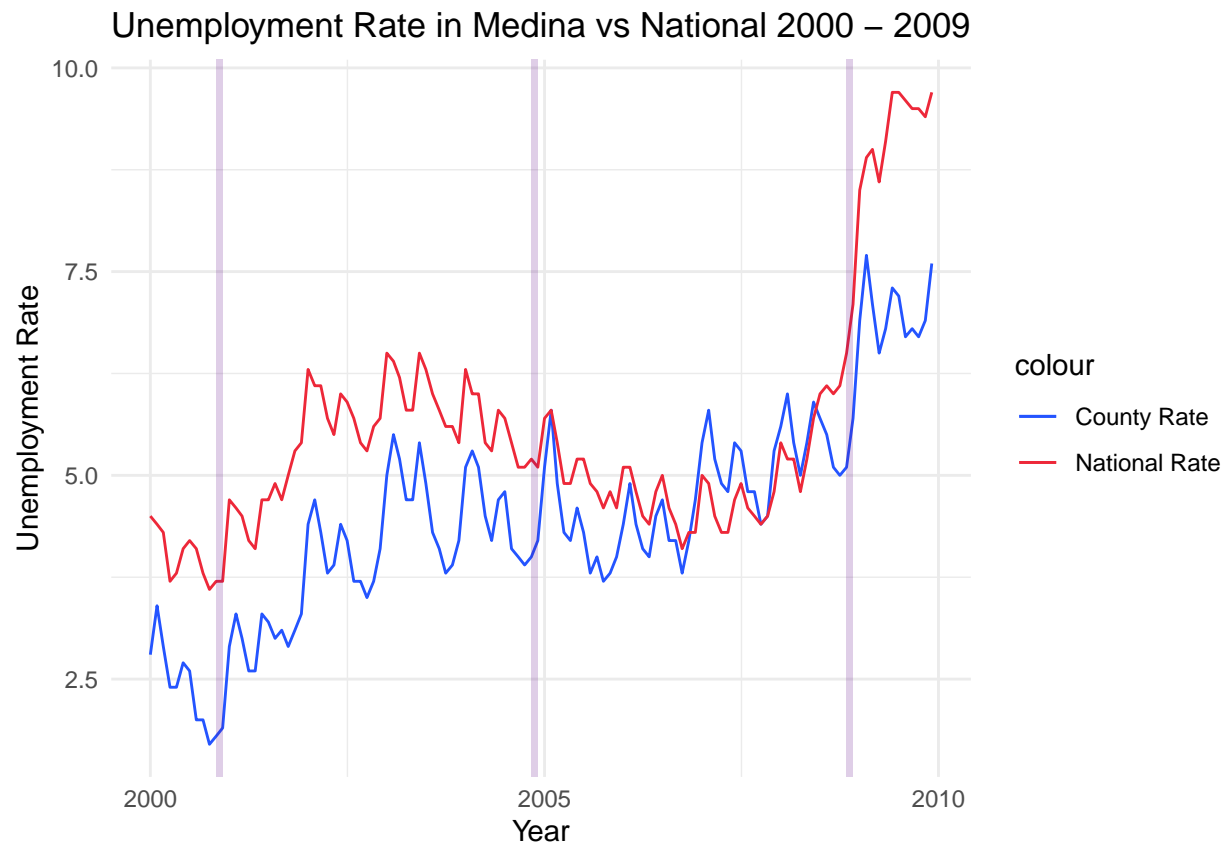




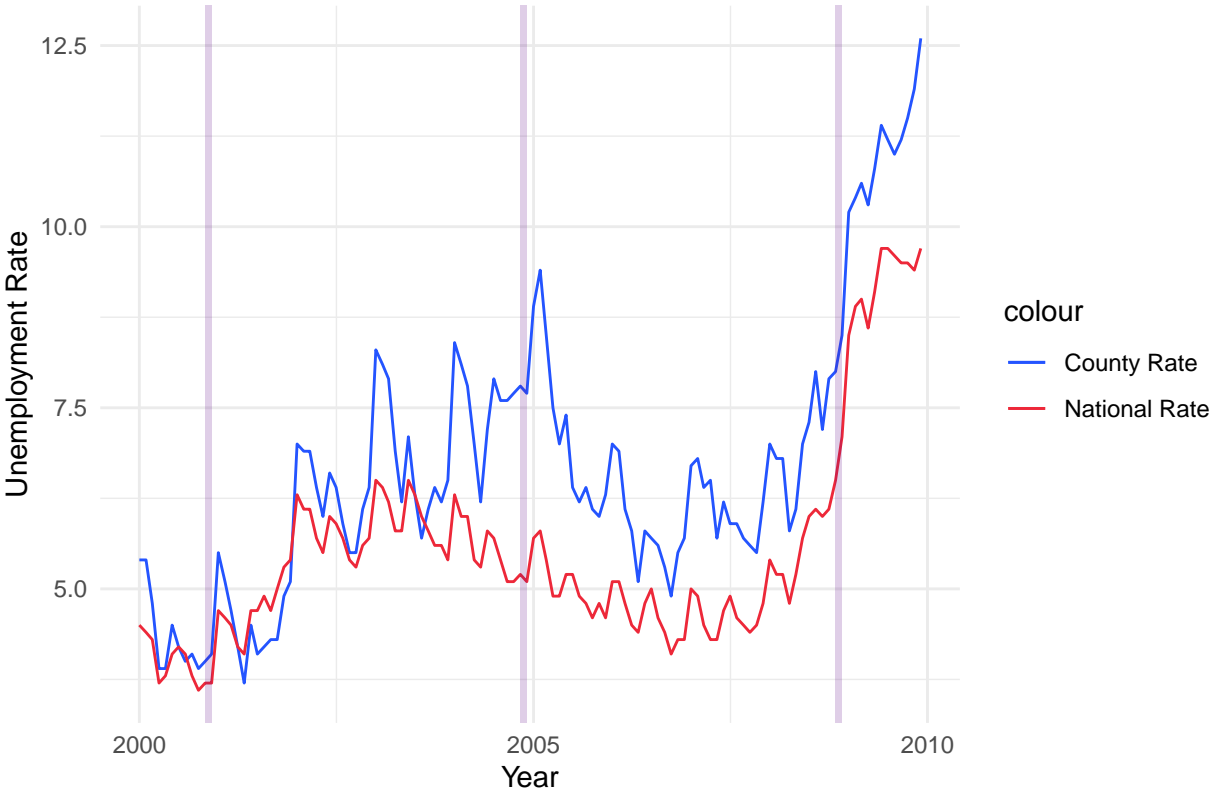


Unemployment Rate in Madison vs National 2000 – 2009

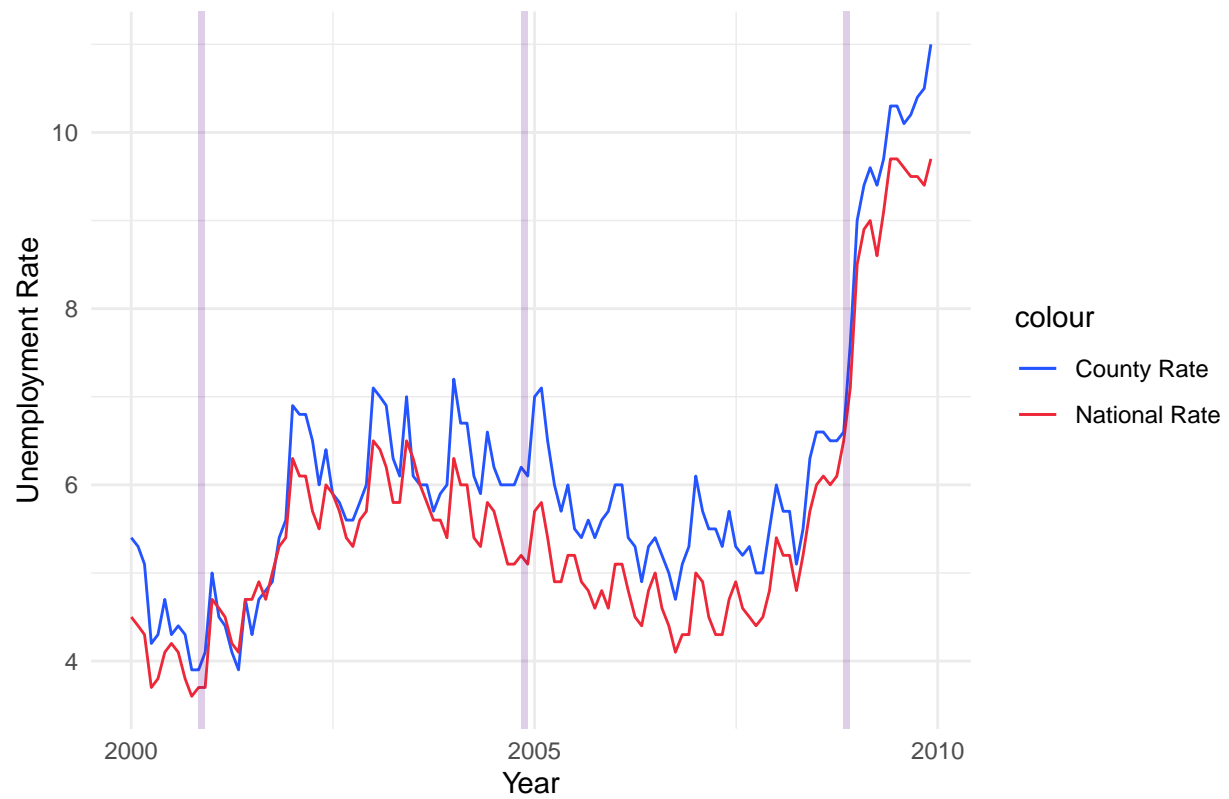


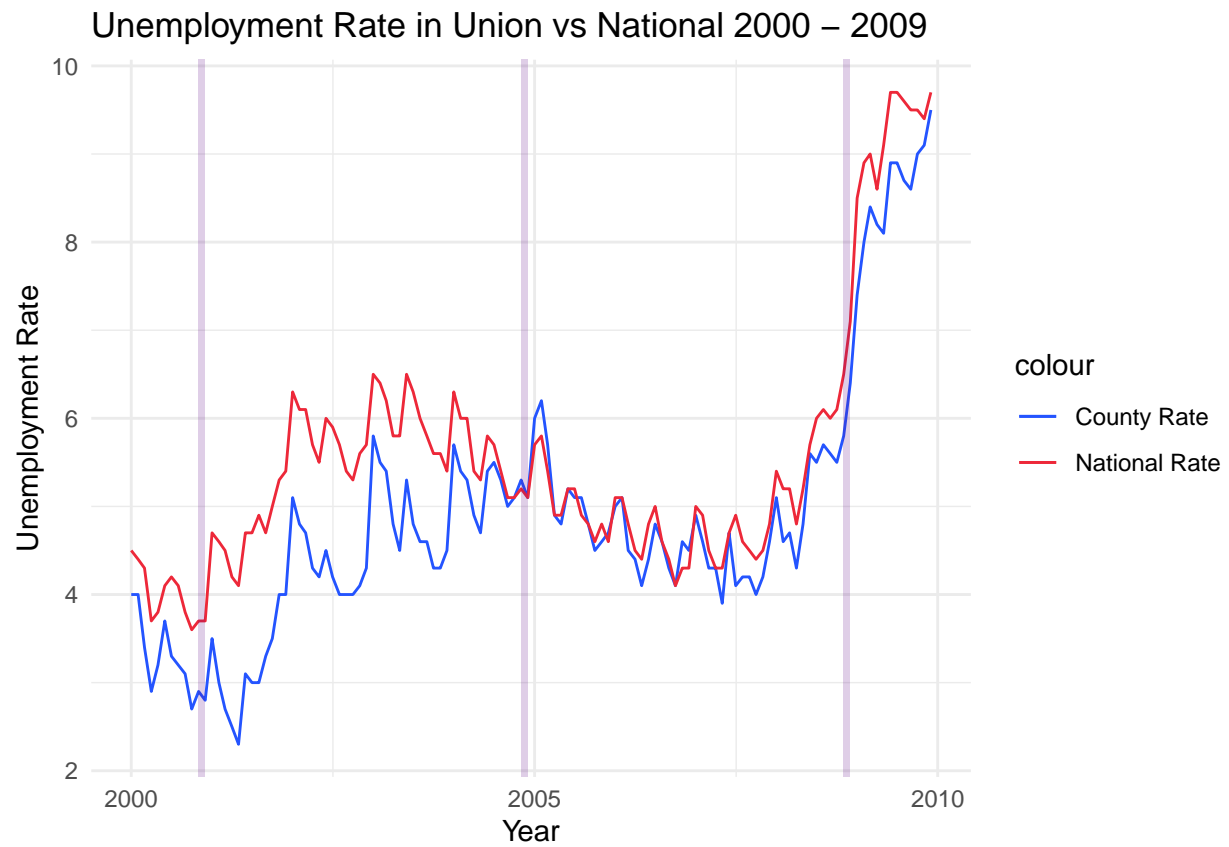


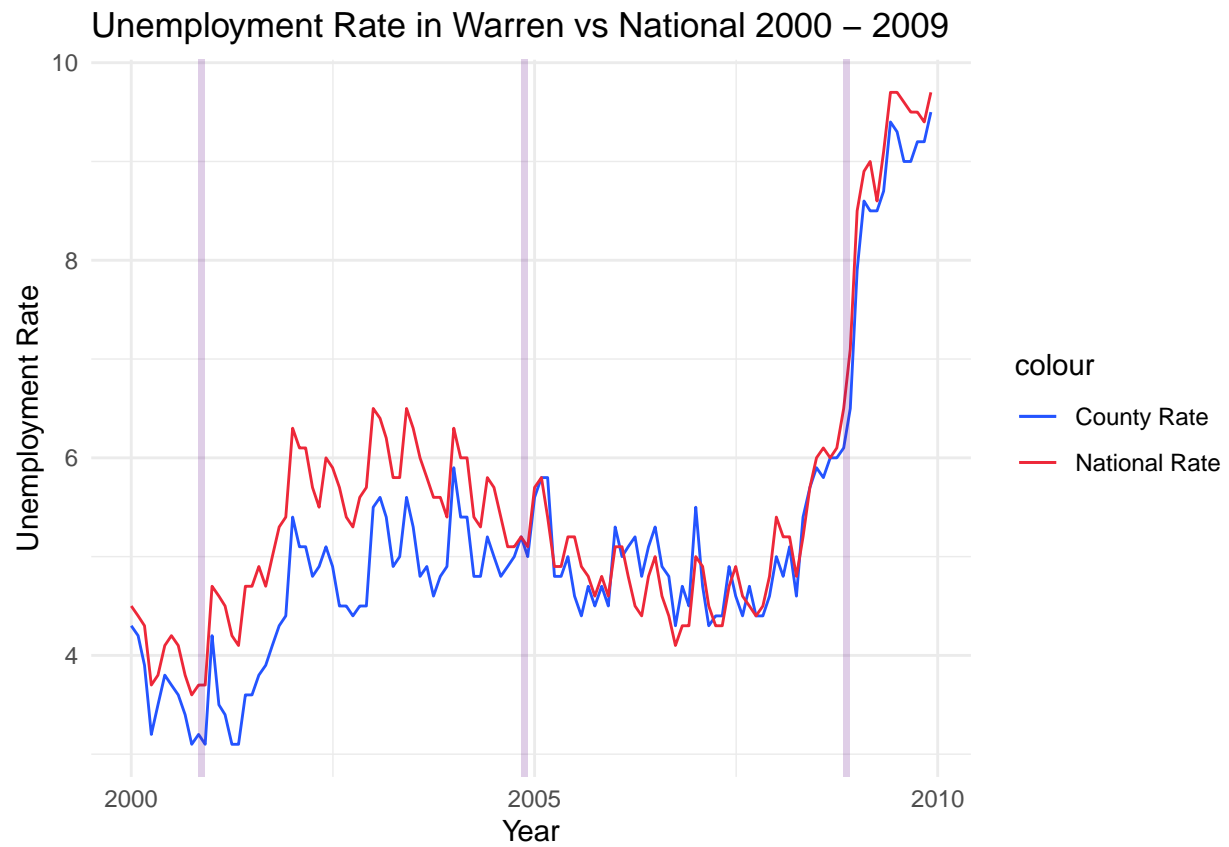
Unemployment Rate in Pickaway vs National 2000 – 2009



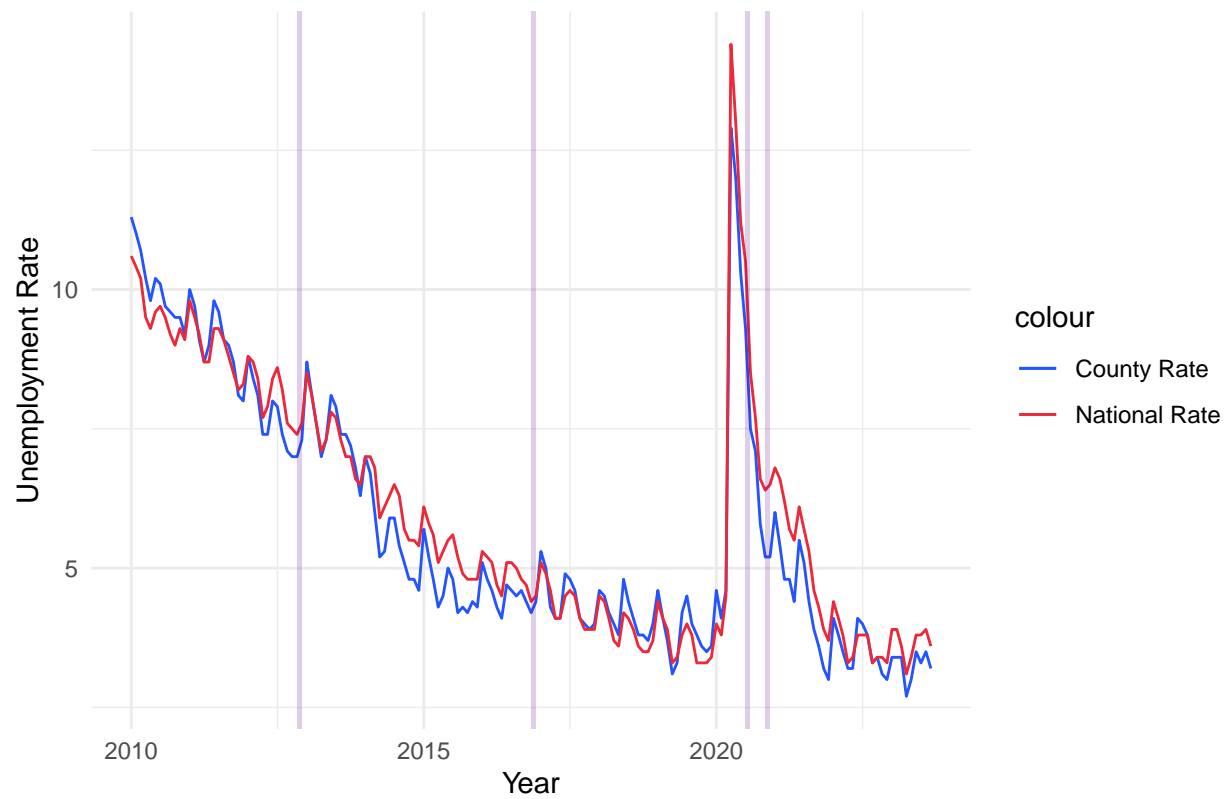
Unemployment Rate in Summit vs National 2000 – 2009



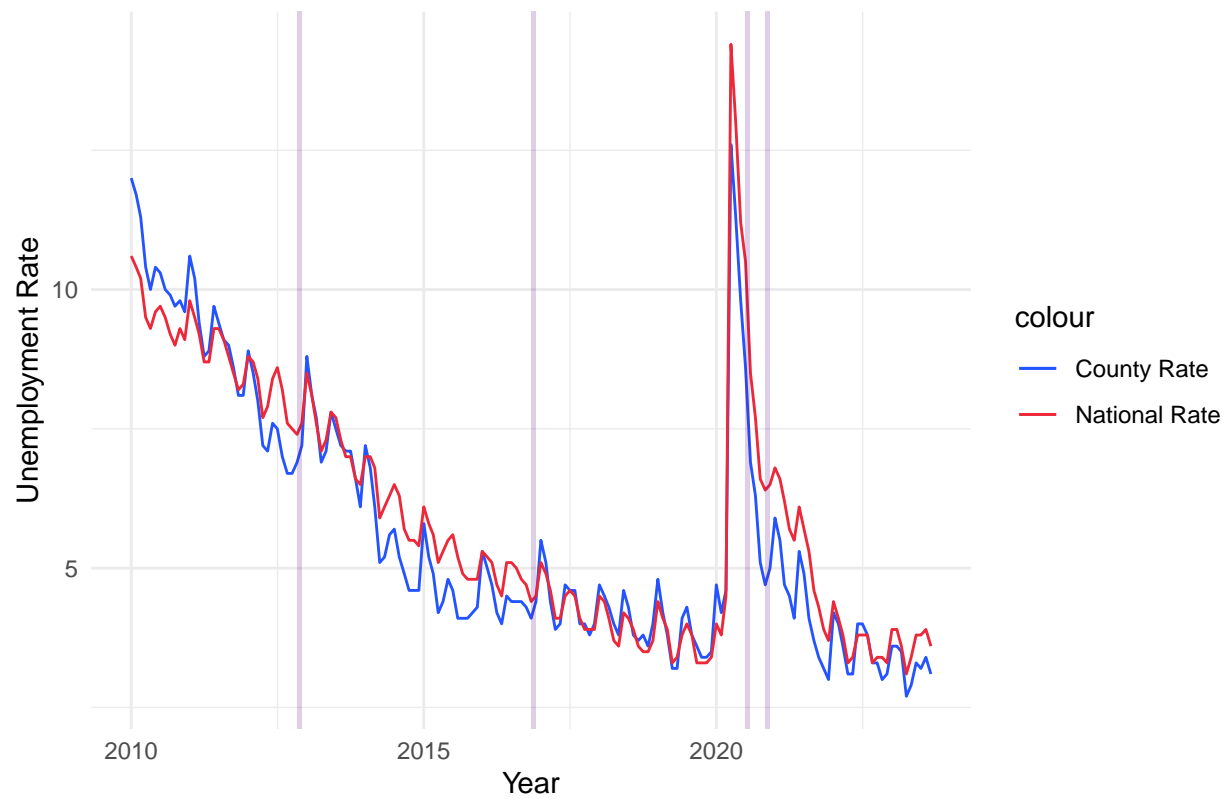




Unemployment Rate in Butler vs National 2009 – Present

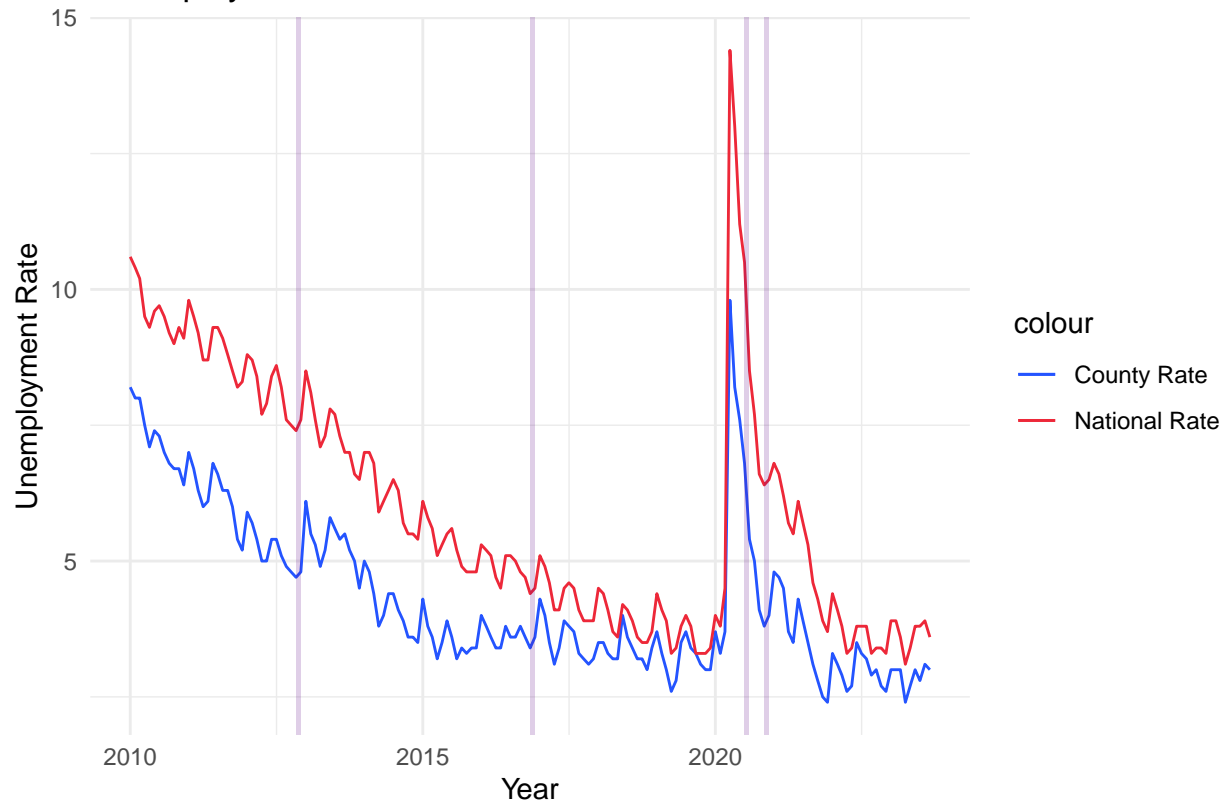


Unemployment Rate in Clermont vs National 2009 – Present

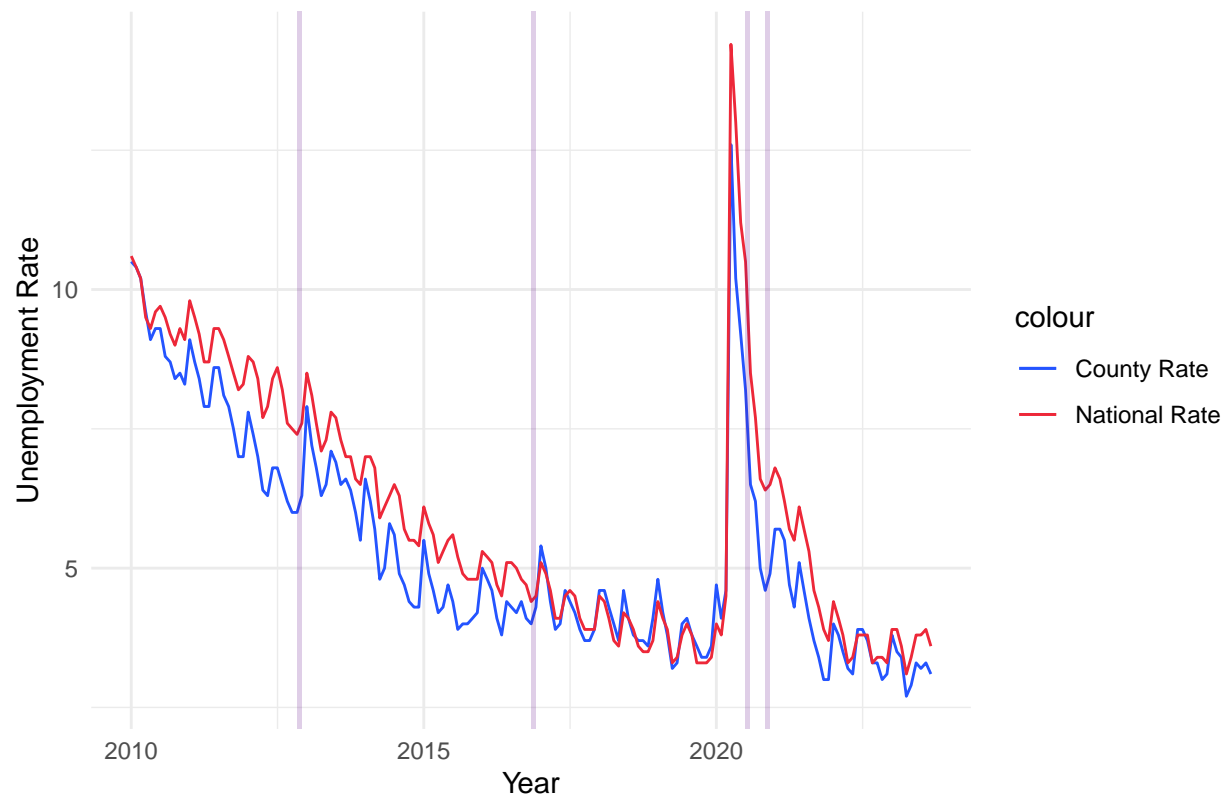




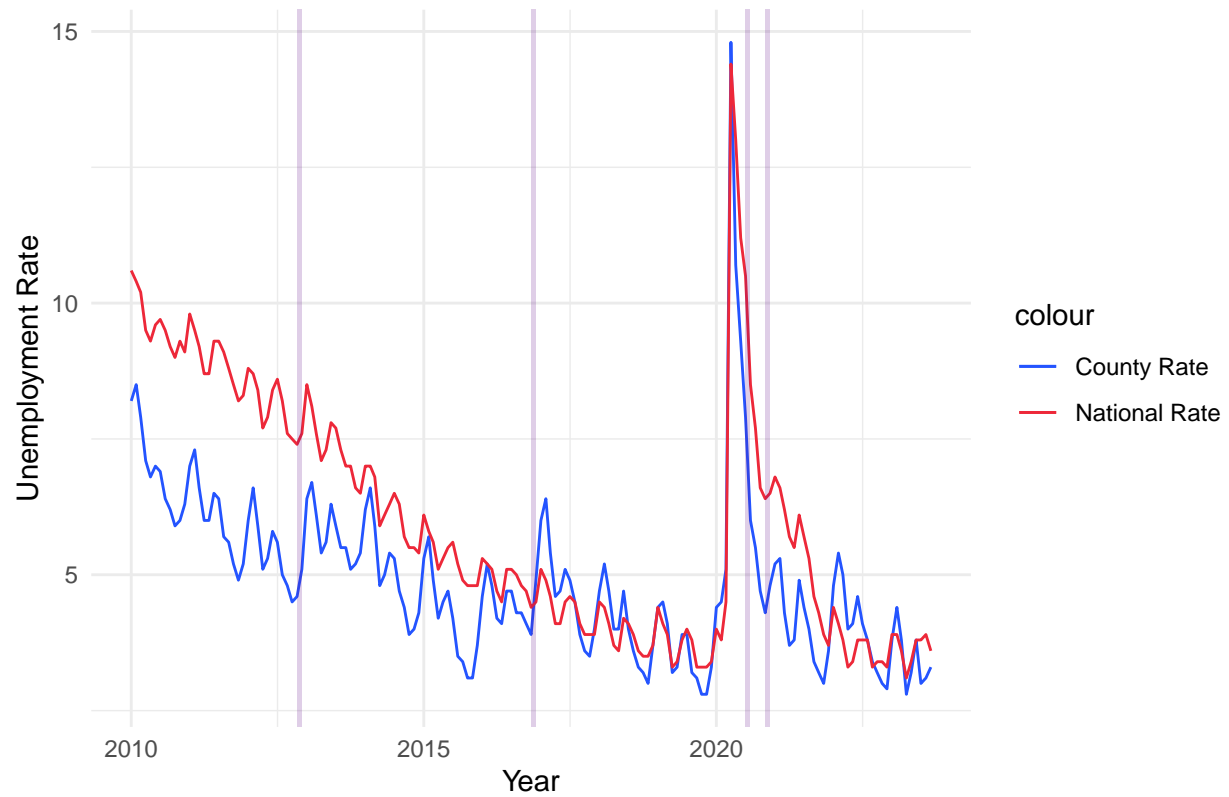
Unemployment Rate in Delaware vs National 2009 – Present



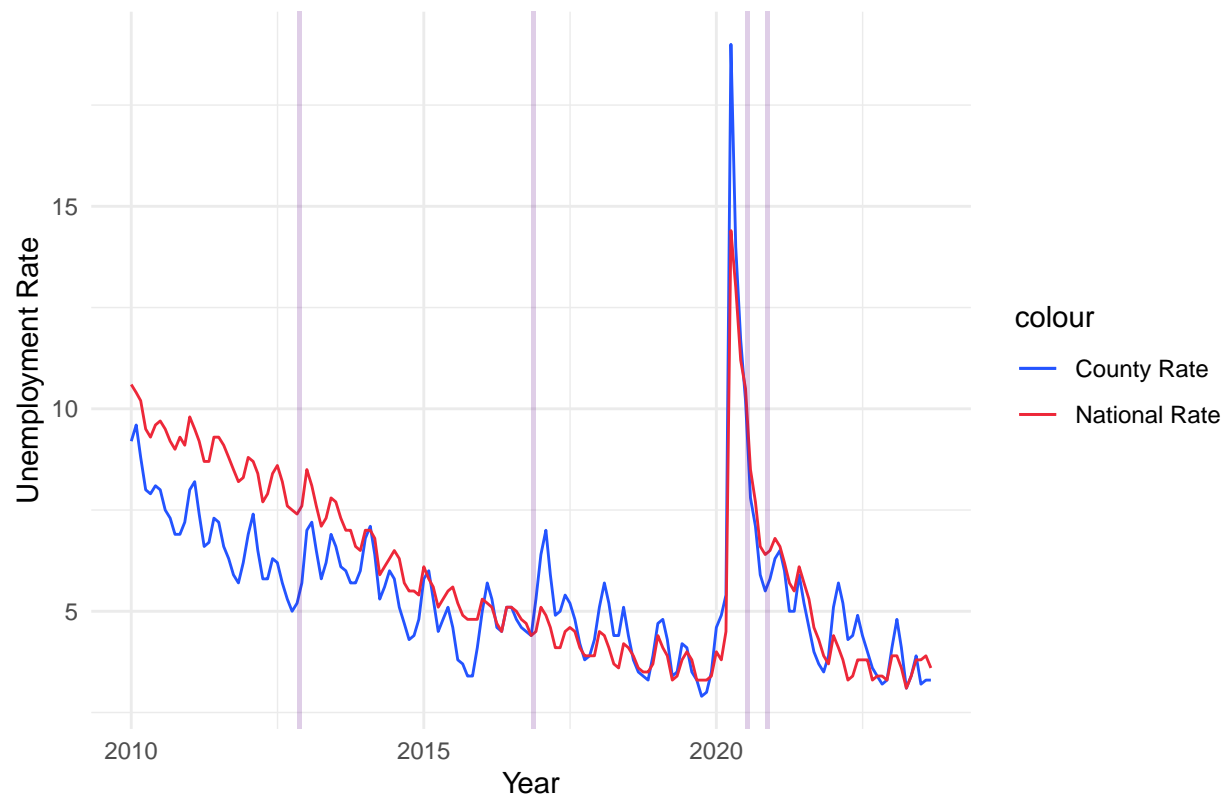
Unemployment Rate in Fairfield vs National 2009 – Present



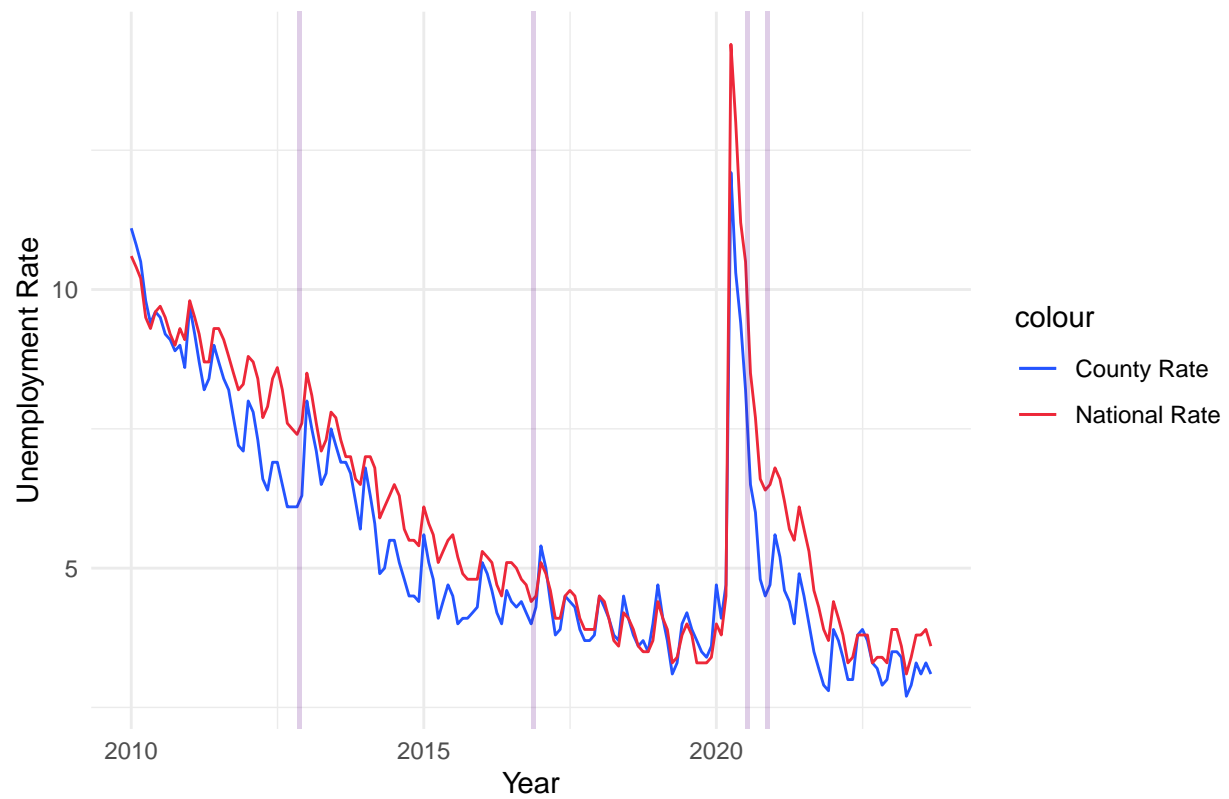
Unemployment Rate in Geauga vs National 2009 – Present



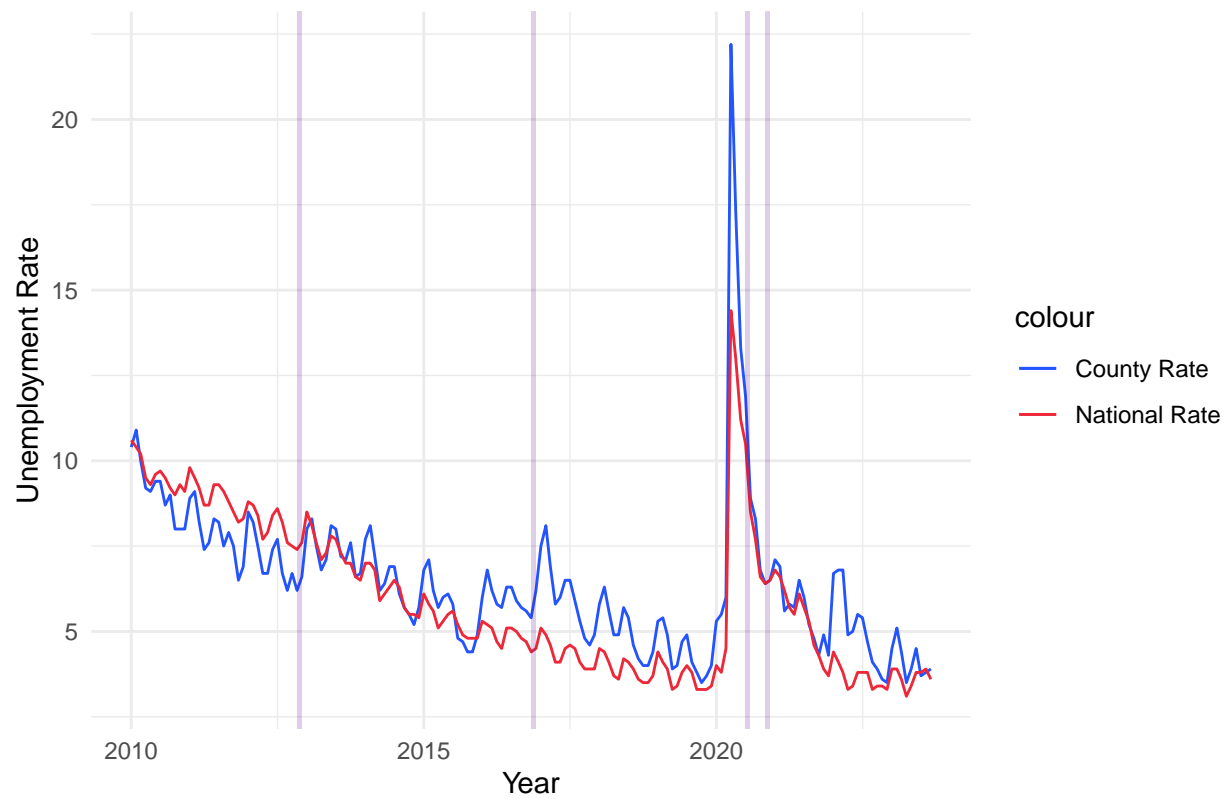
Unemployment Rate in Lake vs National 2009 – Present



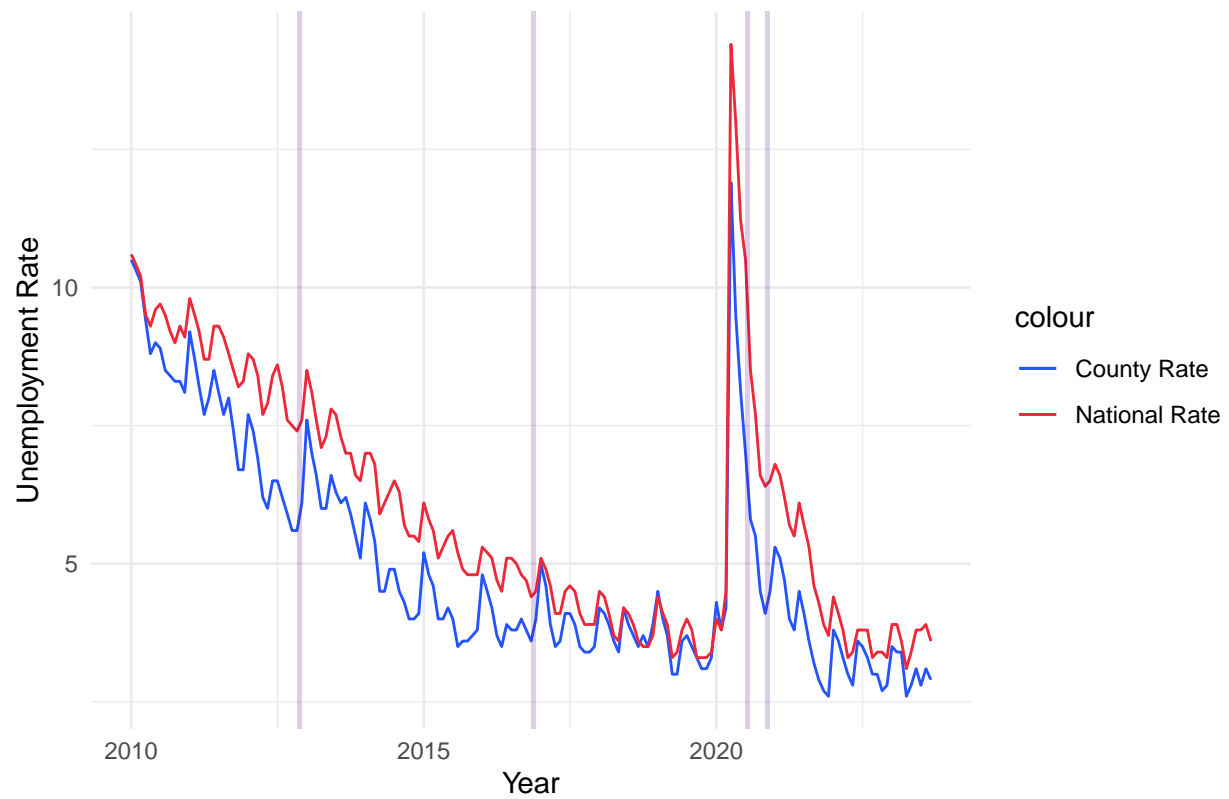
Unemployment Rate in Licking vs National 2009 – Present



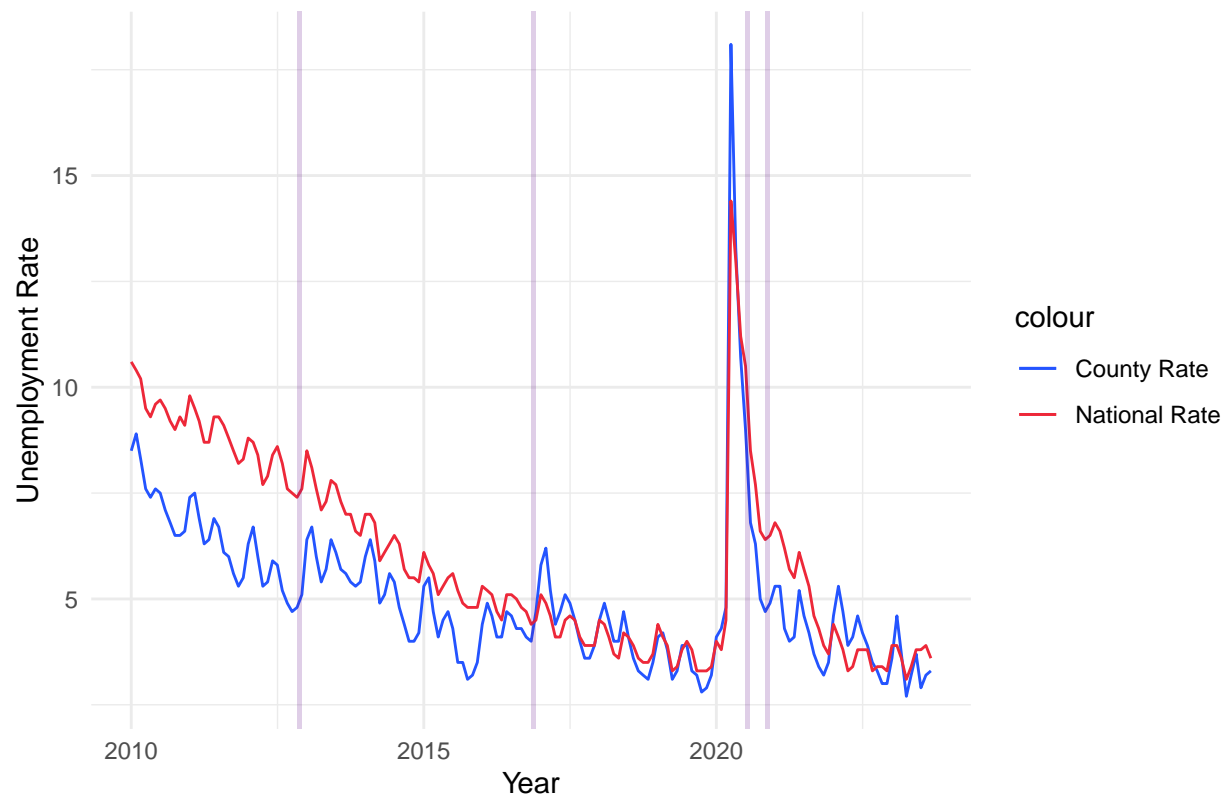
Unemployment Rate in Lorain vs National 2009 – Present



Unemployment Rate in Madison vs National 2009 – Present

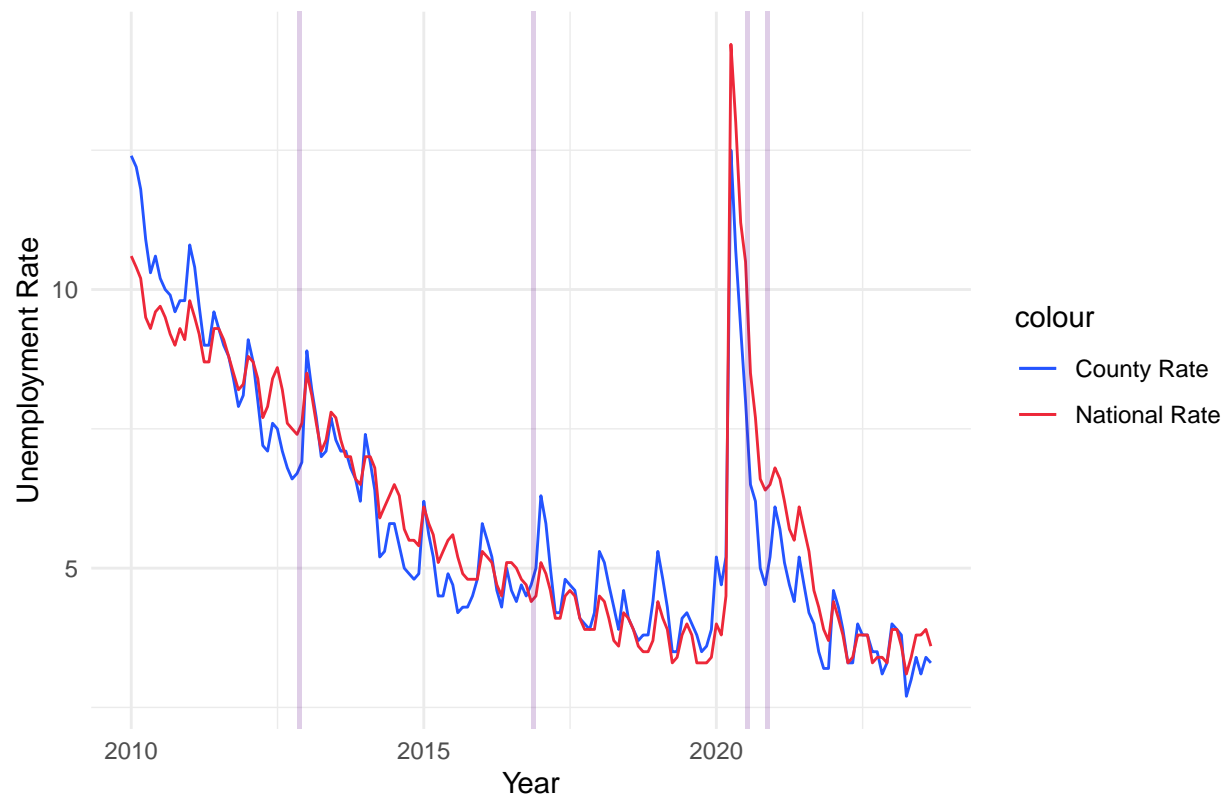


Unemployment Rate in Medina vs National 2009 – Present

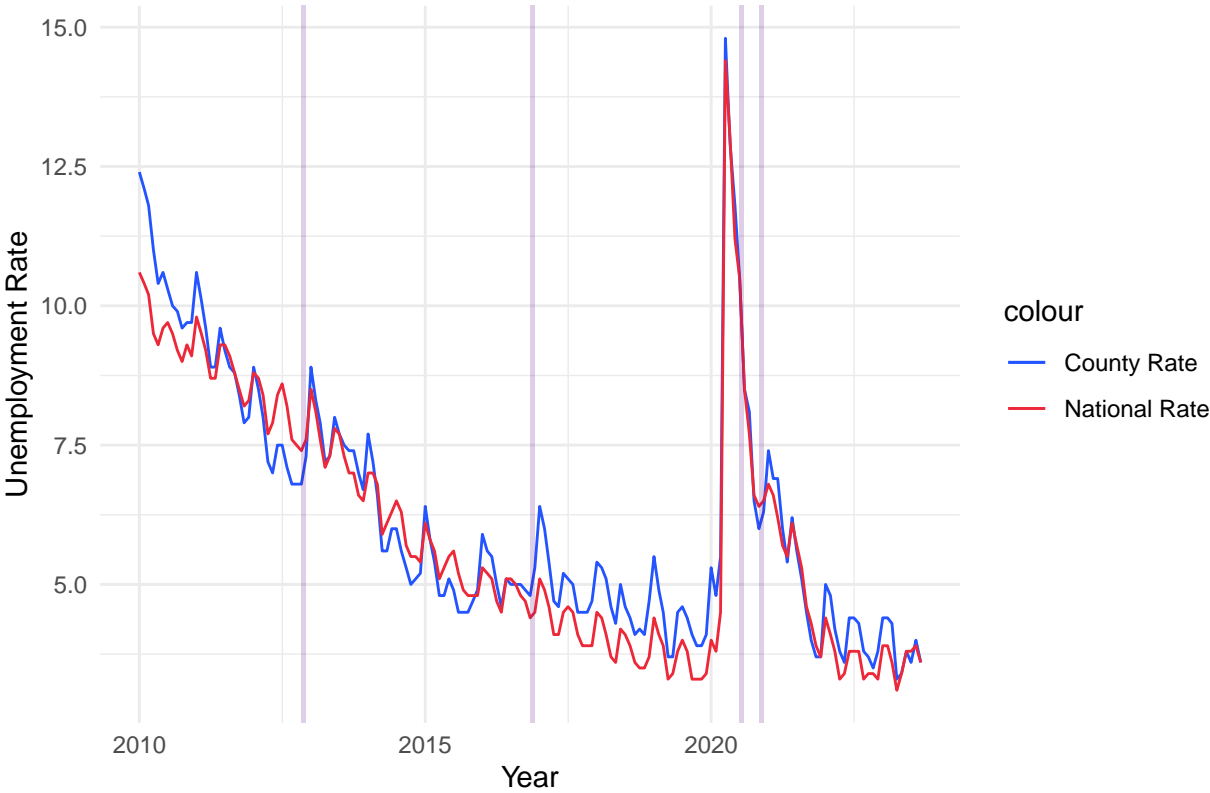




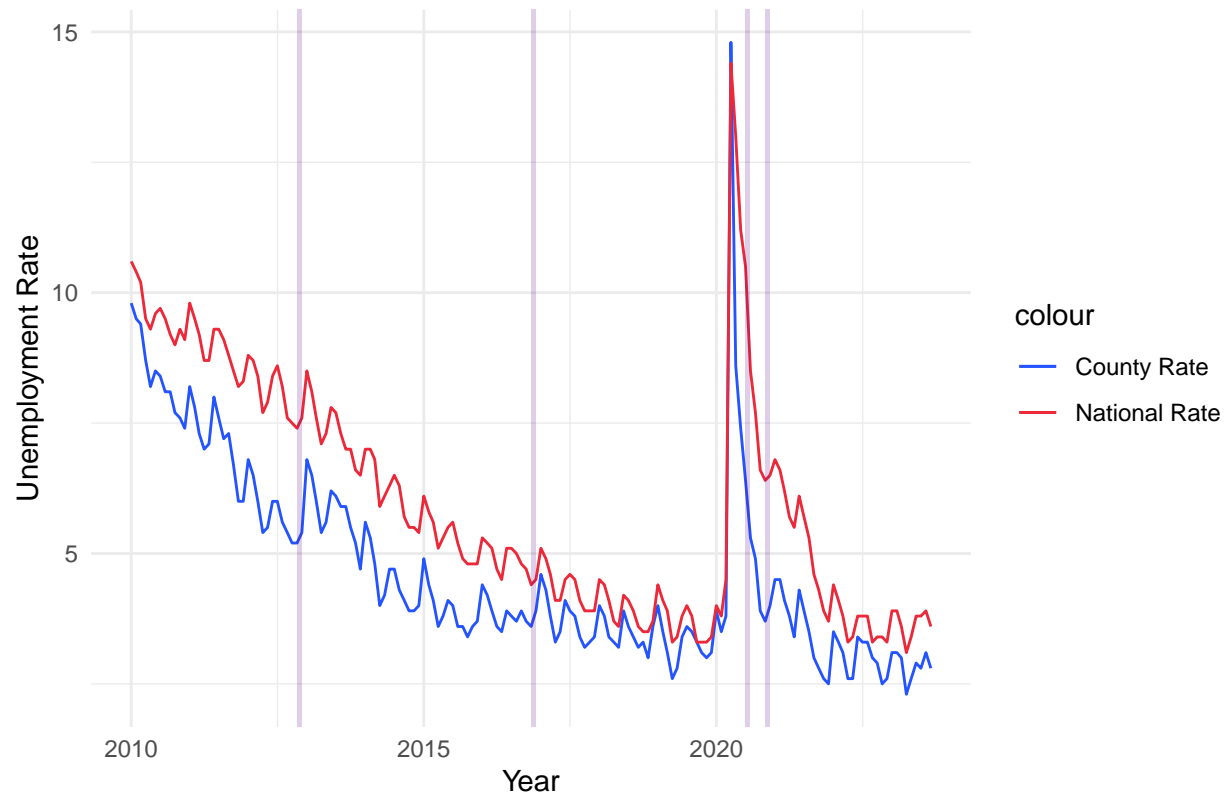
Unemployment Rate in Pickaway vs National 2009 – Present



Unemployment Rate in Summit vs National 2009 – Present



Unemployment Rate in Union vs National 2009 – Present



Unemployment Rate in Warren vs National 2009 – Present

