

Sierra Leone

```
## [1] "Census Females"
```

```
## # A tibble: 18 x 3
```

```
##   aggr.age `1963` `1974`
## *   <dbl>   <dbl>   <dbl>
## 1      0 190018 223665.
## 2      5 135060 189314.
## 3     10 116405. 142745.
## 4     15 104452. 121475.
## 5     20 104845. 119120.
## 6     25 101898. 114809.
## 7     30  88015. 101087.
## 8     35  70258.  81896.
## 9     40  52918.  64715.
## 10    45  39610.  50686.
## 11    50  30574.  39039.
## 12    55  17602  30868.
## 13    60  25818  27100.
## 14    65  51340  21764.
## 15    70     NA  15843.
## 16    75     NA  12014.
## 17    80     NA  10006.
## 18    85     NA  13352.
```

```
## [1] "Census Males"
```

```
## # A tibble: 18 x 3
```

```
##   aggr.age `1963` `1974`
## *   <dbl>   <dbl>   <dbl>
## 1      0 187317 217093.
## 2      5 145589 193154.
## 3     10 108972. 147748.
## 4     15  88493. 112157.
## 5     20  82709. 101119.
## 6     25  82128.  99176.
## 7     30  79258.  91232.
## 8     35  72234.  79540.
## 9     40  61518.  68321.
## 10    45  50220.  57722.
## 11    50  40077.  46440.
## 12    55  24158  36722.
## 13    60  30136  31022.
## 14    65  59169  24342.
## 15    70     NA  17900.
## 16    75     NA  13296.
## 17    80     NA   9892.
## 18    85     NA  13611.
```

Thiele log-Normal Hump RW

```
## Warning in fit_tmb(input.thiele.loghump.oag.vec.RW, inner_verbose = FALSE, : convergence error: false c
```

```
##      user  system elapsed
##      1.34    0.00    1.37
```

```
## [1] "false convergence (8)"
```

Thiele log-Normal Hump RW (Pop 5-9 to 70-74, DHS 15-19 to 45-49)

```
##      user  system elapsed
##      5.36    0.05    5.44
```

```
## [1] "relative convergence (4)"
```

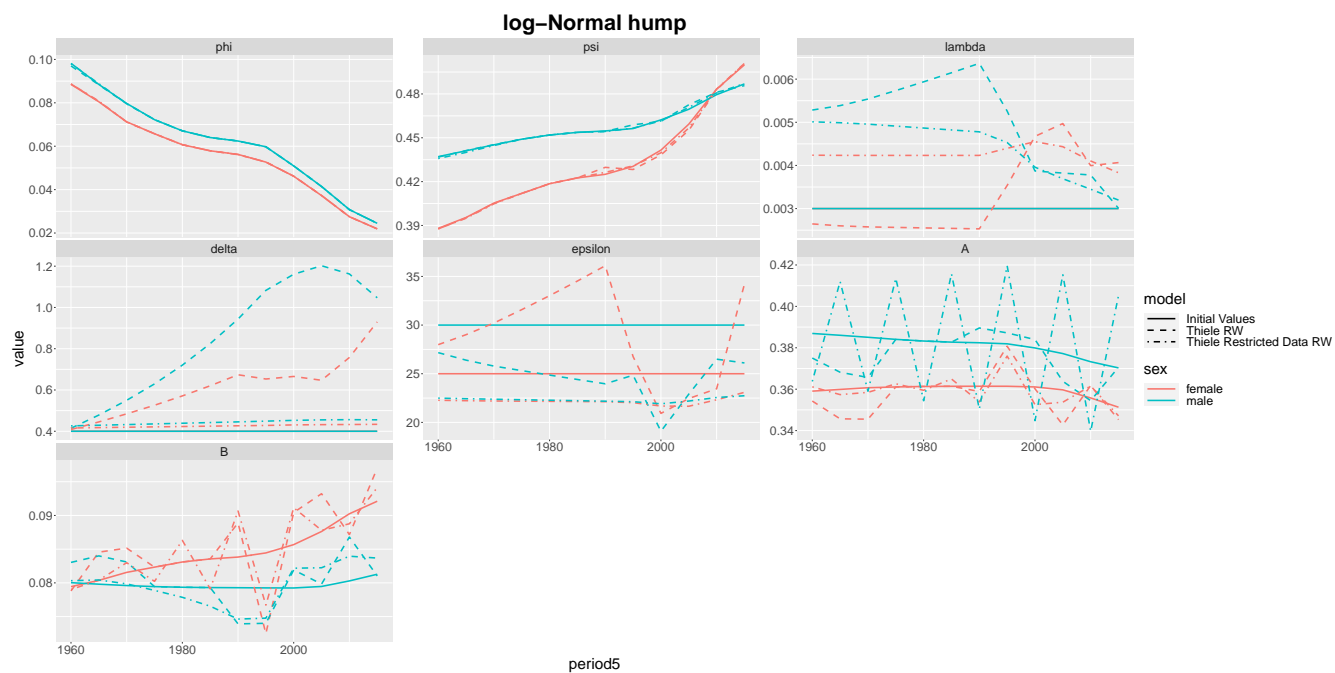


Figure 1: Estimated parameters



Figure 2: Estimated $_{45}q_{15}$

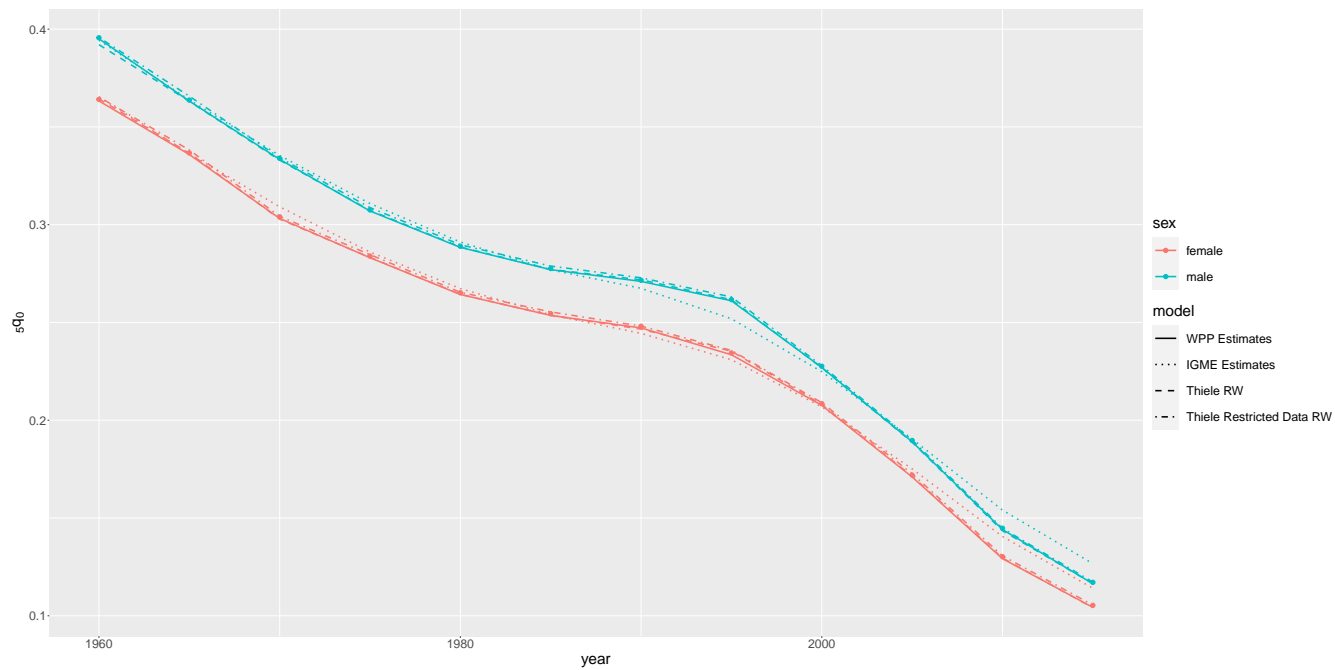


Figure 3: Estimated $_{5}q_0$

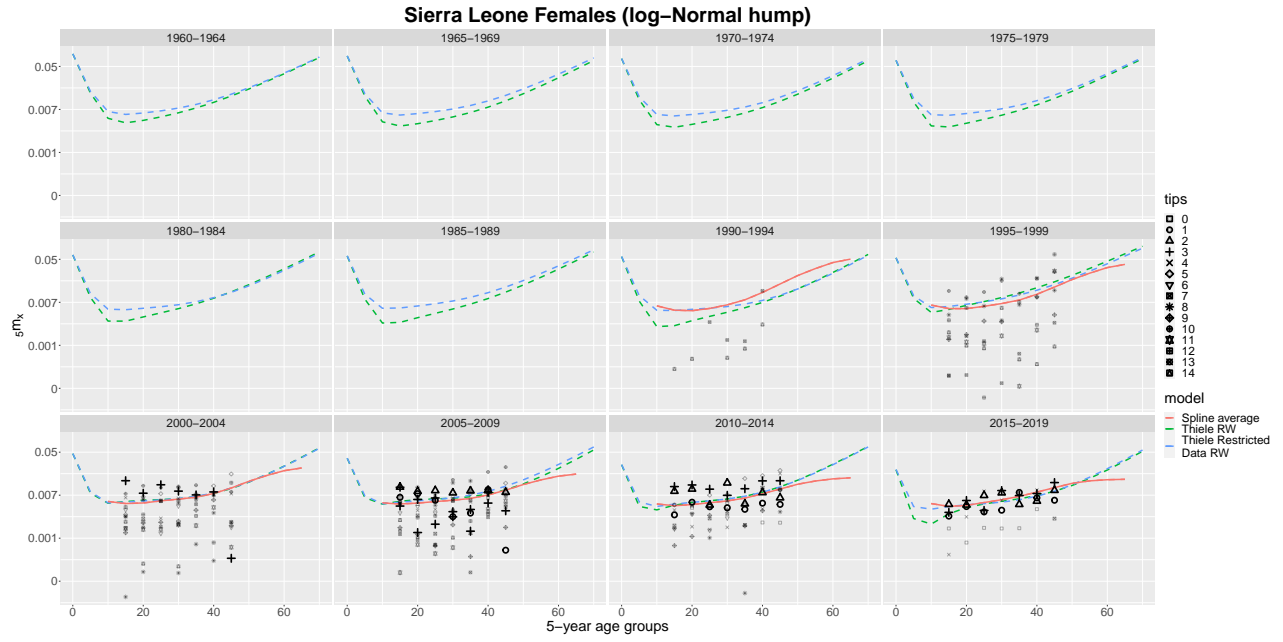


Figure 4: Mortality Schedules

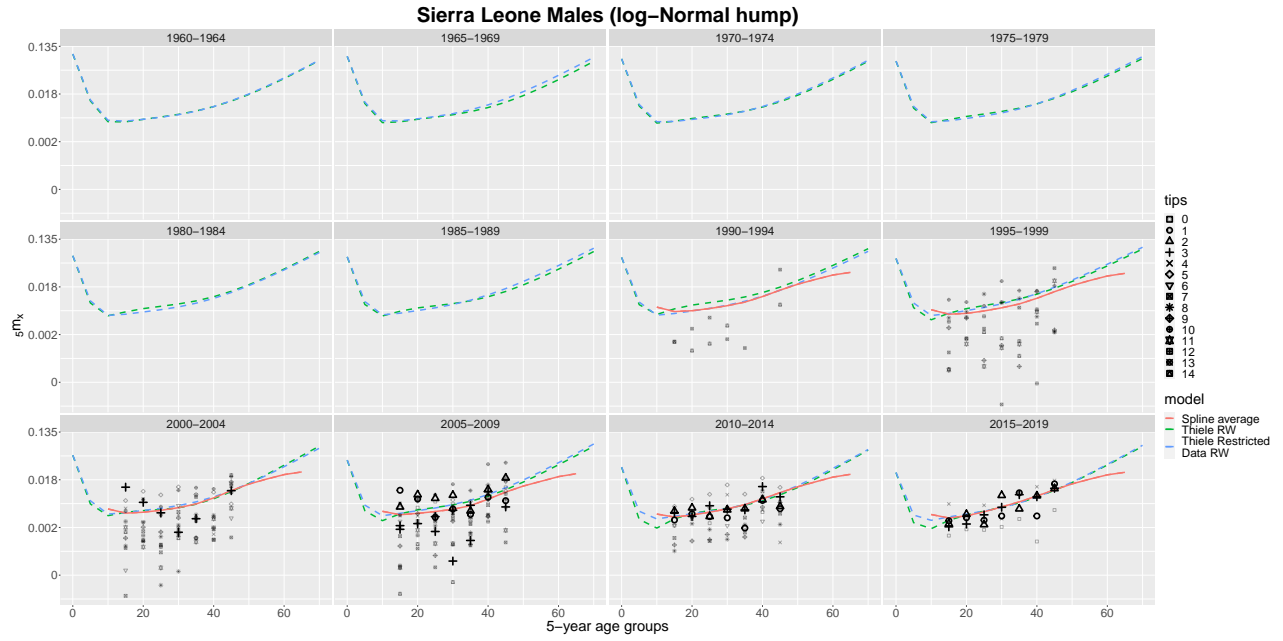


Figure 5: Mortality Schedules

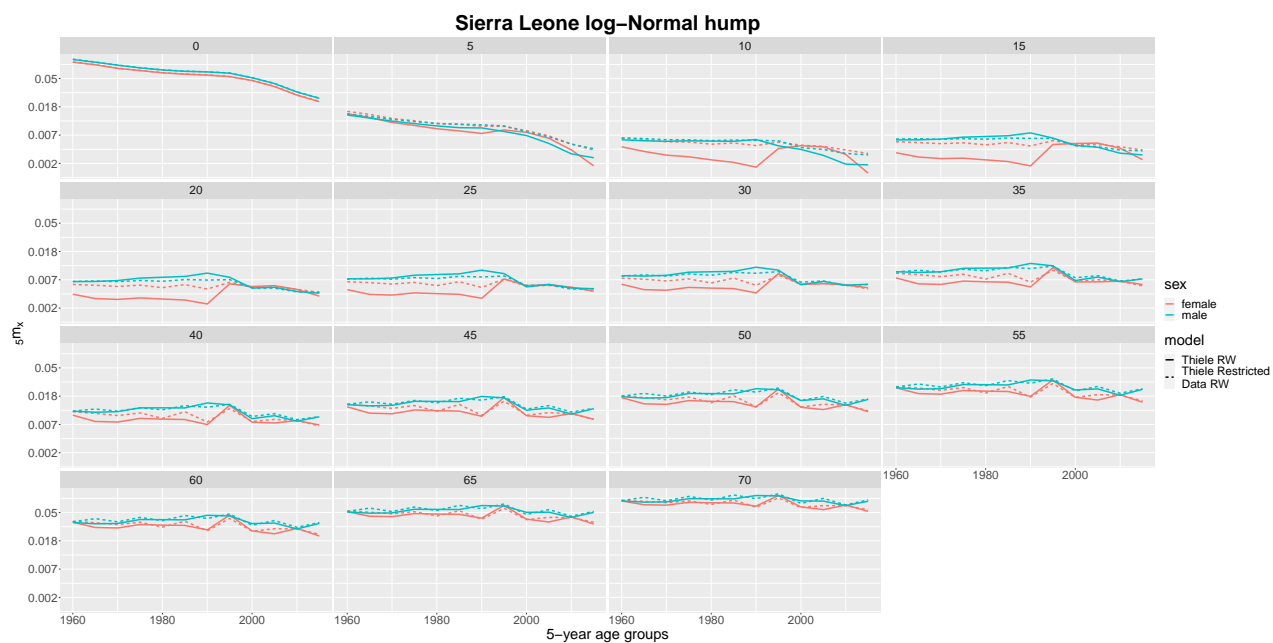


Figure 6: Mortality Schedules

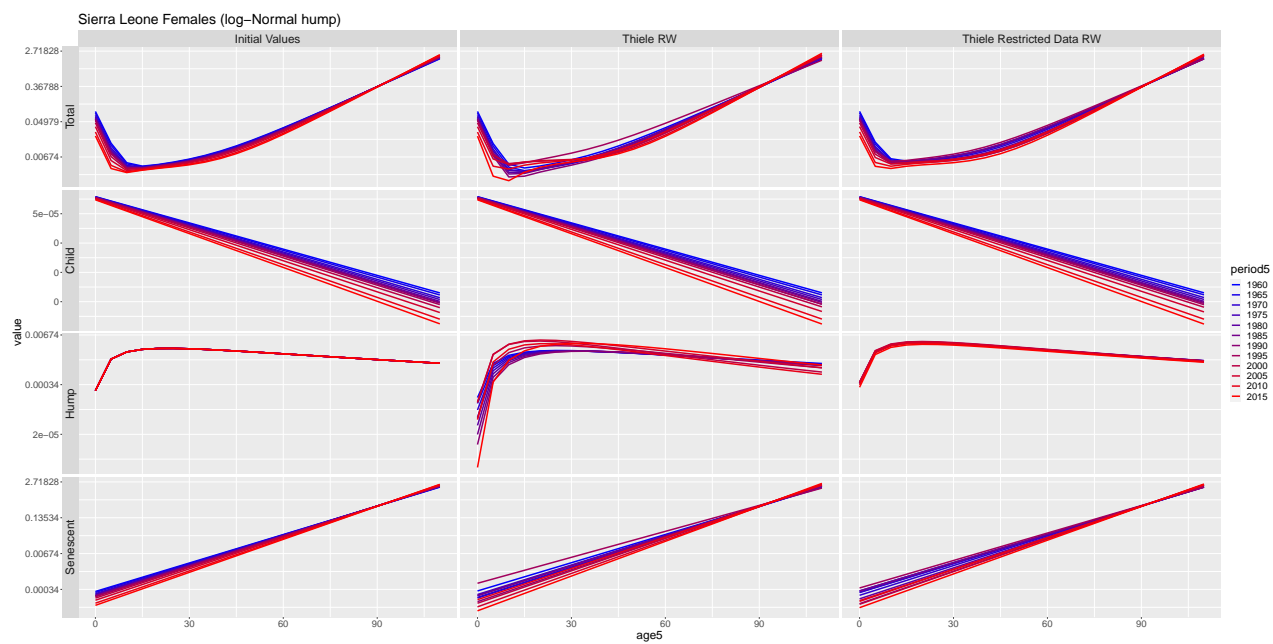


Figure 7: Thiele Decomposed

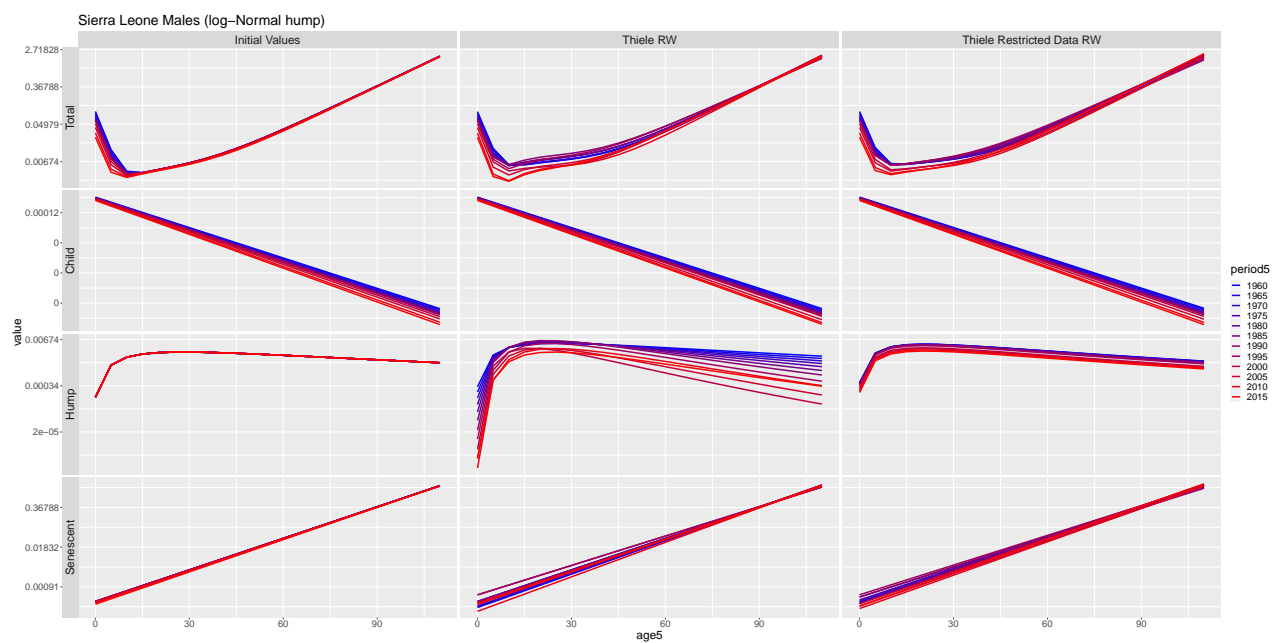


Figure 8: Thiele Decomposed

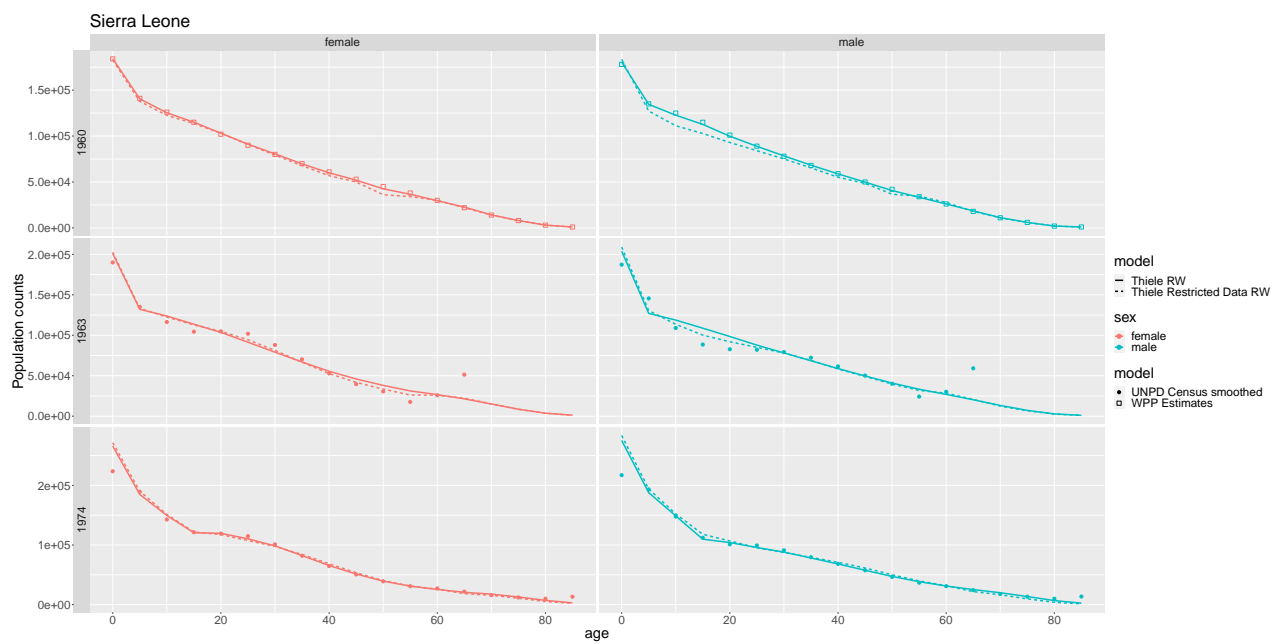


Figure 9: Population

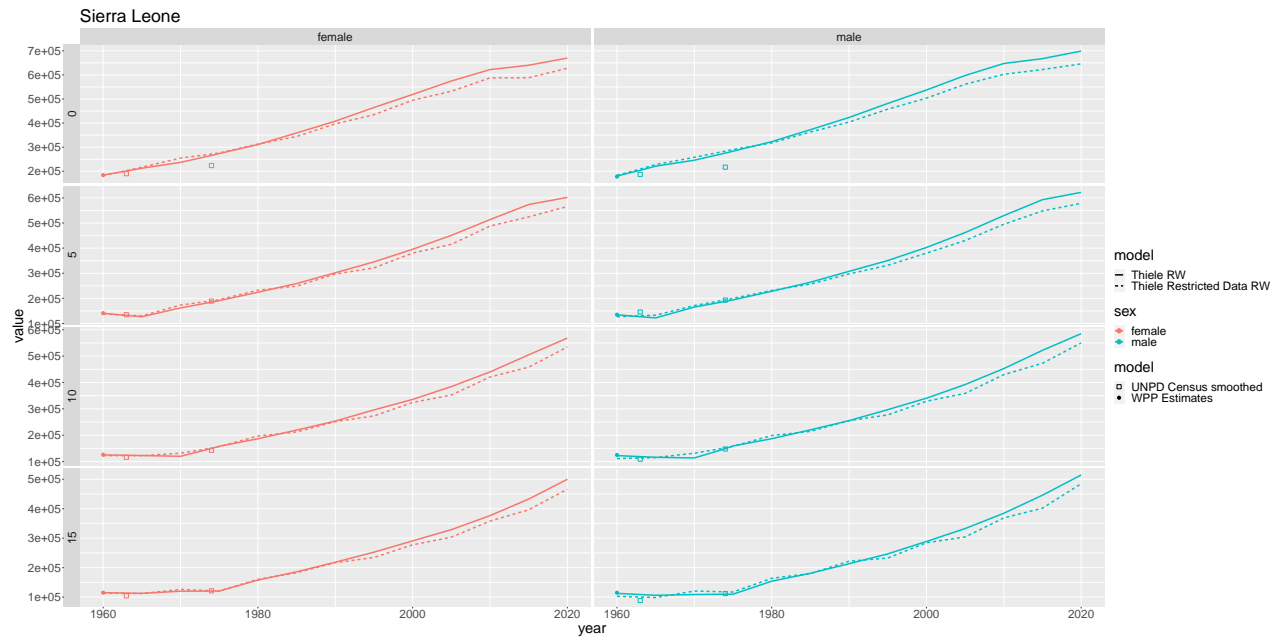


Figure 10: Population

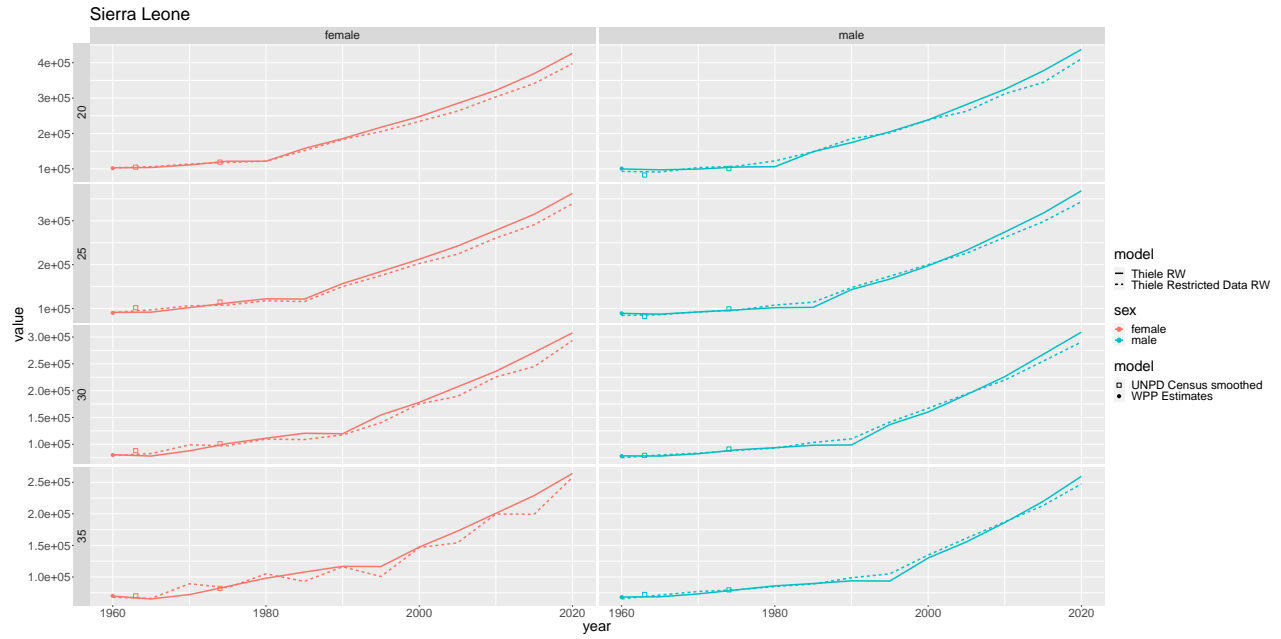


Figure 11: Population

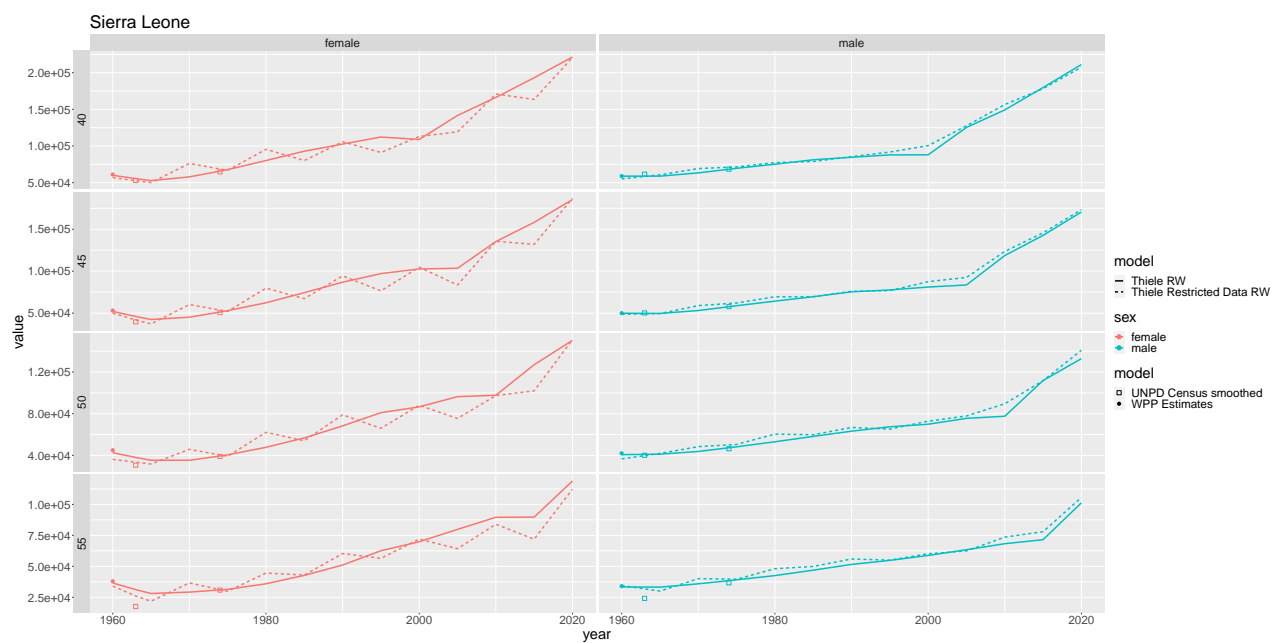


Figure 12: Population

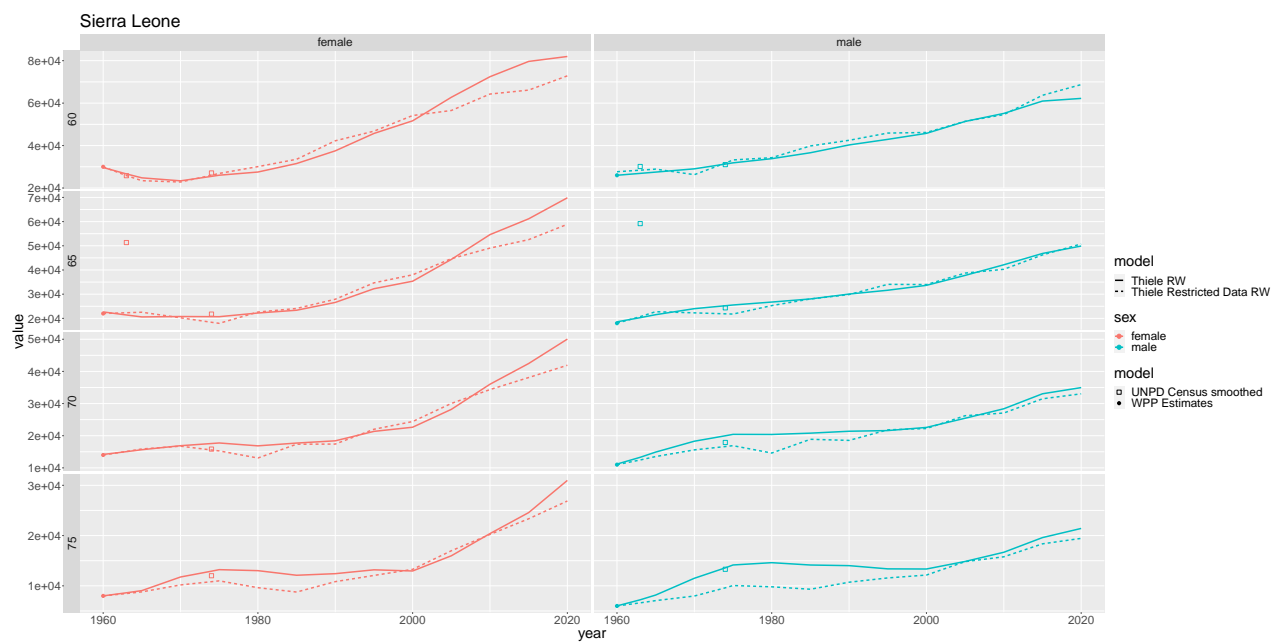


Figure 13: Population

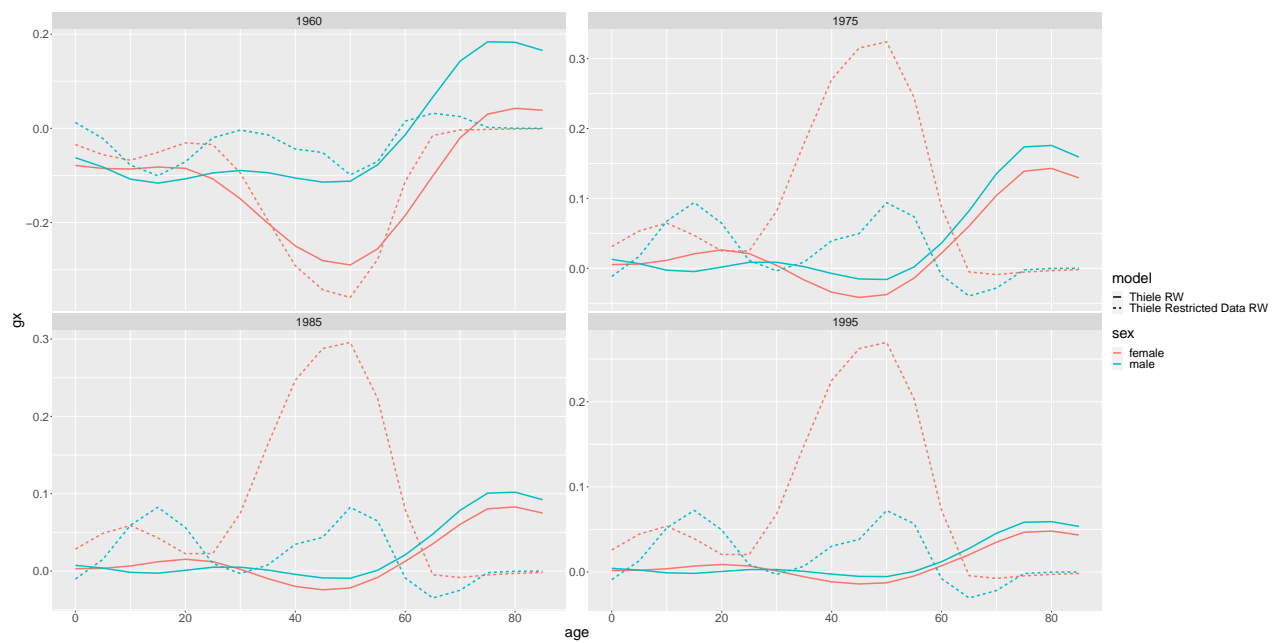


Figure 14: Migration

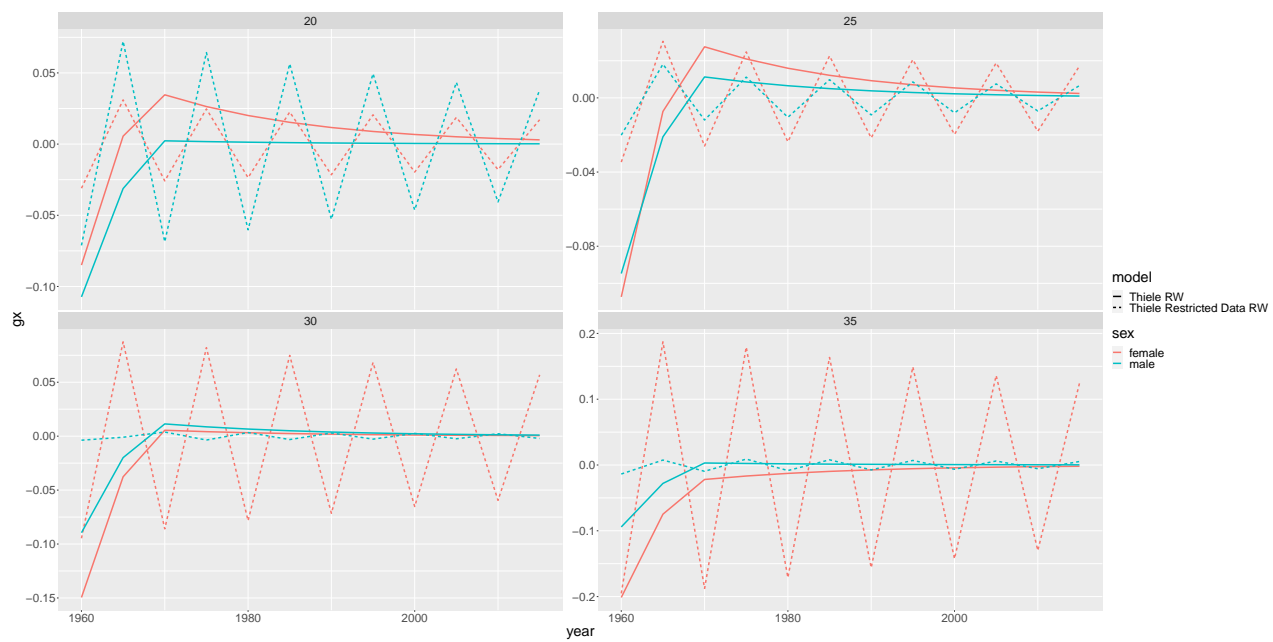


Figure 15: Migration

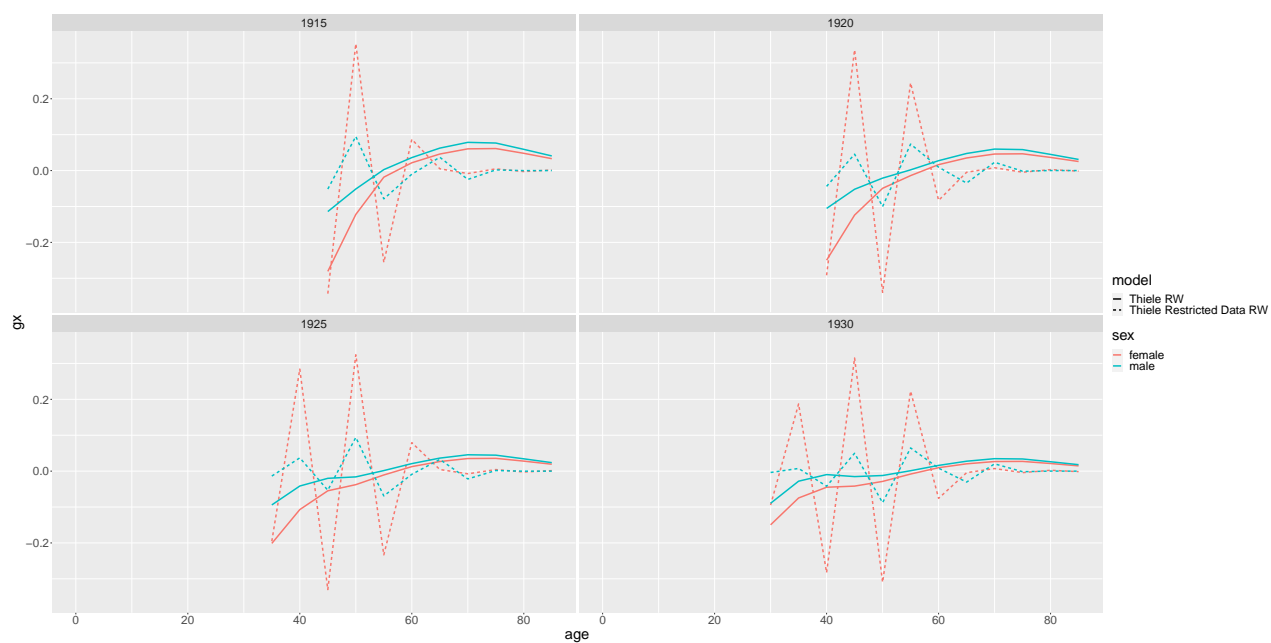


Figure 16: Migration

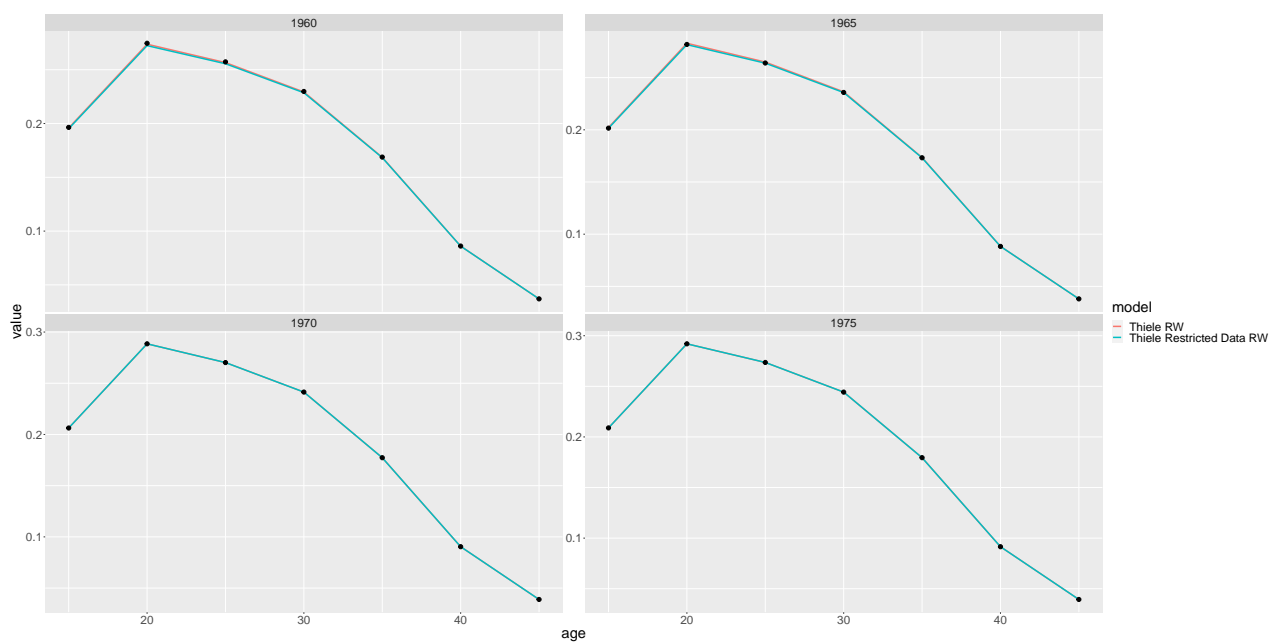


Figure 17: Fertility

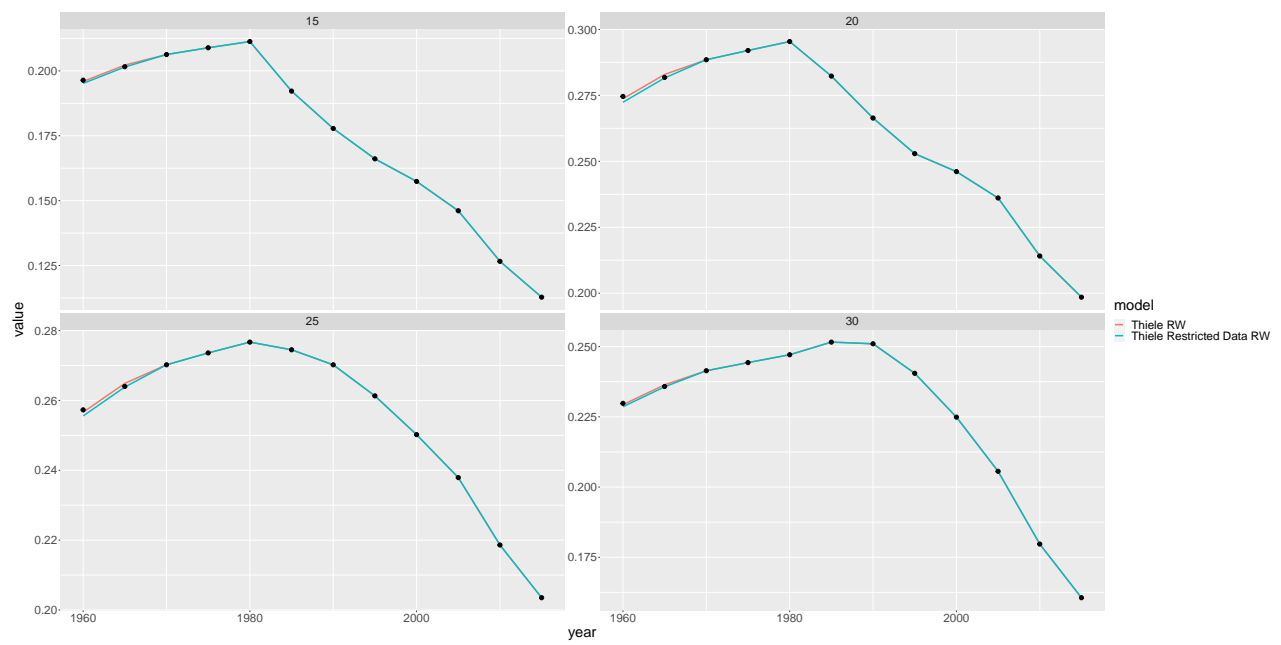


Figure 18: Fertility