

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

```
##   user  system elapsed
##   7.33   0.13    7.47
```

```
## [1] "relative convergence (4)"
Thiele log-Normal Hump RW (Pop 5-9 to 70-74, DHS 15-19 to 45-49)
## Warning in fit_tmb(input.thiele.loghump.oag.vec.RW.re, inner_verbose = FALSE, :
## convergence error: false convergence (8)

##      user  system elapsed
##    1.31    0.01    1.35

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

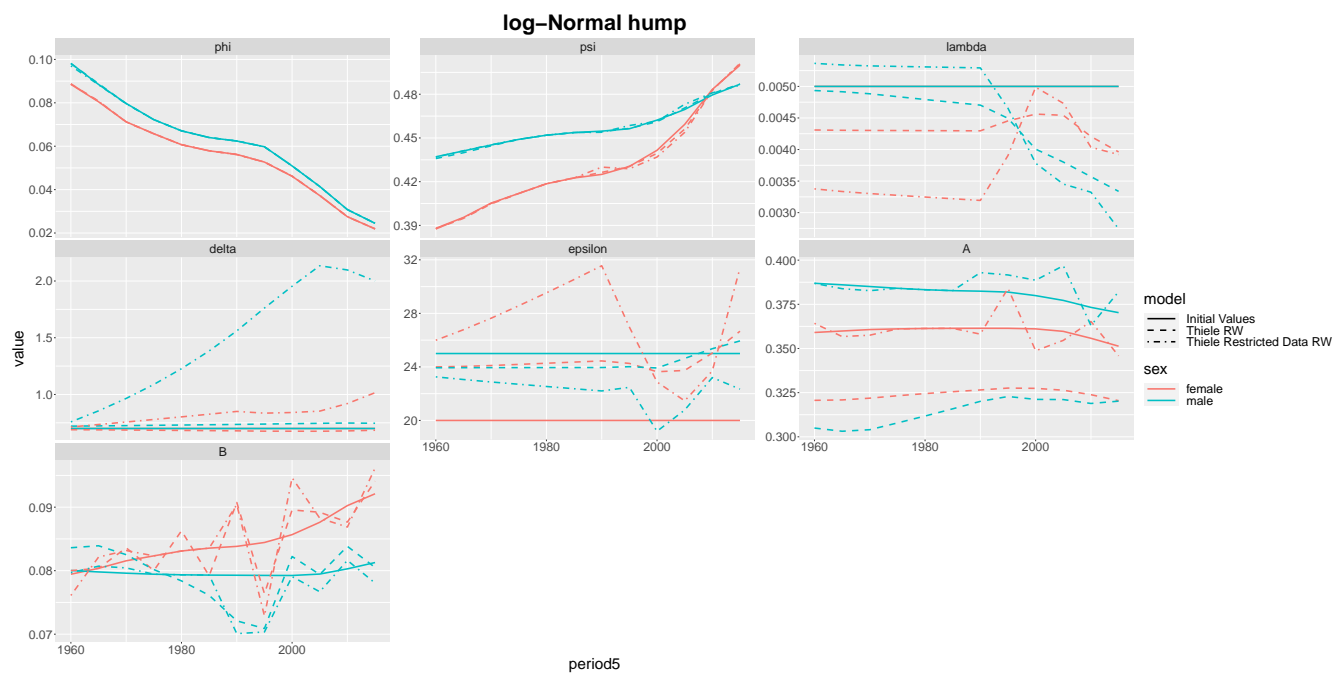


Figure 1: Estimated parameters

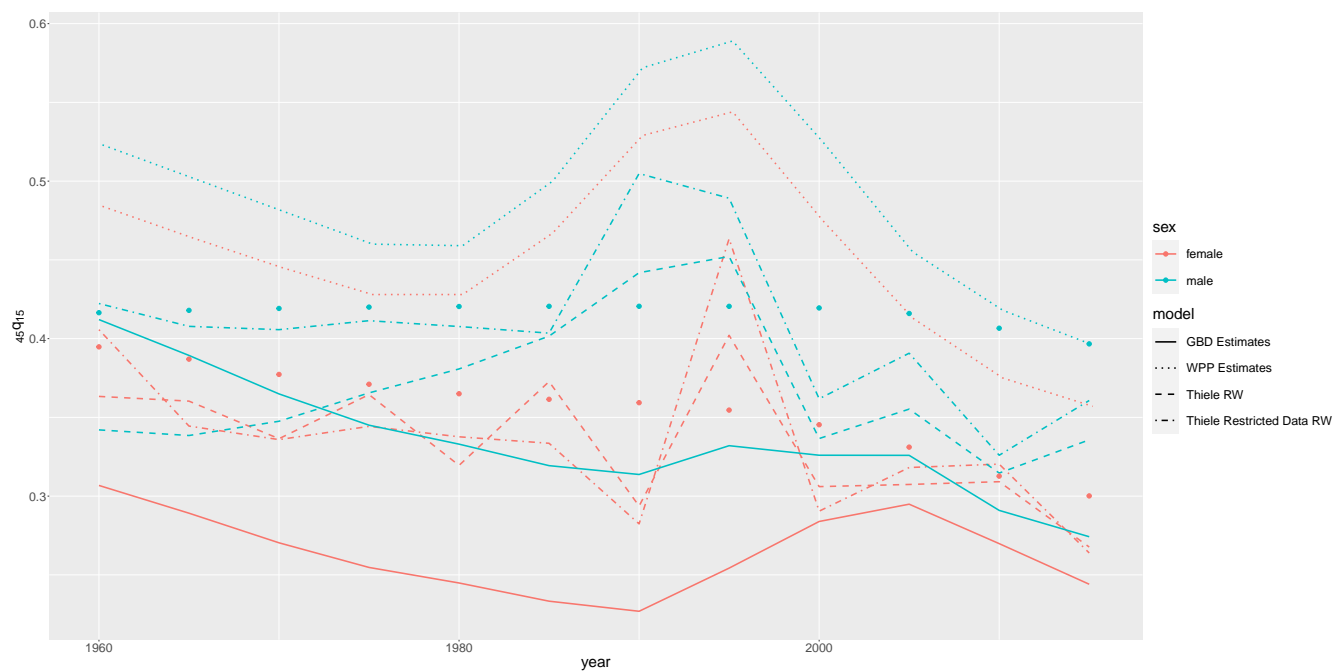


Figure 2: Estimated $_{45}q_{15}$

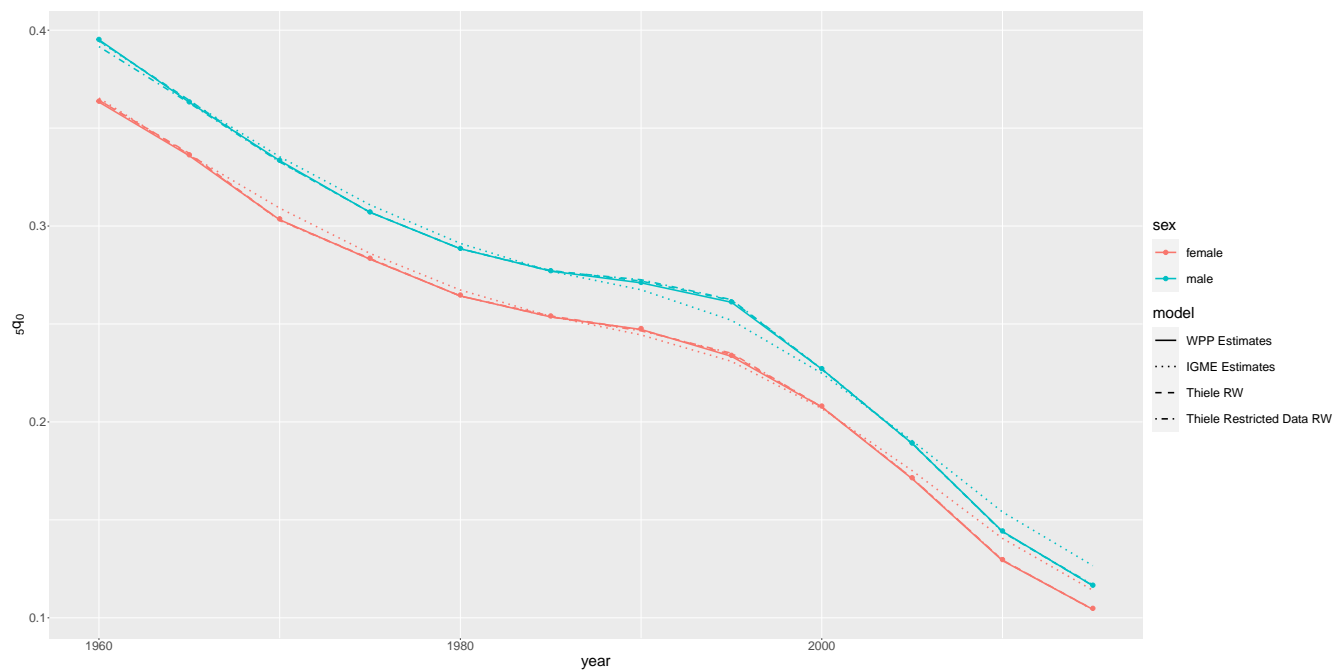


Figure 3: Estimated $_{5}q_0$

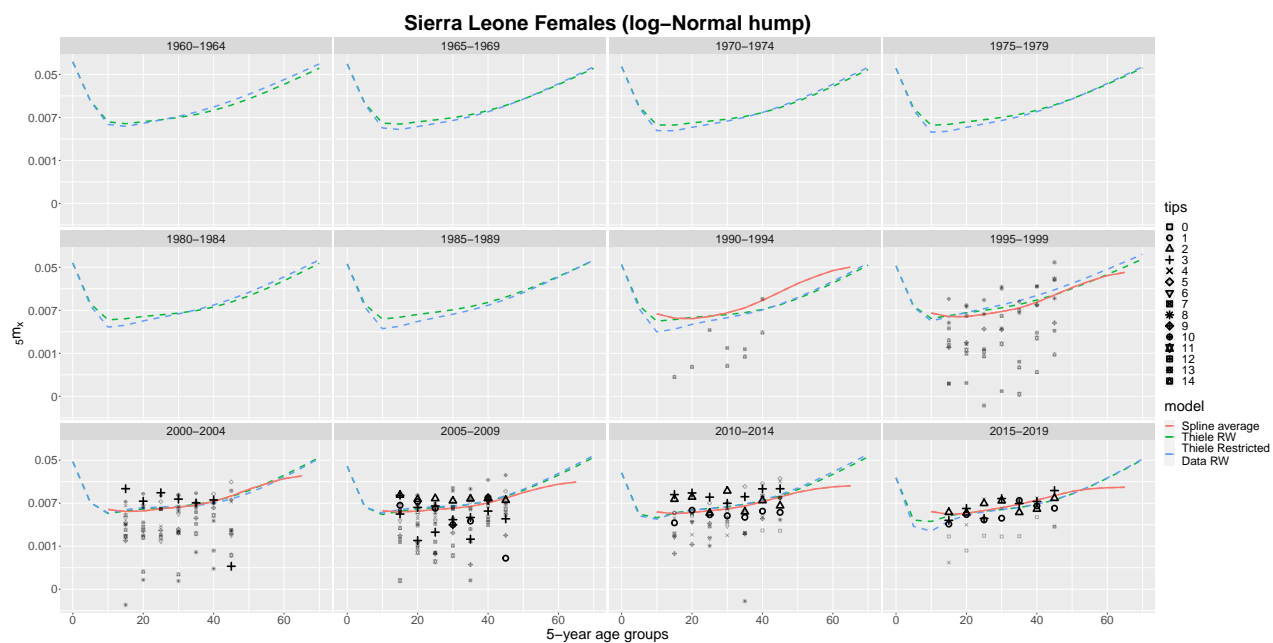


Figure 4: Mortality Schedules

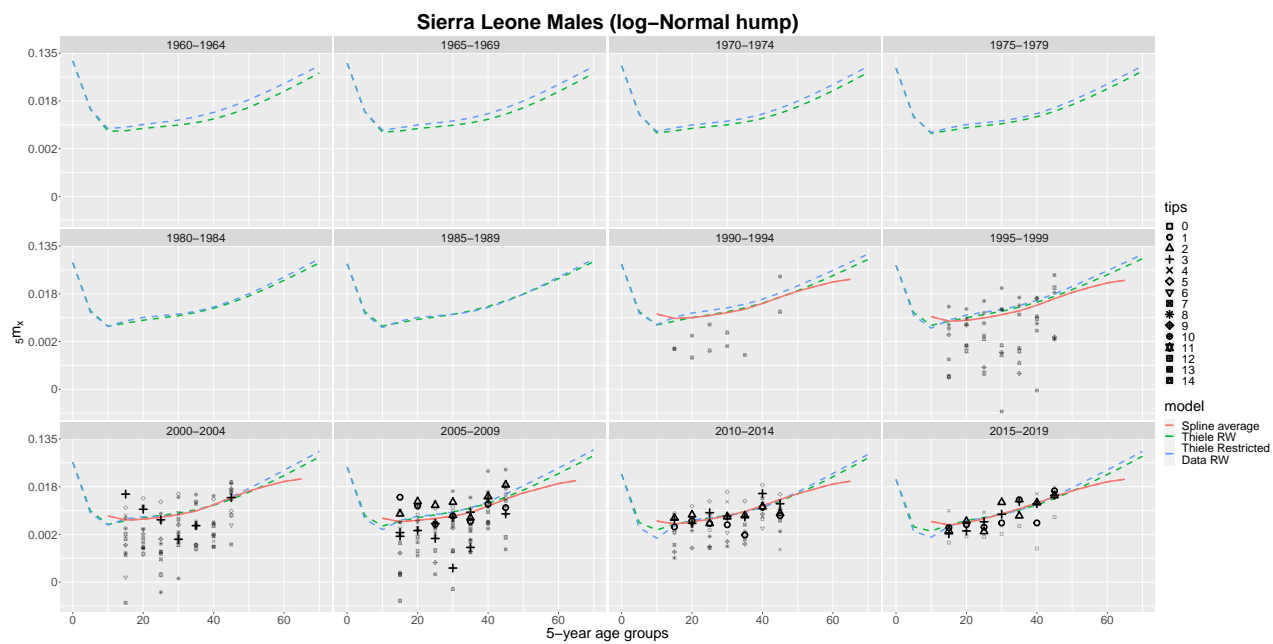


Figure 5: Mortality Schedules

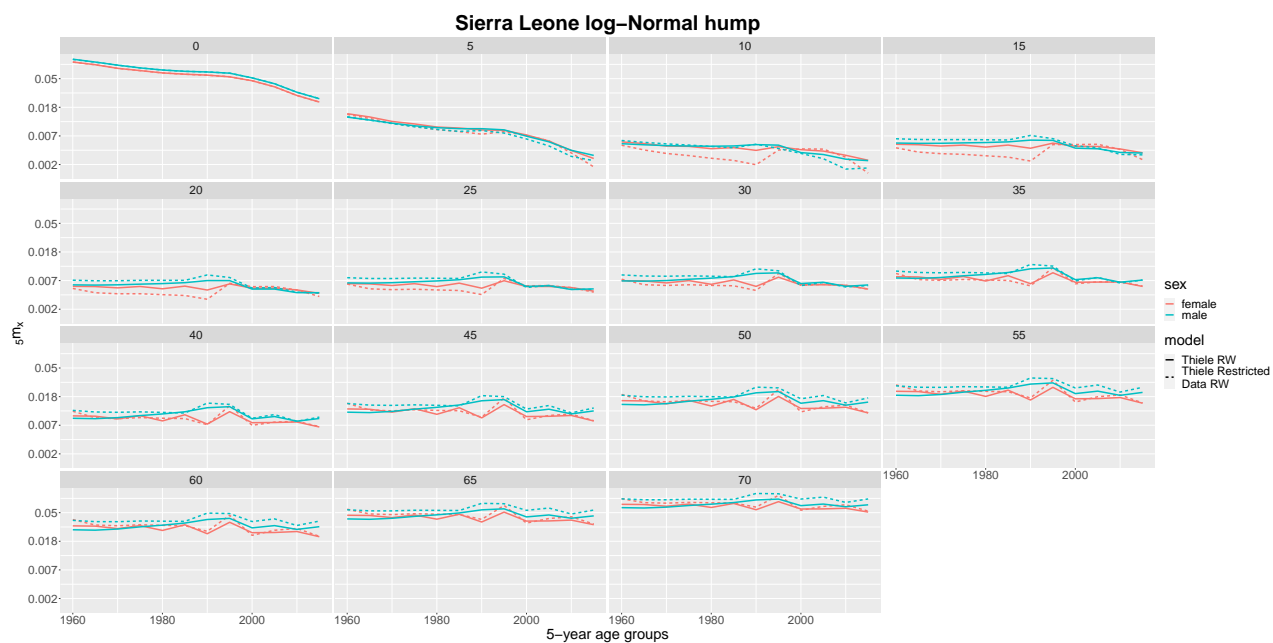


Figure 6: Mortality Schedules

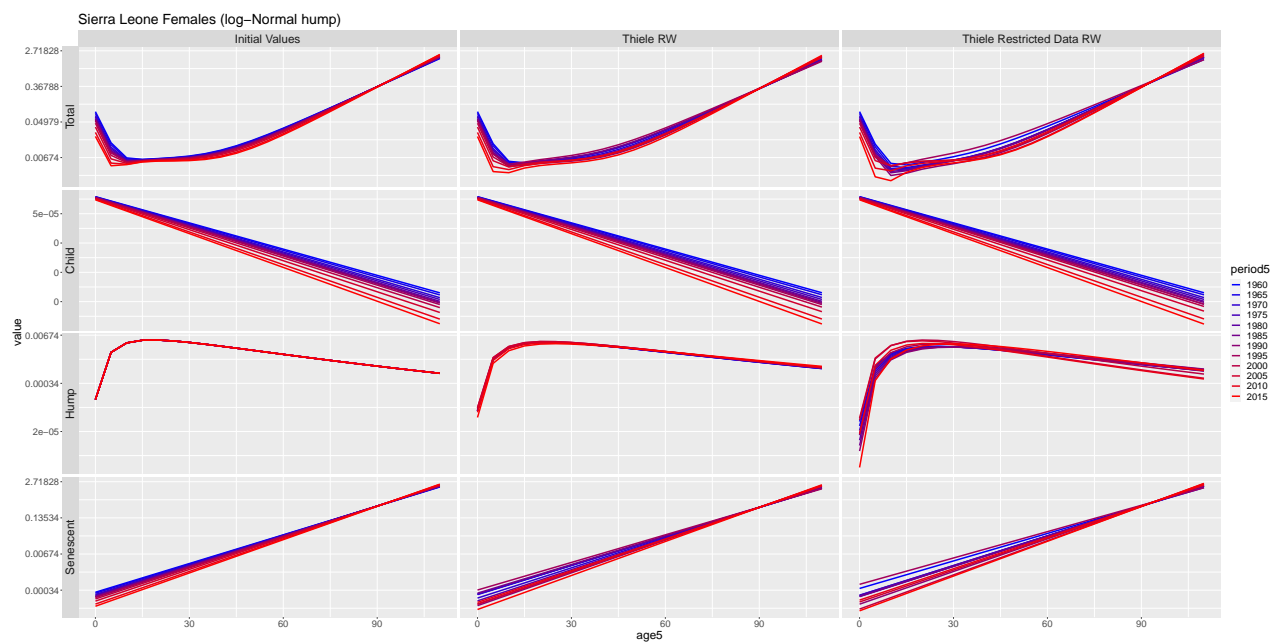


Figure 7: Thiele Decomposed

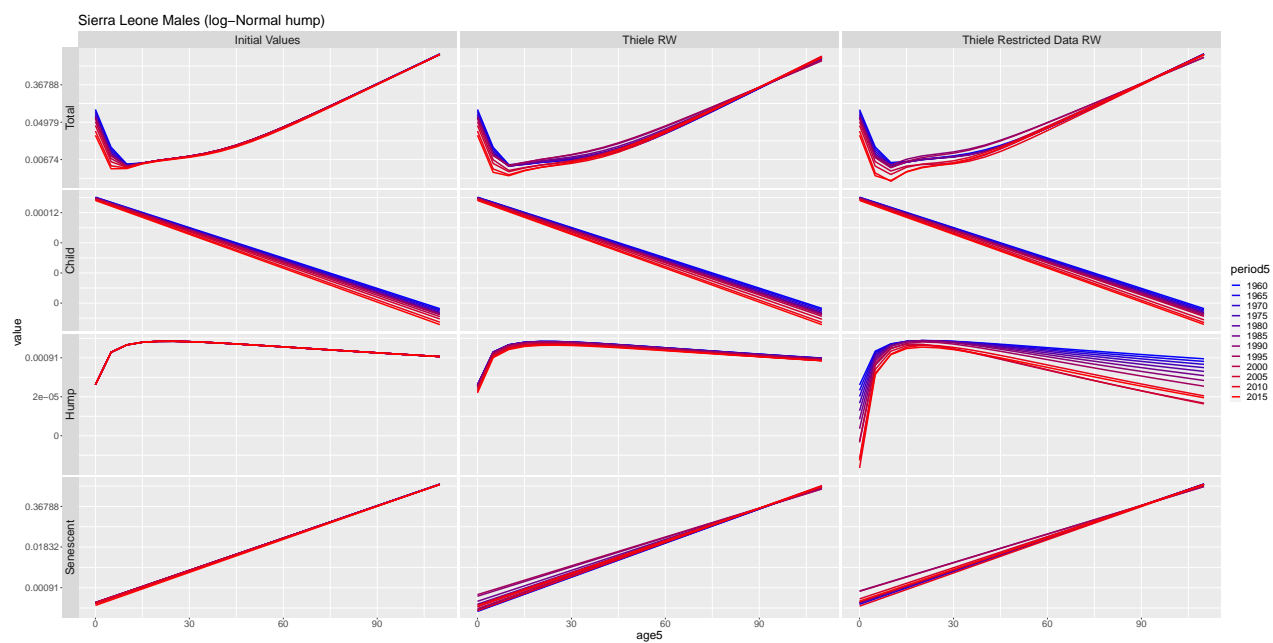


Figure 8: Thiele Decomposed

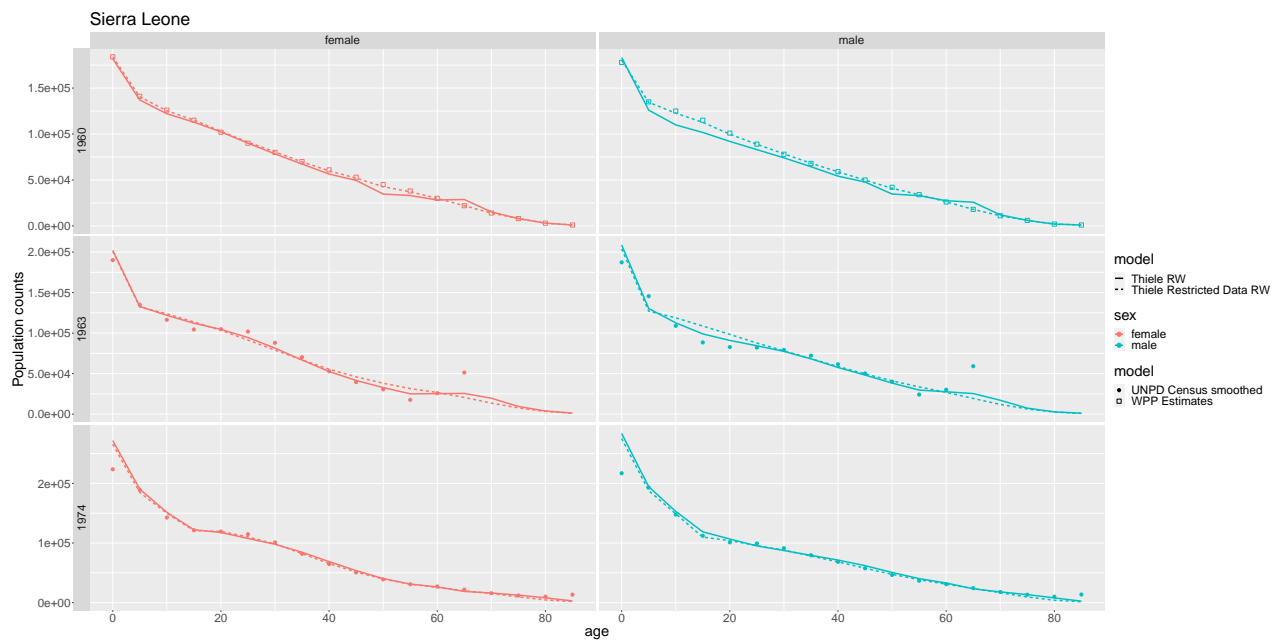


Figure 9: Population

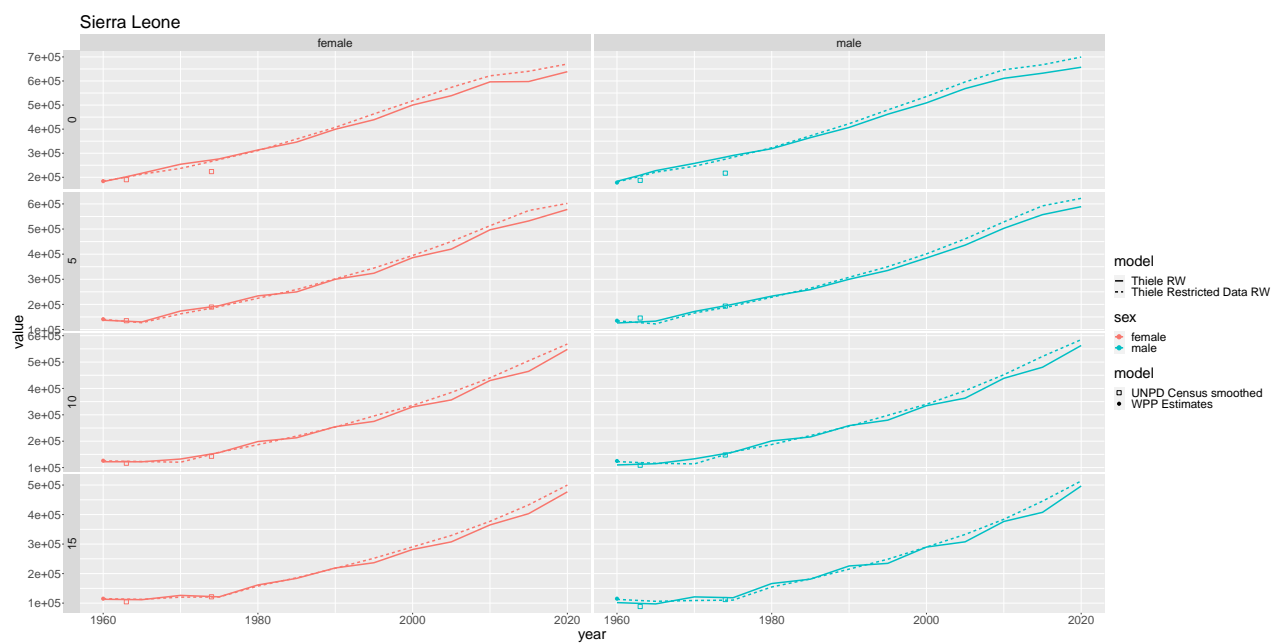


Figure 10: Population

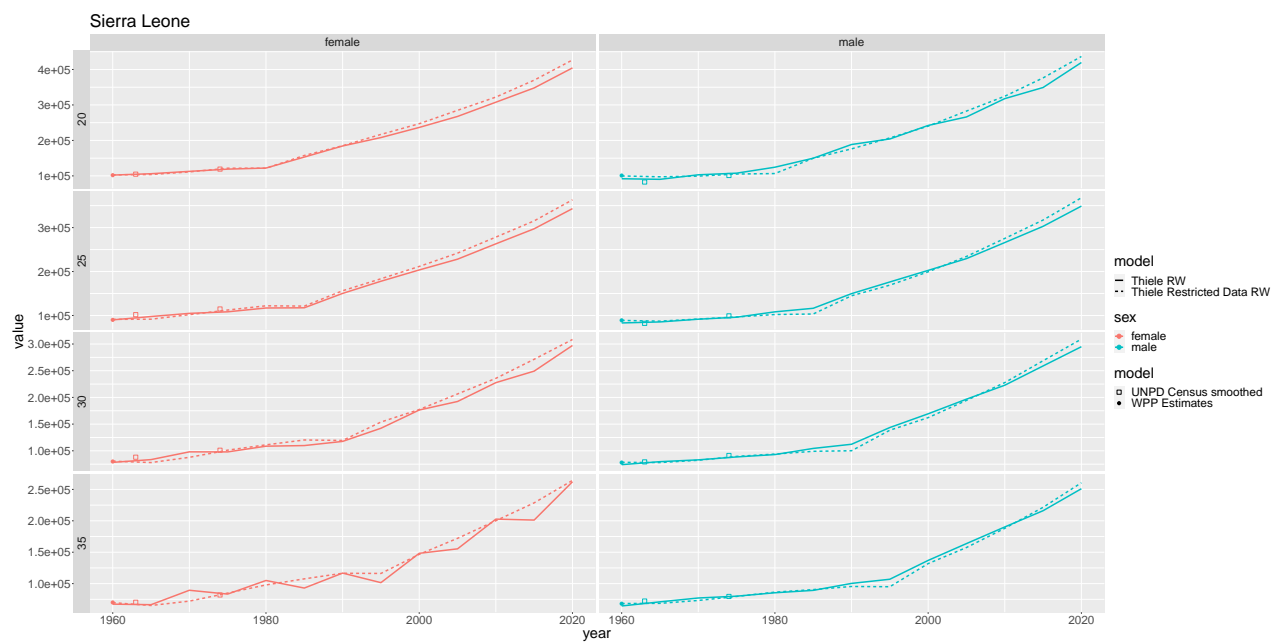


Figure 11: Population



Figure 12: Population

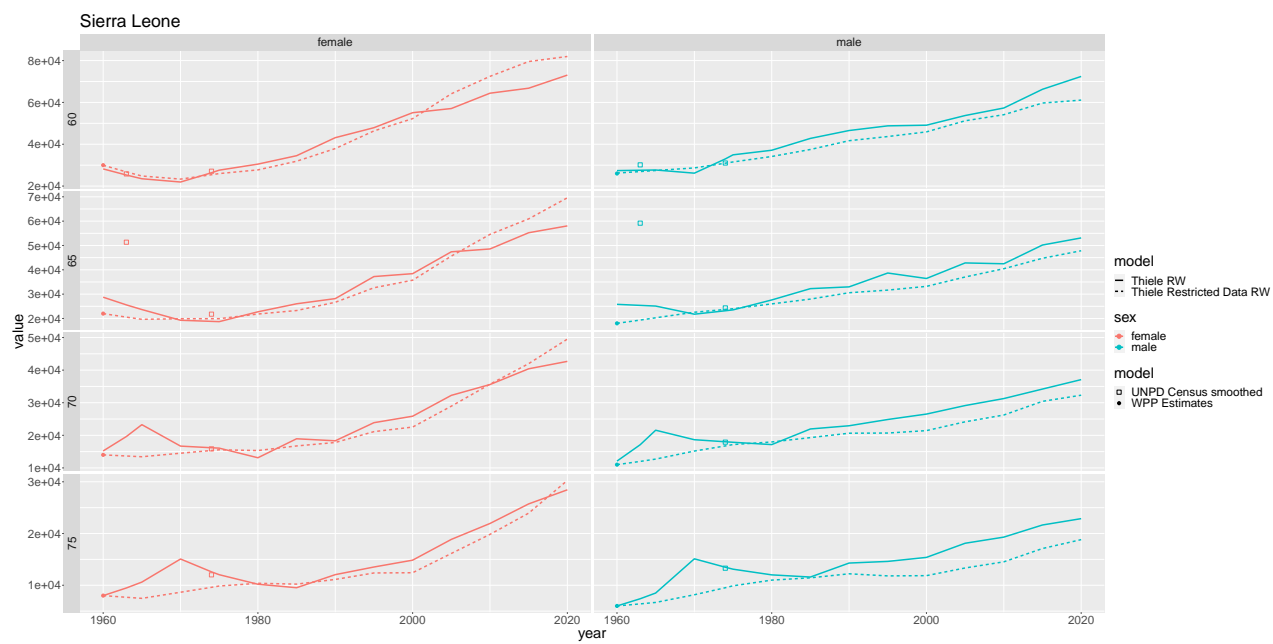


Figure 13: Population



Figure 14: Migration

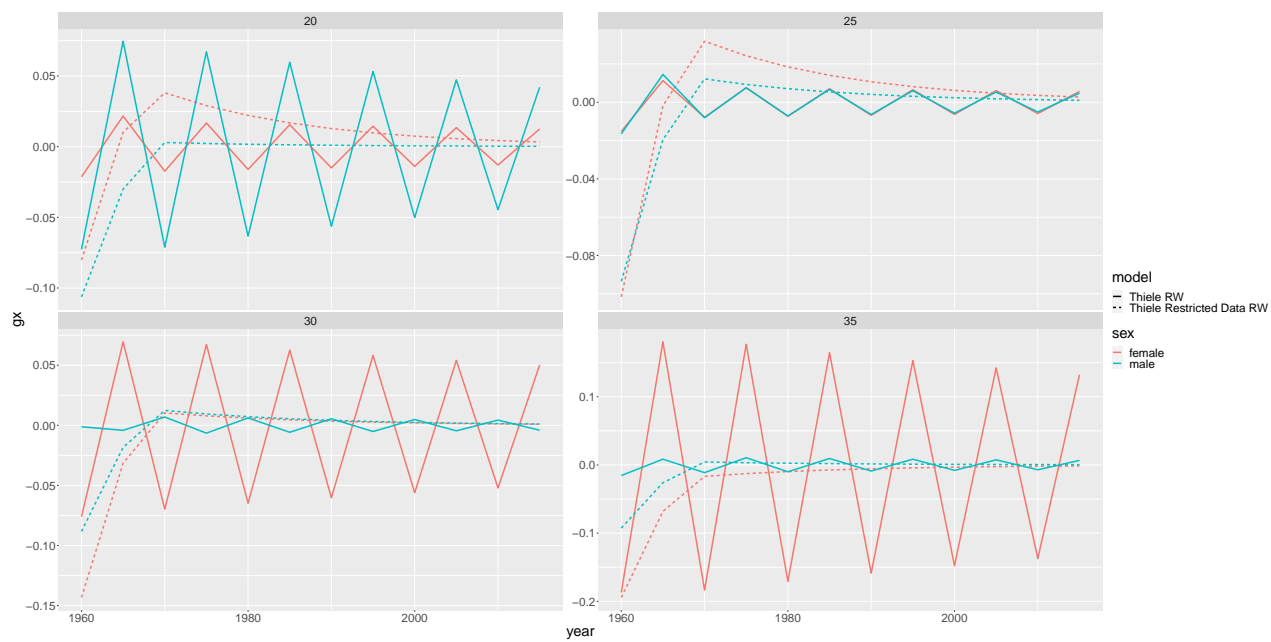


Figure 15: Migration

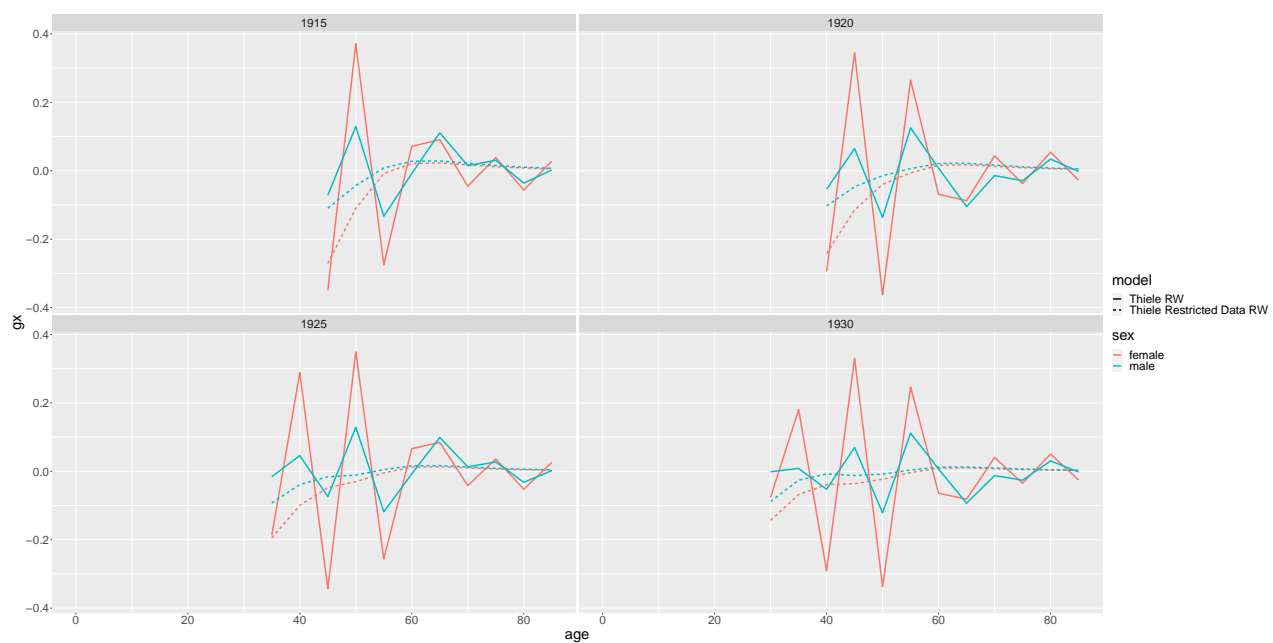


Figure 16: Migration

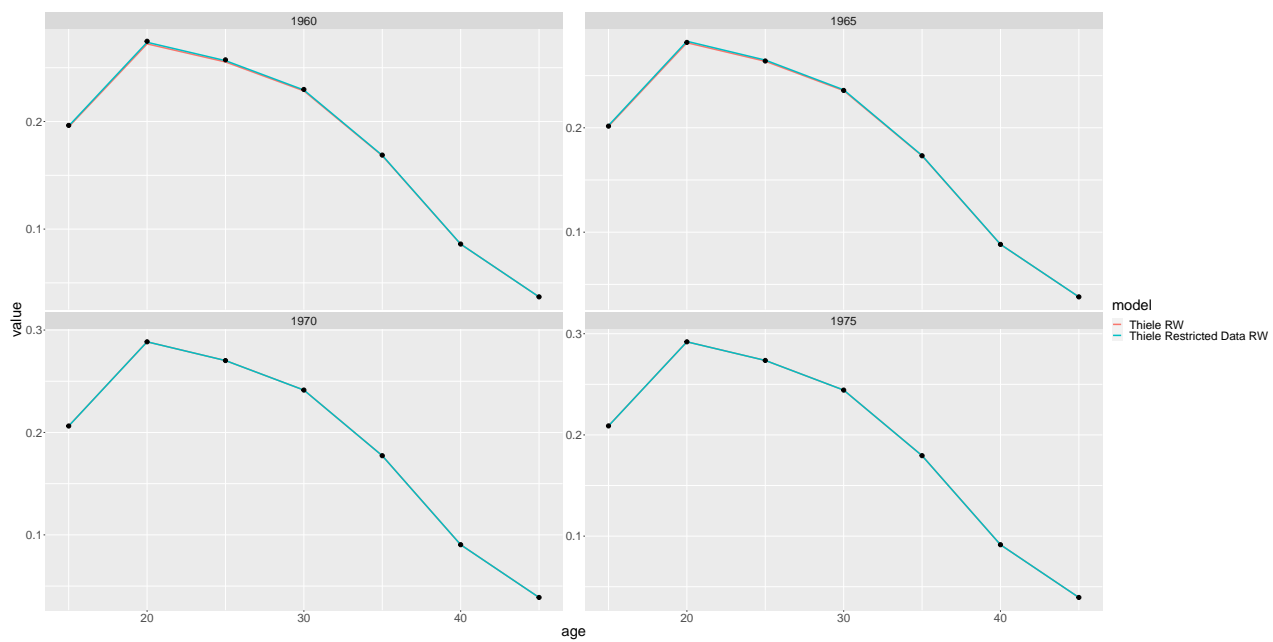


Figure 17: Fertility

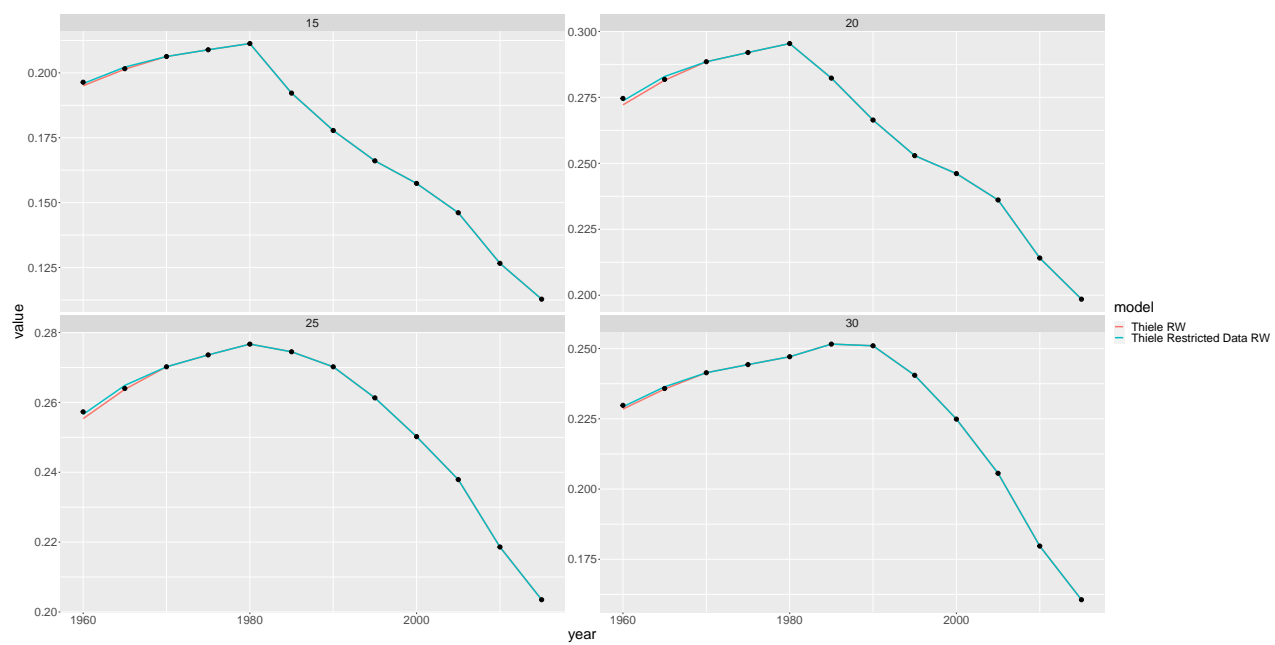


Figure 18: Fertility