

Burundi

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

## # A tibble: 18 x 4
##   aggr.age `1979` `1990` `2008`
## *   <dbl>   <dbl>   <dbl>   <dbl>
## 1       0 351217. 497543. 730172.
## 2       5 283841. 415359. 584011.
## 3      10 246185. 325523. 545644.
## 4      15 233752. 261023. 470991.
## 5      20 205602. 231259. 397348.
## 6      25 156787. 211697. 318152.
## 7      30 117321. 181360. 245358.
## 8      35  96868. 139136. 191601.
## 9      40  85160. 101640. 158559.
## 10     45  73888.  81254. 131553.
## 11     50  61436.  69706. 104268.
## 12     55  51258.  57935.  79485.
## 13     60  44370.  47378.  57035.
## 14     65  34656.  37458.  41254.
## 15     70  24107.  29164.  30206.
## 16     75  15919.  20905.  21783.
## 17     80   8678.  12881.  14501.
## 18     85   8387.  15012.  13832.
```

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

## # A tibble: 18 x 4
##   aggr.age `1979` `1990` `2008`
## *   <dbl>   <dbl>   <dbl>   <dbl>
## 1       0 346363. 495595. 709439.
## 2       5 281131. 411904. 561403.
## 3      10 243533. 321351. 513469.
## 4      15 226268. 250772. 439284.
## 5      20 194141. 212357. 373529.
## 6      25 145324. 193126. 304454.
## 7      30 104707. 169926. 242842.
## 8      35  81102. 131389. 196188.
## 9      40  68939.  92299. 164421.
## 10     45  59998.  69012. 138811.
## 11     50  49340.  57265. 112201.
## 12     55  40463.  47487.  85198.
## 13     60  34783.  38075.  59847.
## 14     65  28076.  30203.  41328.
## 15     70  21455.  24448.  28893.
## 16     75  15673.  18359.  20283.
## 17     80   9392.  12236.  13600.
## 18     85  12196.  16557.  14153.
```

Thiele log-Normal Hump RW

```
## Warning in fit_tmb(input.thiele.loghump.oag.vec.RW, inner_verbose = FALSE, :
## convergence error: false convergence (8)
```

```
##      user  system elapsed
##  25.54    0.37   26.13
## [1] "false convergence (8)"
```

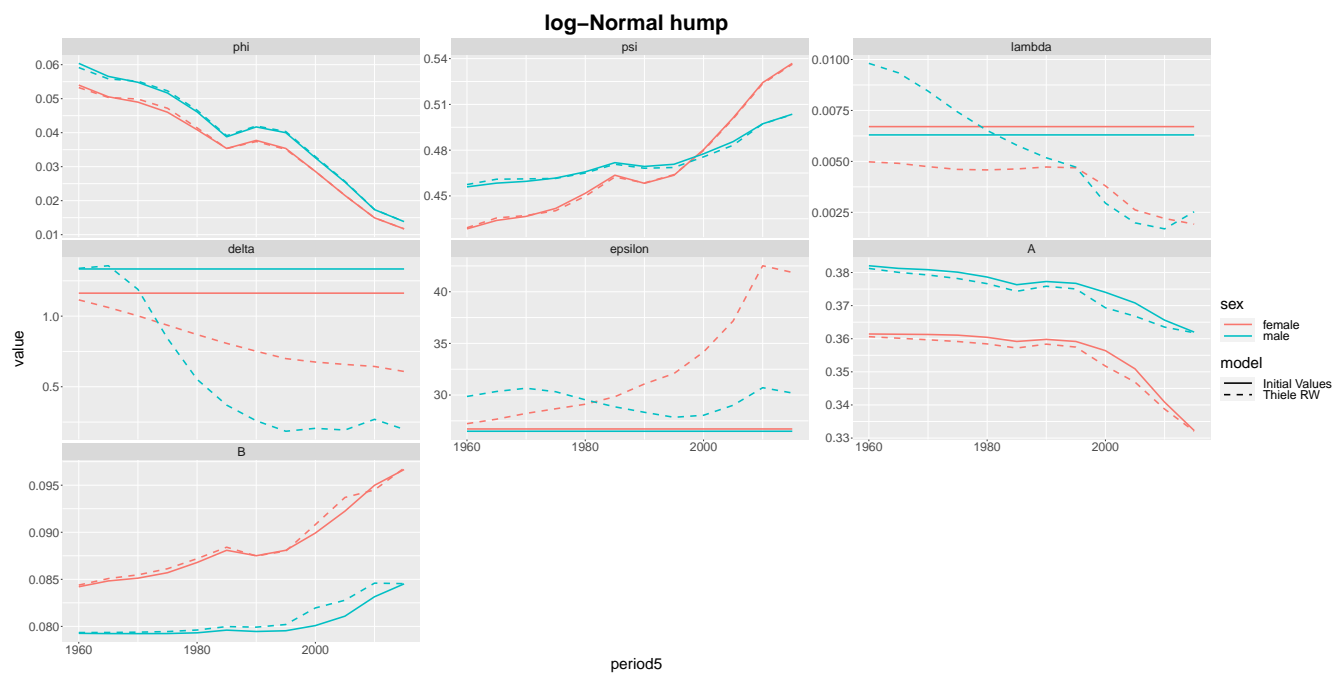


Figure 1: Estimated parameters

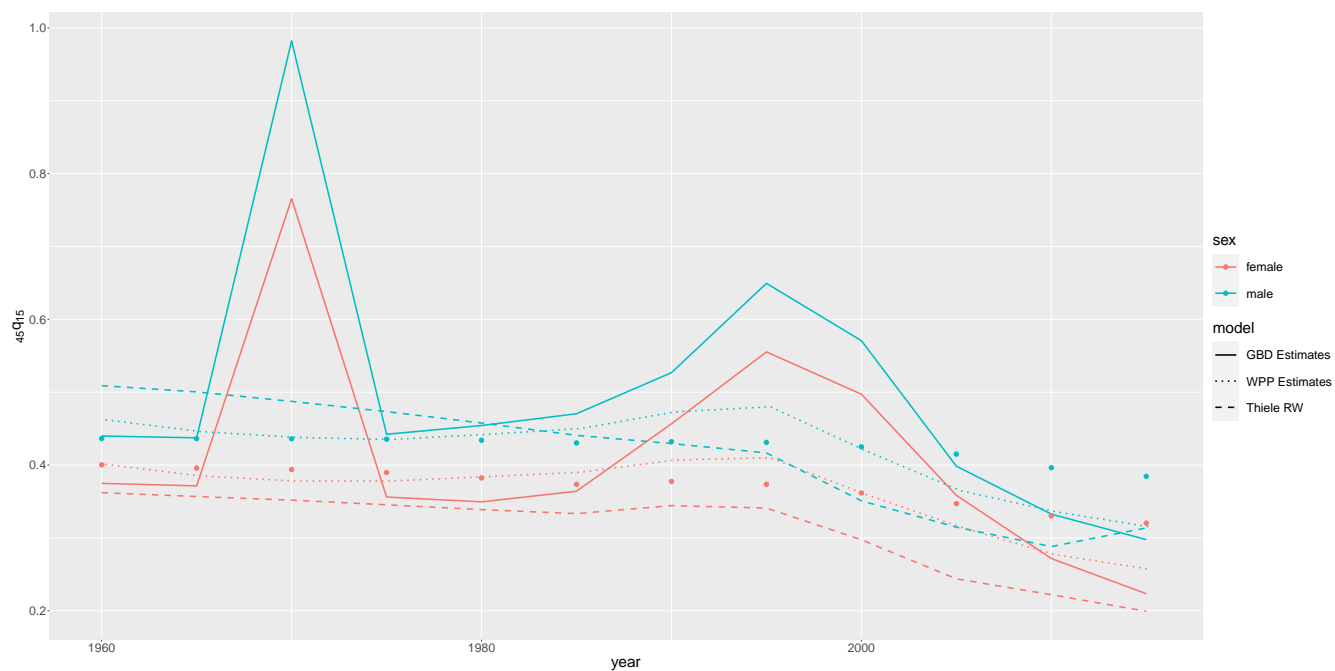


Figure 2: Estimated $45q_{15}$

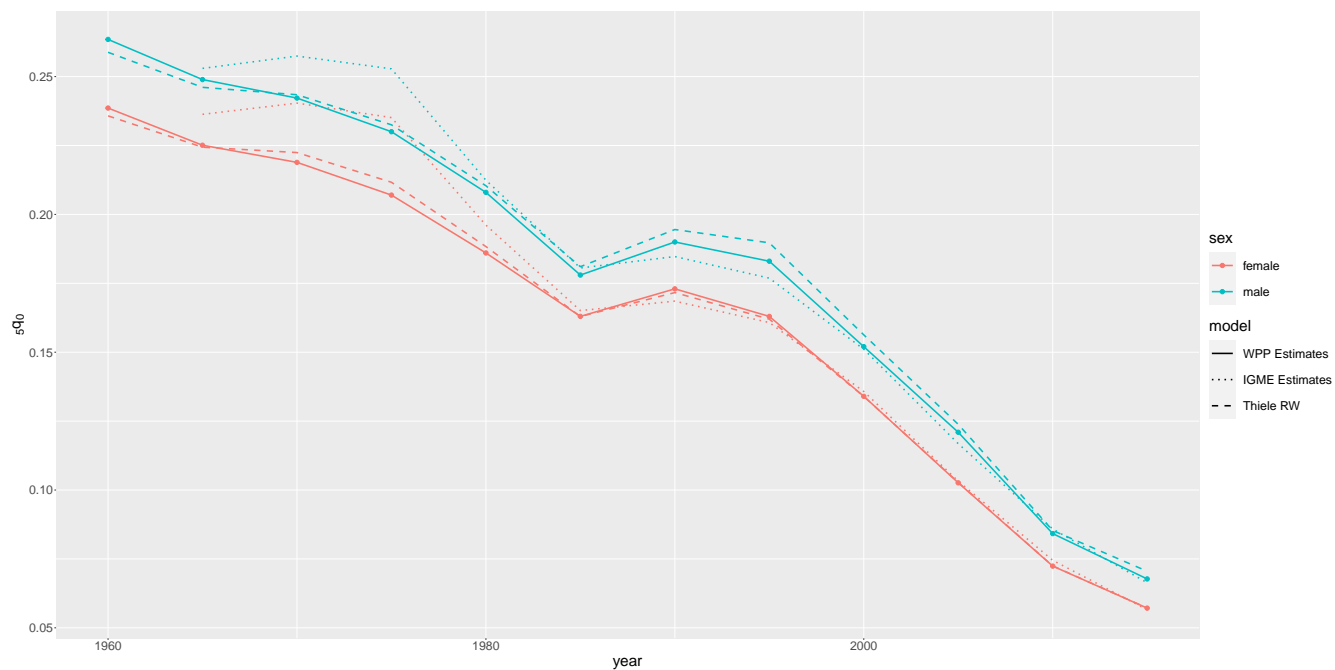


Figure 3: Estimated $5q_0$

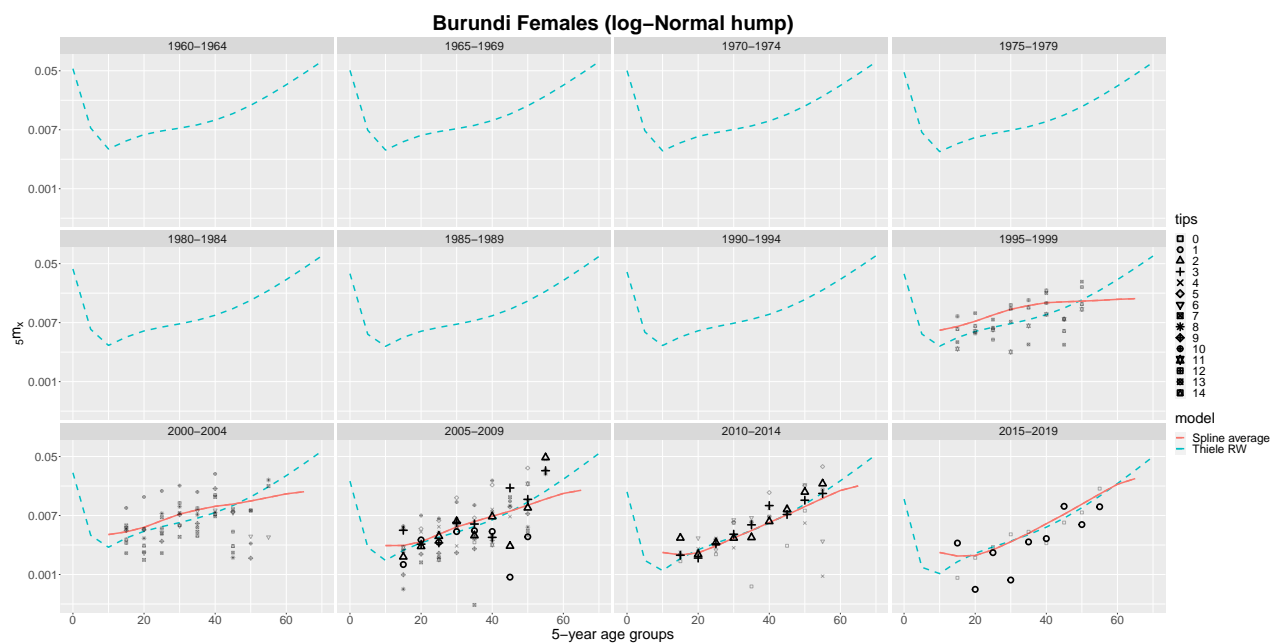


Figure 4: Mortality Schedules

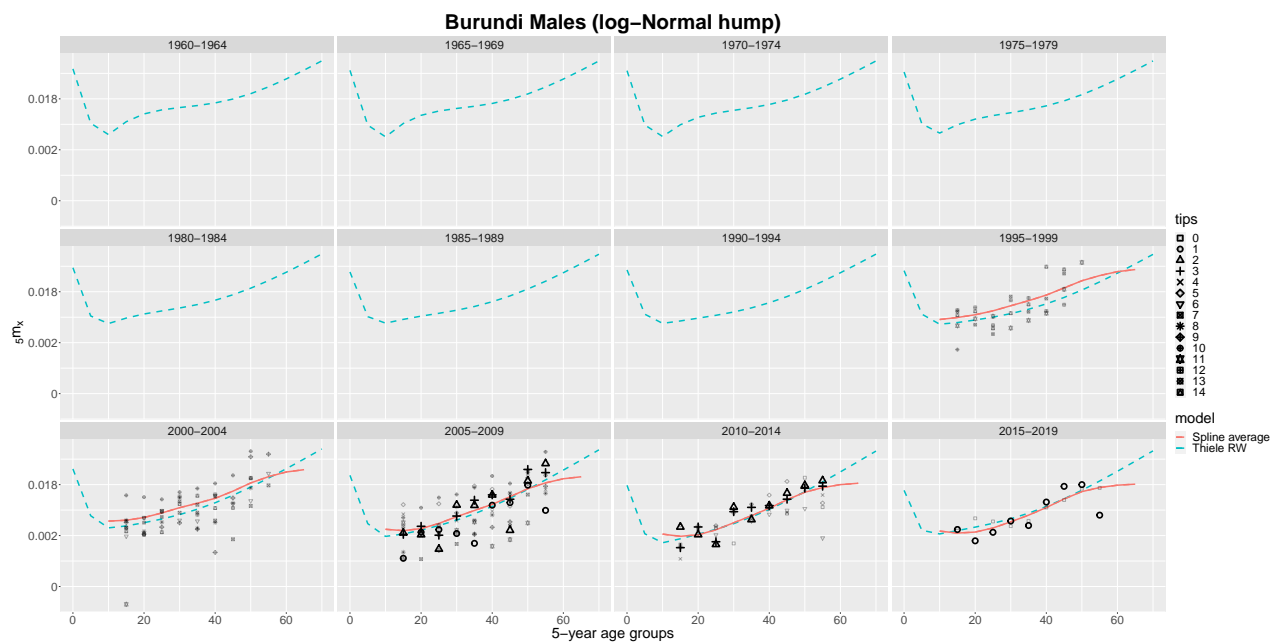


Figure 5: Mortality Schedules

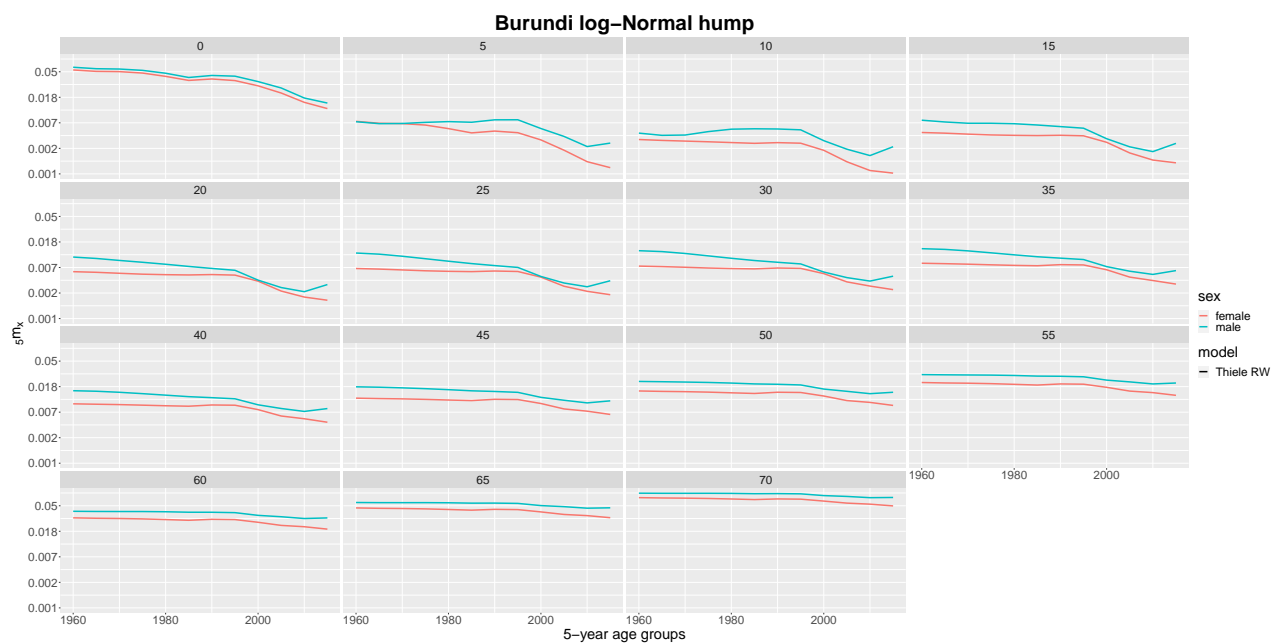


Figure 6: Mortality Schedules

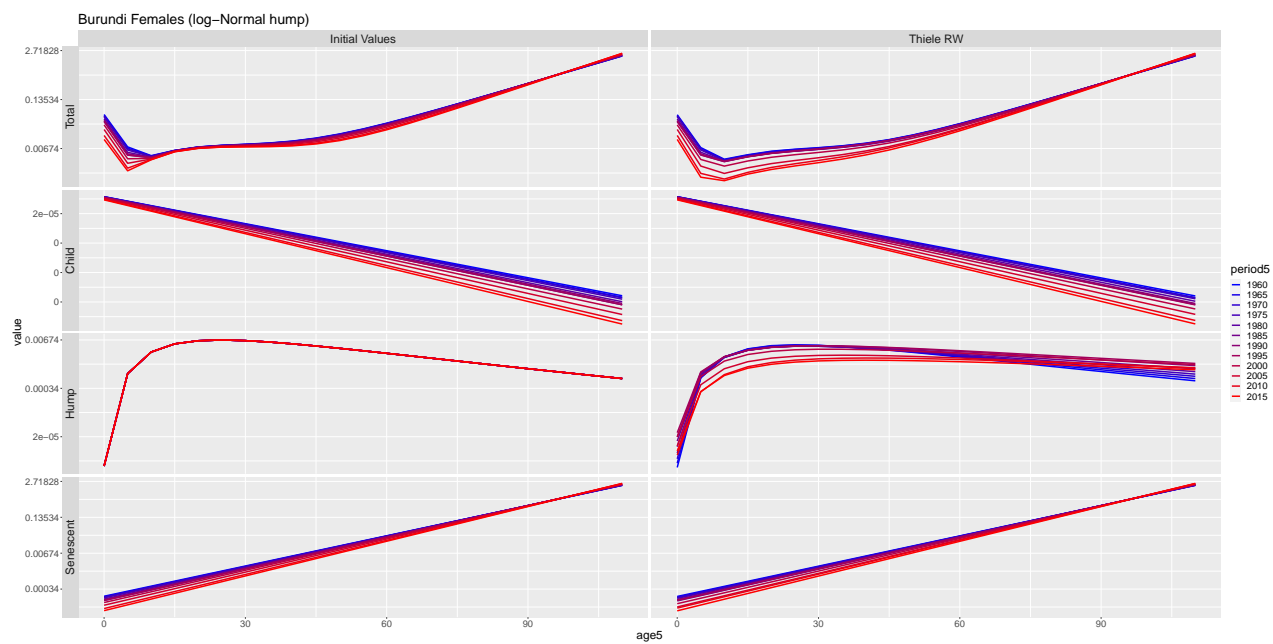


Figure 7: Thiele Decomposed

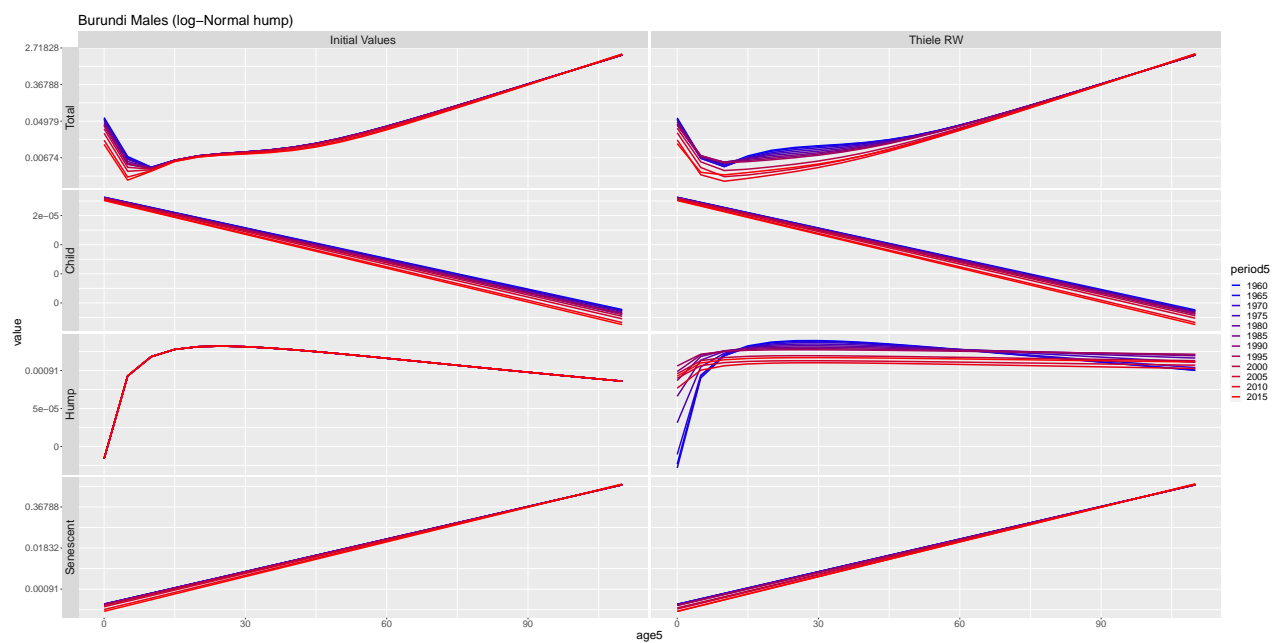


Figure 8: Thiele Decomposed

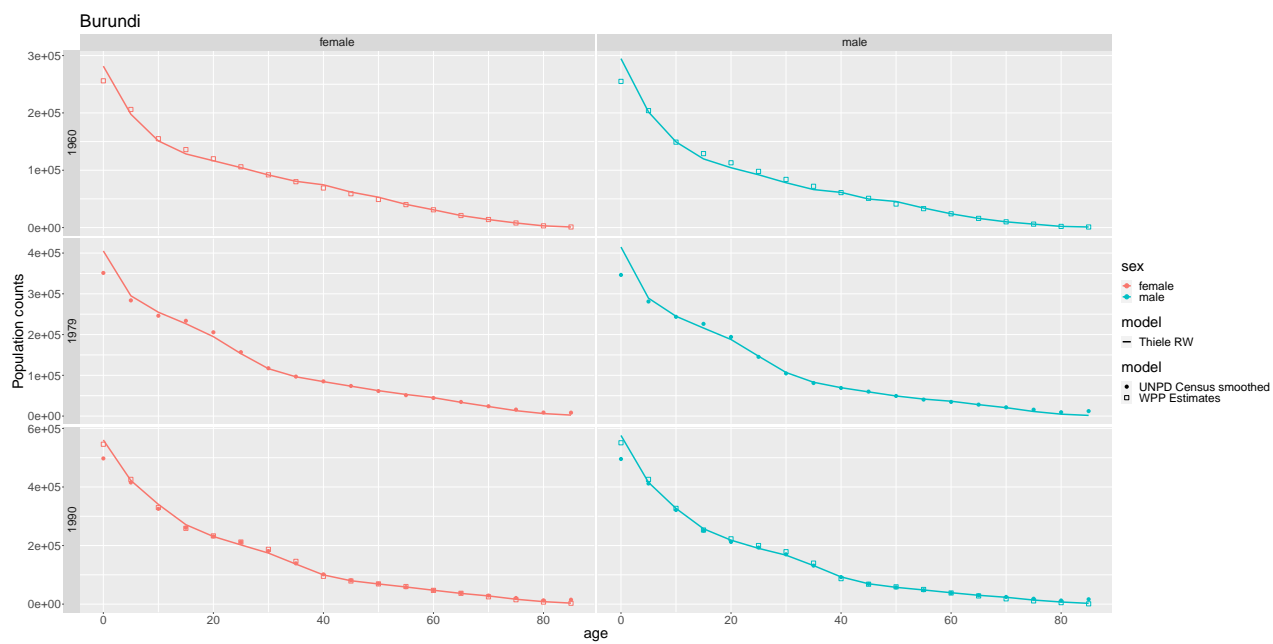


Figure 9: Population

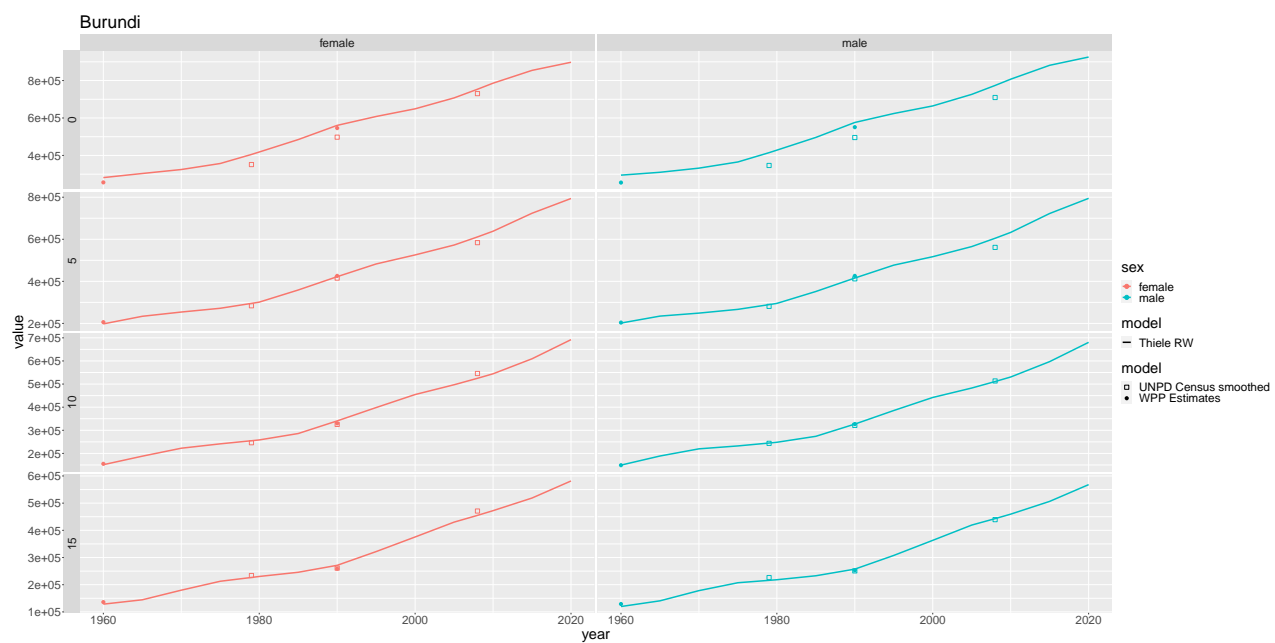


Figure 10: Population

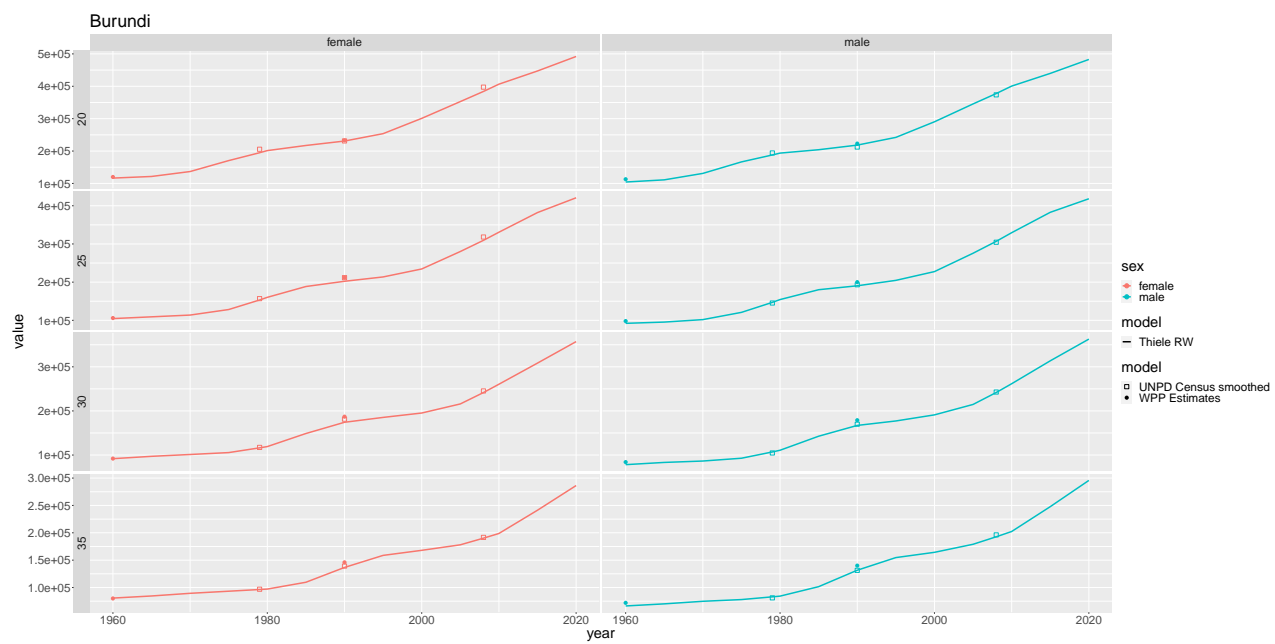


Figure 11: Population

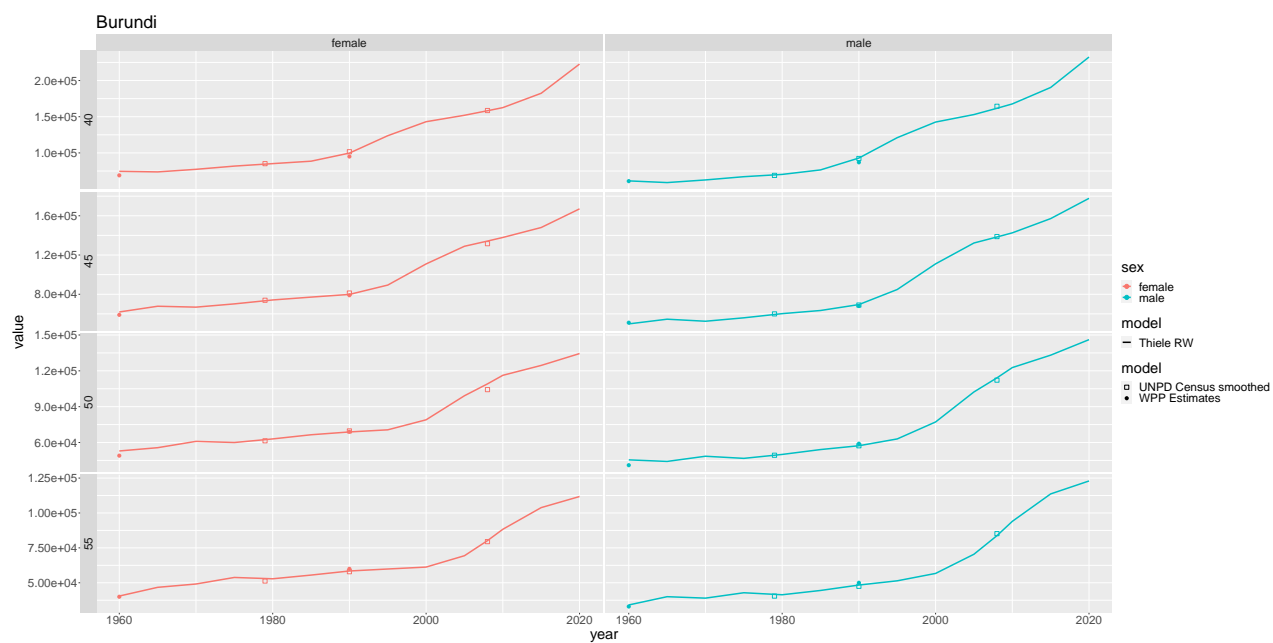


Figure 12: Population

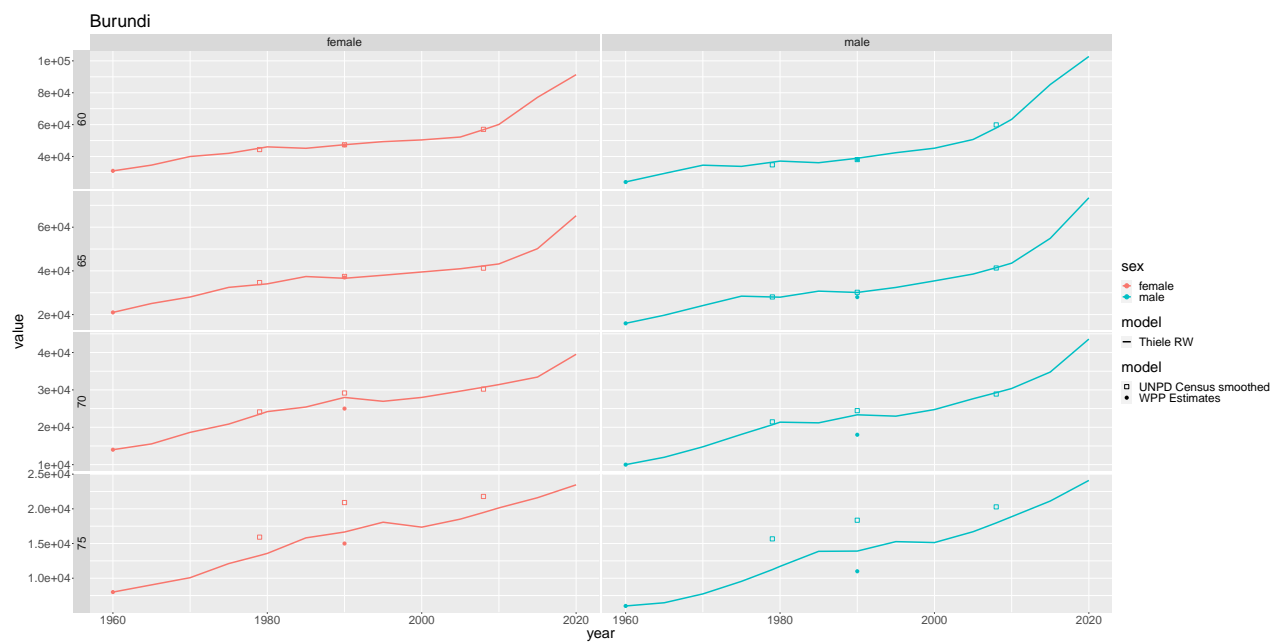


Figure 13: Population

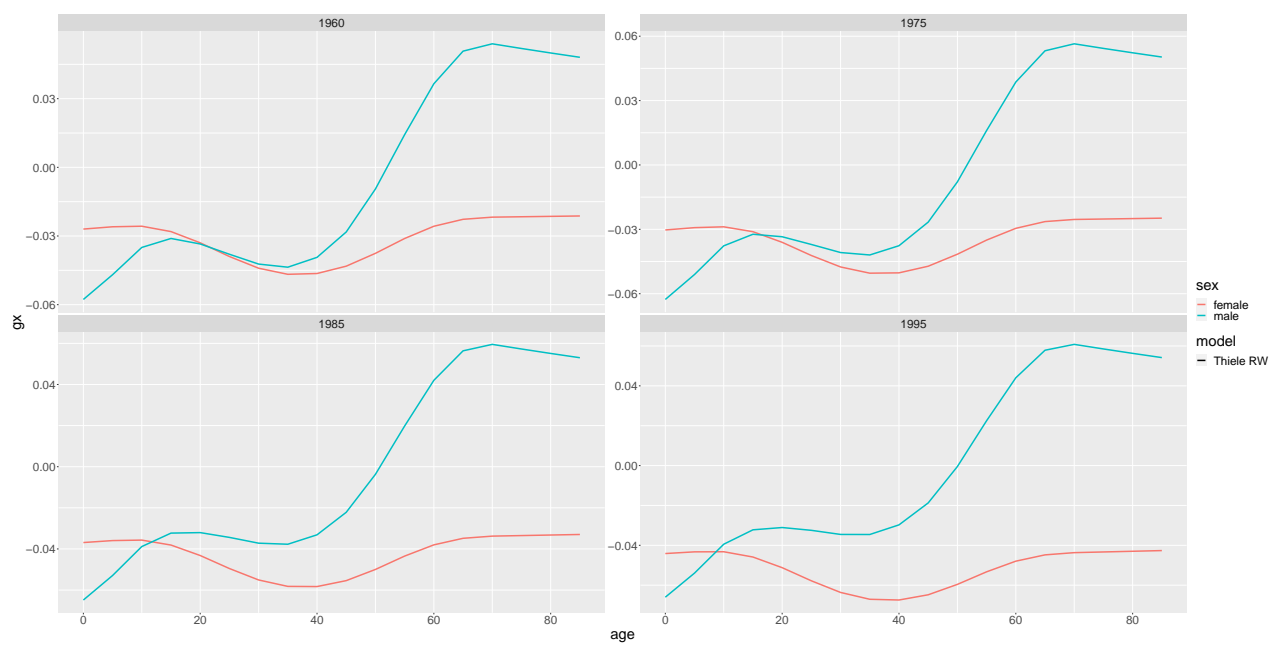


Figure 14: Migration

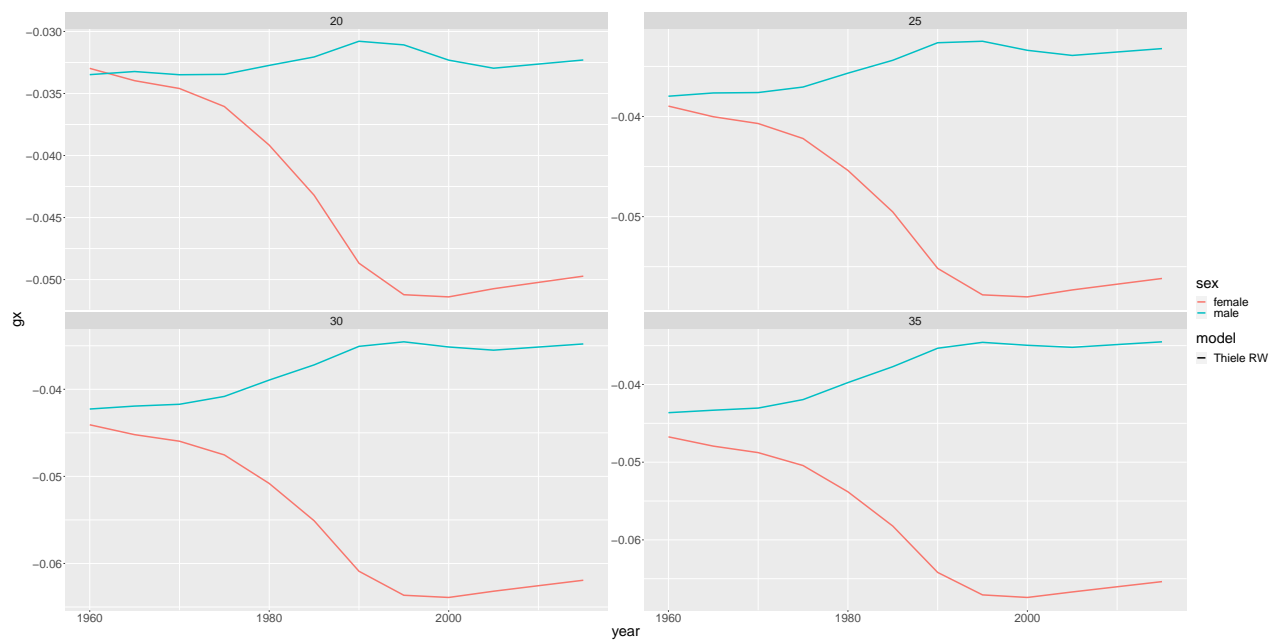


Figure 15: Migration

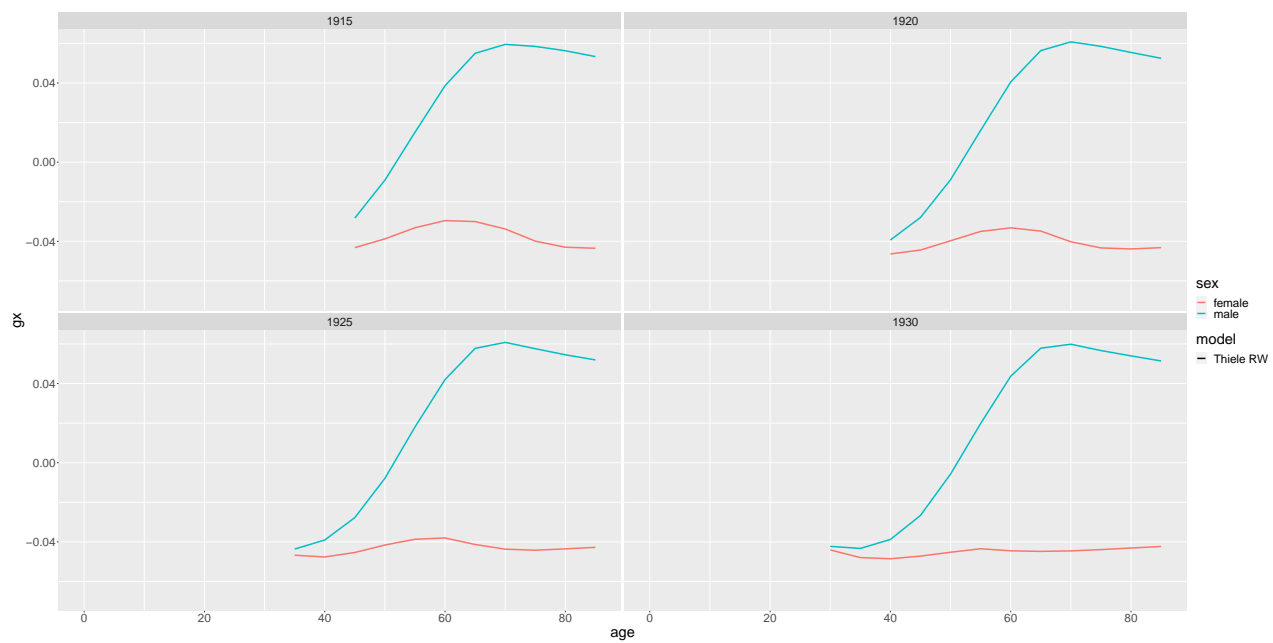


Figure 16: Migration

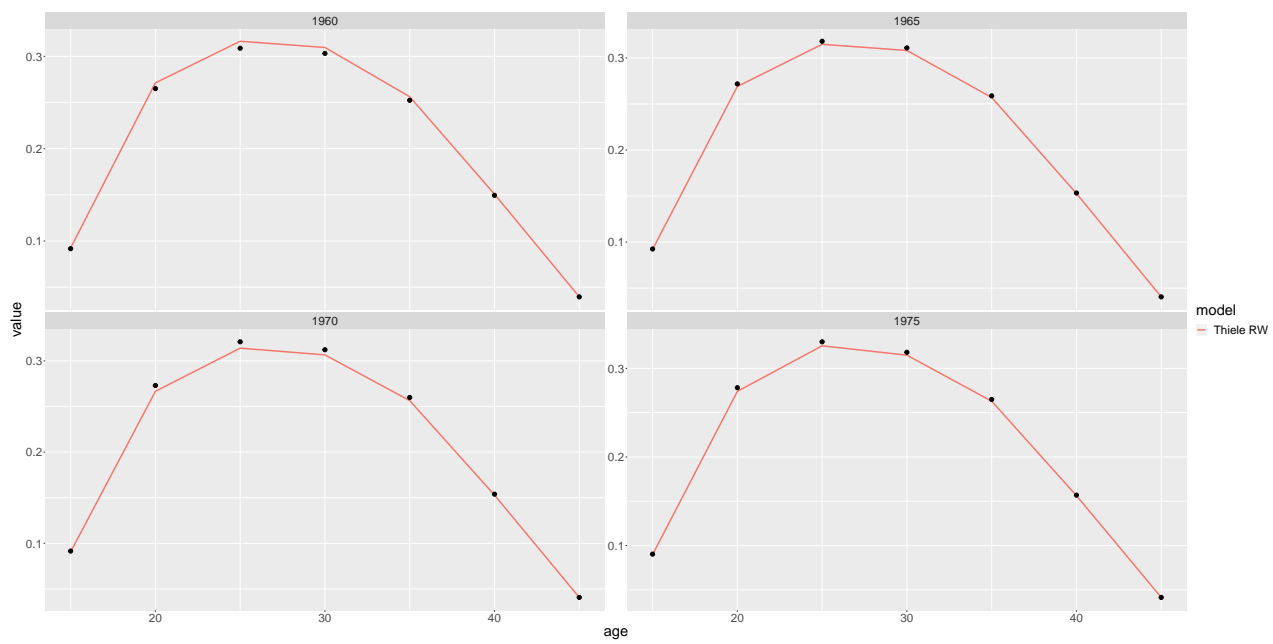


Figure 17: Fertility

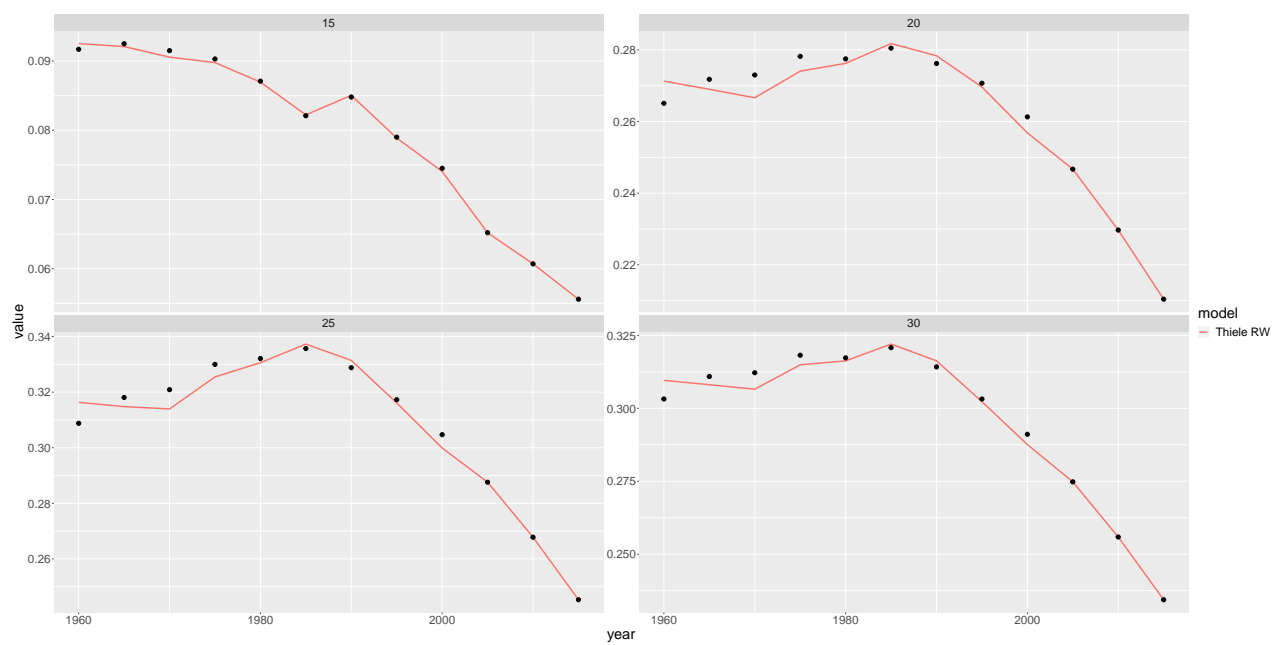


Figure 18: Fertility