

Congo

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

## # A tibble: 18 x 4
##   aggr.age `1974` `1984` `2007`
## *   <dbl>   <dbl>   <dbl>   <dbl>
## 1       0 122503. 160880. 279158
## 2       5 100522. 142980. 235631
## 3      10  79490. 125040. 209662.
## 4      15  63470. 107660. 197640.
## 5      20  52055.  89407. 187422.
## 6      25  43495.  71045. 168917.
## 7      30  38750.  55496. 142430.
## 8      35  37288.  44130. 114435.
## 9      40  35104.  37502.  88631.
## 10     45  31605.  34621.  68360
## 11     50  27769.  31358.  53193
## 12     55  22732.  26843.  40778.
## 13     60  16571.  21959.  31928.
## 14     65  10763.  16189.  25778.
## 15     70   5981.  10300.  19624
## 16     75    790.   5440.  12855
## 17     80   689.   2437.   7073.
## 18     85    NA     671.   4684
```

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

## # A tibble: 18 x 4
##   aggr.age `1974` `1984` `2007`
## *   <dbl>   <dbl>   <dbl>   <dbl>
## 1       0 123393. 162414. 278342
## 2       5 101676. 143202. 235910.
## 3      10  79713. 123091. 205899
## 4      15  59314. 103336. 184008.
## 5      20  44571.  84483. 168768.
## 6      25  37019.  66284. 159526.
## 7      30  33944.  50872. 145566.
## 8      35  32040.  40701. 122364.
## 9      40  29112.  35058.  95512
## 10     45  25449.  31134.  70931.
## 11     50  22298.  26306.  51002.
## 12     55  19353.  21239.  36610
## 13     60  14853.  16981.  27375.
## 14     65   9391.  12954.  20781.
## 15     70   4895.   8572.  14673.
## 16     75    720.   4419.   8750
## 17     80   517.   1746.   4313.
## 18     85    NA     487.   2680
```

Thiele log-Normal Hump RW

```
##   user  system elapsed
## 28.54   0.52   29.05
```

```
## [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: fals
##      user  system elapsed
##  19.01    0.22   19.28
## [1] "false convergence (8)"
```

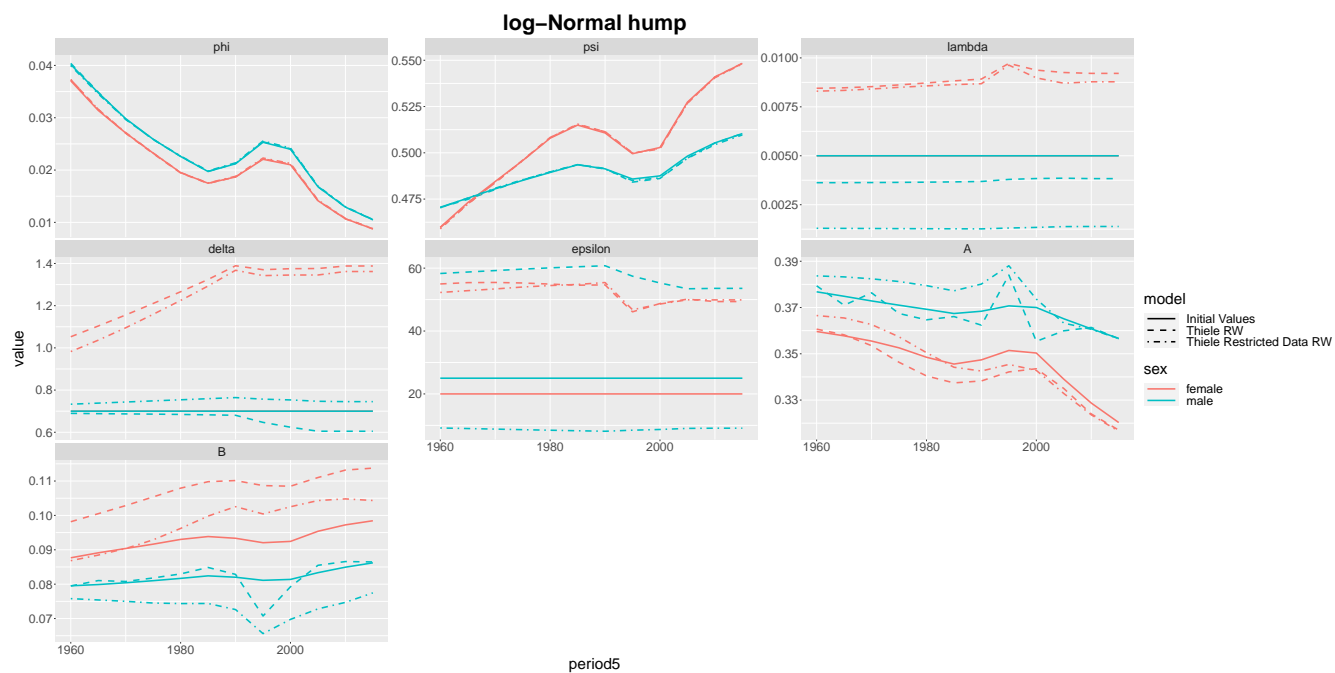


Figure 1: Estimated parameters

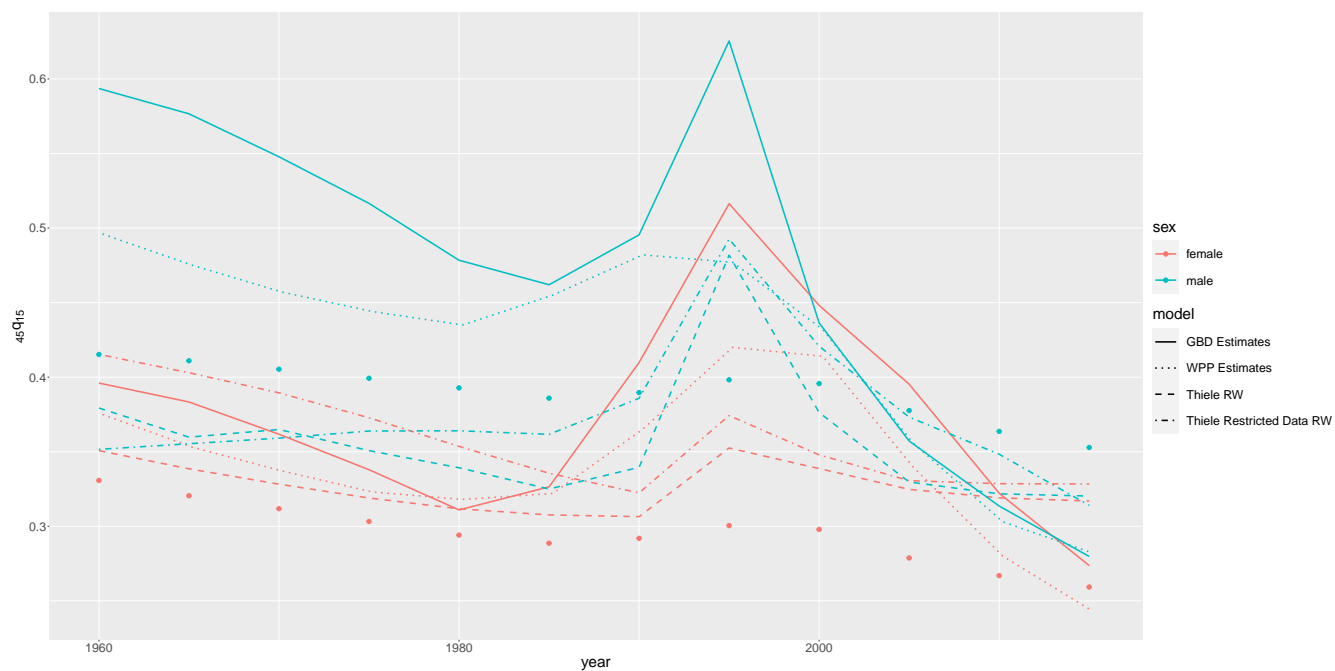


Figure 2: Estimated $_{45}q_{15}$

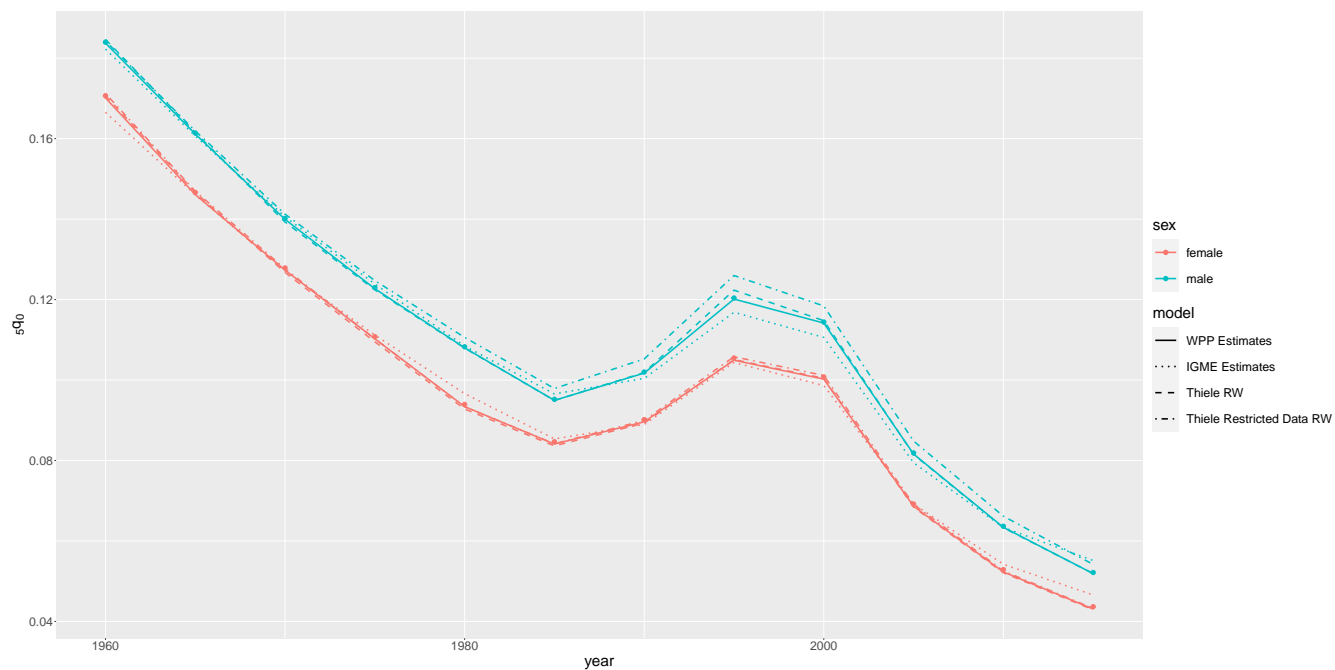


Figure 3: Estimated $_{5}q_0$

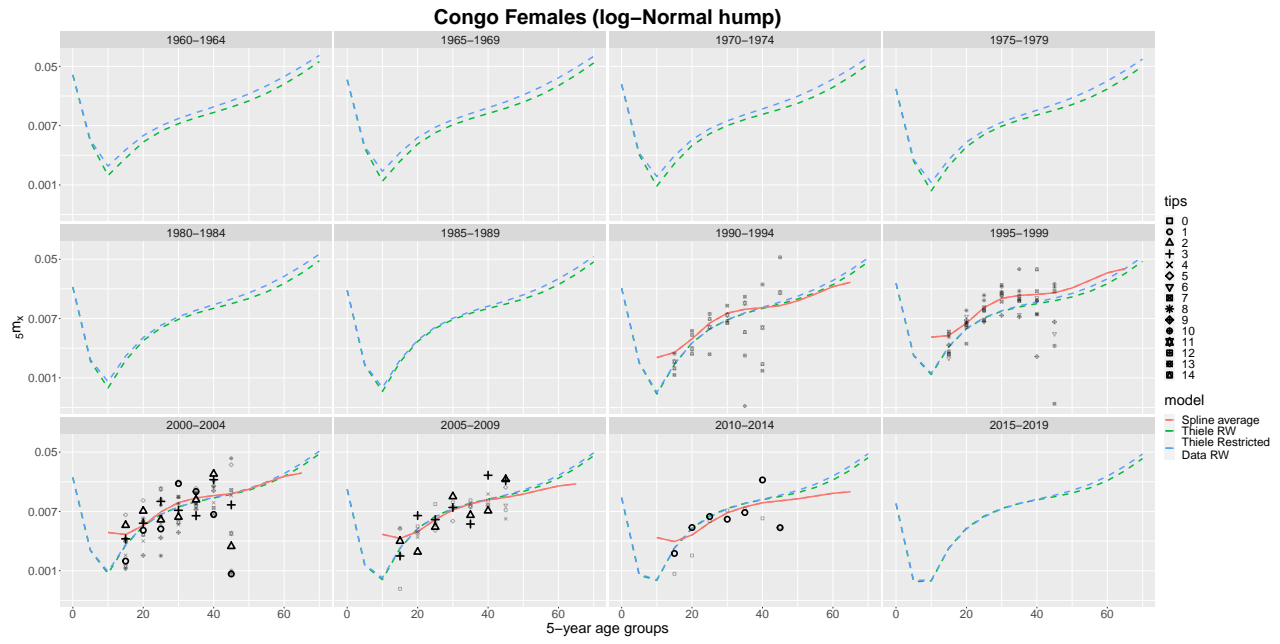


Figure 4: Mortality Schedules

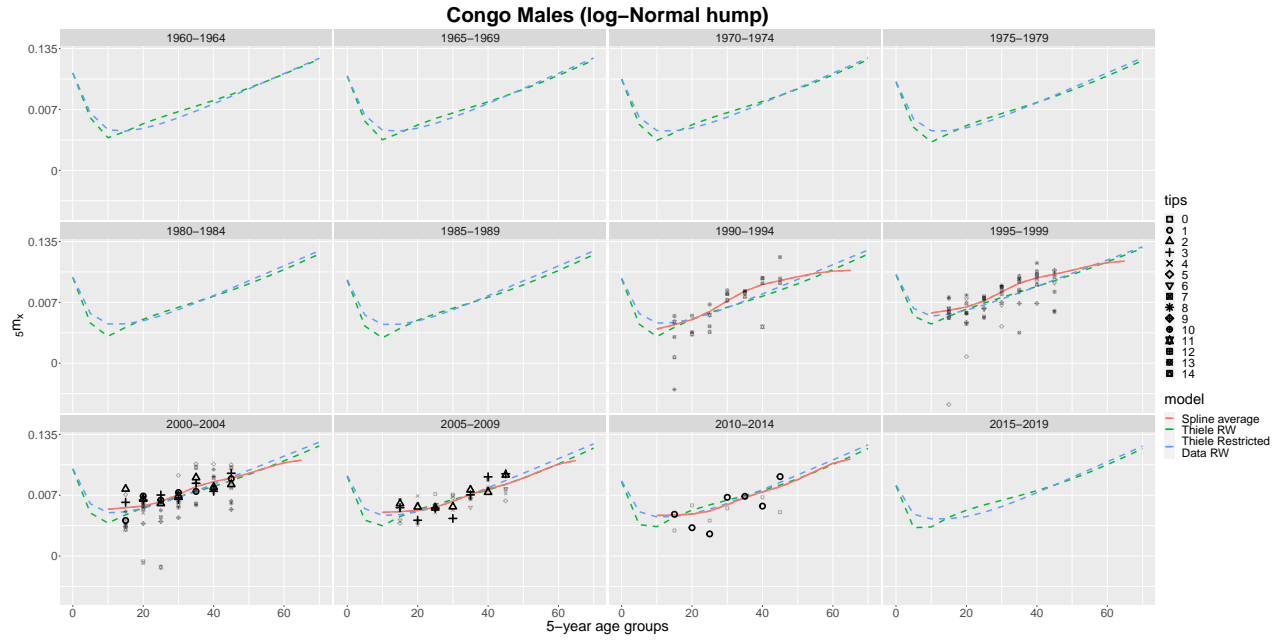


Figure 5: Mortality Schedules

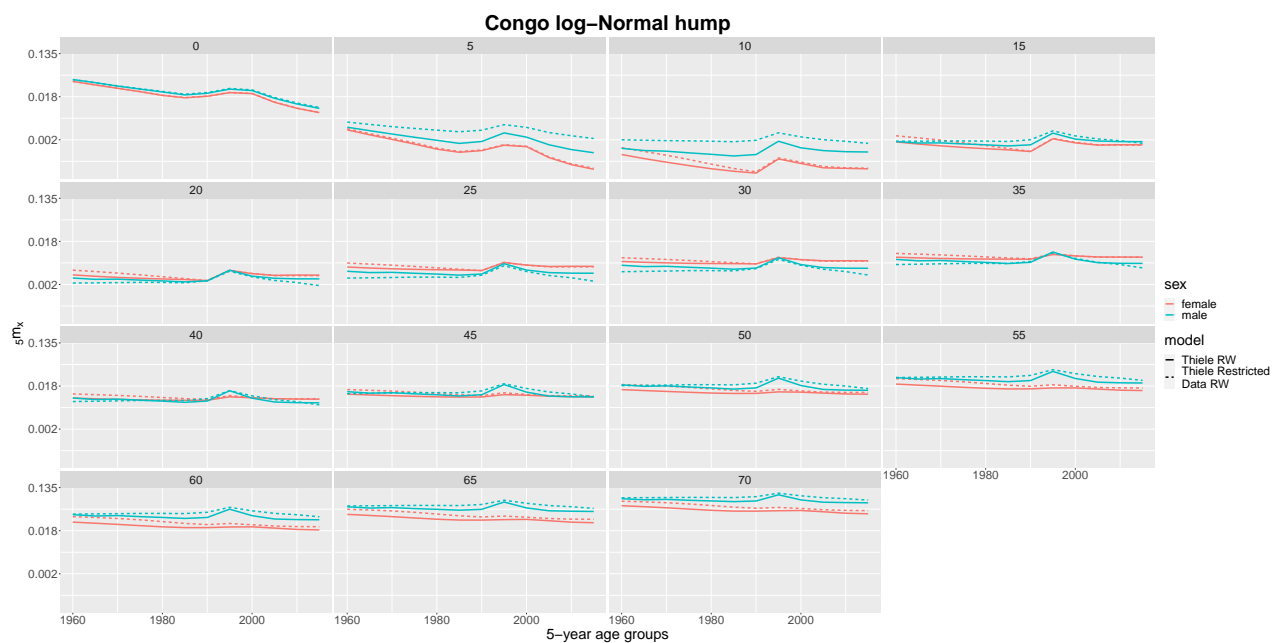


Figure 6: Mortality Schedules

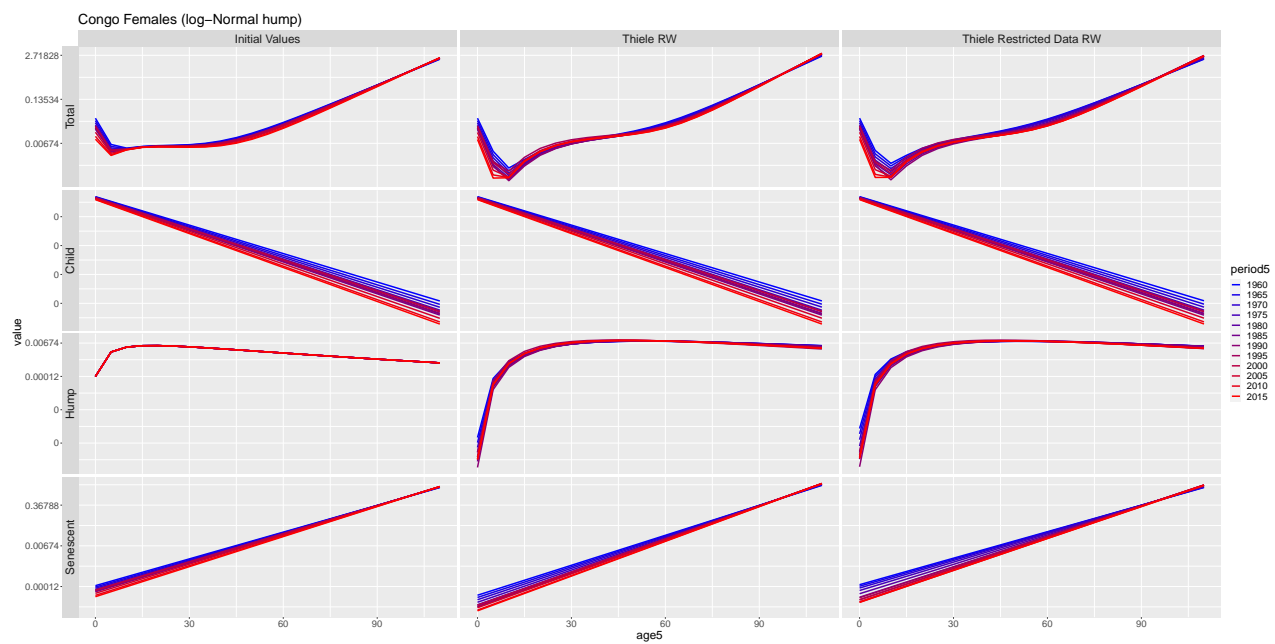


Figure 7: Thiele Decomposed

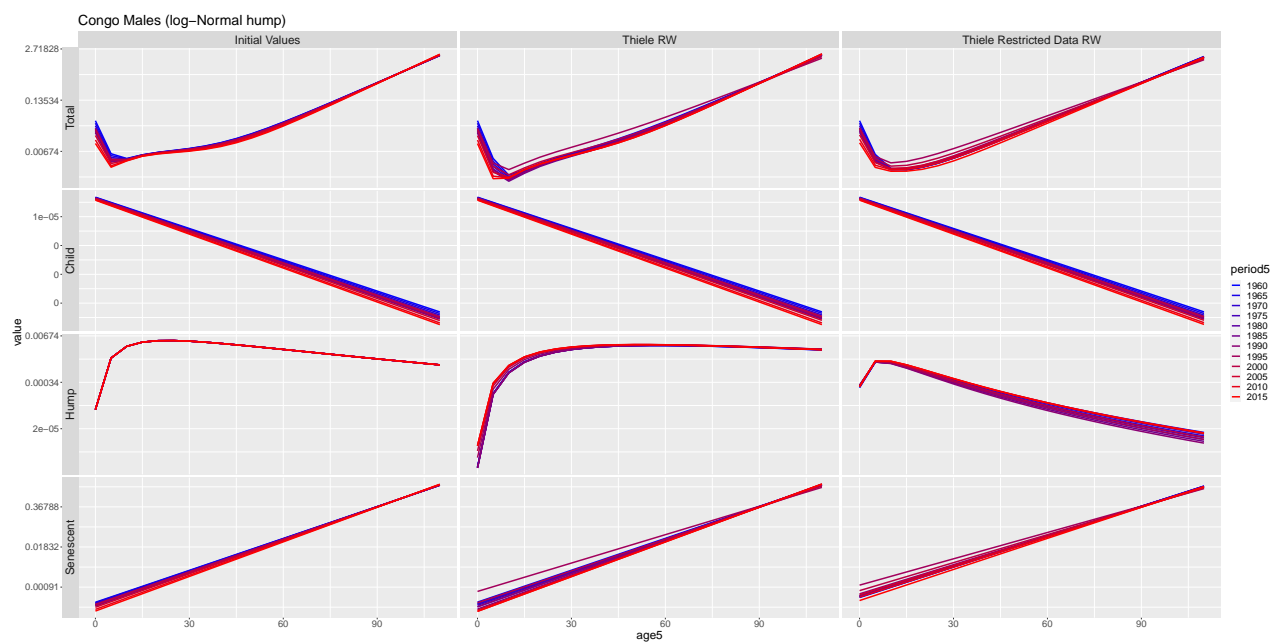


Figure 8: Thiele Decomposed

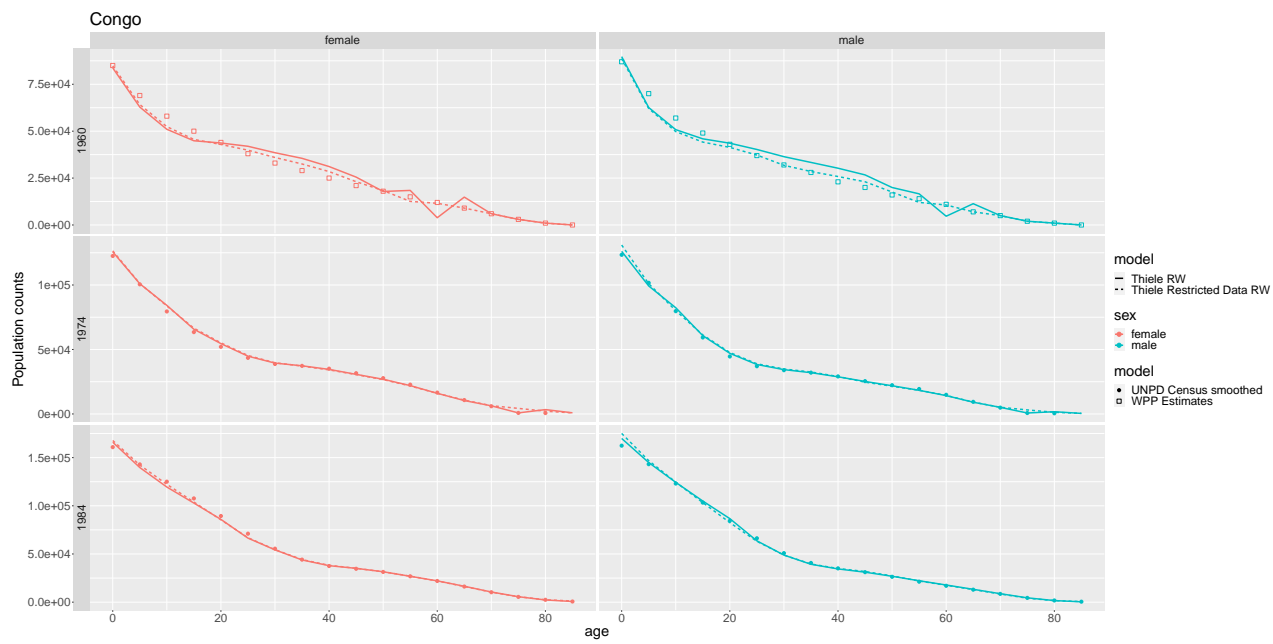


Figure 9: Population

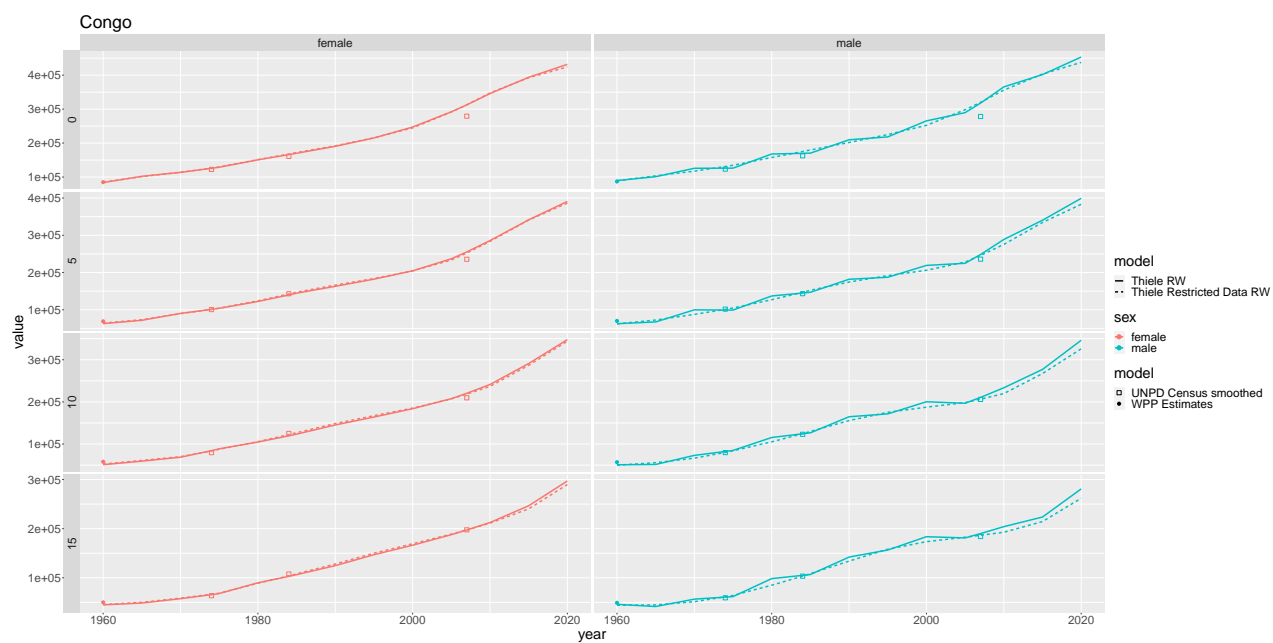


Figure 10: Population

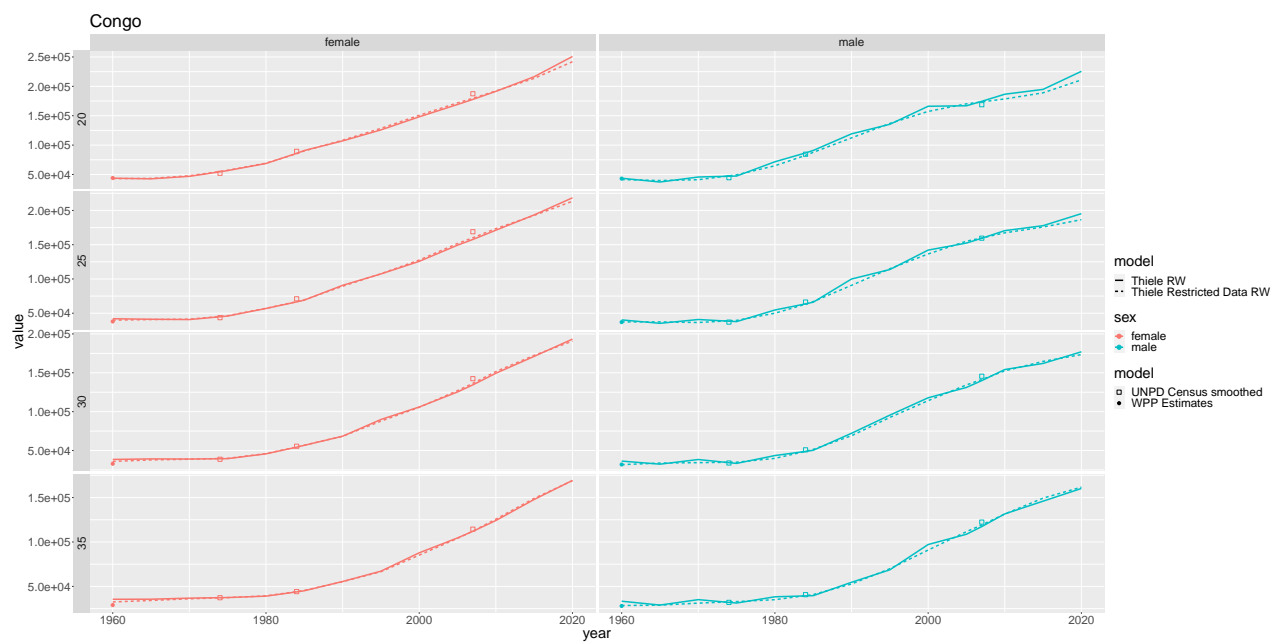


Figure 11: Population

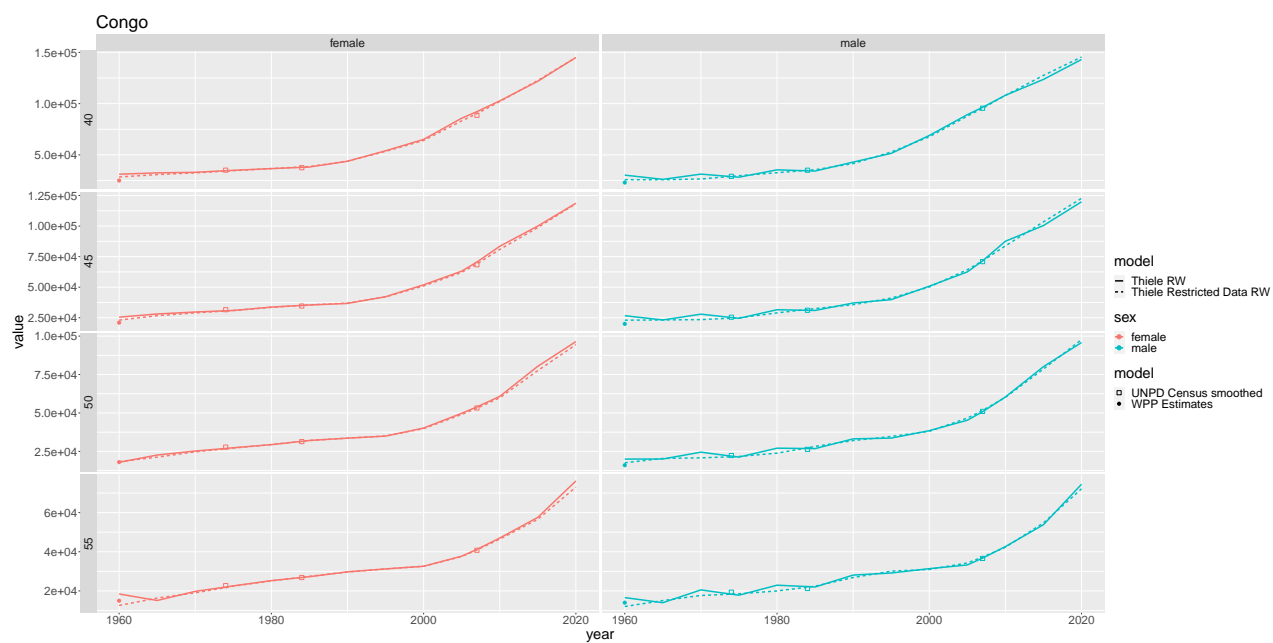


Figure 12: Population



Figure 13: Population

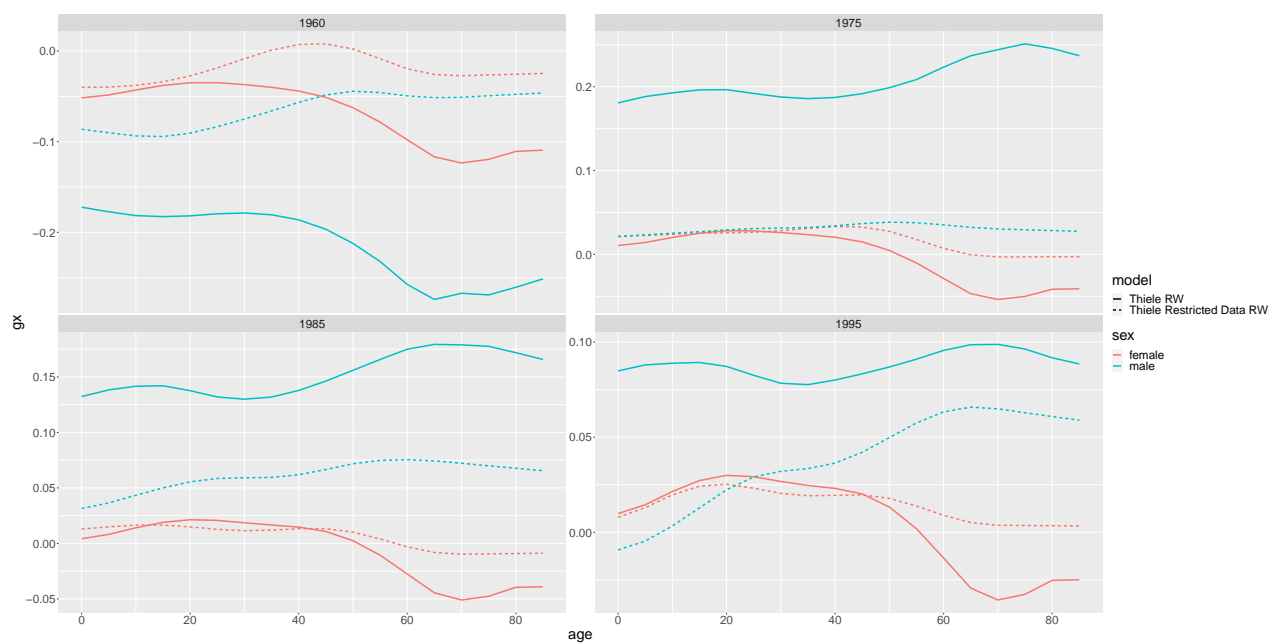


Figure 14: Migration

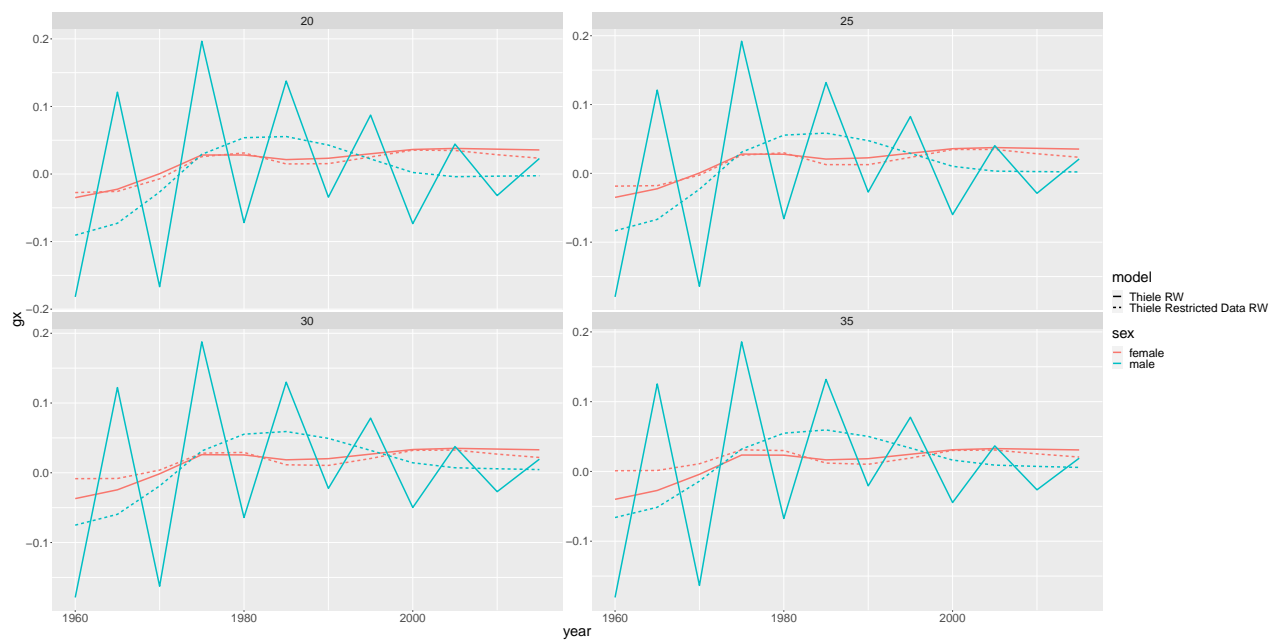


Figure 15: Migration

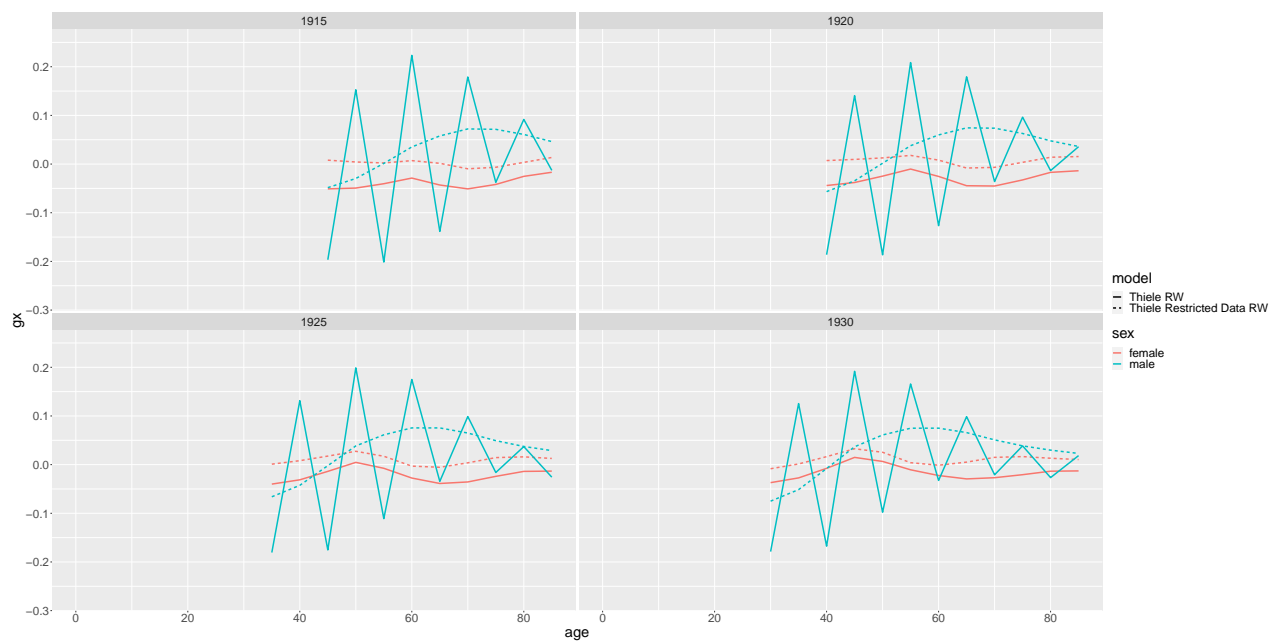


Figure 16: Migration

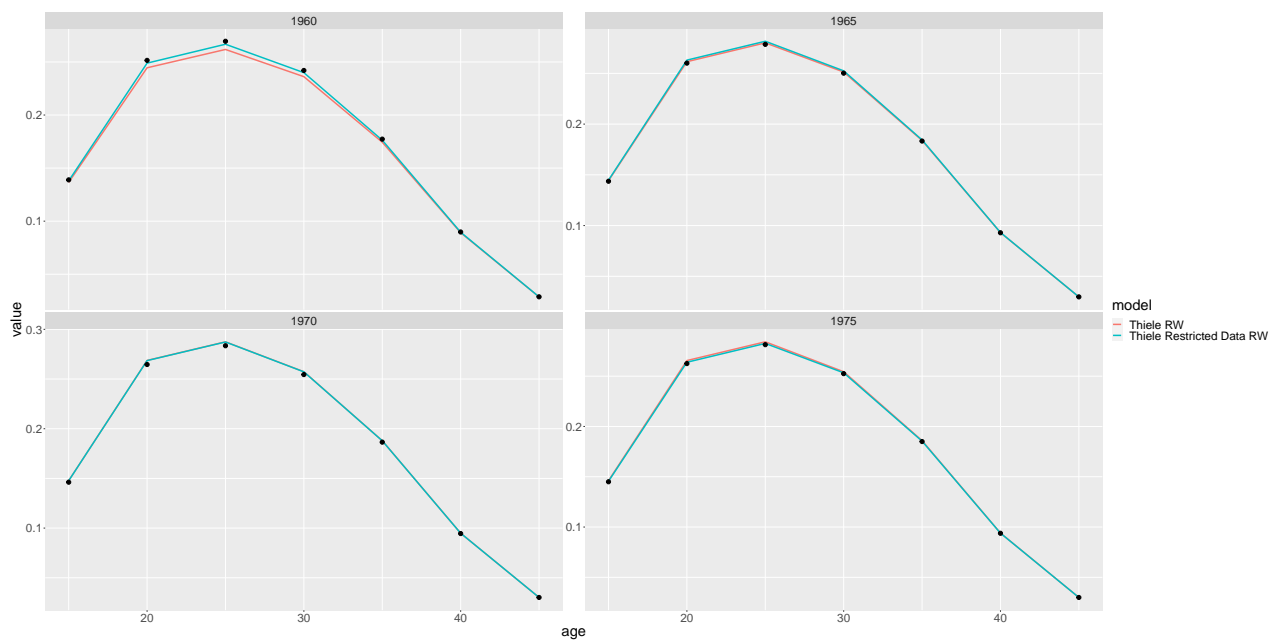


Figure 17: Fertility

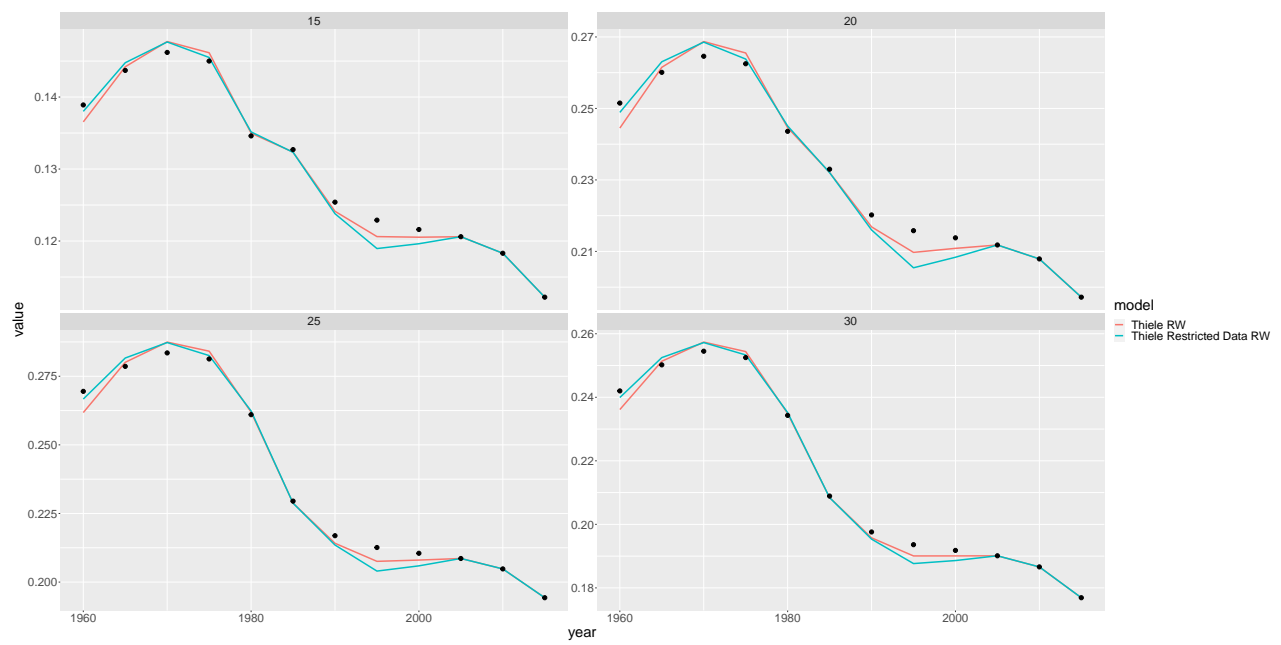


Figure 18: Fertility