

Uganda

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

```
## # A tibble: 18 x 5
##   aggr.age `1969` `1991` `2002` `2014`
## *   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
## 1      0 930129. 1588010. 2272297 2957078
## 2      5 731111. 1300185. 2007532 2712294
## 3     10 549558. 1094822. 1722724 2417842.
## 4     15 434495.  945137. 1428367 2069875.
## 5     20 390729.  810596. 1179626. 1717473.
## 6     25 361647.  660747.  950086. 1368221.
## 7     30 305570.  496738.  724970. 1059694.
## 8     35 242940.  366751.  549253.  829410.
## 9     40 193769.  286792.  417383.  647323.
## 10    45 159740.  241832.  315234.  507612.
## 11    50 130663.  200909.  246670.  399629
## 12    55 100014.  157153.  201330.  298196.
## 13    60  78521.  128719.  166978.  227526.
## 14    65  59246.  101687.  131660.  184058.
## 15    70  40716.   73663.   97664.  142292.
## 16    75  27101.   40110.   69288.  100882
## 17    80  20993.   62896.   47141.   67594.
## 18    85  22249.    NA    51094.   87729
```

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

```
## # A tibble: 18 x 5
##   aggr.age `1969` `1991` `2002` `2014`
## *   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
## 1      0 909559. 1566538. 2272126 3173950
## 2      5 739528. 1297857. 2006388. 2826413.
## 3     10 575597. 1093664. 1709150. 2419458.
## 4     15 436525.  893378. 1346887. 1935705.
## 5     20 361659.  724412. 1029835. 1487535
## 6     25 337569.  599335.  838098. 1159955.
## 7     30 306226.  470448.  684944.  921679
## 8     35 256342.  351489.  523329.  744548.
## 9     40 207287.  271554.  387733.  603126
## 10    45 172495.  229568.  284792.  473080.
## 11    50 141999.  194606.  213544.  354774.
## 12    55 111405.  154572.  174064.  253985.
## 13    60  89880.  123911.  152881.  187860.
## 14    65  69752.   97836.  126586.  145840.
## 15    70  50089.   73178.   93752.  109232.
## 16    75  34483.   45277.   65857.   76481.
## 17    80  26779.   69483.   43377.   48602.
## 18    85  34082.    NA    44460.   58889
```

Thiele log-Normal Hump RW

```
##   user  system elapsed
## 28.75   0.60   29.64
```

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

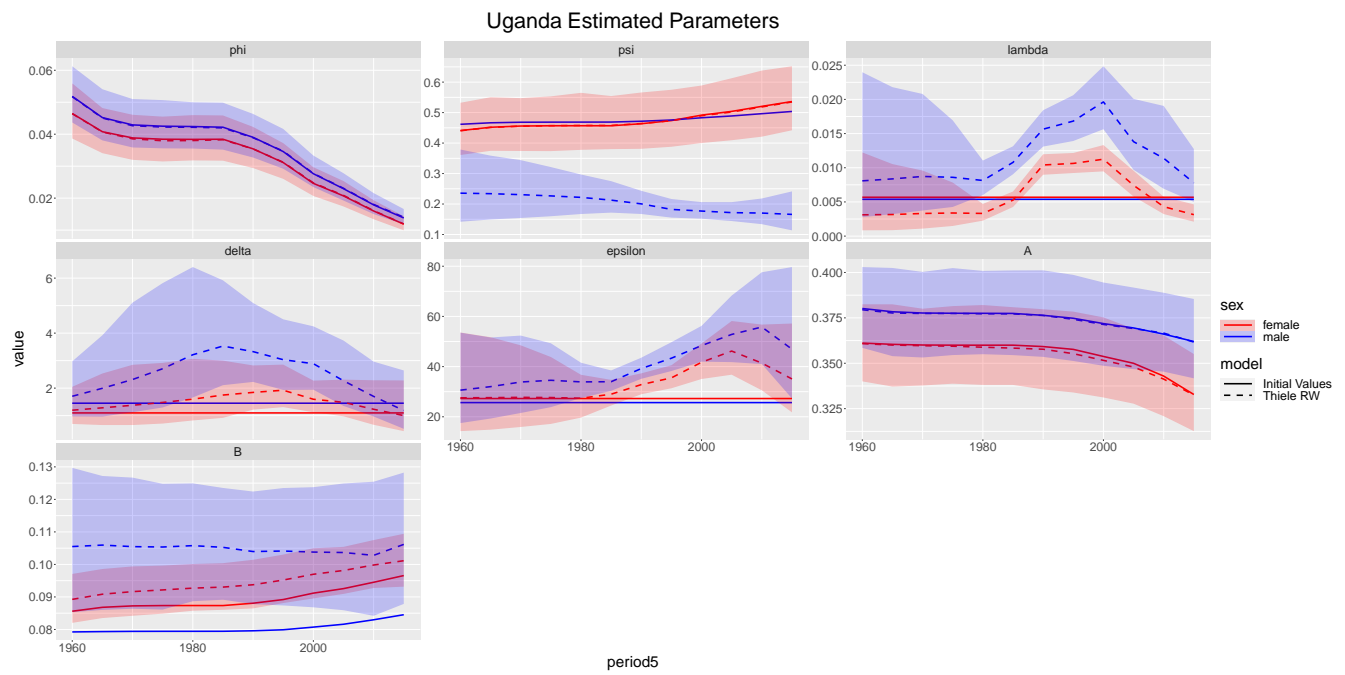


Figure 1: Estimated parameters

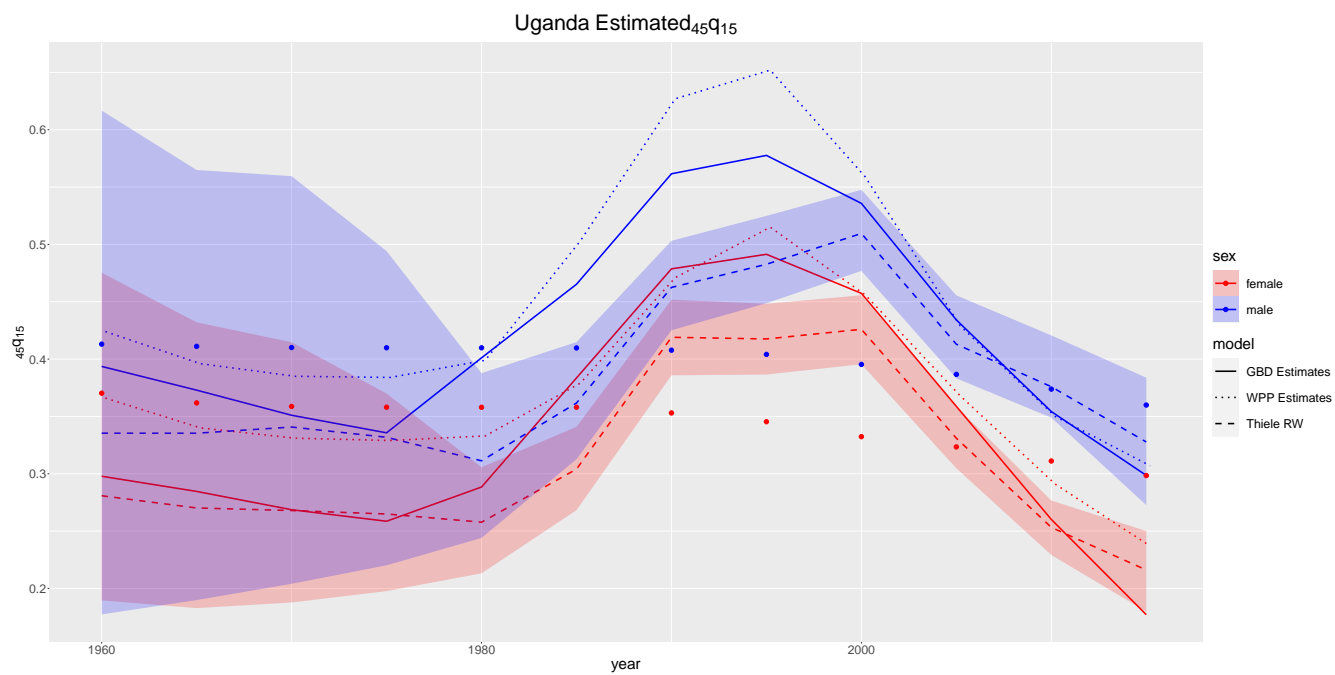


Figure 2: Estimated $_{45}q_{15}$

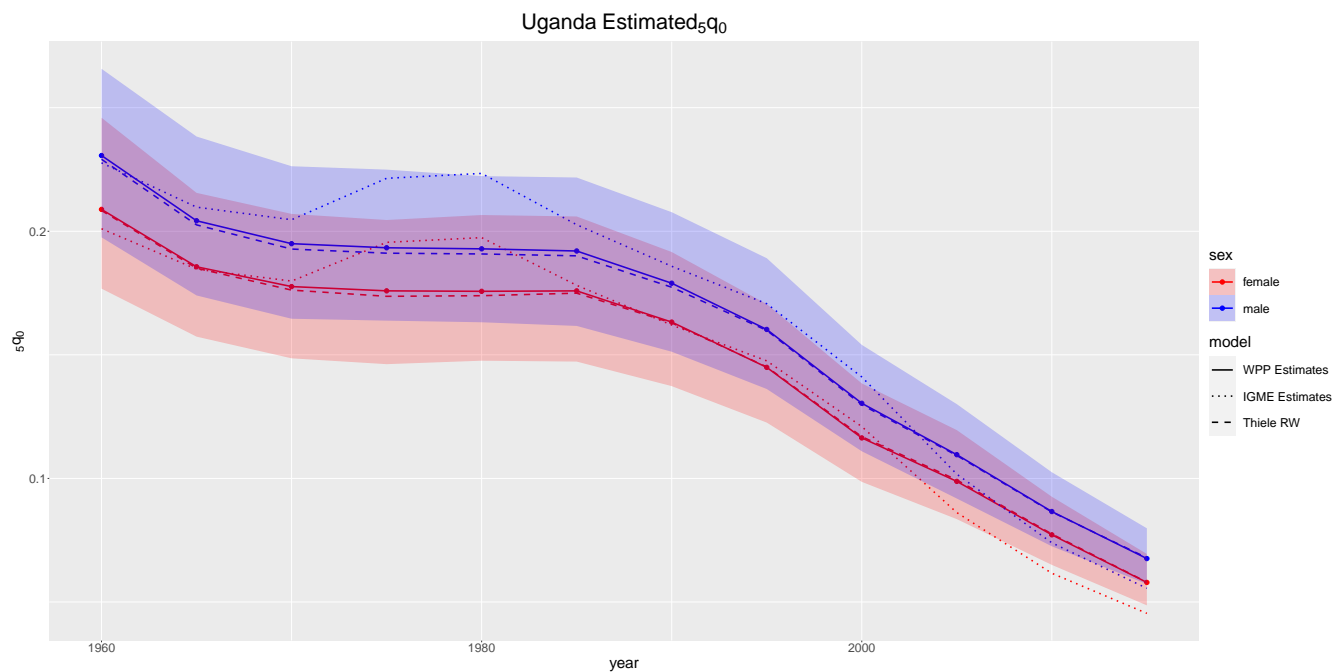


Figure 3: Estimated $5q_0$

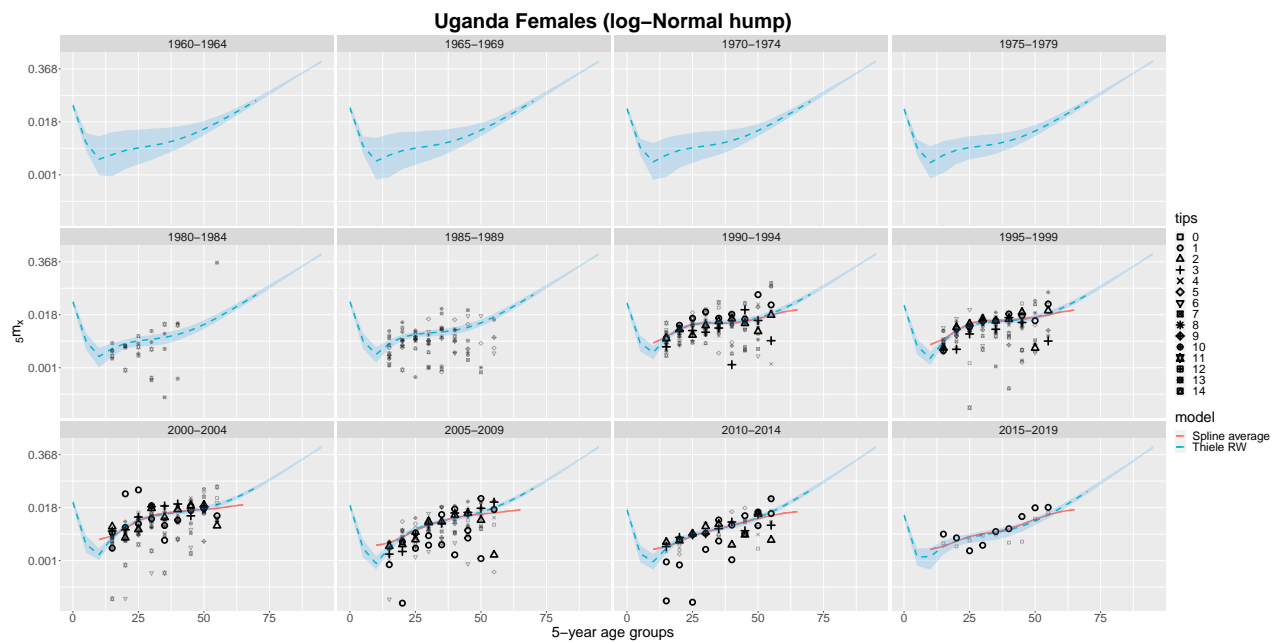


Figure 4: Mortality Schedules

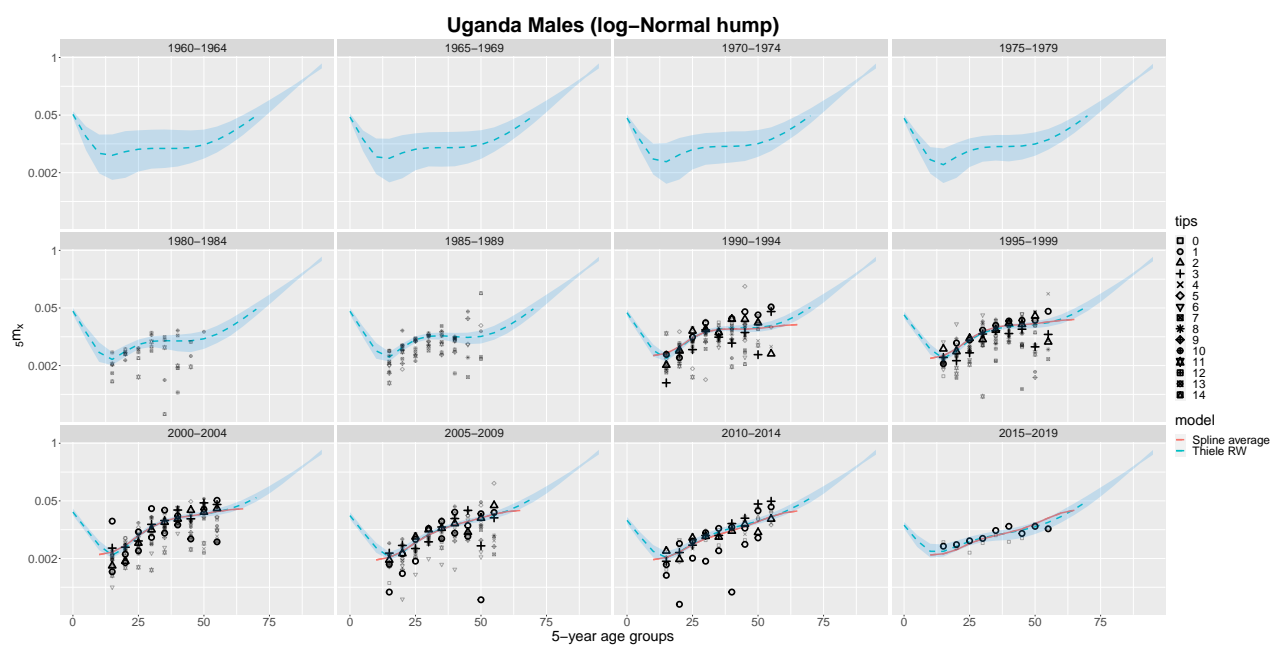


Figure 5: Mortality Schedules

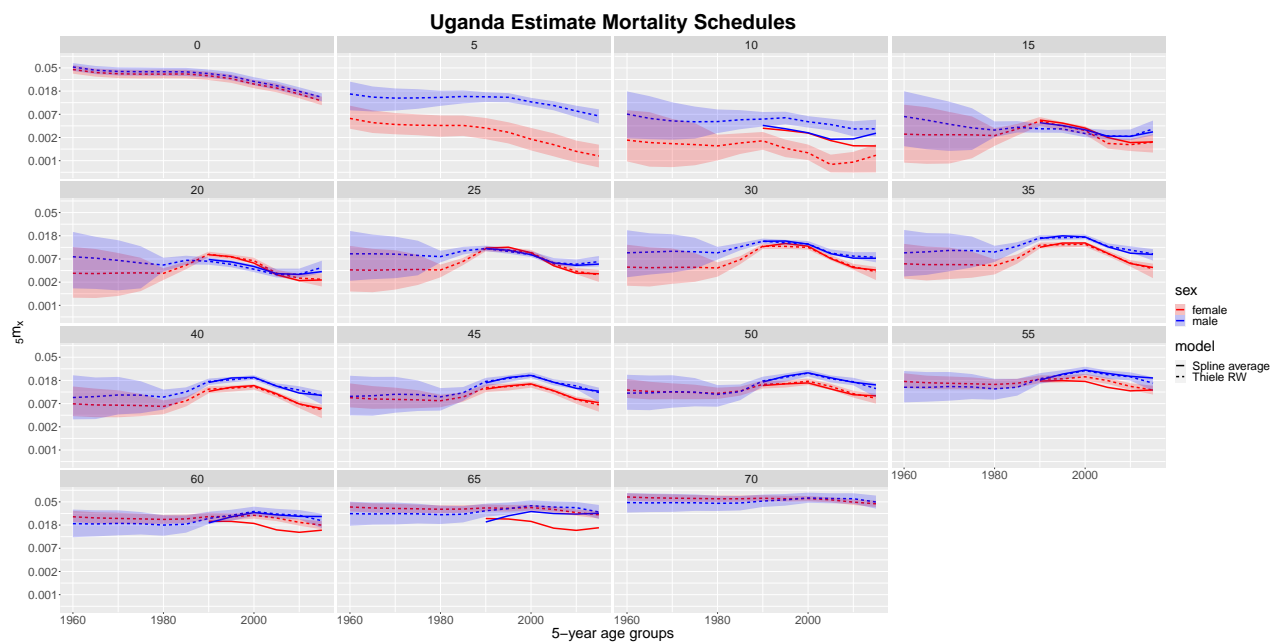


Figure 6: Mortality Schedules

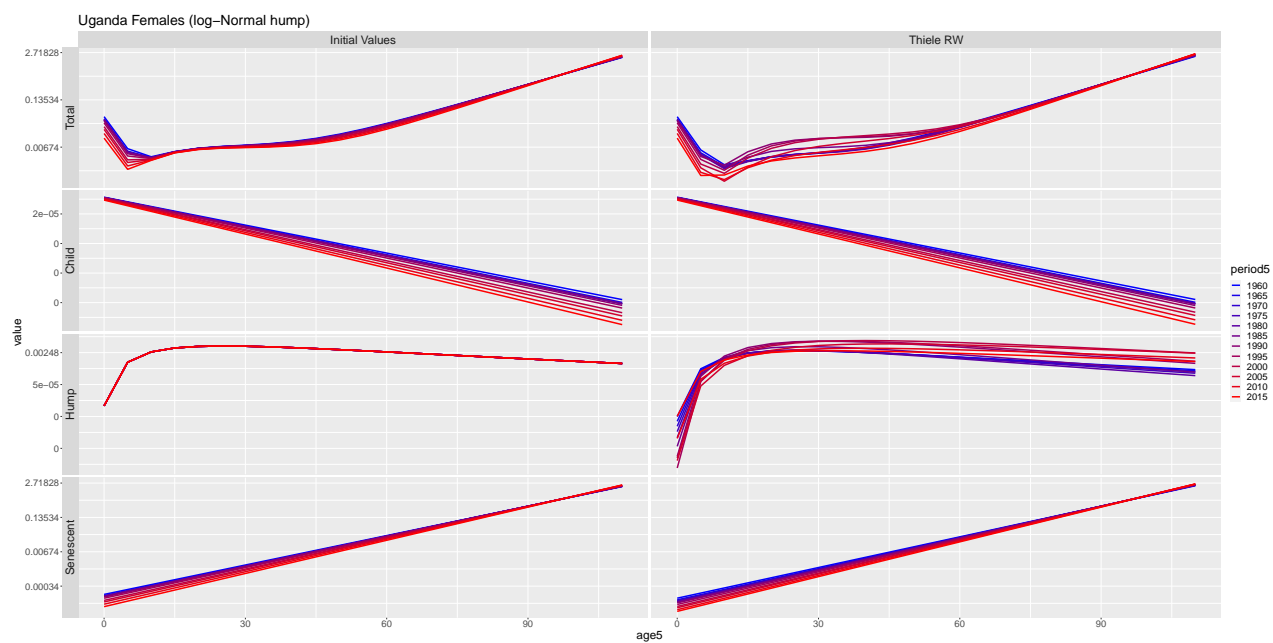


Figure 7: Thiele Decomposed

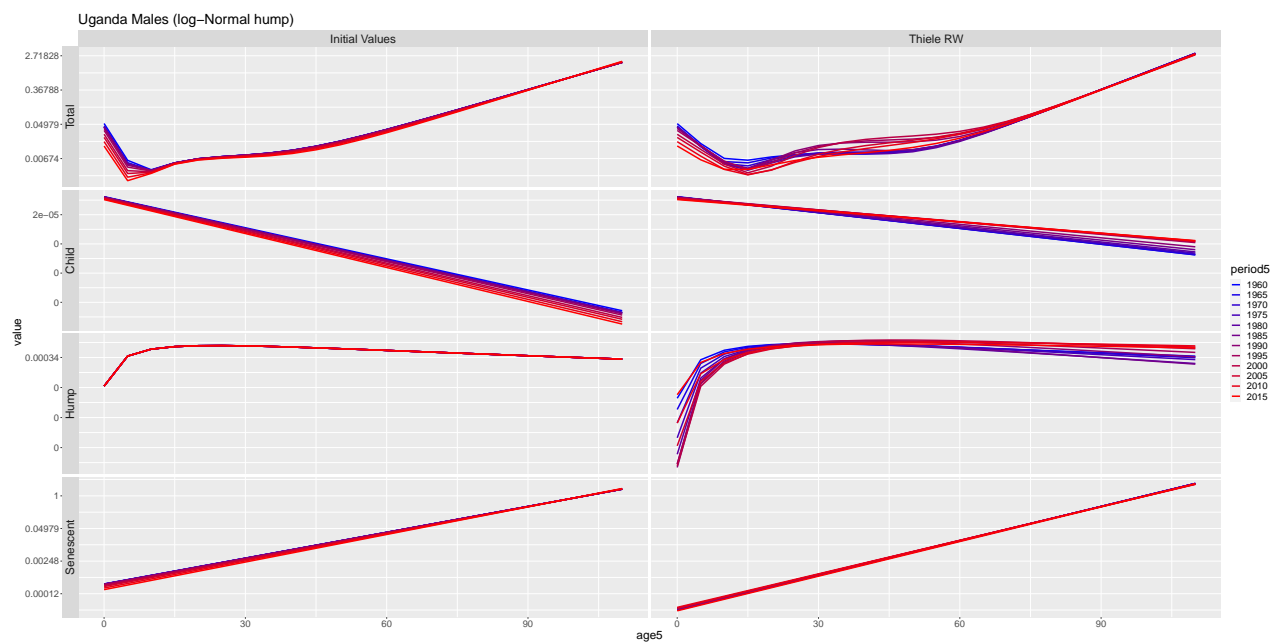


Figure 8: Thiele Decomposed

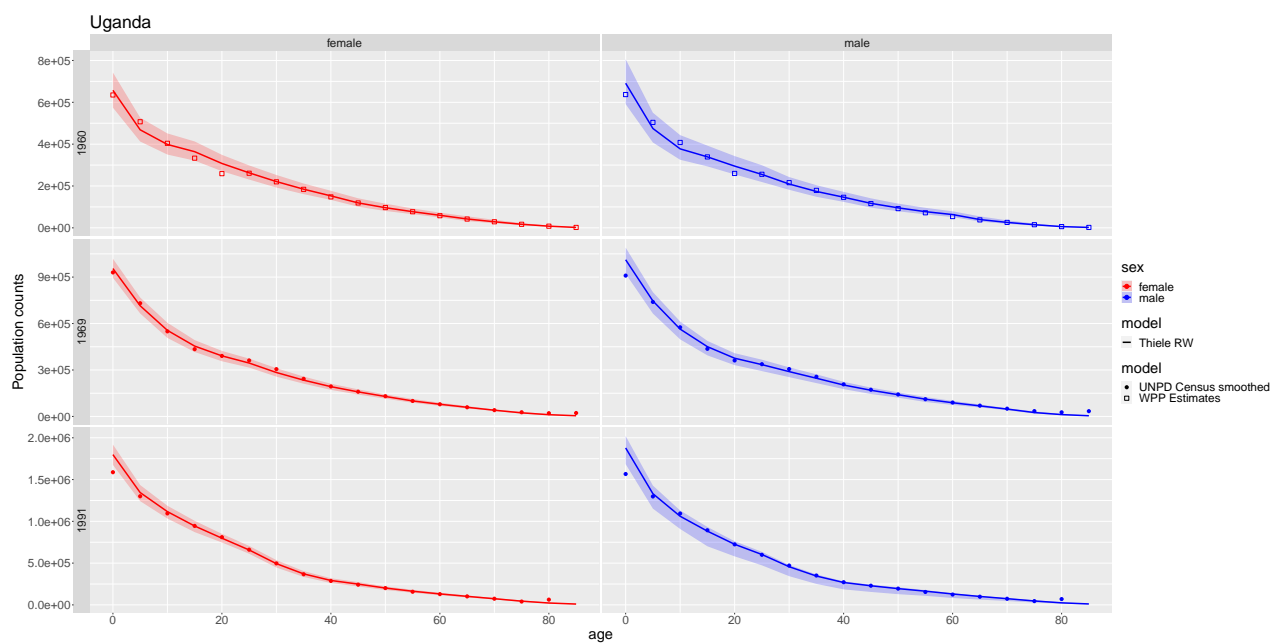


Figure 9: Population

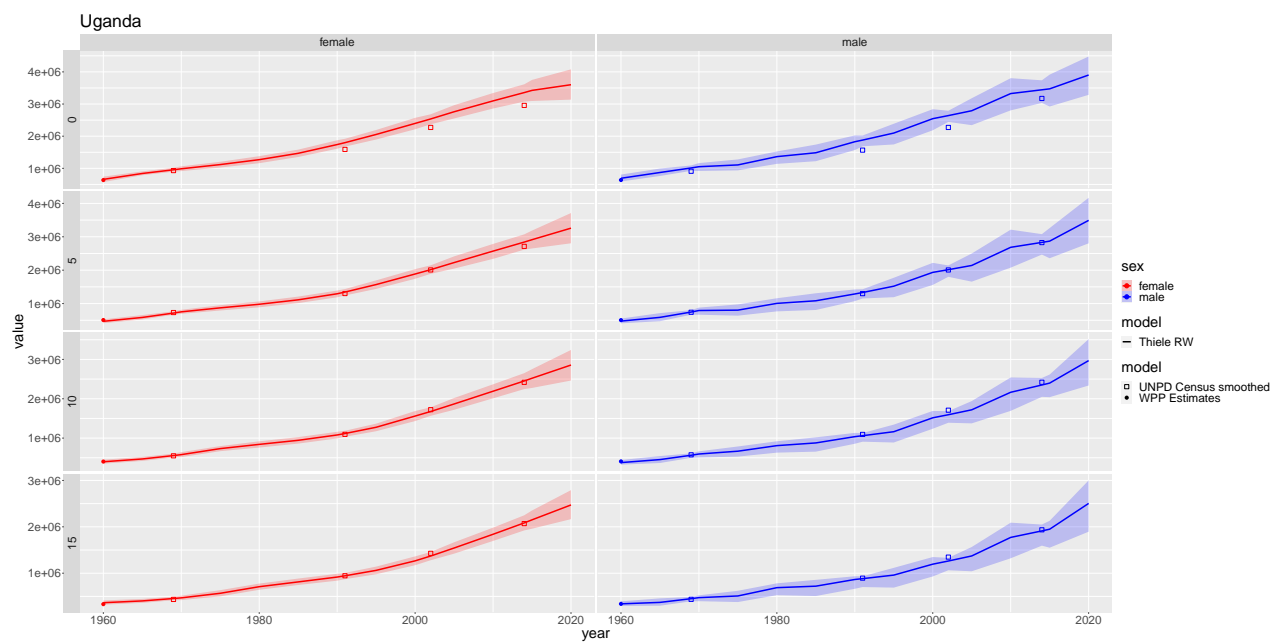


Figure 10: Population

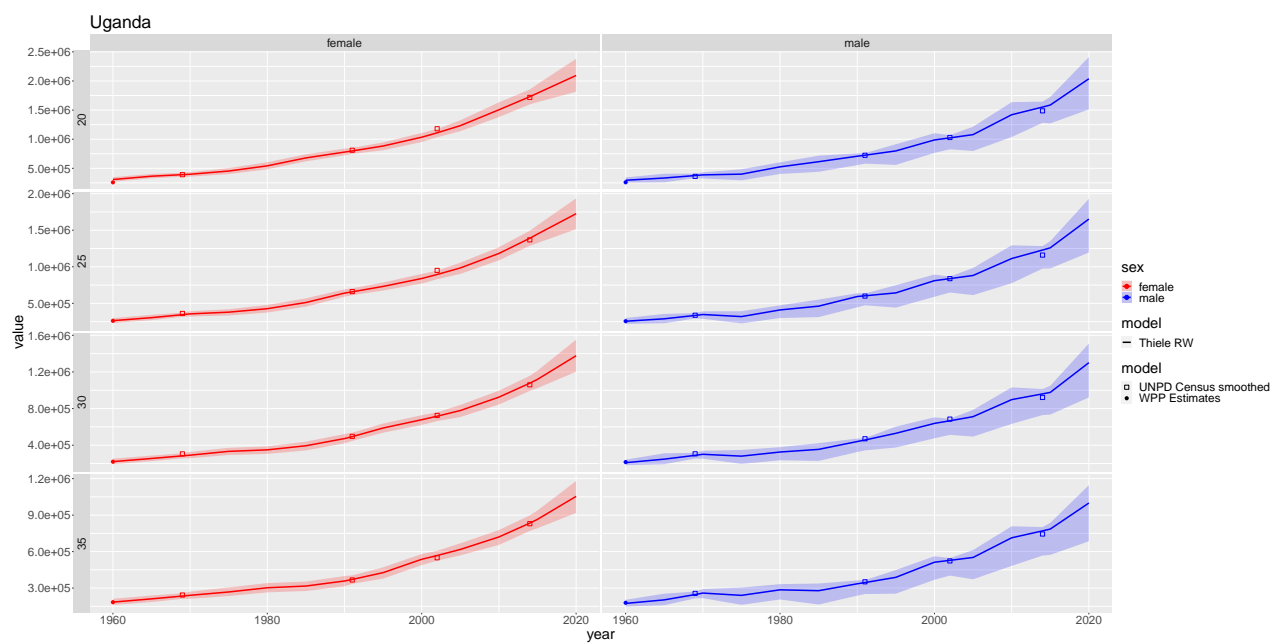


Figure 11: Population

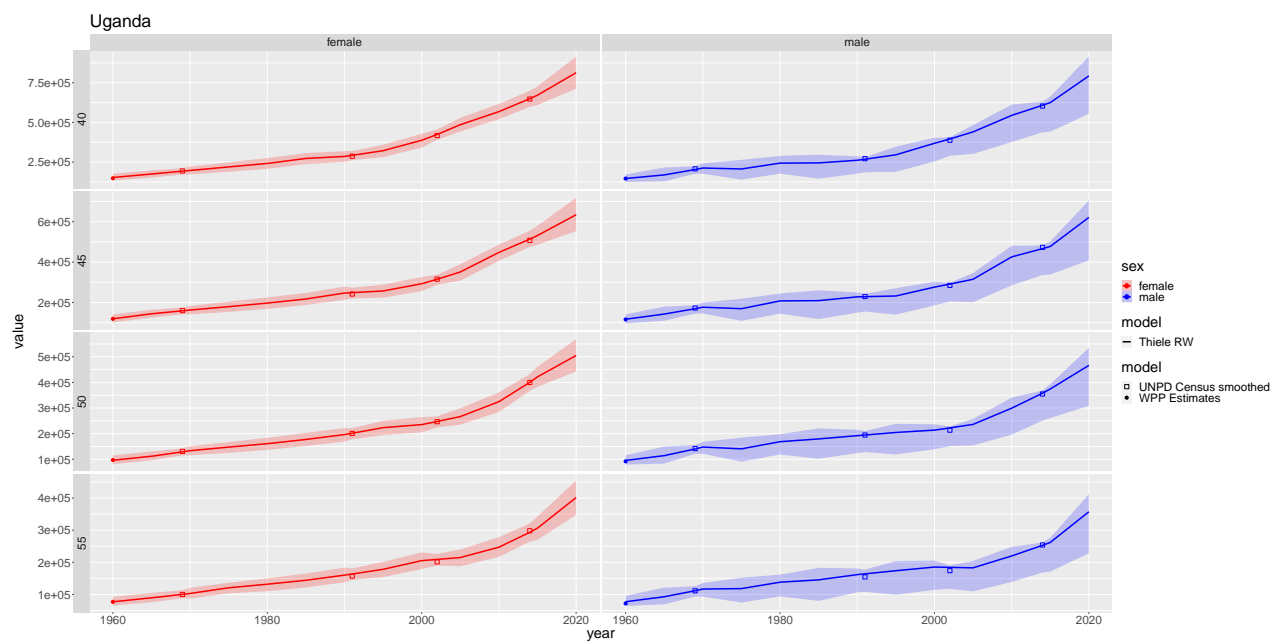


Figure 12: Population

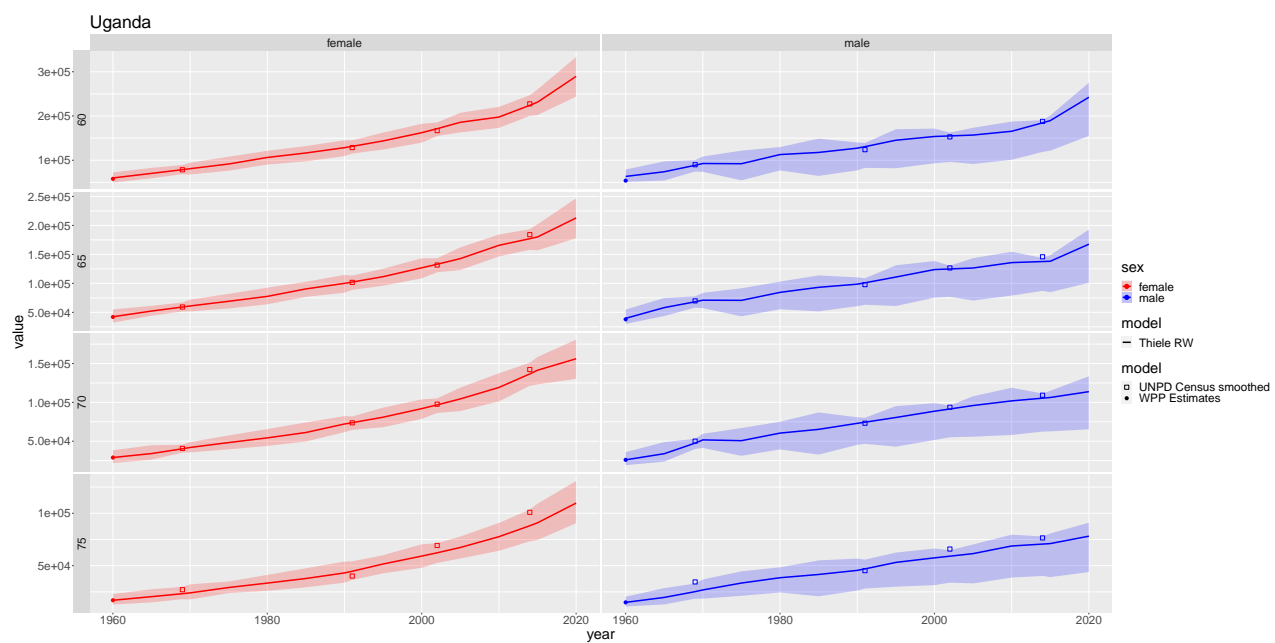


Figure 13: Population

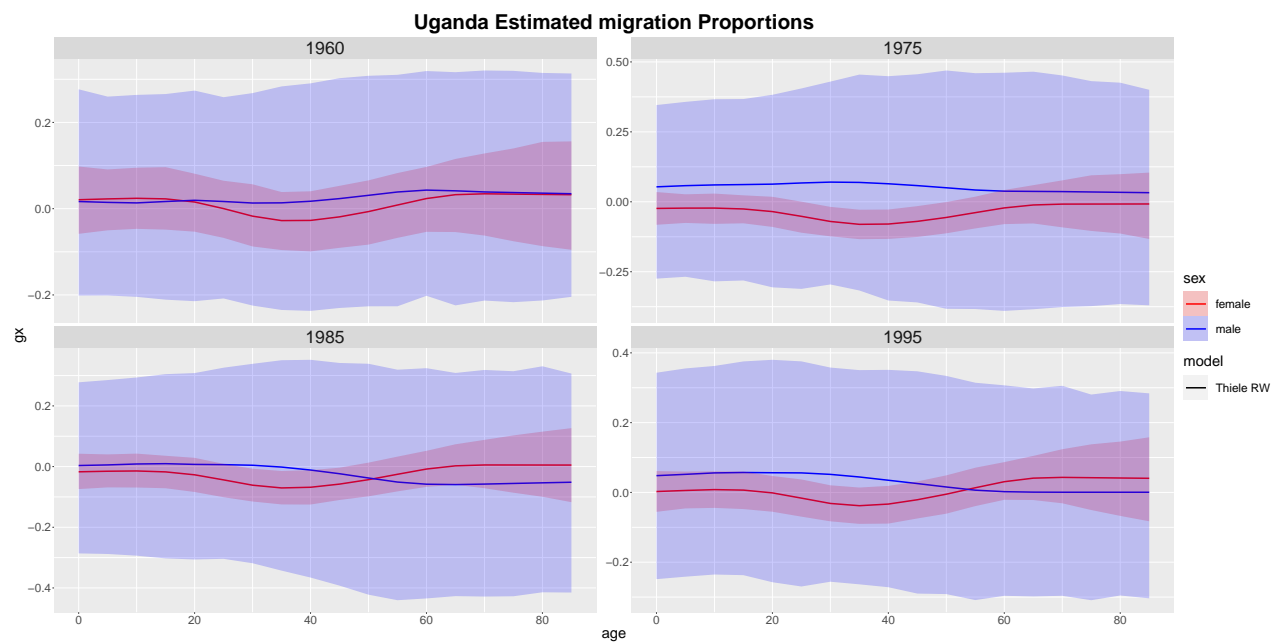


Figure 14: Migration

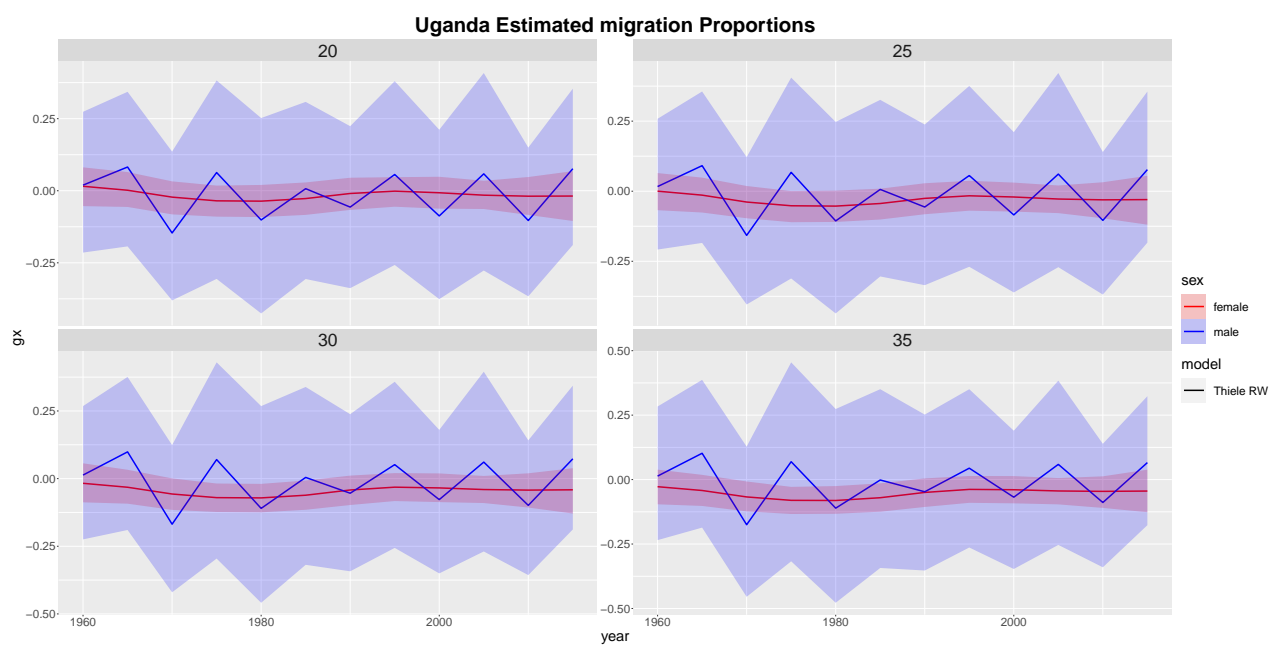


Figure 15: Migration

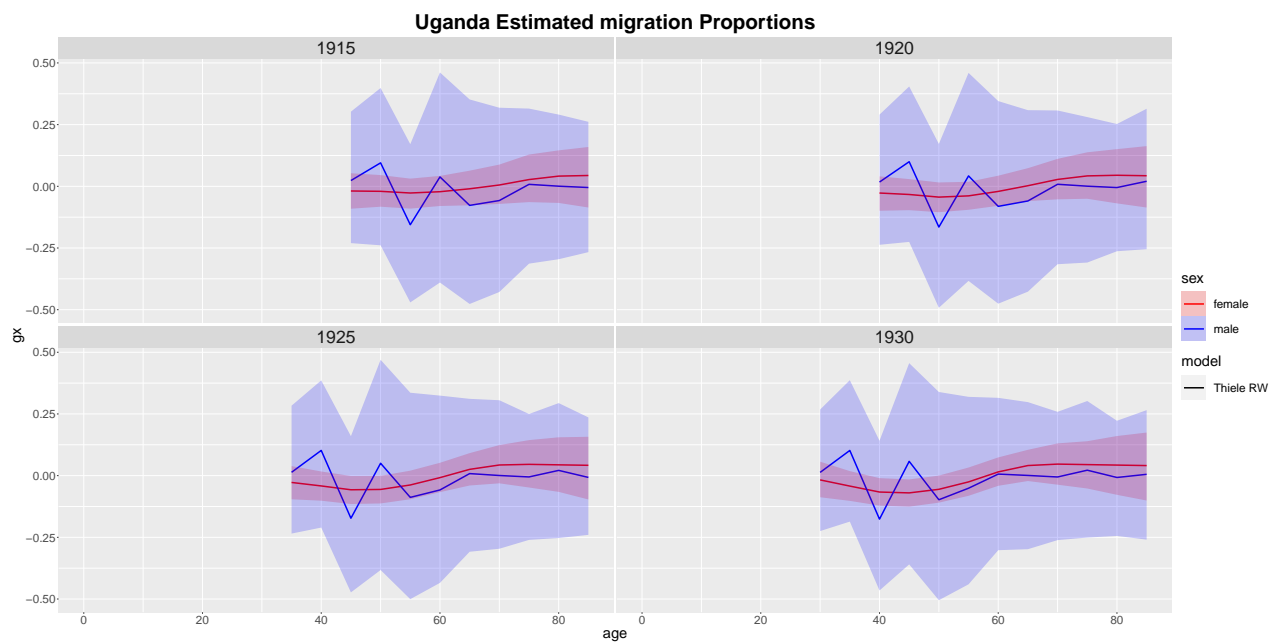


Figure 16: Migration

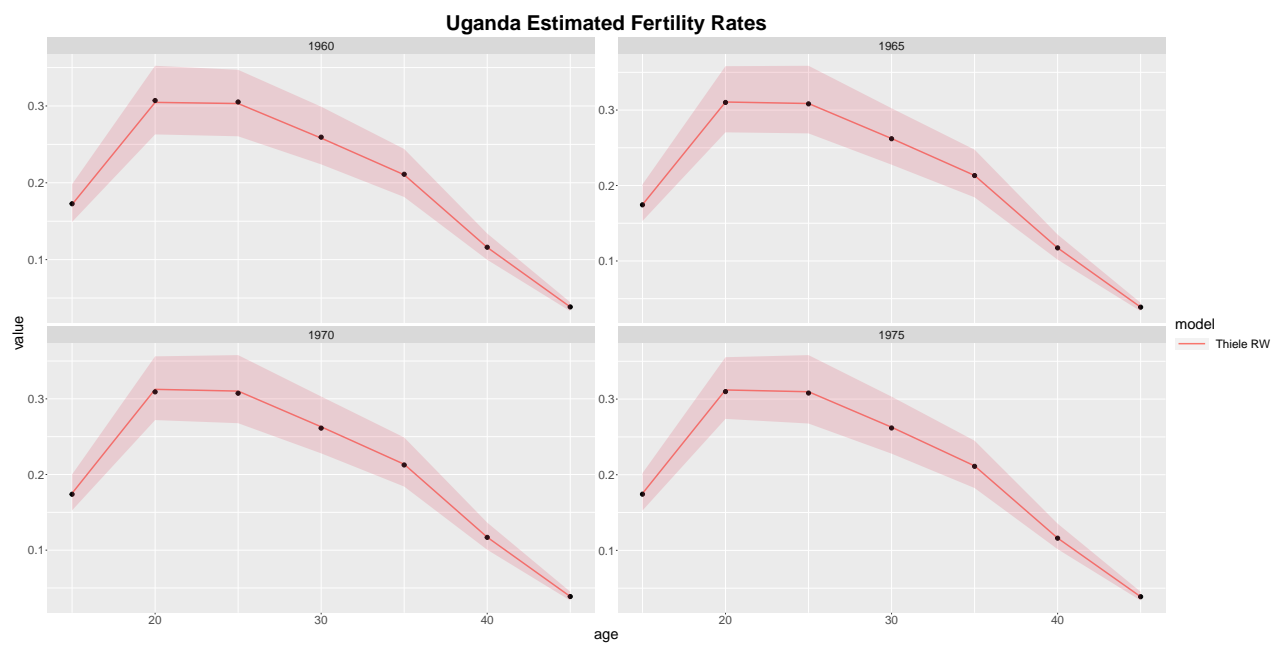


Figure 17: Fertility

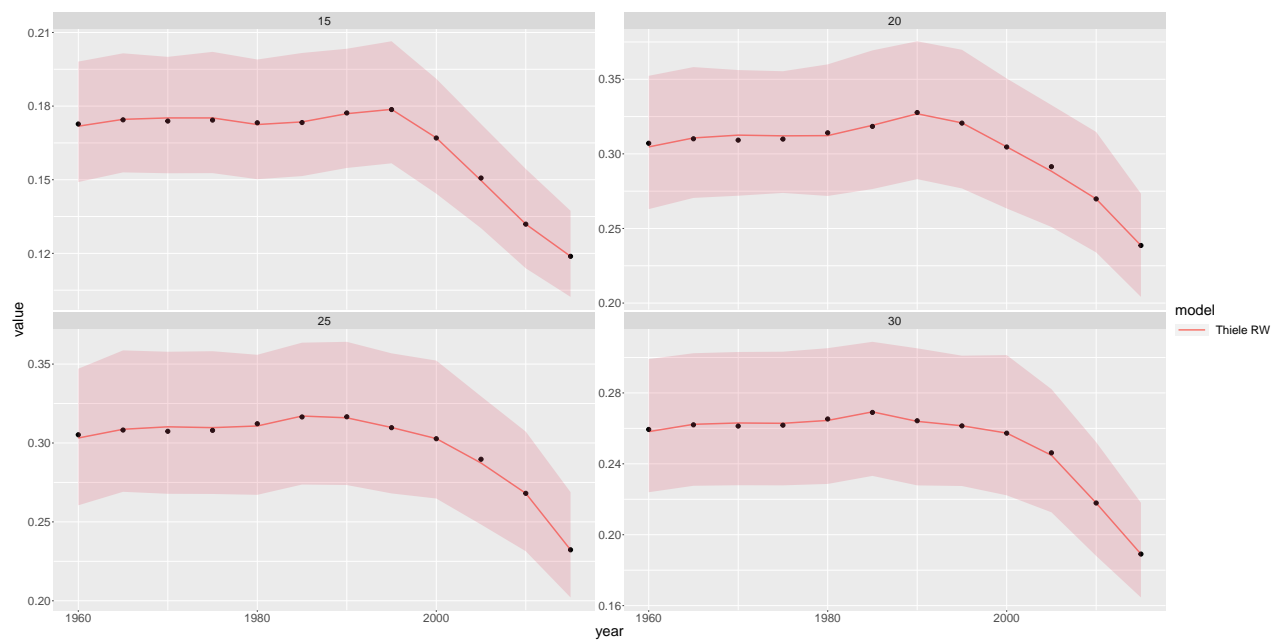


Figure 18: Fertility