

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
## 29.32  0.62  30.20
```

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

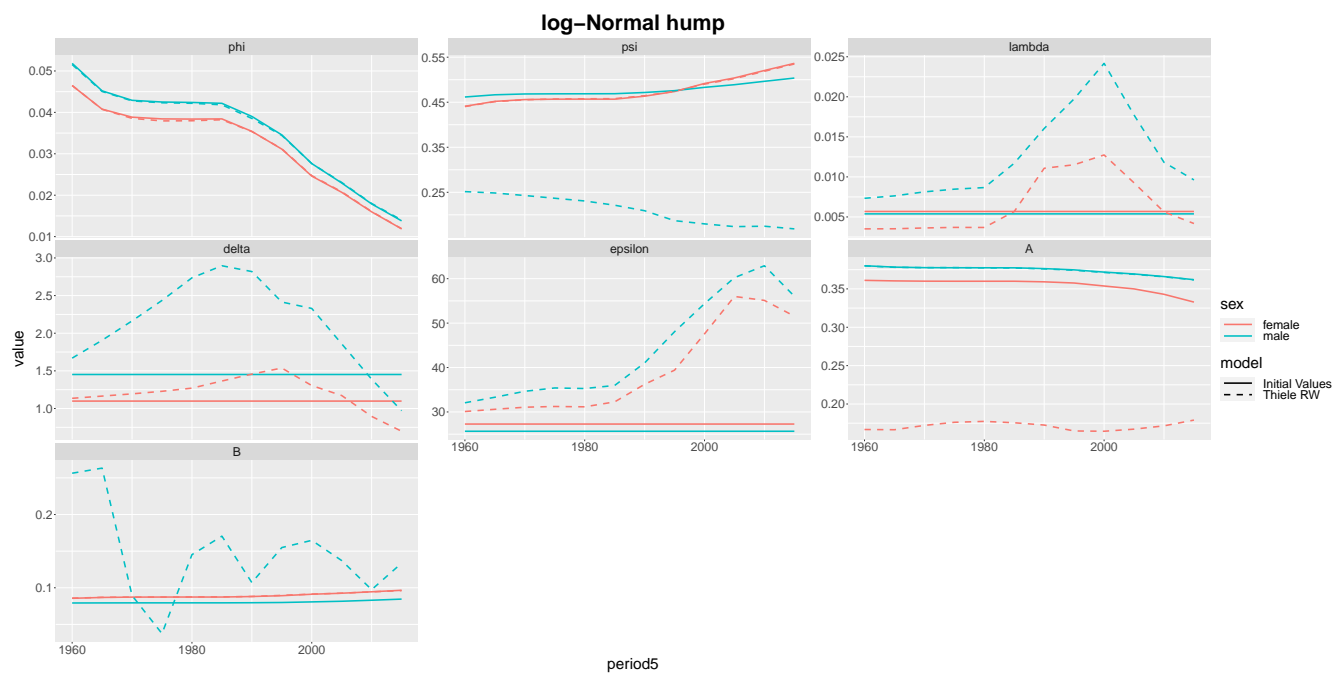


Figure 1: Estimated parameters

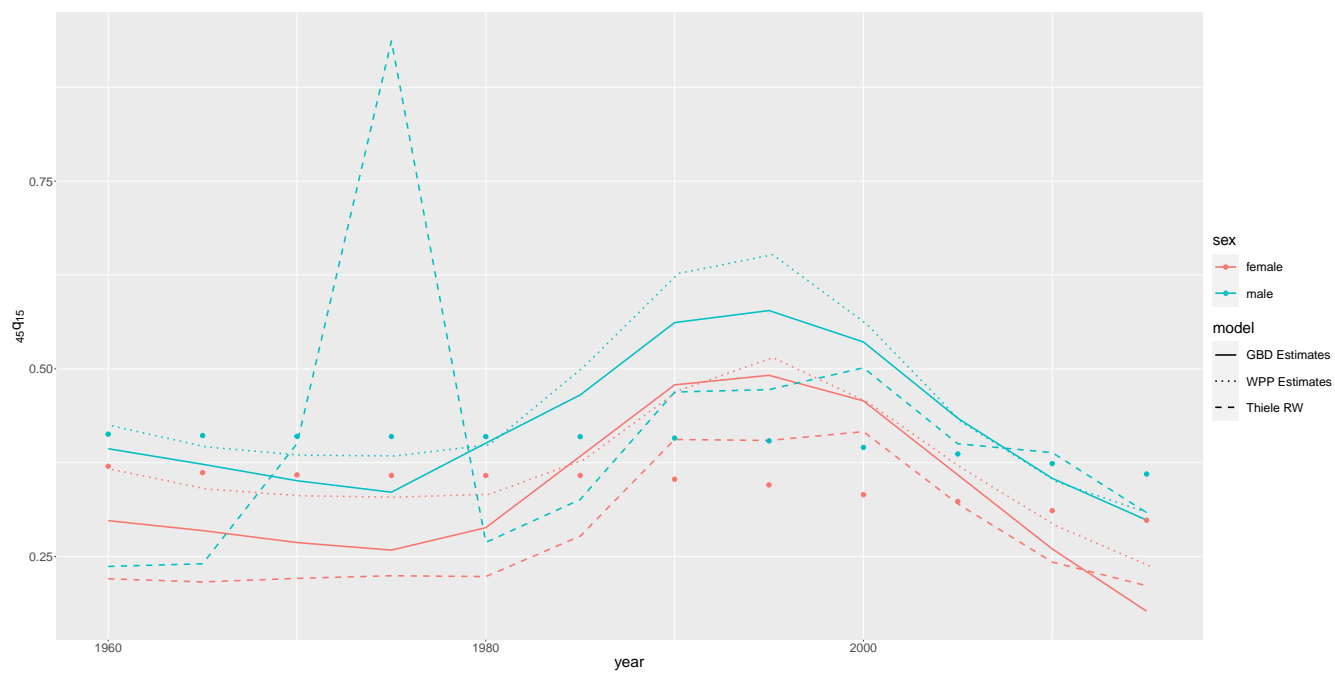


Figure 2: Estimated $45q_{15}$

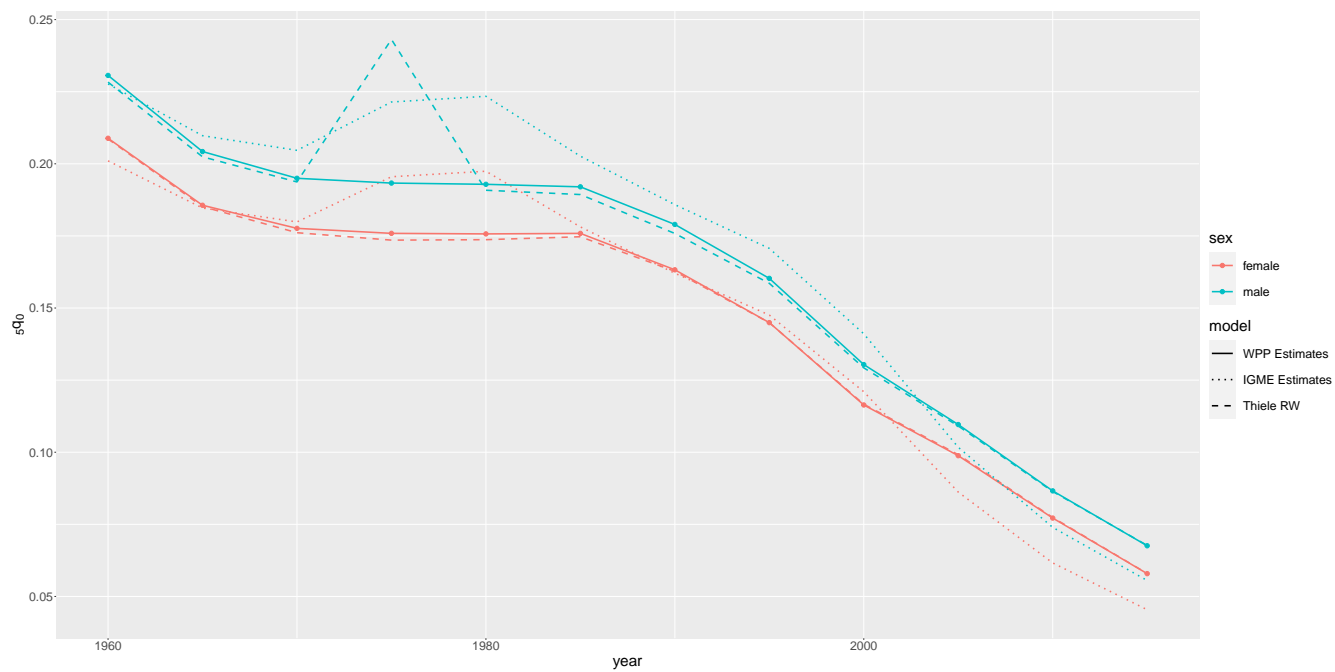


Figure 3: Estimated $5q_0$

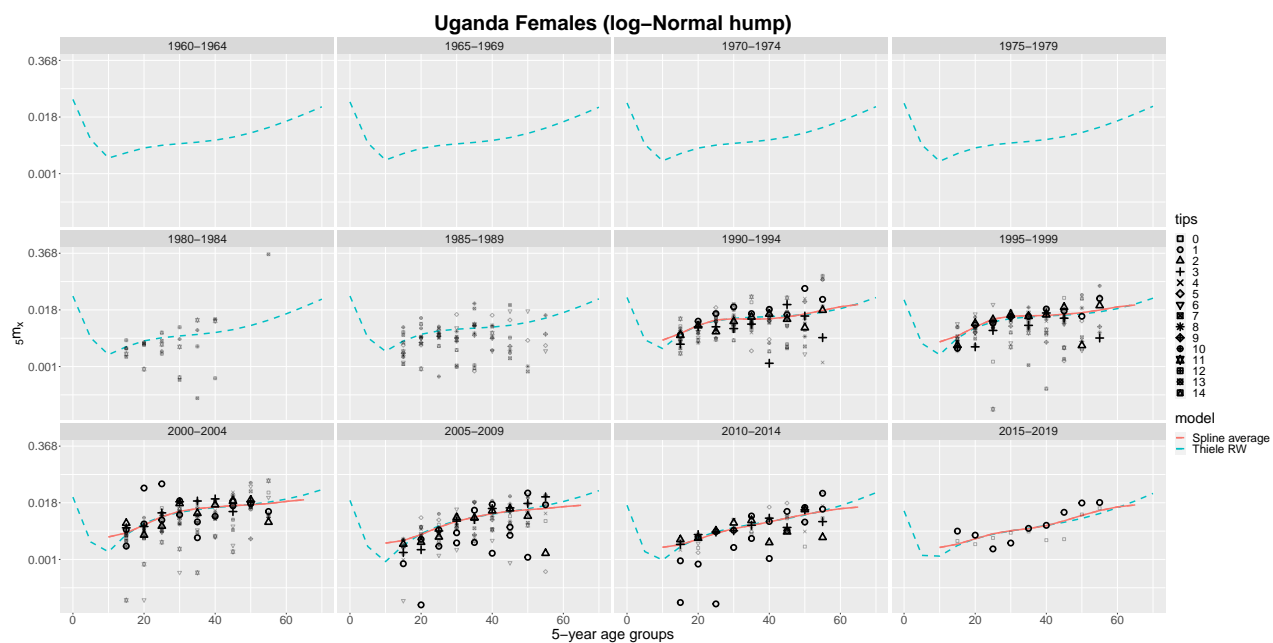


Figure 4: Mortality Schedules

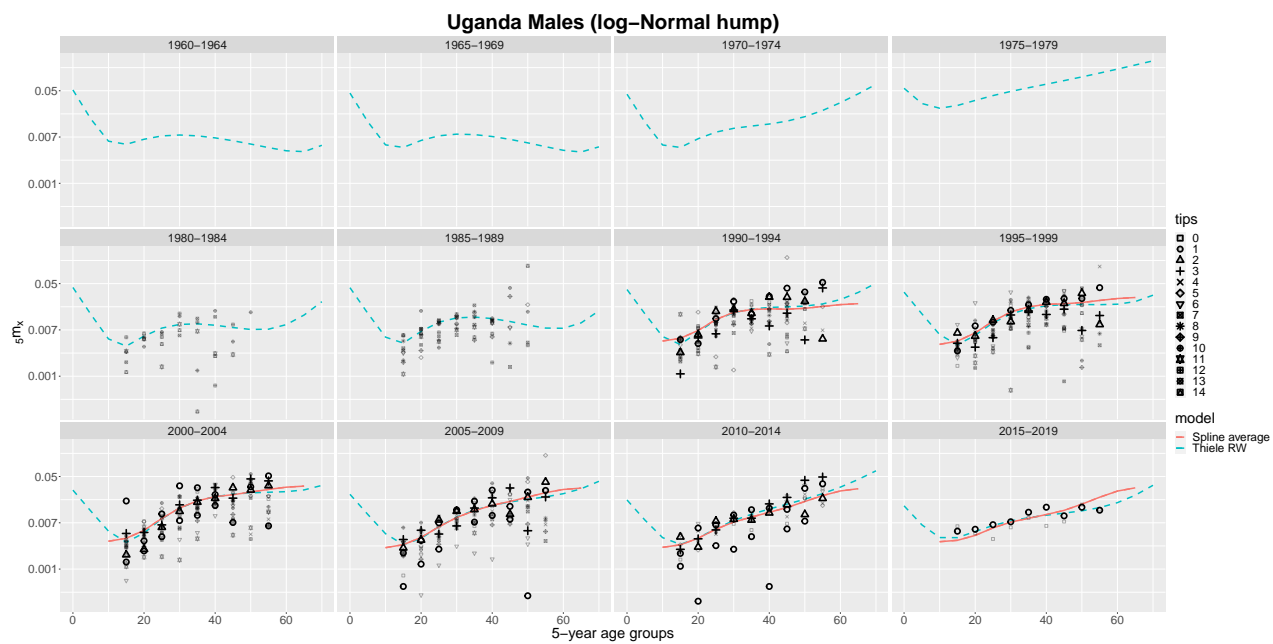


Figure 5: Mortality Schedules

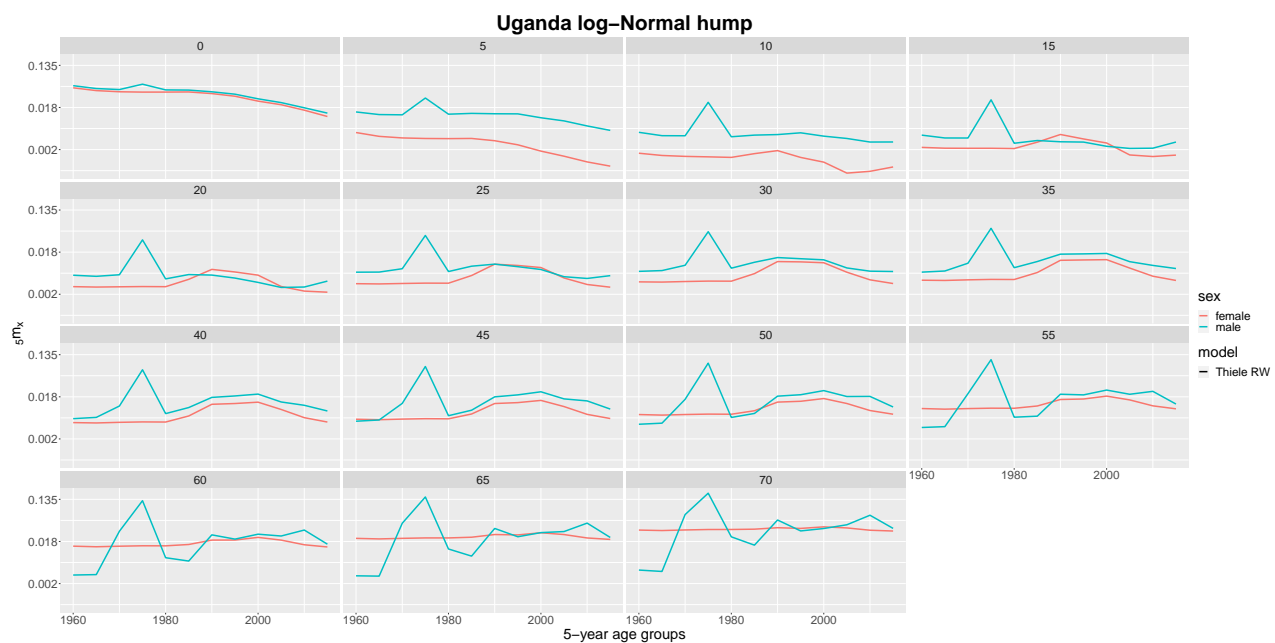


Figure 6: Mortality Schedules

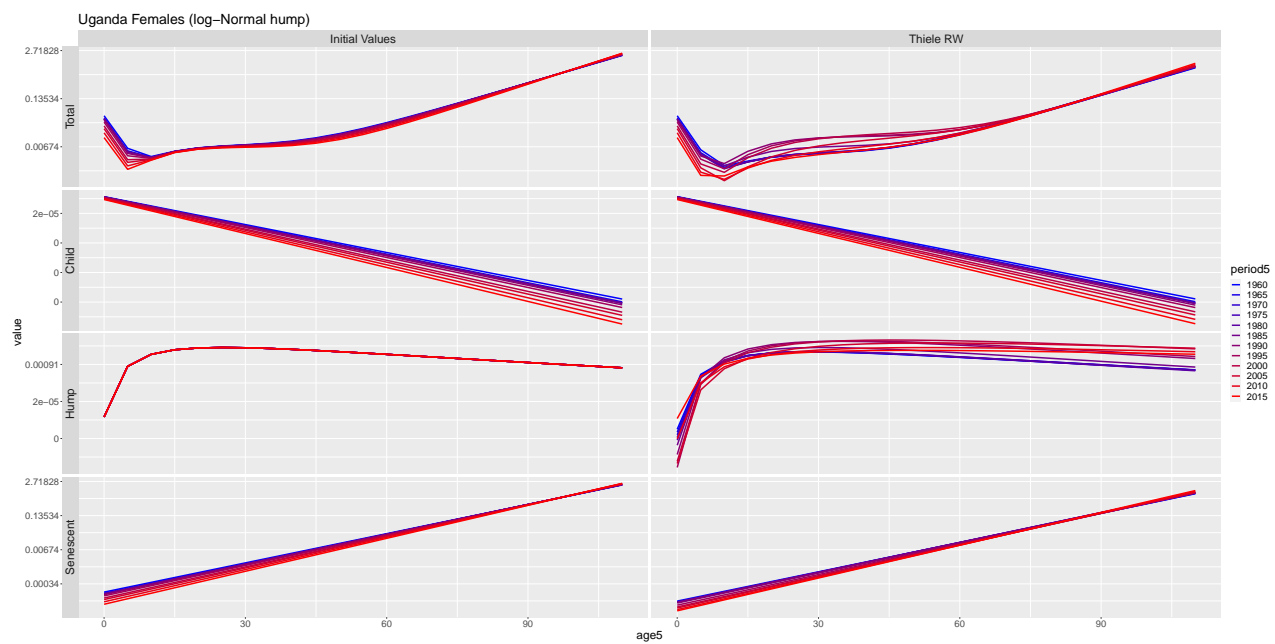


Figure 7: Thiele Decomposed

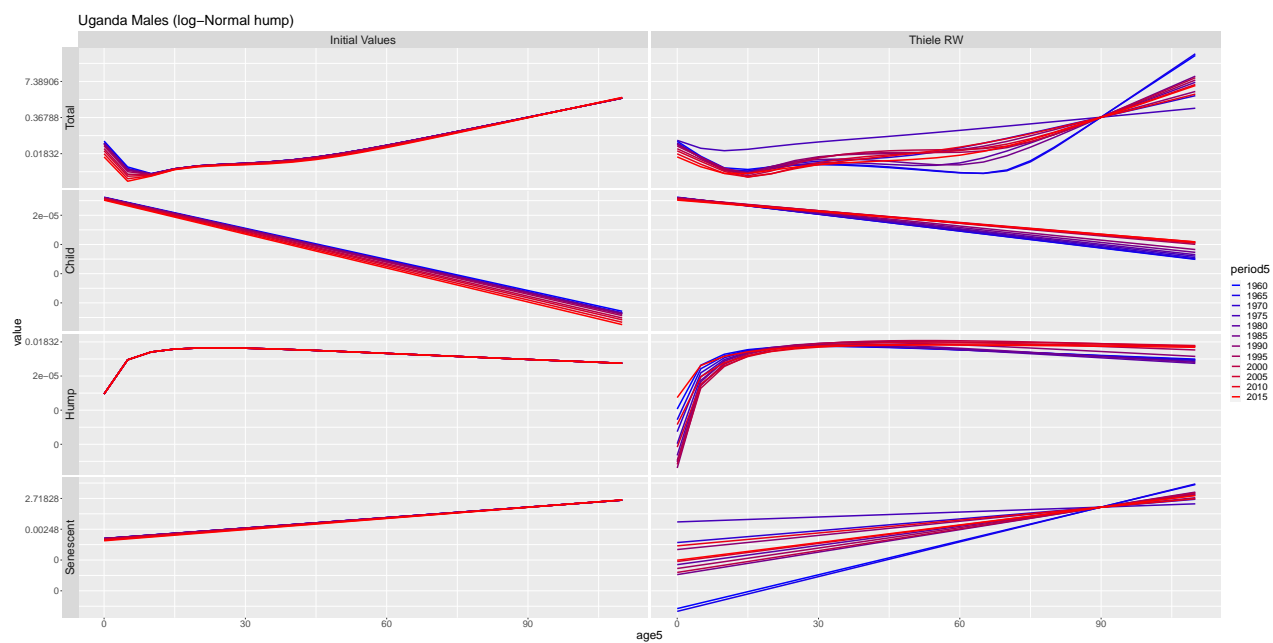


Figure 8: Thiele Decomposed

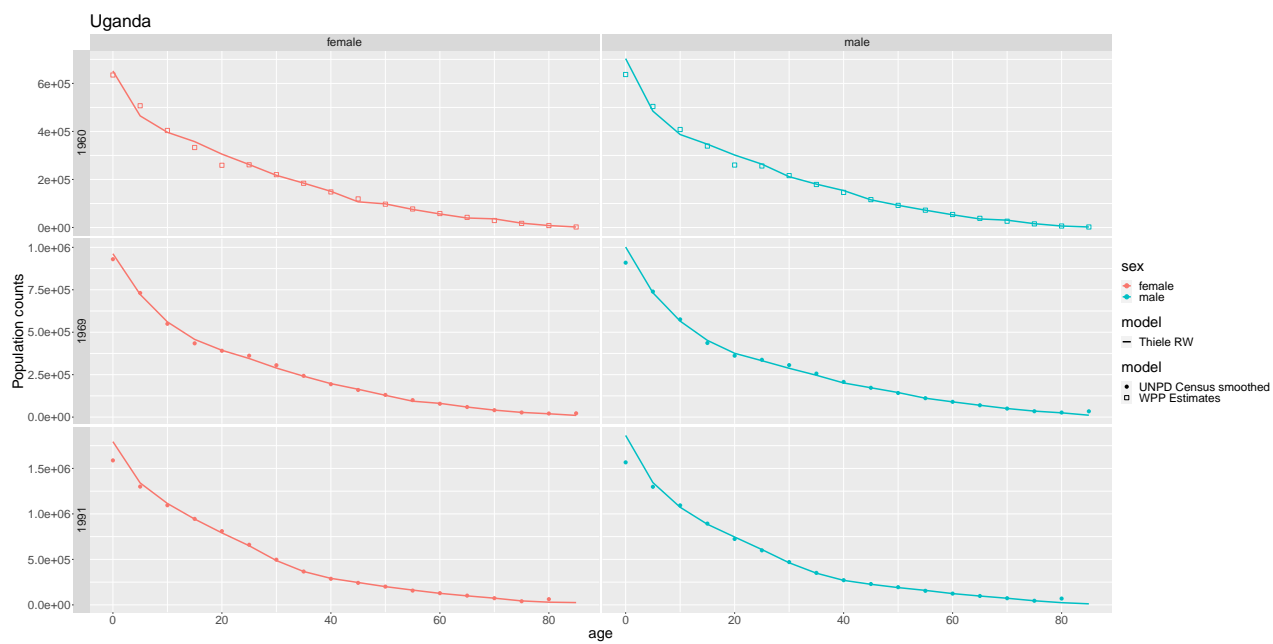


Figure 9: Population

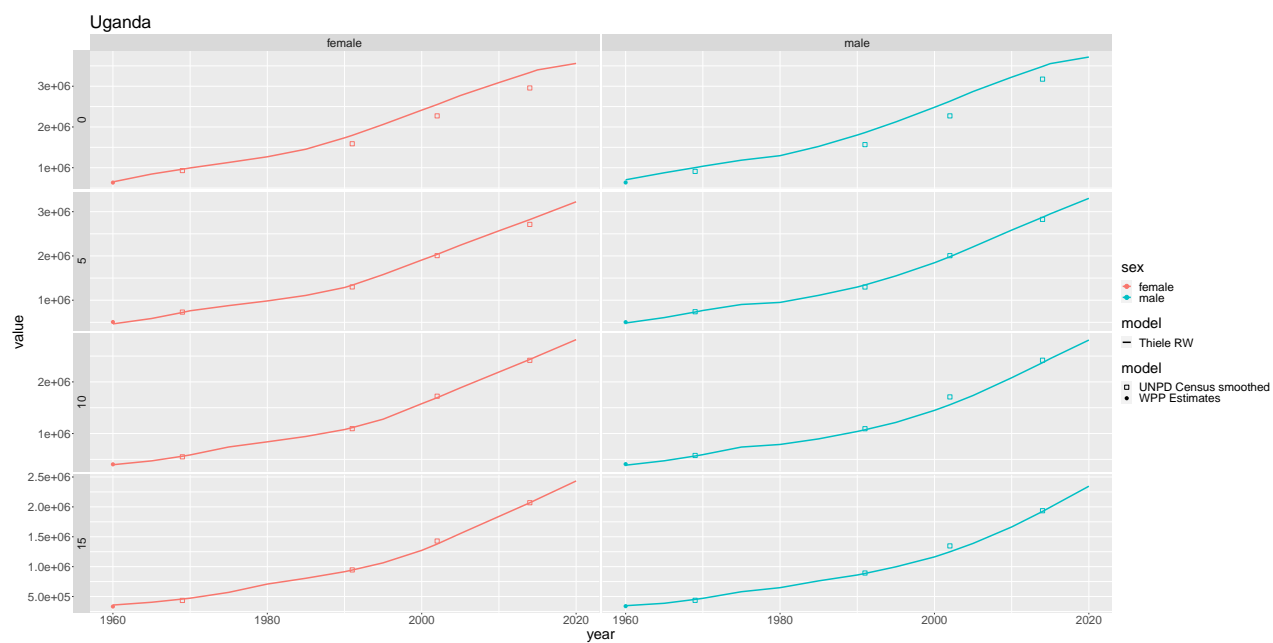


Figure 10: Population

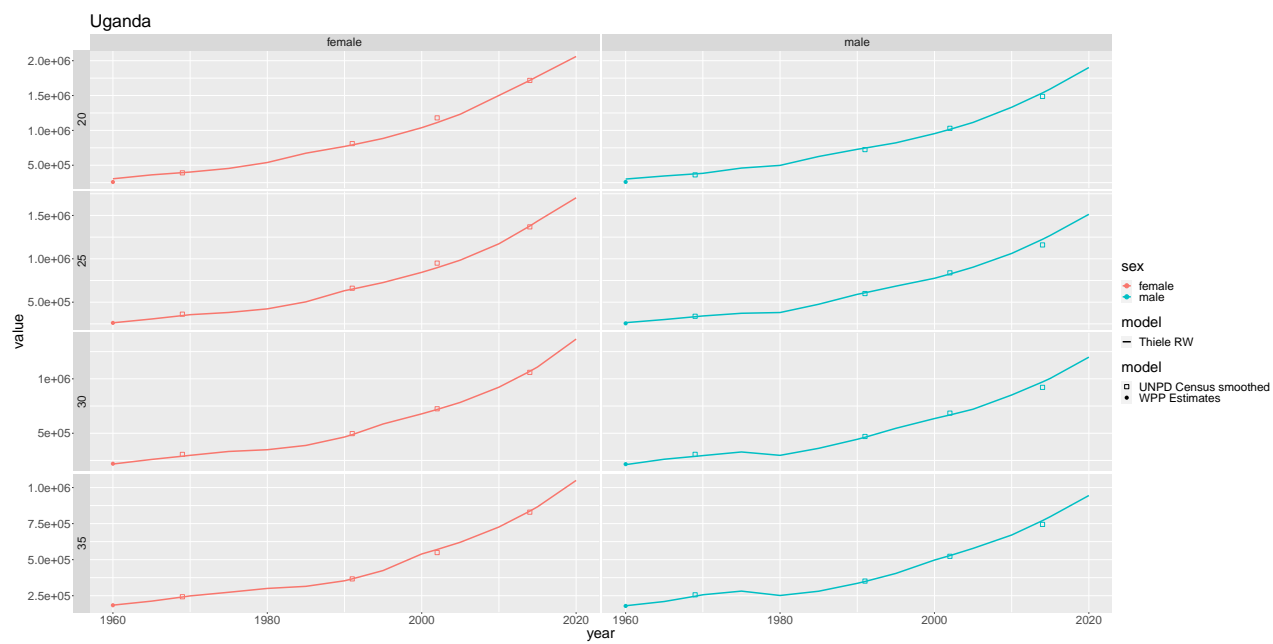


Figure 11: Population

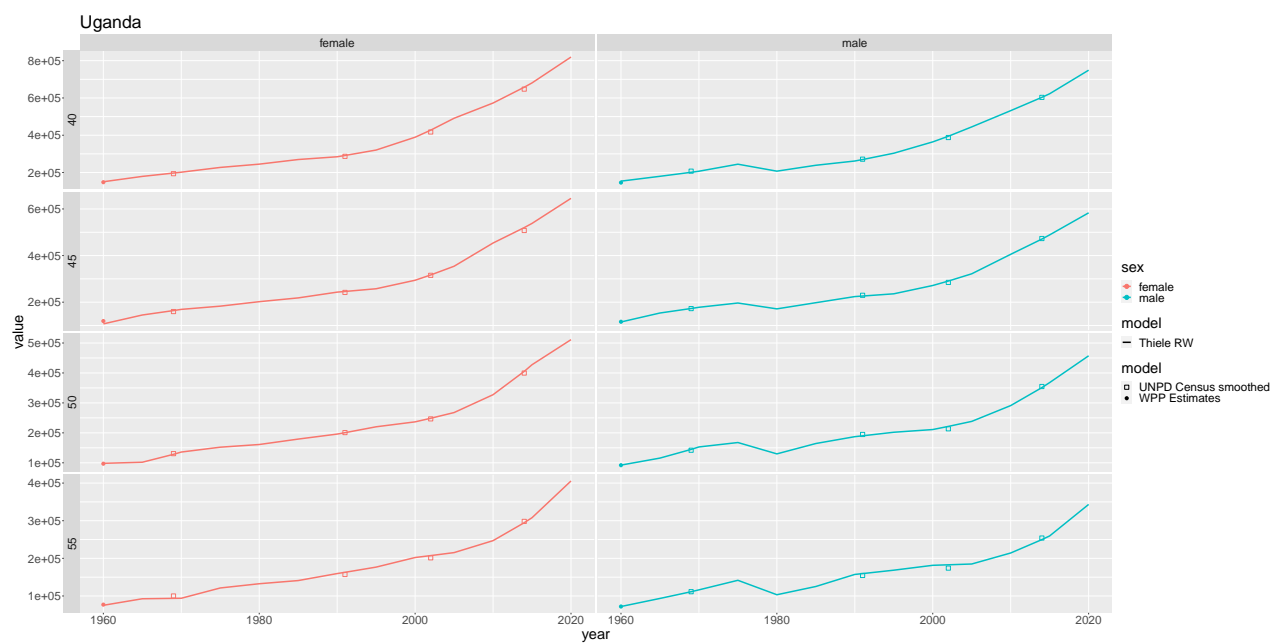


Figure 12: Population

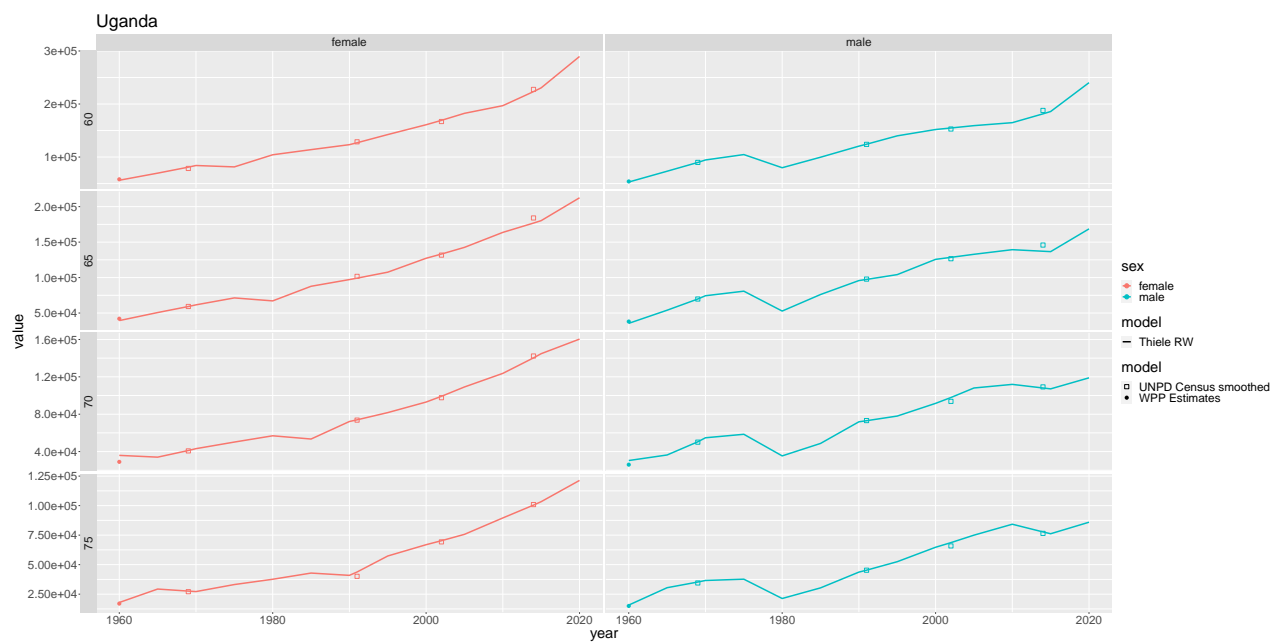


Figure 13: Population

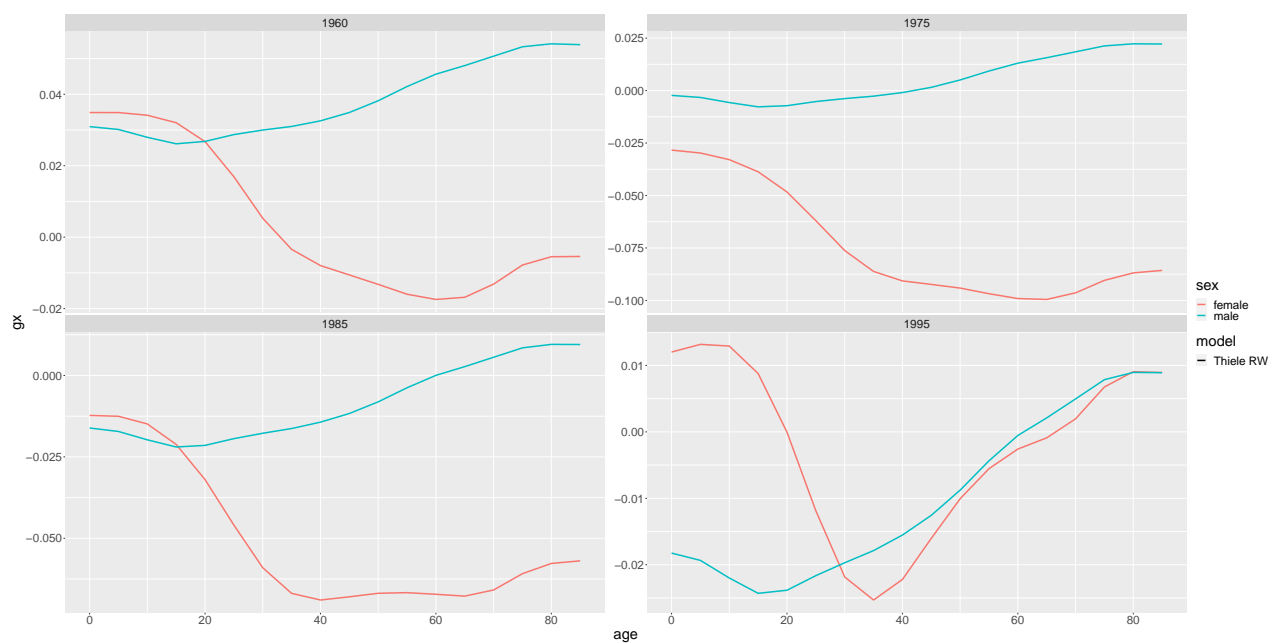


Figure 14: Migration

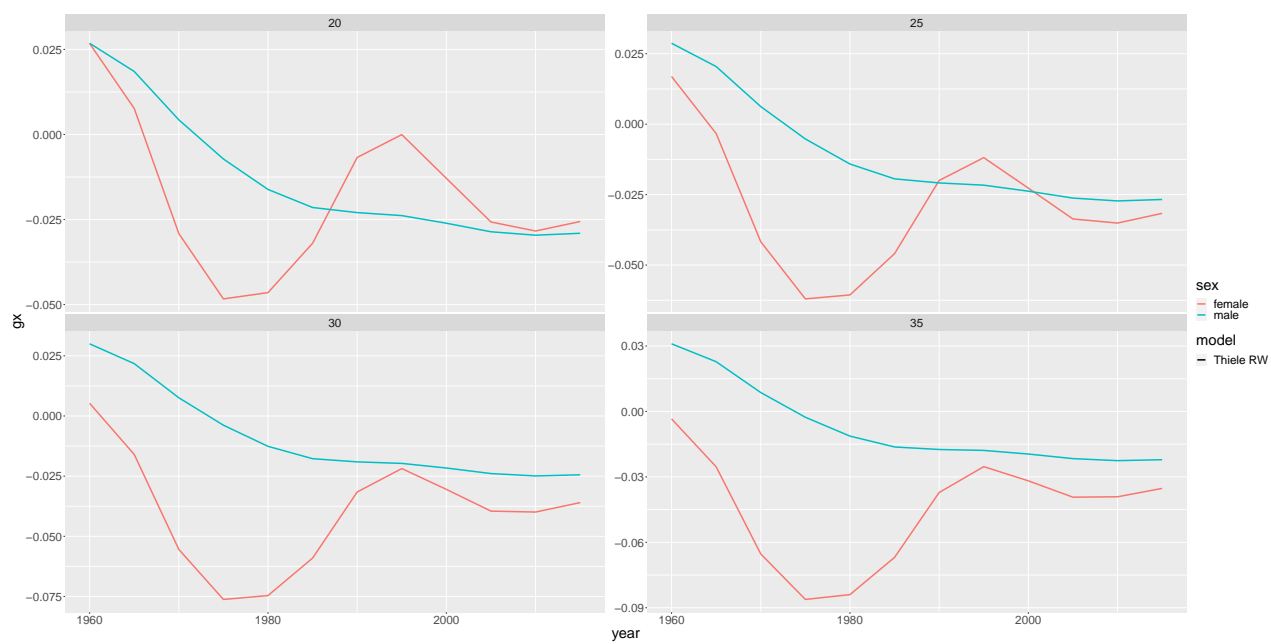


Figure 15: Migration

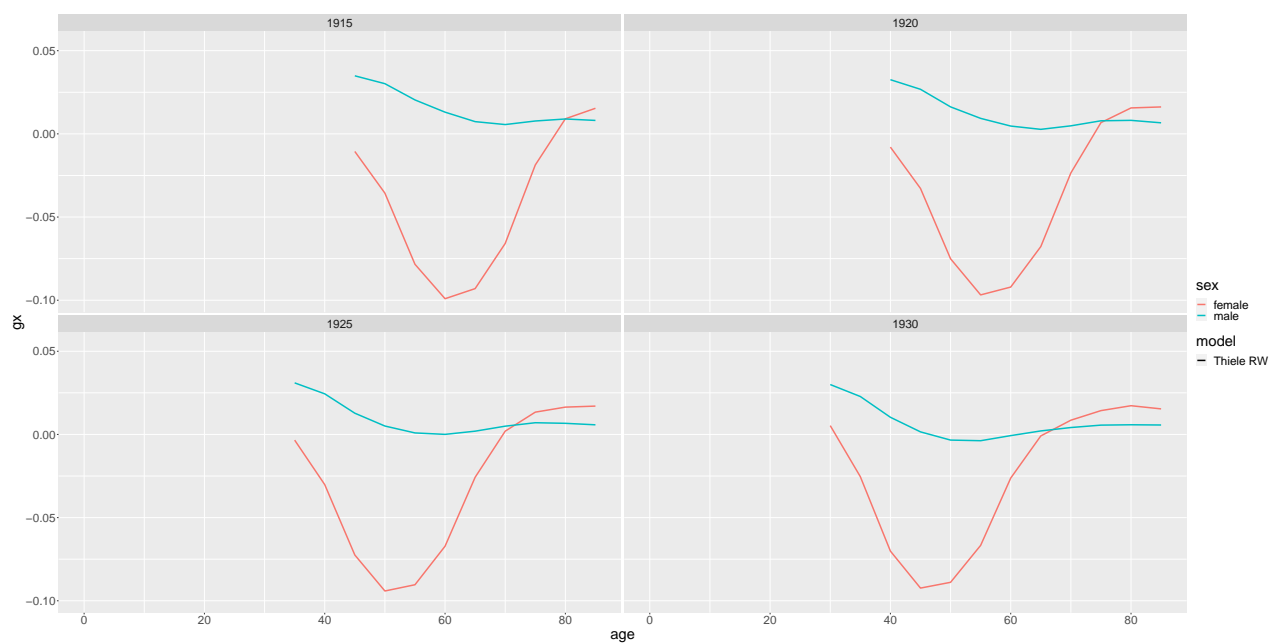


Figure 16: Migration

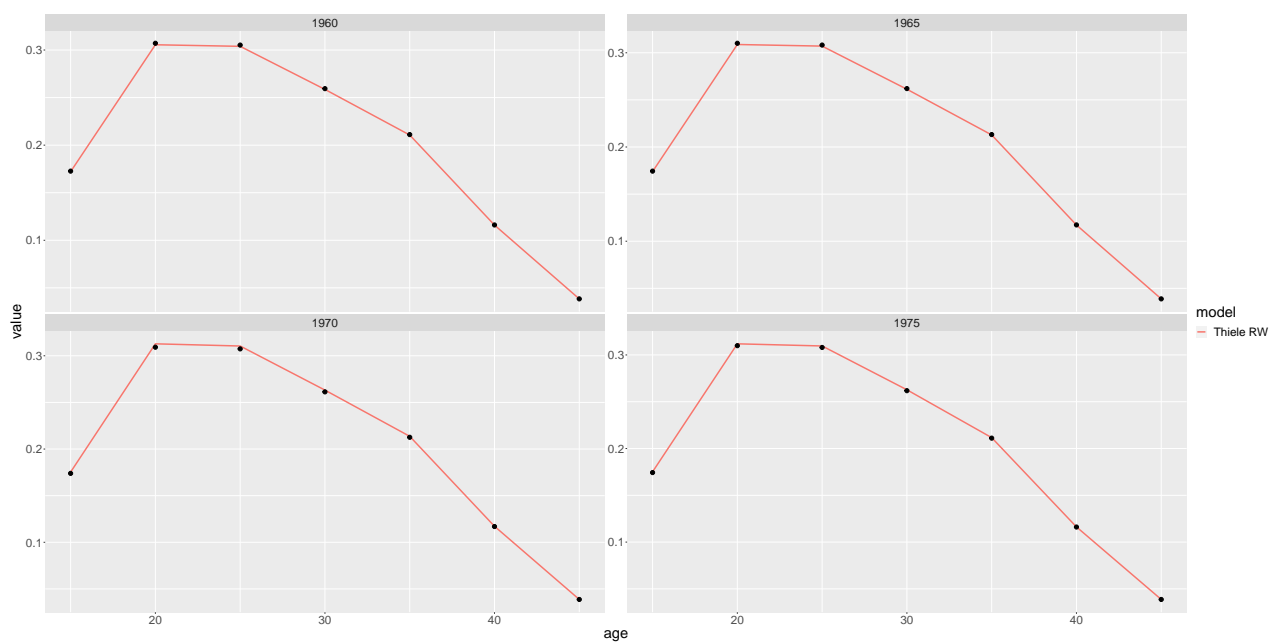


Figure 17: Fertility

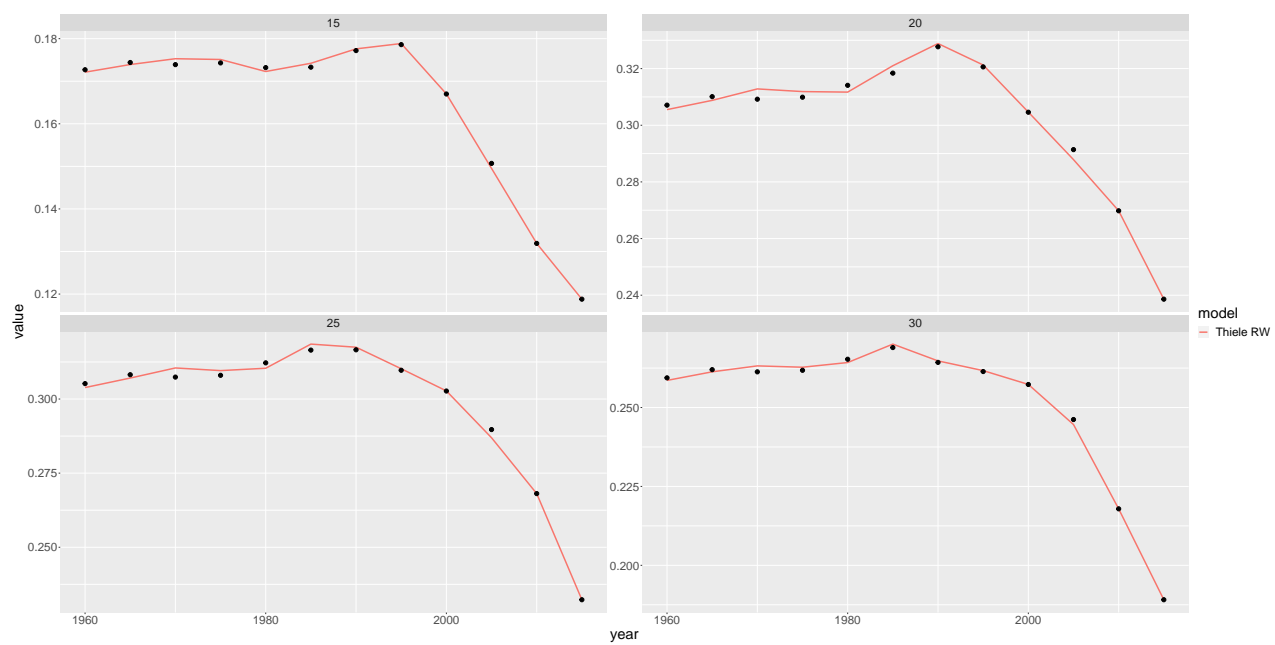


Figure 18: Fertility