# Gambia

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

```
## # A tibble: 87 x 4
##      age `1973` `1983` `1993`
##    <dbl>  <dbl>  <dbl>  <dbl>
## 1      0 10161  11895. 17052.
## 2      1  8901. 12009. 17155.
## 3      2  8058. 11952. 17104.
## 4      3  7548. 11724. 16896.
## 5      4  7194. 11326. 16532.
## 6      5  6938. 10996. 16260.
## 7      6  6734. 10780. 16092.
## 8      7  6541. 10461. 15787.
## 9      8  6350. 10039. 15343.
## 10     9  6169.  9514. 14763.
## # ... with 77 more rows
```

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

```
## # A tibble: 87 x 4
##      age `1973` `1983` `1993`
##    <dbl>  <dbl>  <dbl>  <dbl>
## 1      0 10239  11939. 17387.
## 2      1  8856. 12047. 17505.
## 3      2  7961. 11993. 17446.
## 4      3  7434. 11778. 17211.
## 5      4  7054. 11403. 16800.
## 6      5  6773. 11112. 16486.
## 7      6  6566. 10927. 16289.
## 8      7  6383. 10617. 15947.
## 9      8  6202  10182. 15459.
## 10     9  6031.  9620. 14825.
## # ... with 77 more rows
```

***Thiele log-Normal Hump Spline***

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

```
##           log_tau2_logpop_f            log_tau2_logpop_f           log_tau2_logpop_m            log_tau2_
##                 6.497246979                 4.381566313                 6.367969840                   4.3
##                 log_tau2_gx_m           log_lambda_gx_age_f          log_lambda_gx_age_m             log_lambda_g
##                 3.427391803                 3.548209334                 6.945420572                   6.5
##         log_lambda_gx_agetime_m               log_lambda_tp  log_lambda_tp_0_inflated_sd                log_disp
##                 6.907763328                 0.781125553                 1.782994768                   0.08
##         log_marginal_prec_psi_f        log_marginal_prec_A_f        log_marginal_prec_B_f          log_marginal_pr
##                 4.285573885                 6.802460375                -1.123785282                   4.38
##           log_marginal_prec_B_m             log_lambda_phi_f             log_lambda_psi_f               log_lambda_
##                -1.434825574                 4.353447616                 4.316857431                   4.87
##               log_lambda_A_f               log_lambda_B_f             log_lambda_phi_m                 log_lambd
##                 4.306734464                 2.092072170                 4.374859891                   4.3
##          log_lambda_epsilon_m               log_lambda_A_m               log_lambda_B_m
##                 3.991358542                 4.306889401                 0.808964942
```
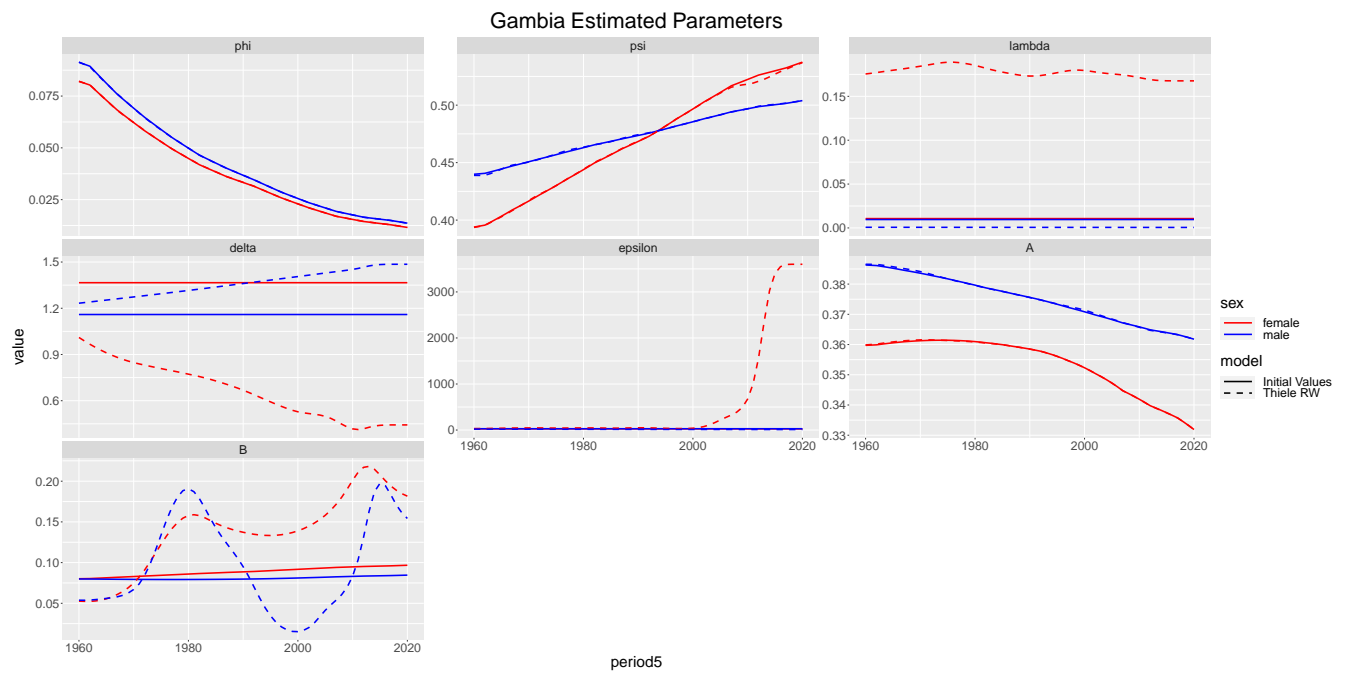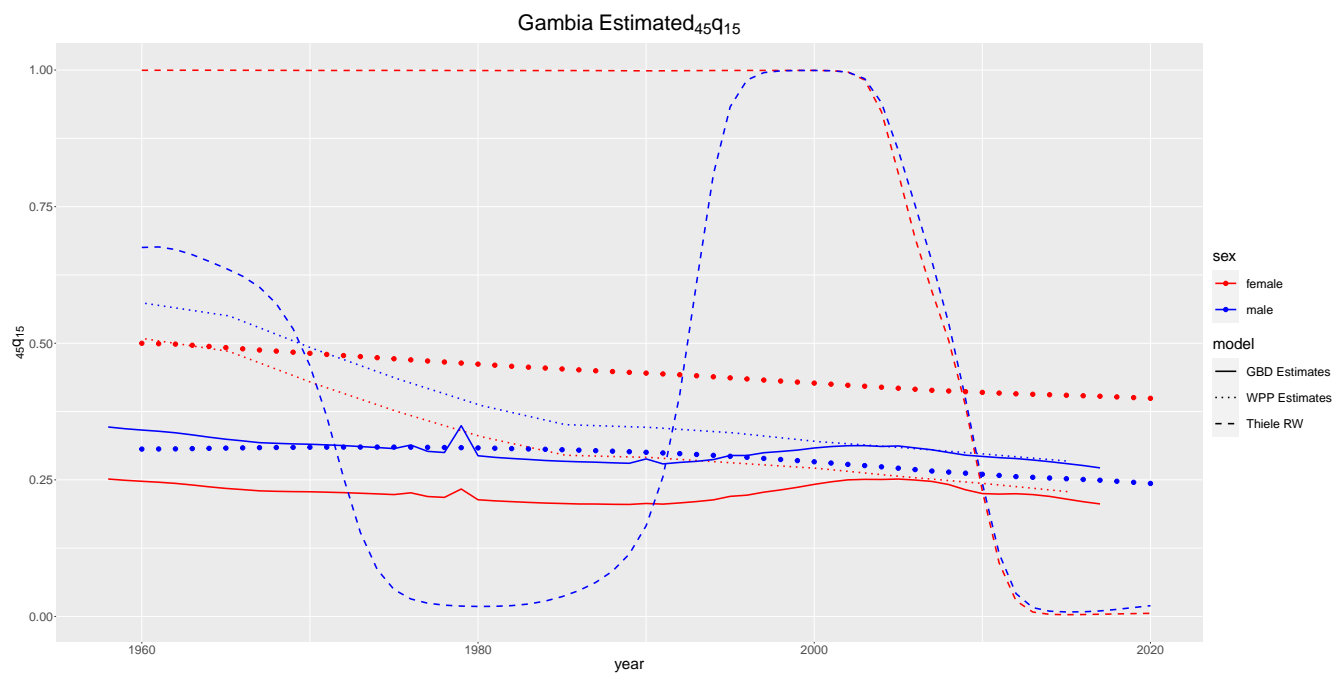
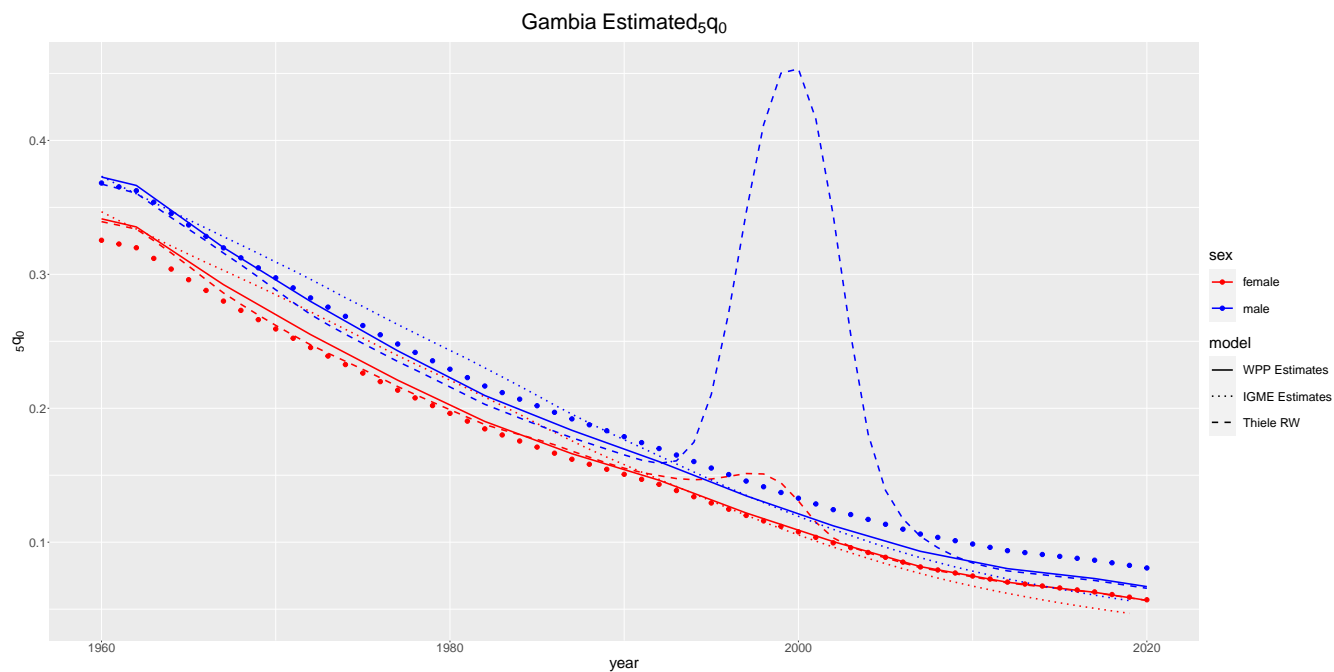Figure 1: Estimated parameters

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

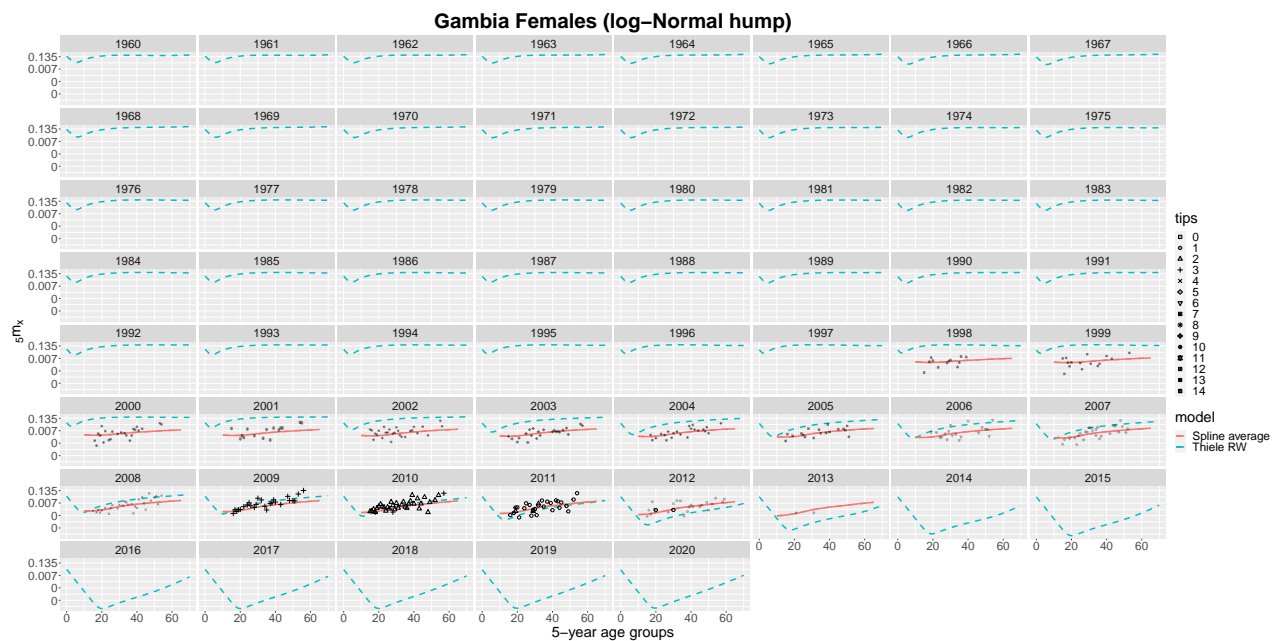Figure 3: Estimated $_5q_0$



Figure 4: Mortality Schedules

4
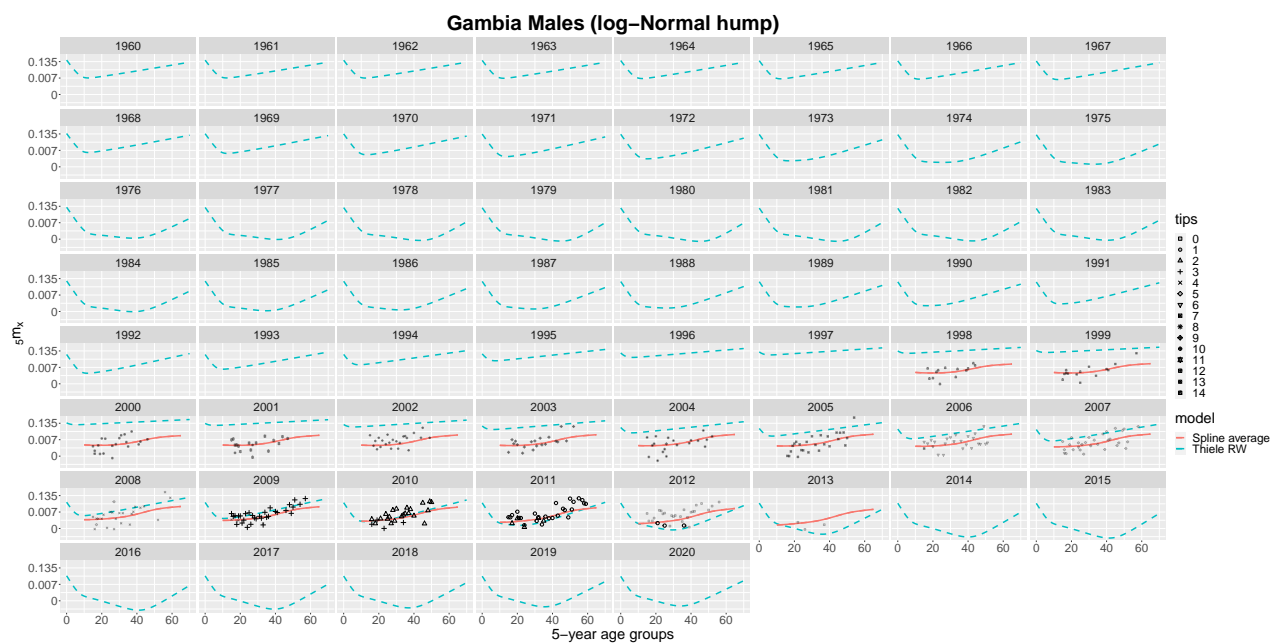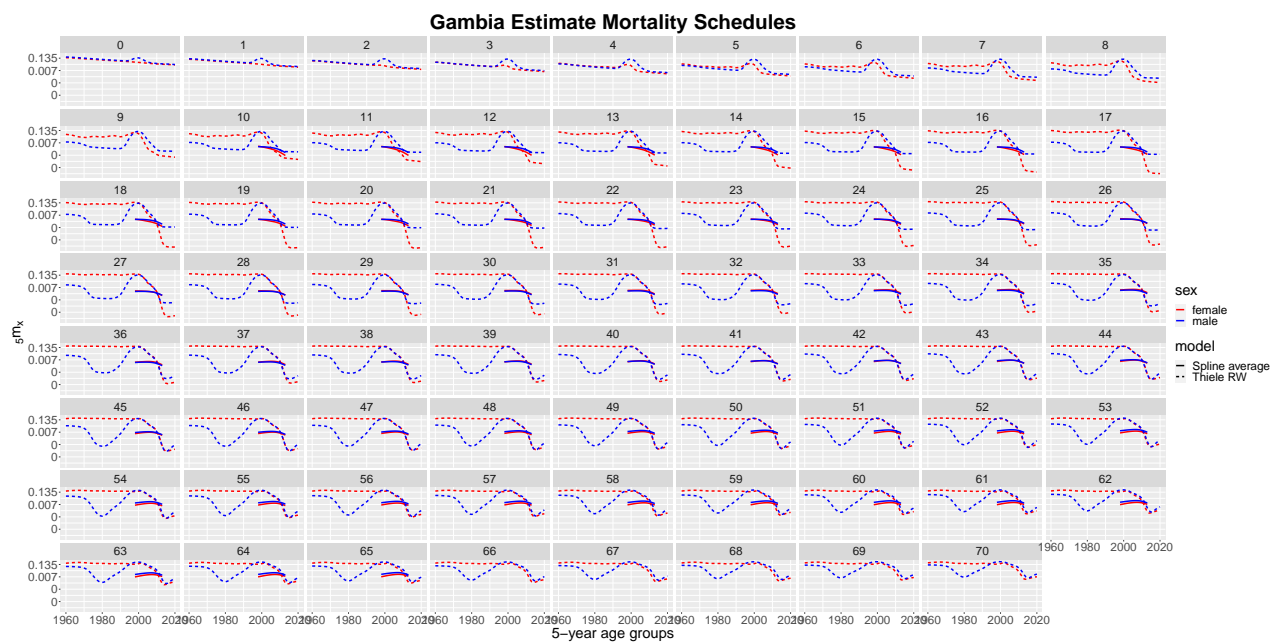
Figure 5: Mortality Schedules
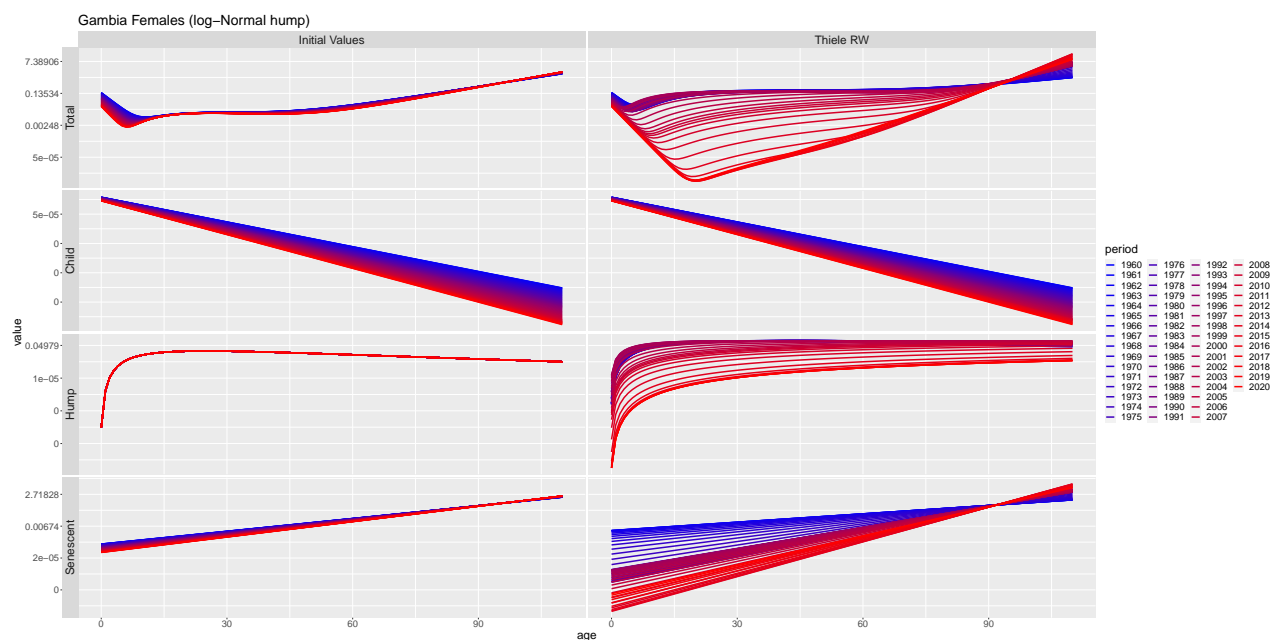


Figure 6: Mortality Schedules
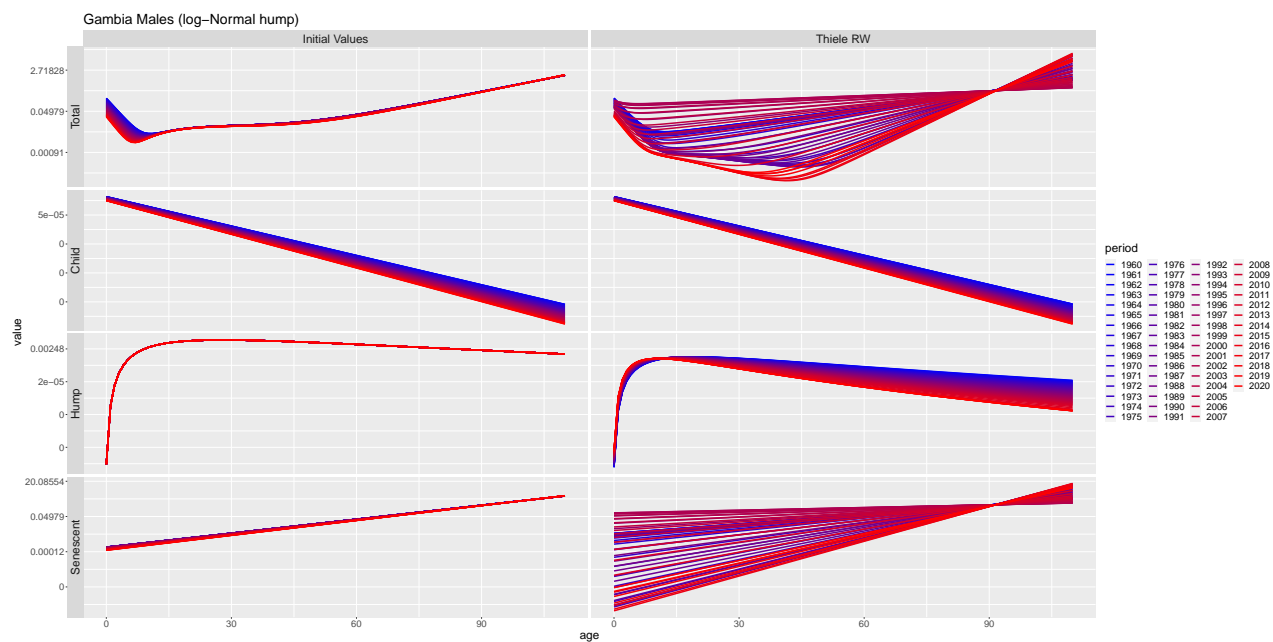
Figure 7: Thiele Decomposed
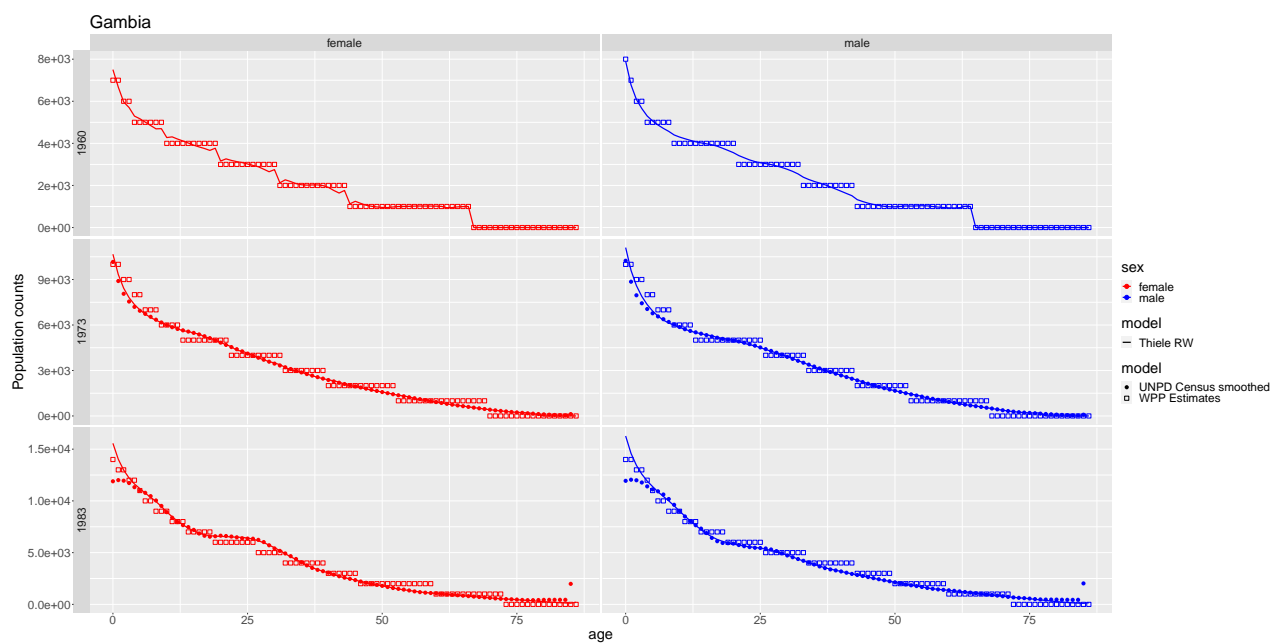


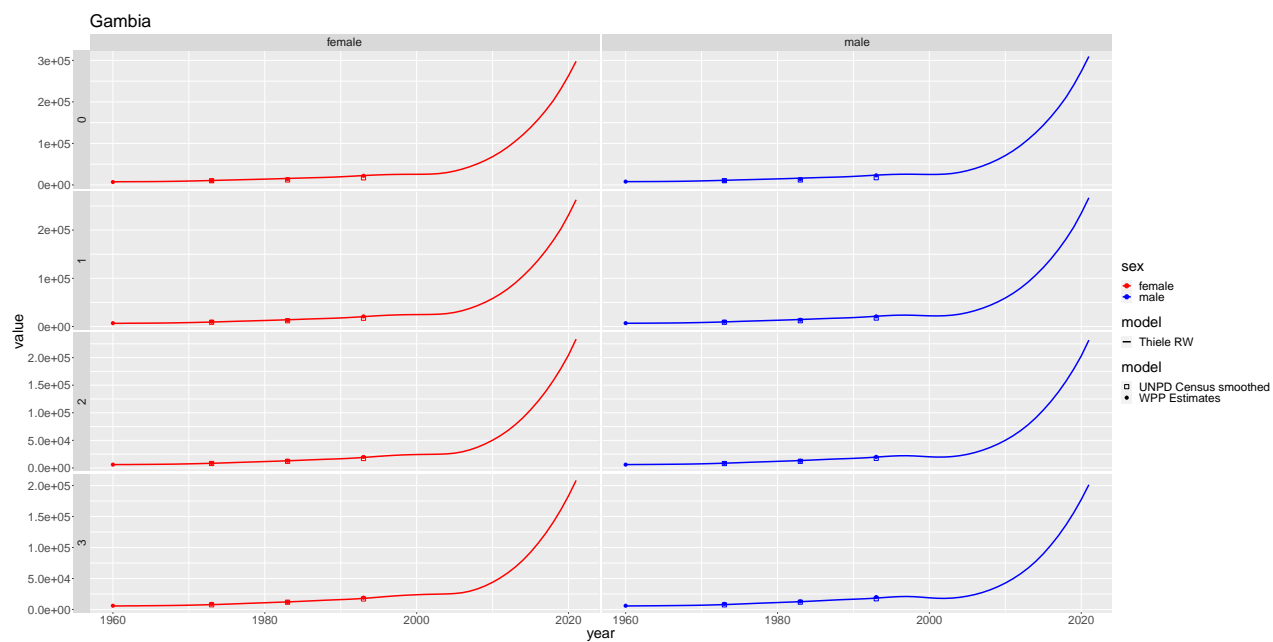Figure 8: Thiele Decomposed

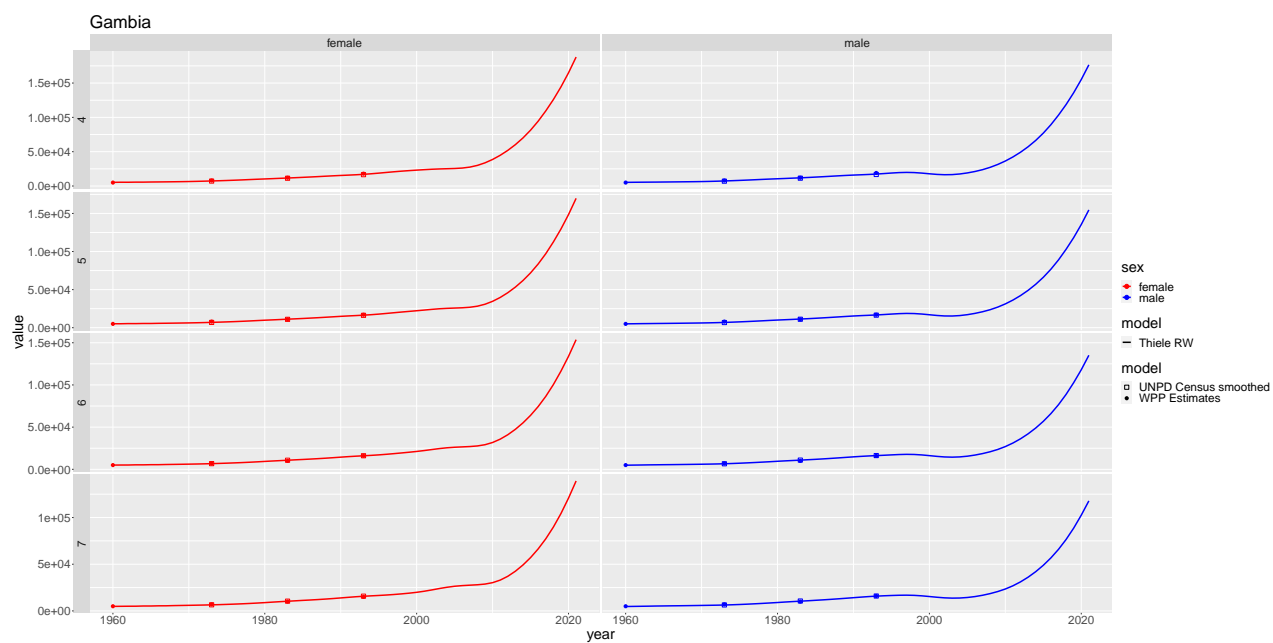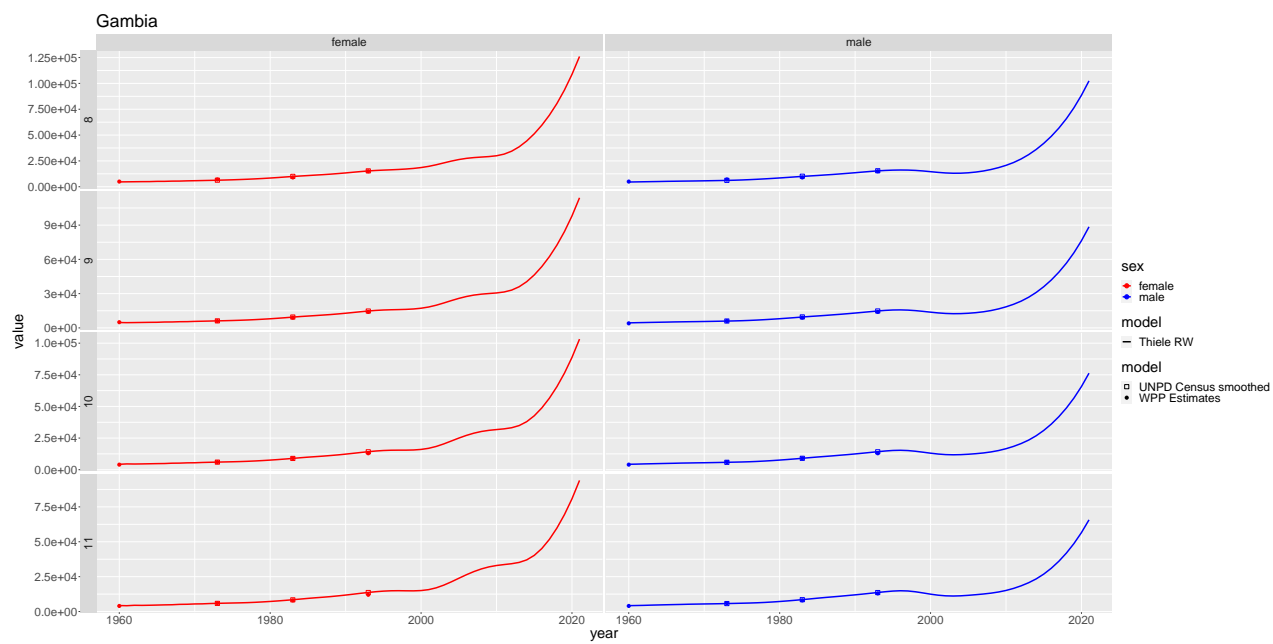Figure 9: Population



Figure 10: Population
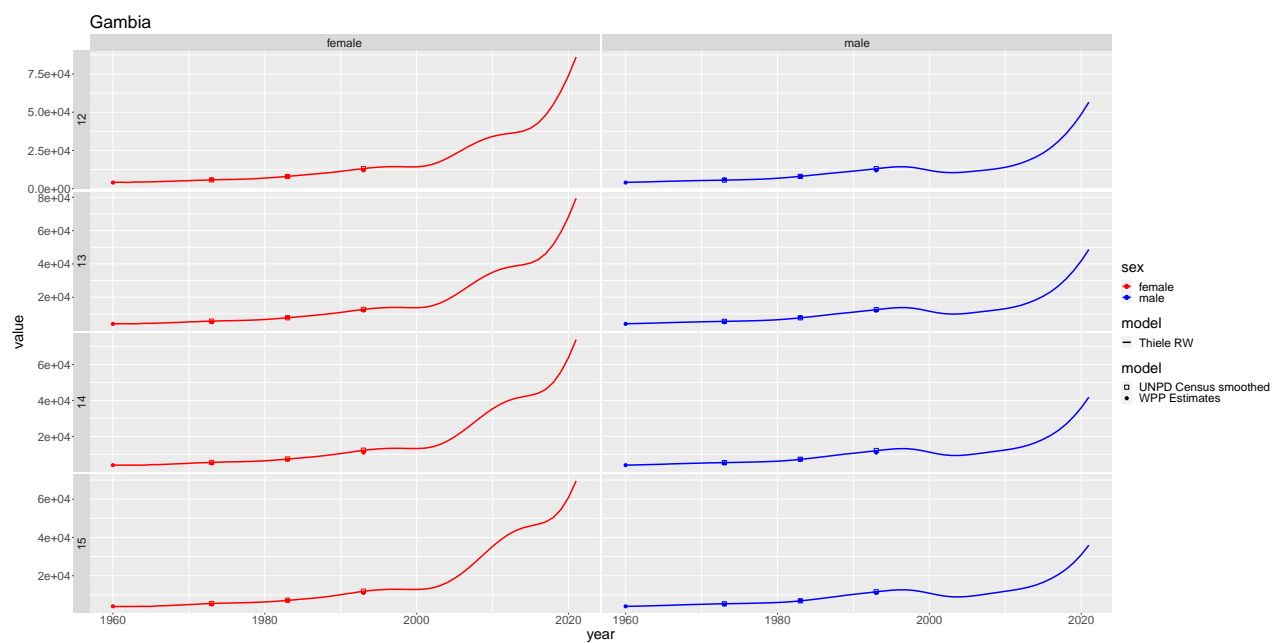
Figure 11: Population

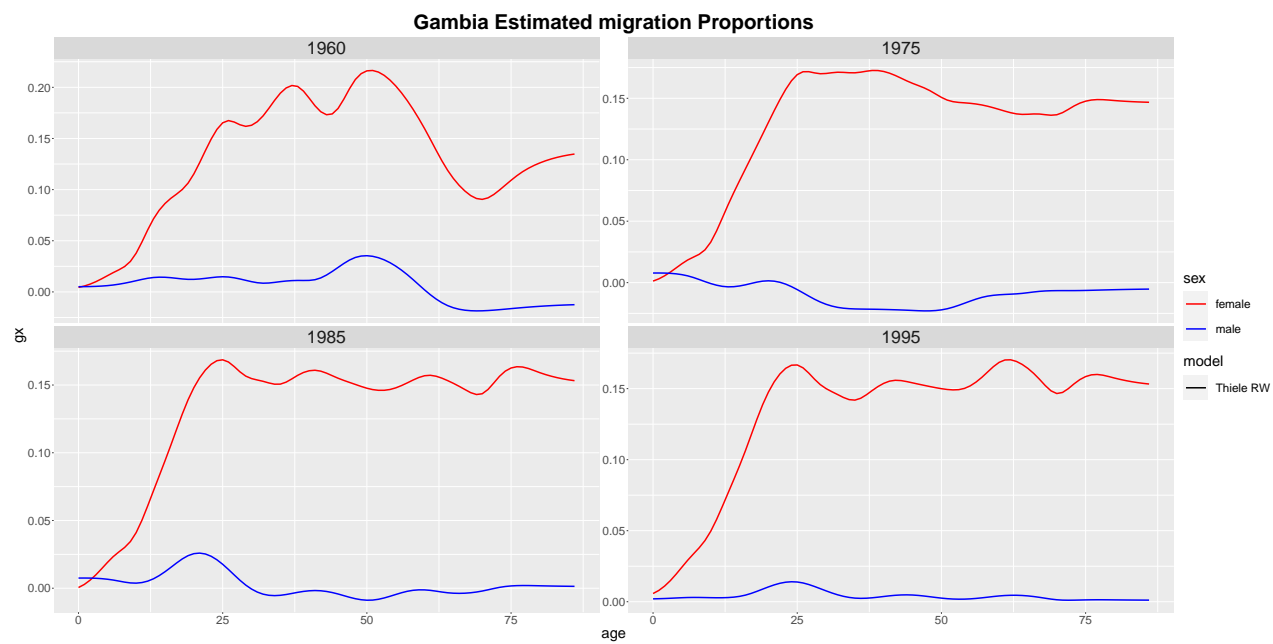

Figure 12: Population

8

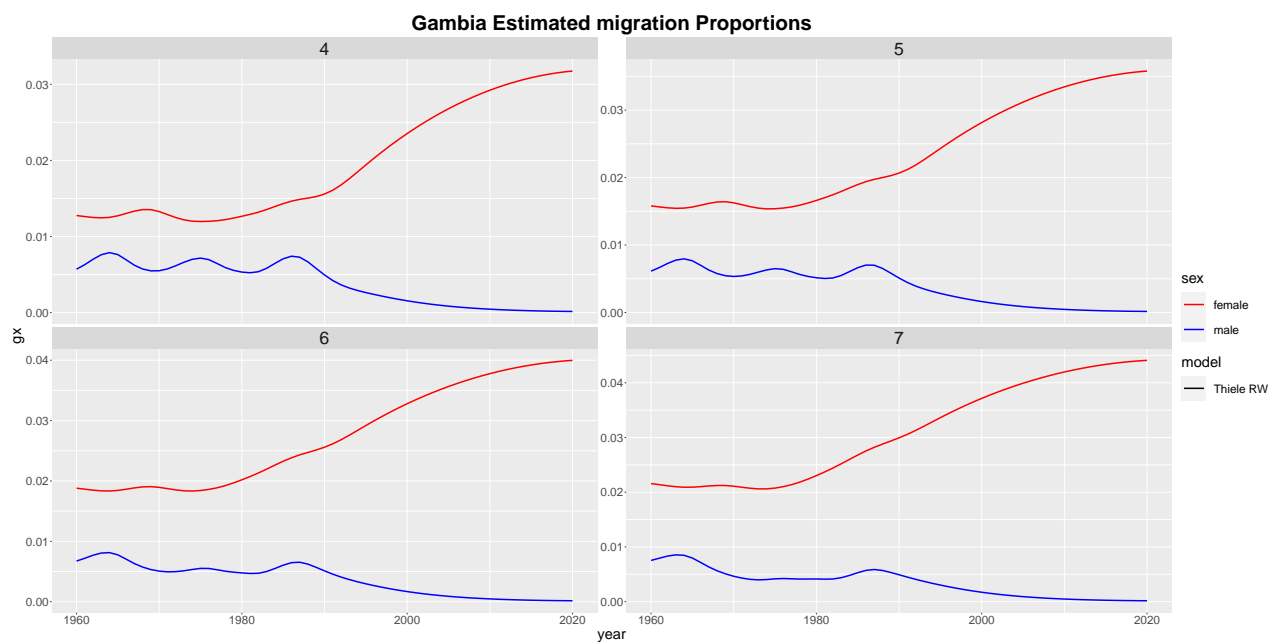Figure 13: Population



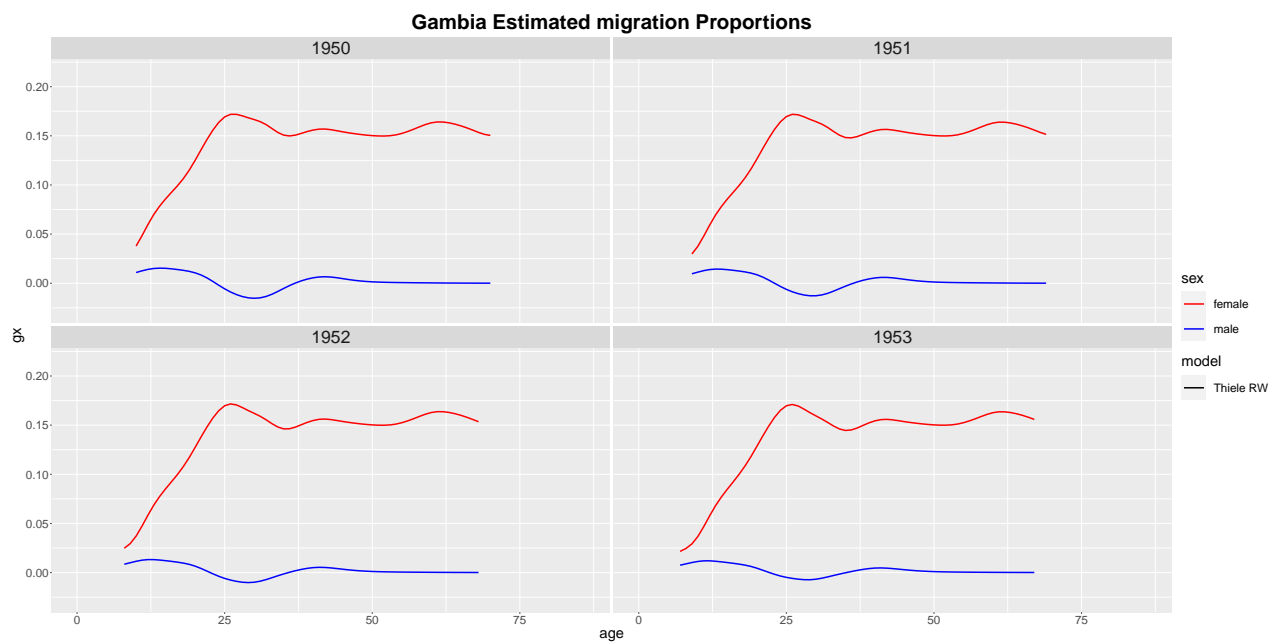Figure 14: Migration

9

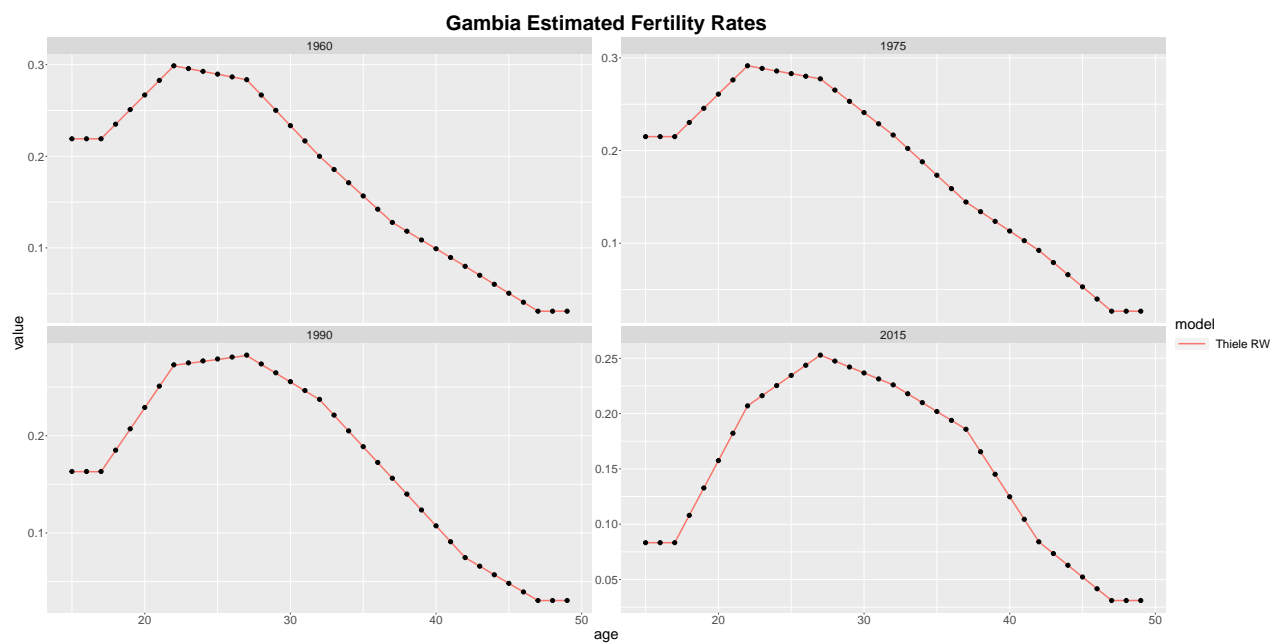Figure 15: Migration



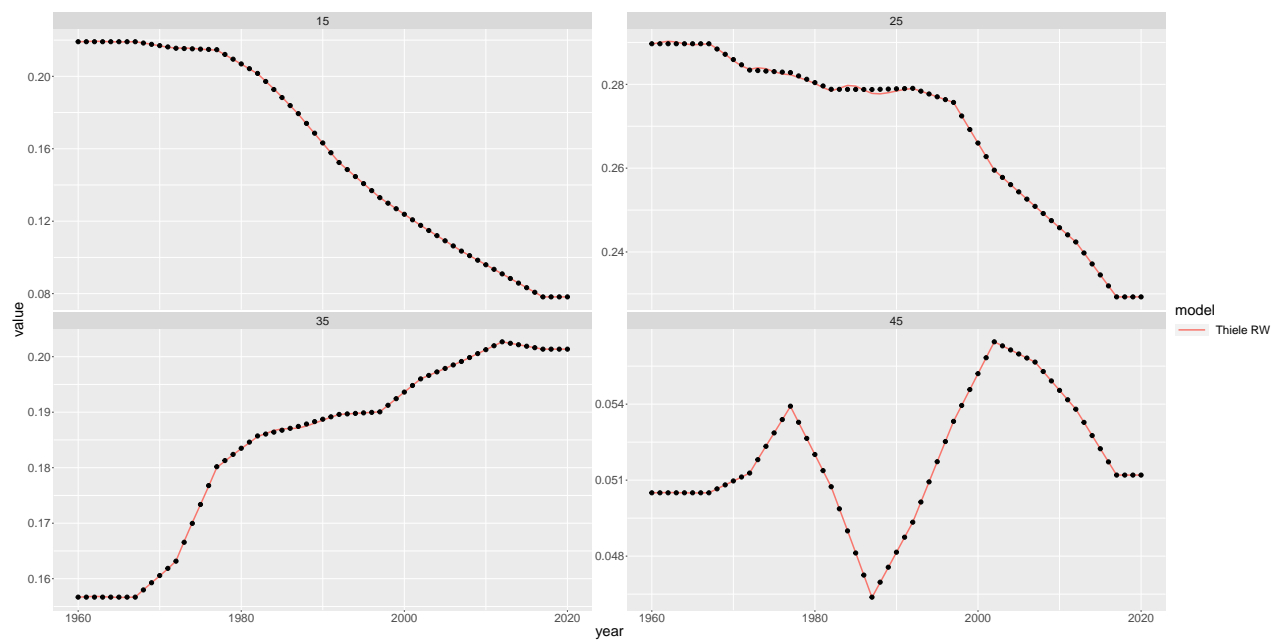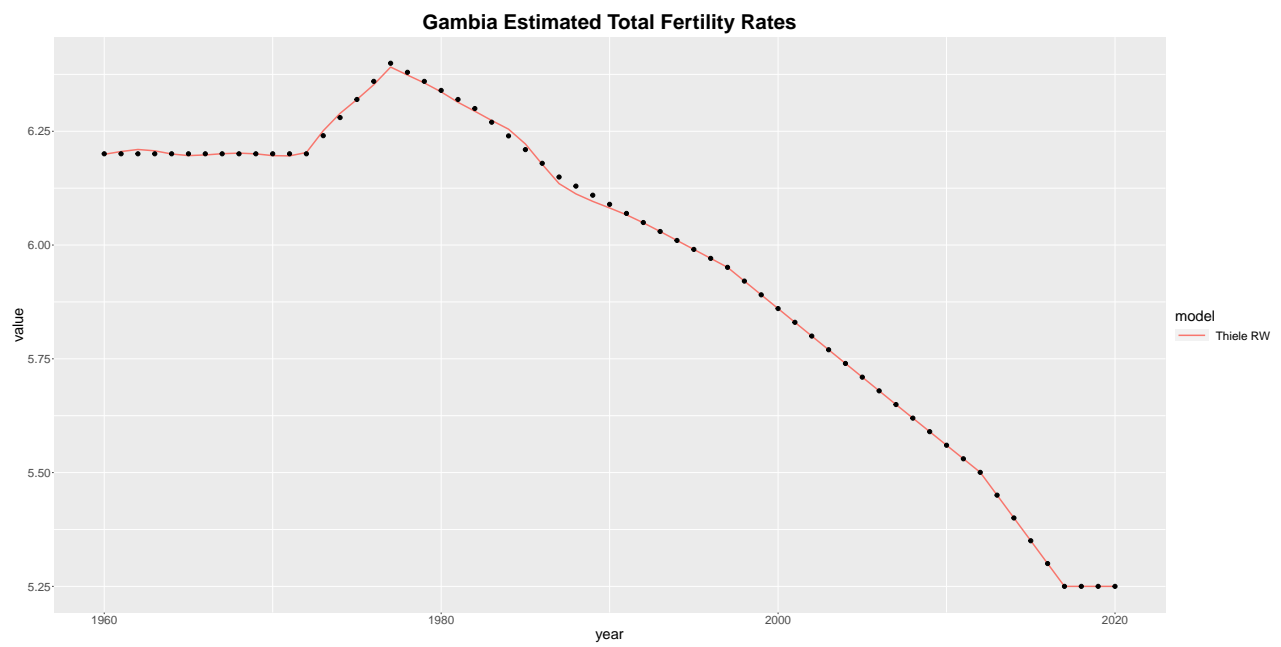Figure 16: Migration

Figure 17: Fertility



Figure 18: Fertility

11

Figure 19: Total Fertility