Namibia

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

## # A tibble: 43 x 4
##      age `1991` `2001` `2011`
##    <dbl>  <dbl>  <dbl>  <dbl>
##  1     0 46828. 47792. 60848.
##  2     2 42986. 49644. 55720.
##  3     4 42018. 50888. 53124.
##  4     6 39427. 50523. 48727.
##  5     8 37034. 50764. 47317.
##  6    10 36109. 50431. 49623.
##  7    12 35157. 46630. 49687.
##  8    14 34762. 43426. 48194
##  9    16 34041. 42348. 48149.
## 10    18 31973. 40145. 48728.
## # ... with 33 more rows

## [1] "Census Males"

## # A tibble: 43 x 4
##      age `1991` `2001` `2011`
##    <dbl>  <dbl>  <dbl>  <dbl>
##  1     0 46744. 47808. 60428.
##  2     2 42744. 49595. 55378.
##  3     4 41828. 50459. 52865.
##  4     6 39128. 49773. 48245.
##  5     8 36359. 49258. 46668.
##  6    10 35500. 48743. 49086
##  7    12 34769. 45351. 48717.
##  8    14 33921. 41860. 46508.
##  9    16 32932. 40918. 46405.
## 10    18 30939. 39525. 47424.
## # ... with 33 more rows
```

Thiele log-Normal Hump RW

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

##           log_tau2_logpop_f         log_tau2_logpop_f
##                   5.7428748                 3.8188208
##           log_tau2_logpop_m         log_tau2_logpop_m
##                   5.7527352                 3.7976815
##                 log_tau2_fx               log_tau2_gx_f
##                   4.1501459                 4.2225642
##               log_tau2_gx_m             logit_rho_g_x_f
##                   4.1637158                 6.9560623
##             logit_rho_g_t_f             logit_rho_g_x_m
##                   6.5758109                 6.7930228
##             logit_rho_g_t_m               log_lambda_tp
##                   7.3557752                 3.8034495
## log_lambda_tp_0_inflated_sd             log_dispersion_f
##                   0.2810058                 1.5314567
```

```
##                  log_dispersion_m       log_marginal_prec_phi_f
##                        1.6408002                     4.4591983
##          log_marginal_prec_psi_f    log_marginal_prec_lambda_f
##                        4.6108244                     2.1216585
##        log_marginal_prec_delta_f   log_marginal_prec_epsilon_f
##                        3.0457663                     3.8697522
##            log_marginal_prec_A_f          log_marginal_prec_B_f
##                        6.9210944                     6.9310706
##          log_marginal_prec_phi_m       log_marginal_prec_psi_m
##                        4.6564846                     4.6052808
##       log_marginal_prec_lambda_m     log_marginal_prec_delta_m
##                        2.3625297                     3.1160349
## log_marginal_prec_epsilon_m           log_marginal_prec_A_m
##                        3.6837413                     6.9246178
##            log_marginal_prec_B_m               logit_rho_phi_f
##                        6.9539385                     1.7597916
##                  logit_rho_psi_f                 logit_rho_A_f
##                        1.2034216                     1.1932636
##                    logit_rho_B_f               logit_rho_phi_m
##                        2.7833915                     1.5920663
##                  logit_rho_psi_m                 logit_rho_A_m
##                        1.1916969                     1.2130123
##                    logit_rho_B_m
##                        1.5653532
```
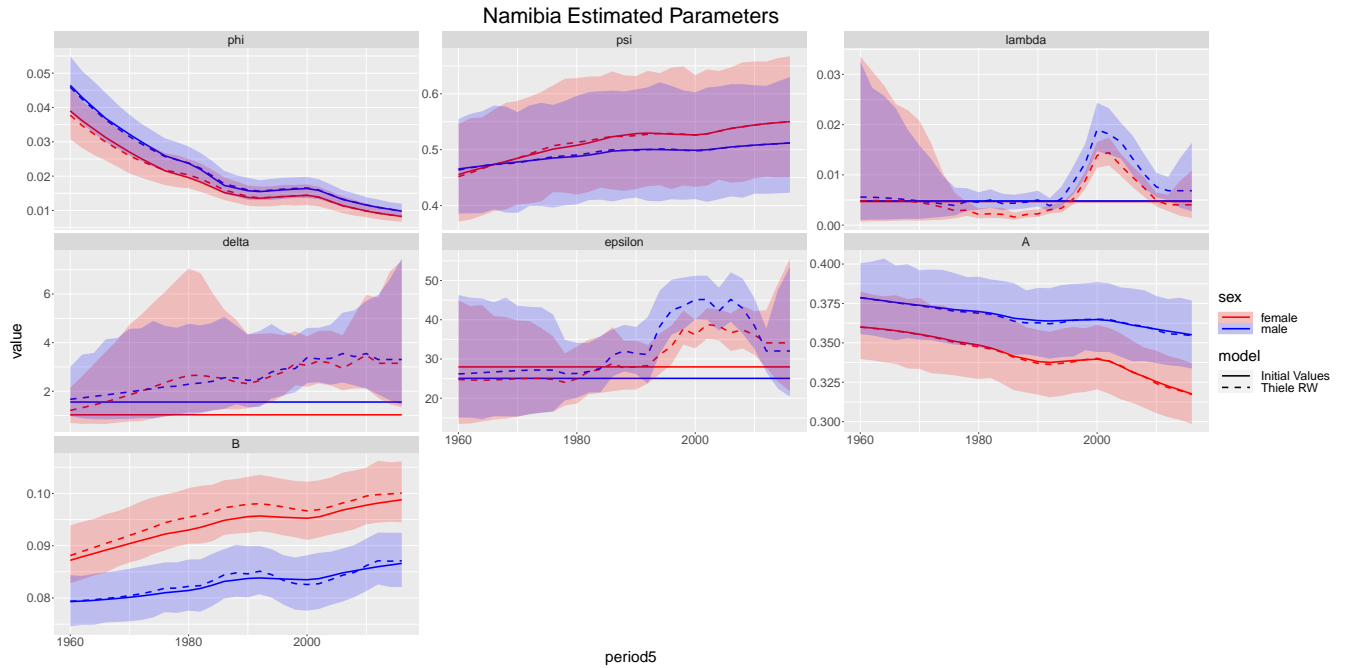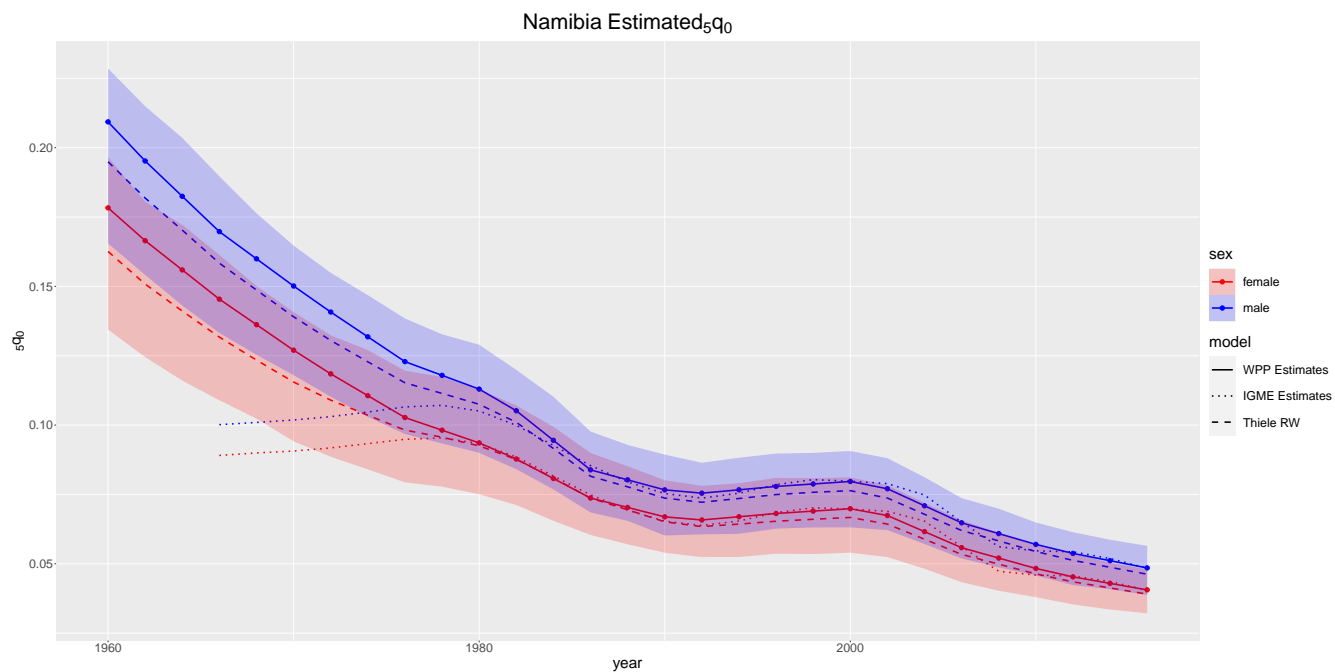

Figure 1: Estimated parameters
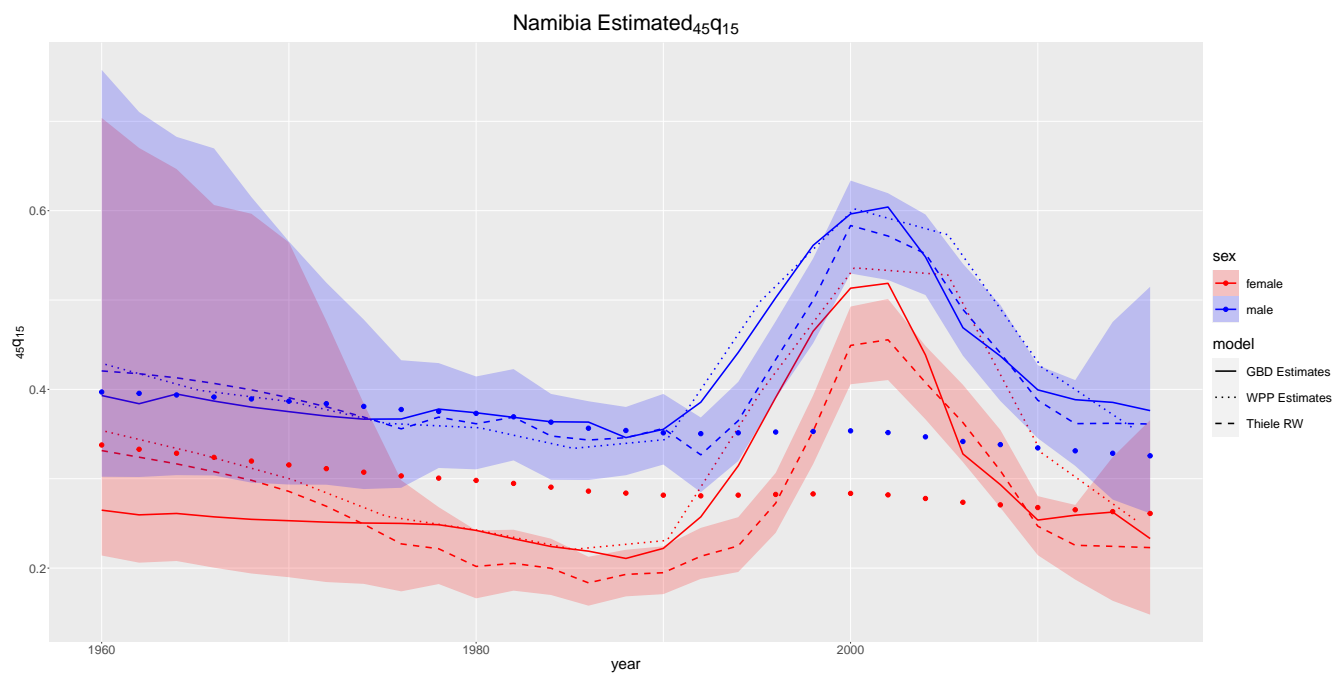
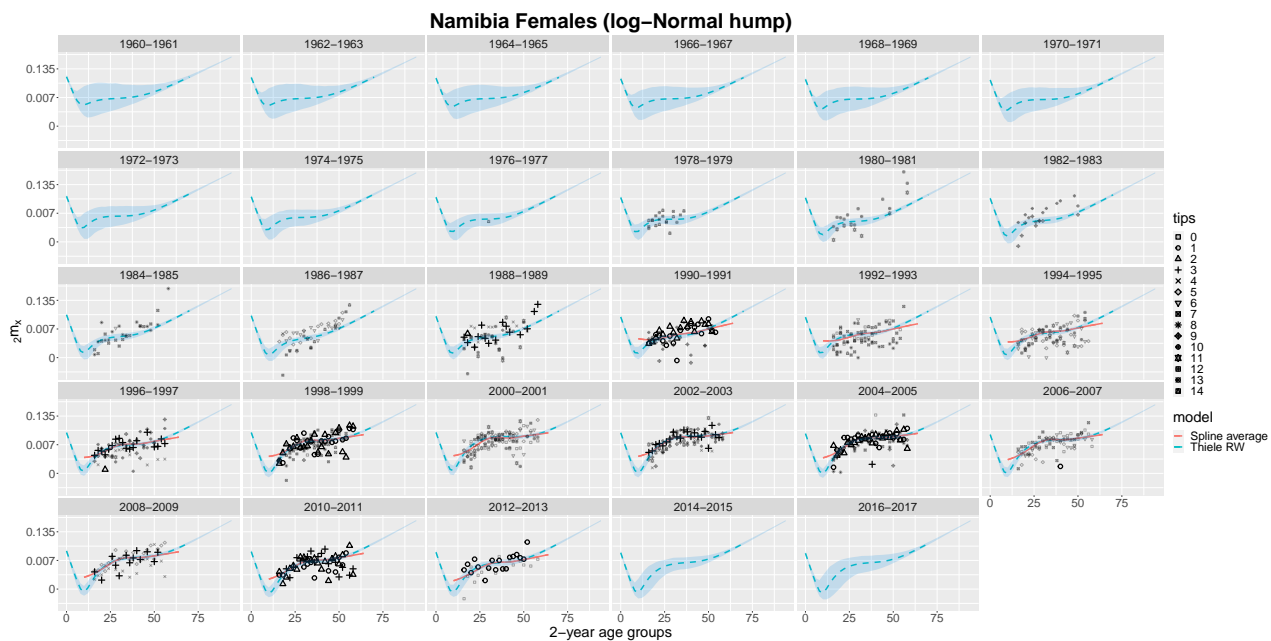Figure 2: Estimated $_{45}q_{15}$

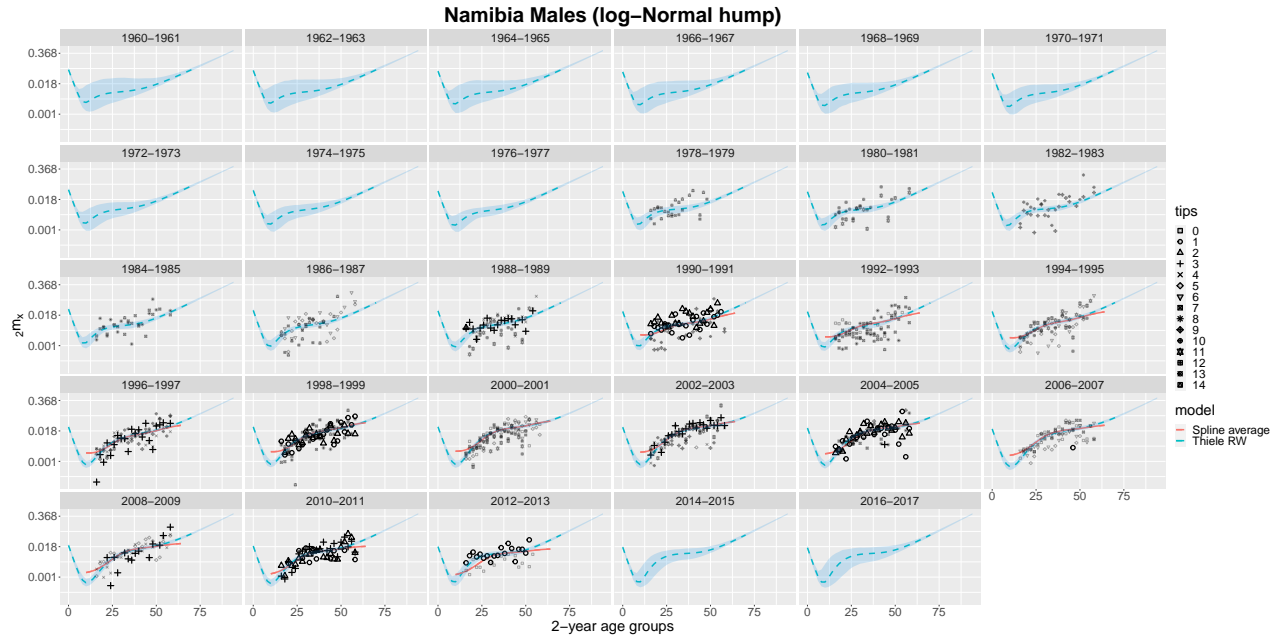Figure 3: Estimated $_5q_0$

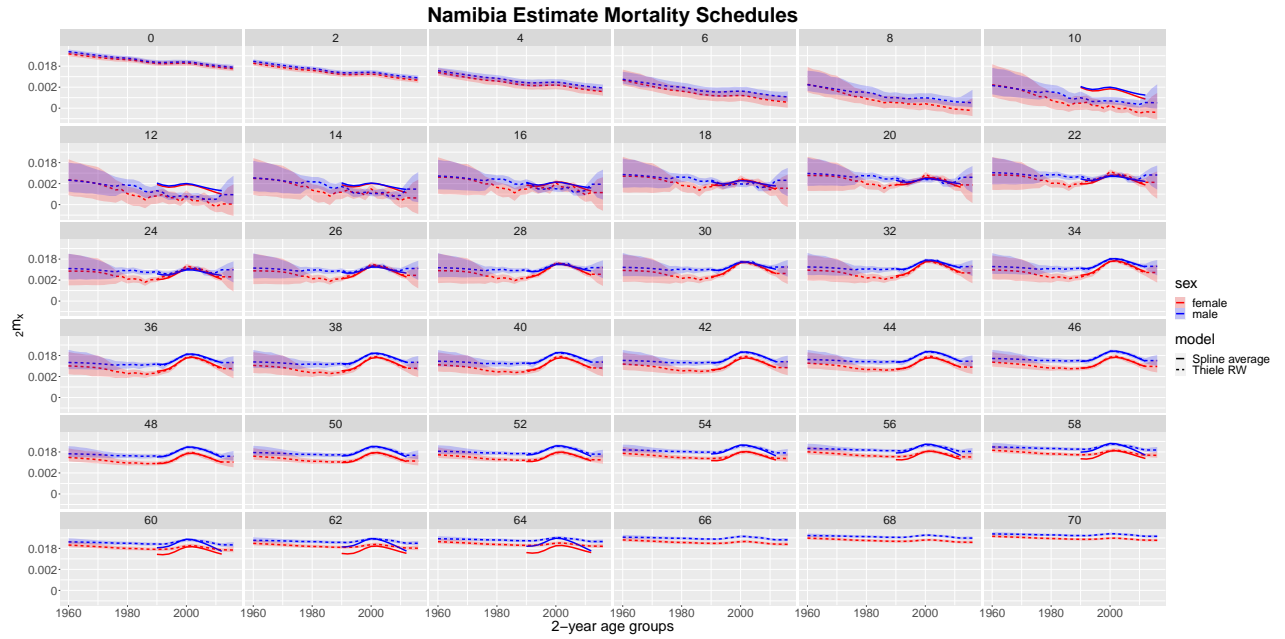Figure 4: Mortality Schedules

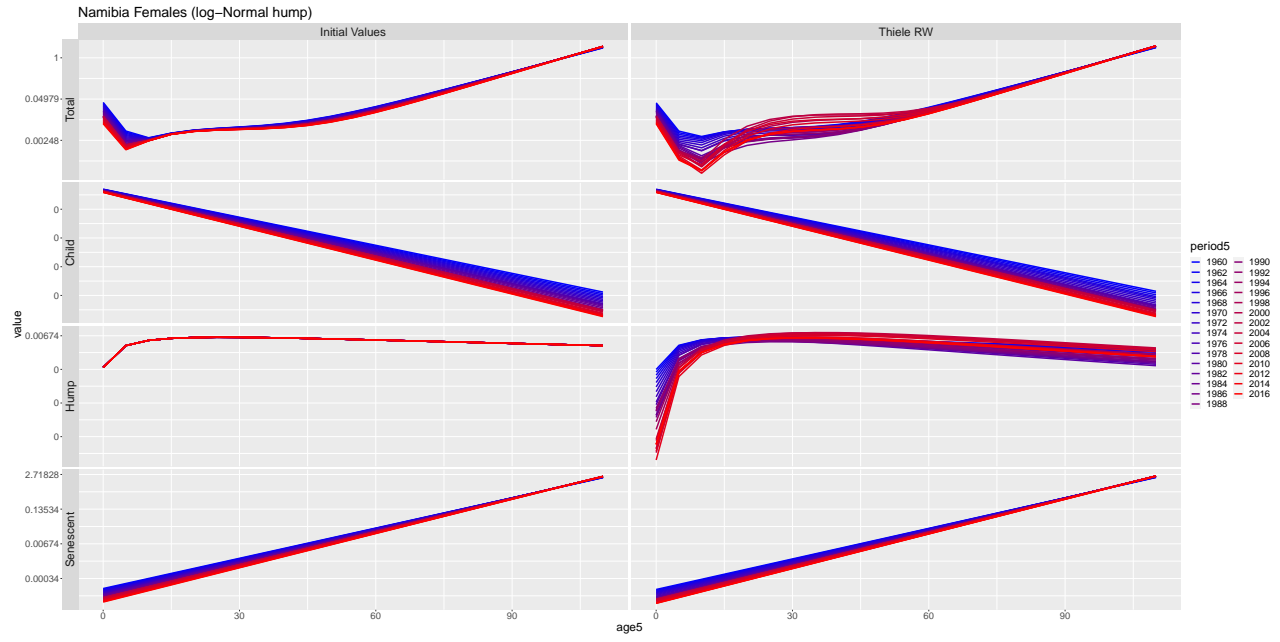Figure 5: Mortality Schedules

Figure 6: Mortality Schedules

5

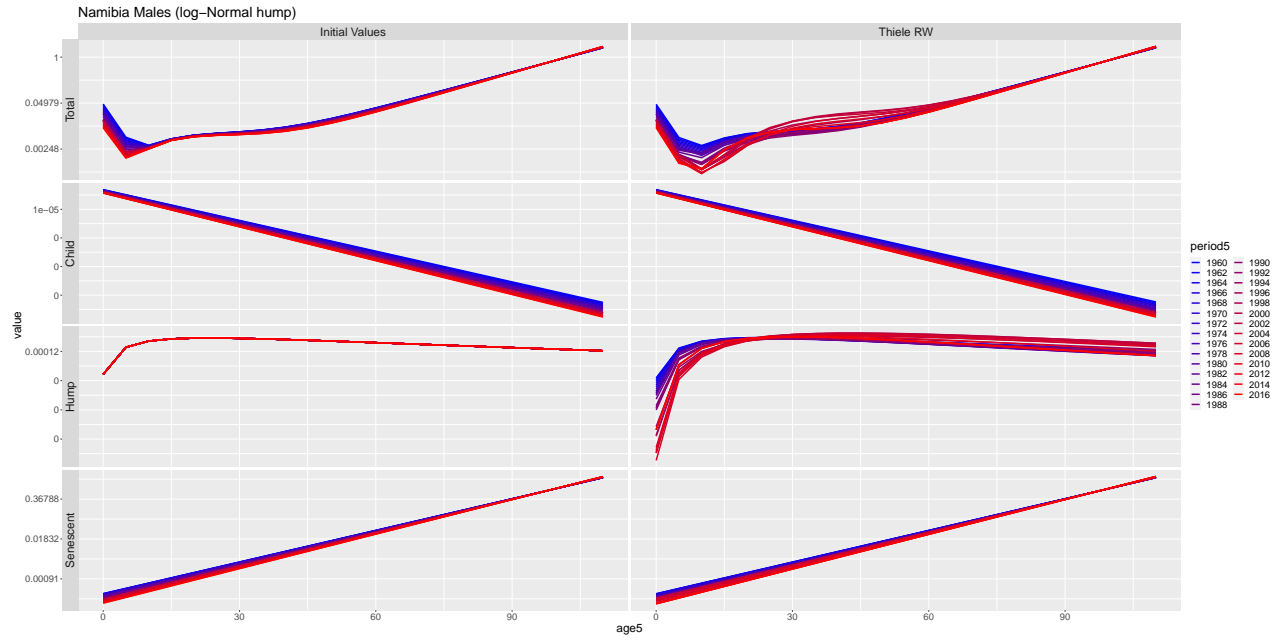Figure 7: Thiele Decomposed

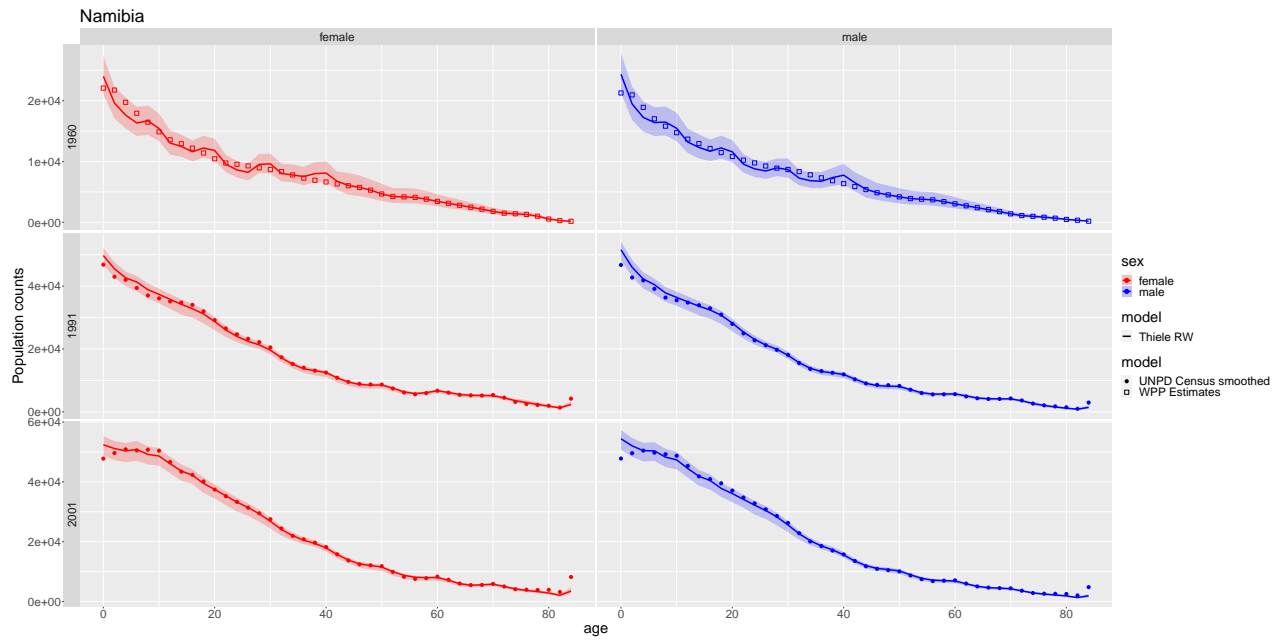Figure 8: Thiele Decomposed

6
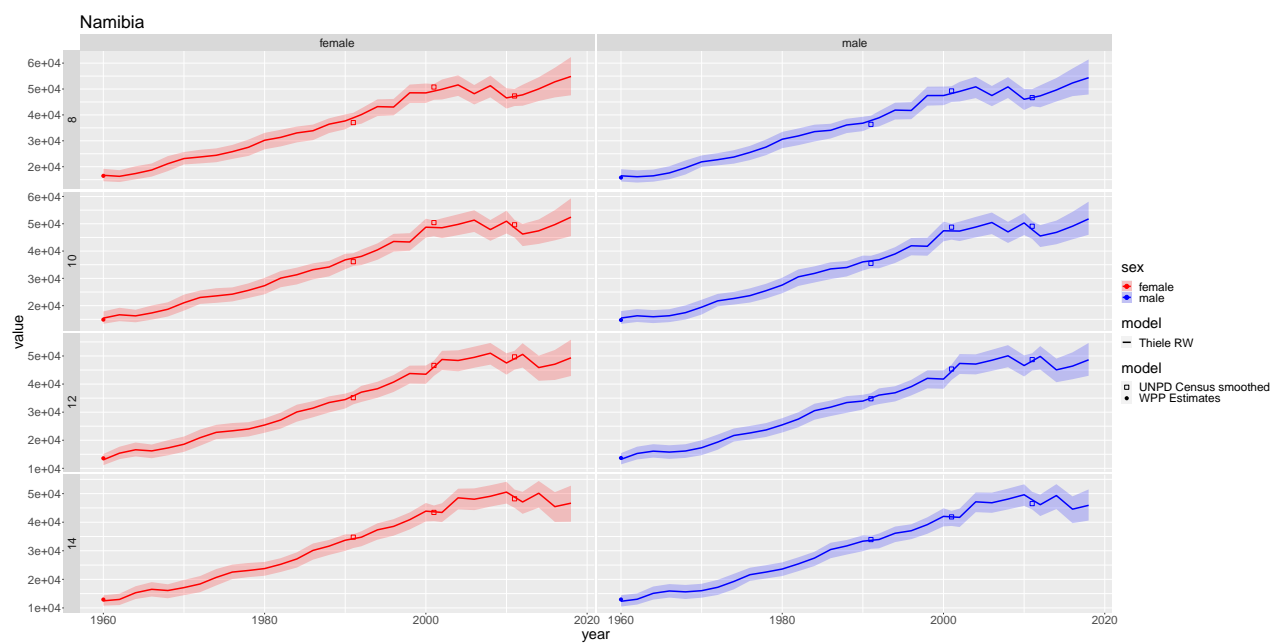
Figure 9: Population

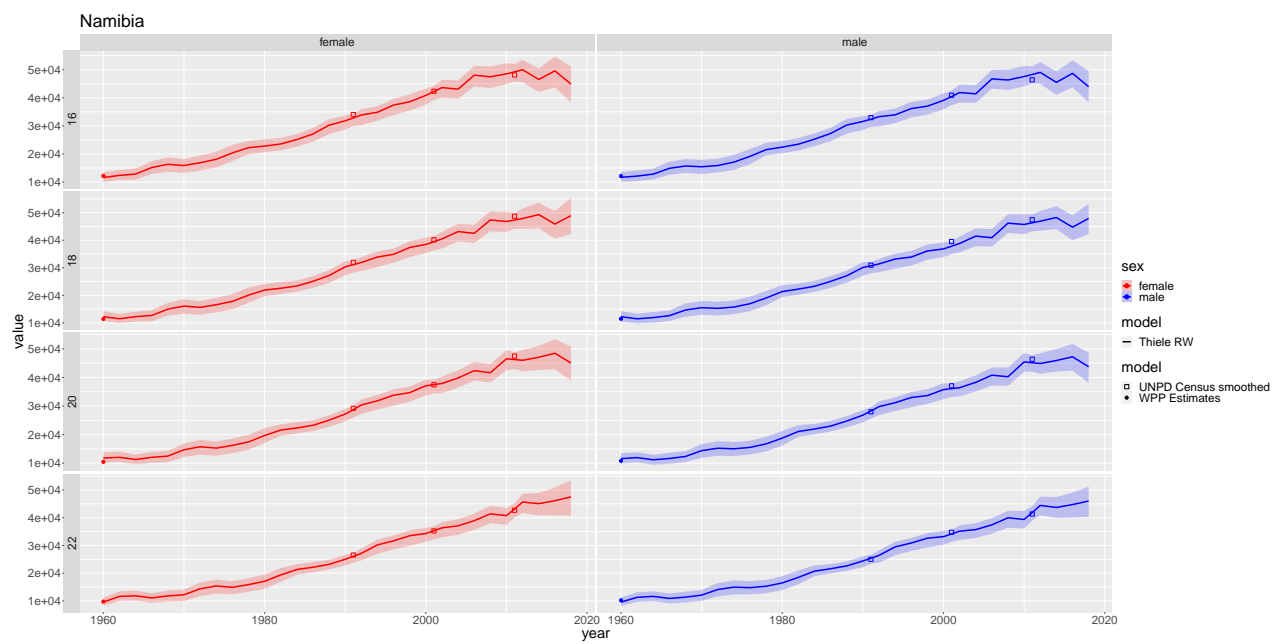Figure 10: Population

Figure 11: Population
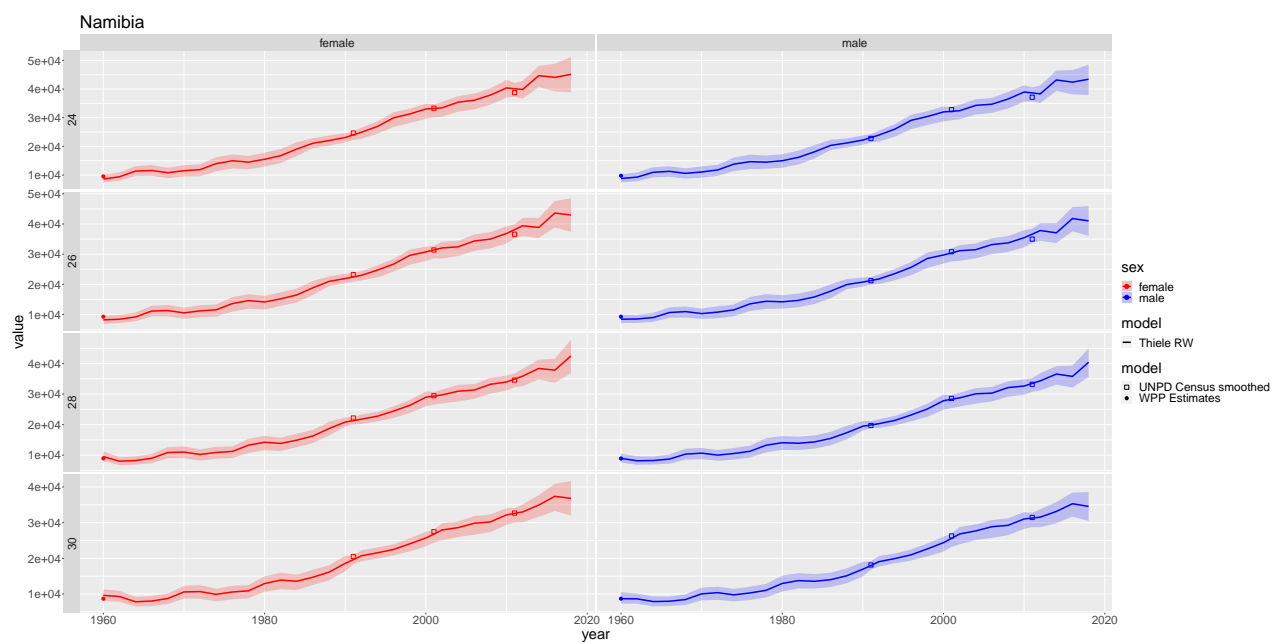

Figure 12: Population
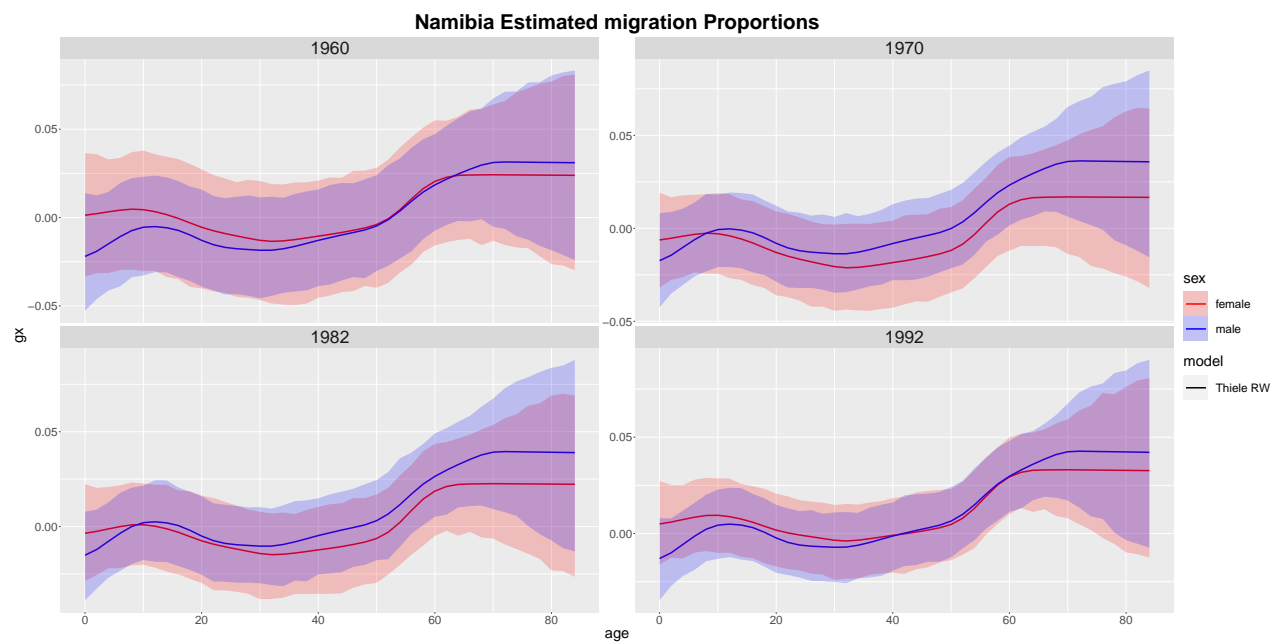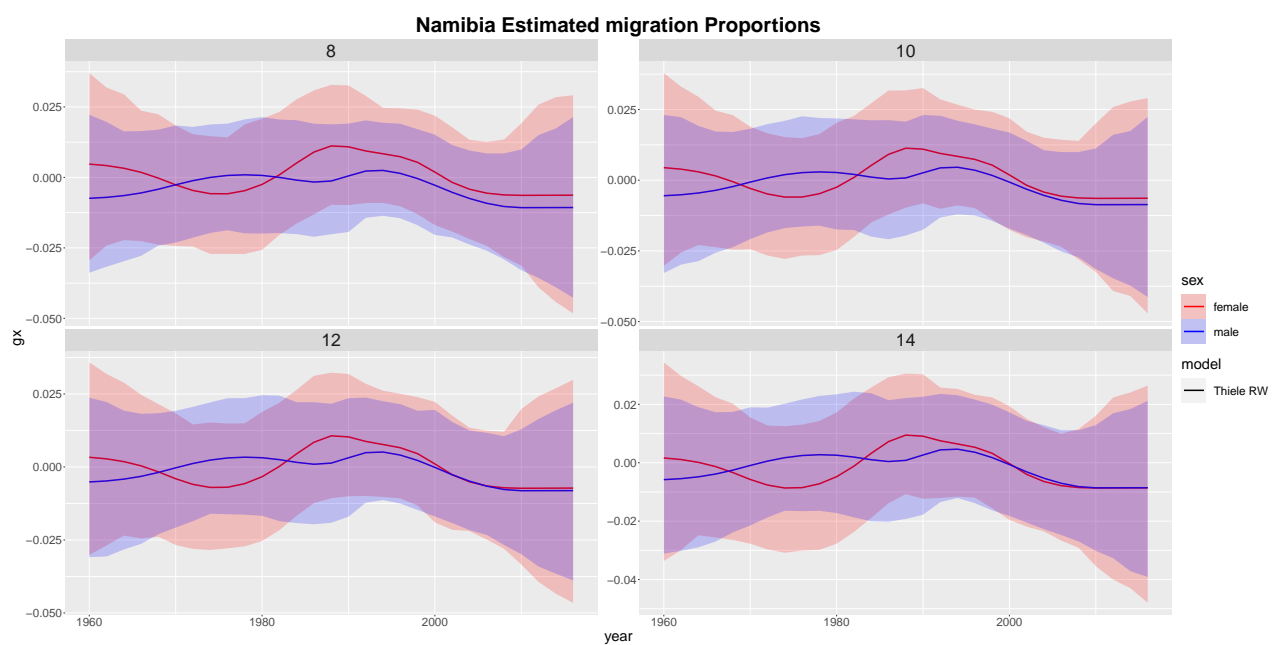
Figure 13: Population

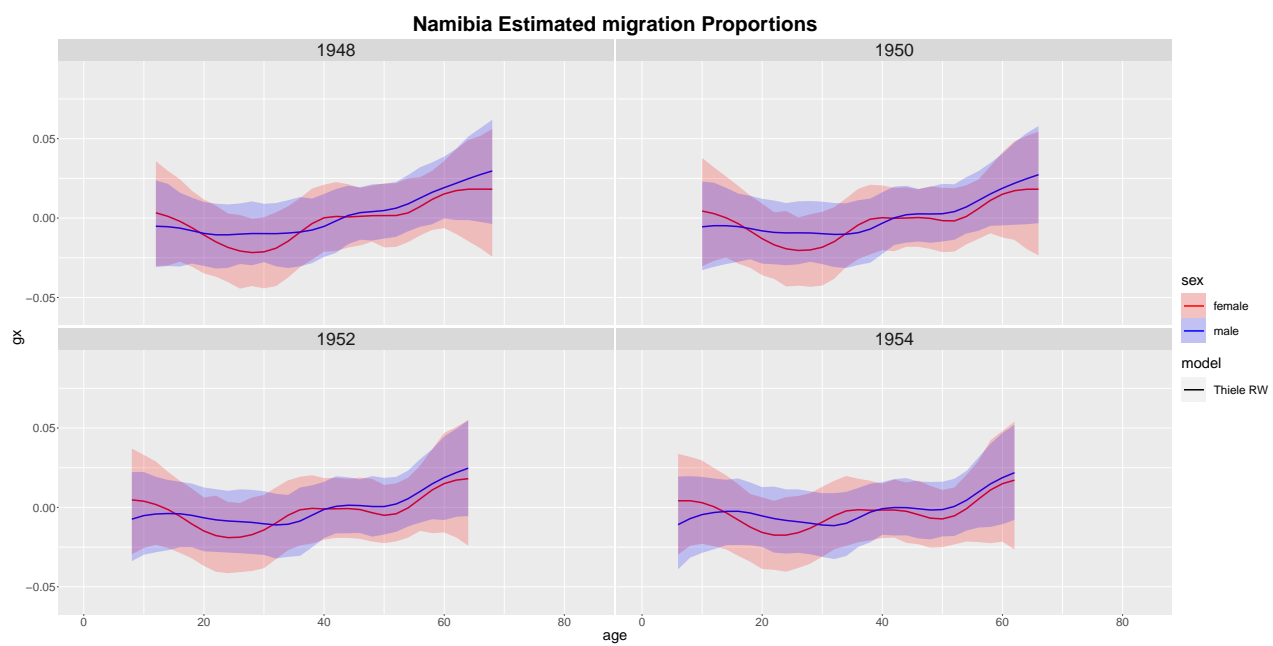Figure 14: Migration
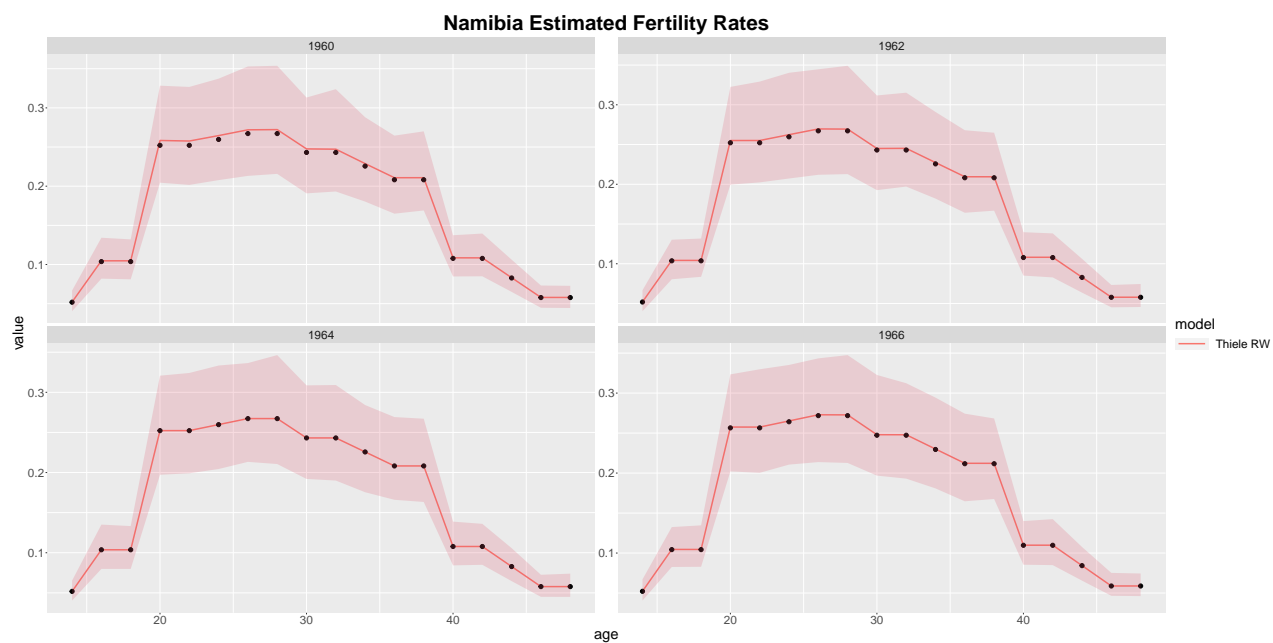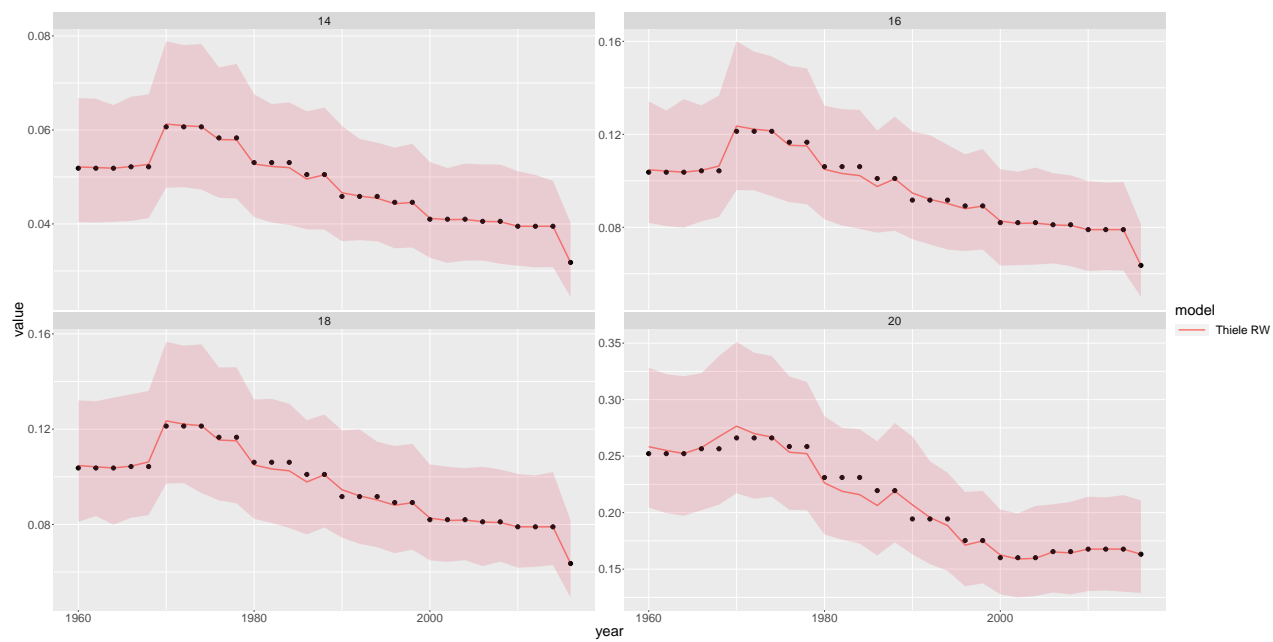
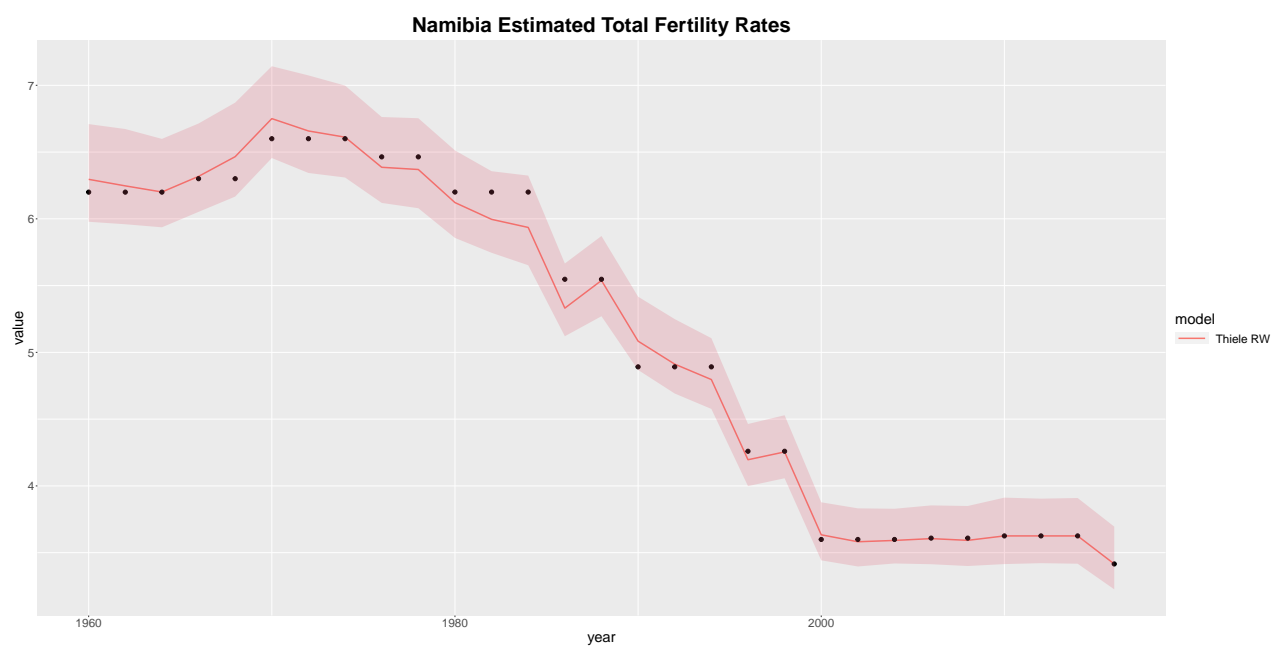Figure 15: Migration

Figure 16: Migration

Figure 17: Fertility

Figure 18: Fertility

Figure 19: Total Fertility