Namibia

```
## [1] "Census Females"
## # A tibble: 86 x 4
        age `1991` `2001` `2011`
##
      <dbl> <dbl> <dbl> <dbl>
##
         0 24851. 23909. 32157
##
   1
   2
         1 21976. 23883. 28690.
##
   3
          2 21726. 24603. 28220
##
          3 21259. 25041. 27500.
##
         4 21247. 25458. 27077
   5
##
          5 20771. 25430. 26048.
##
  7
          6 20065. 25264. 24803.
##
          7 19362. 25259. 23924.
## 9
          8 18677. 25248. 23376.
## 10
          9 18357. 25517. 23940.
## # ... with 76 more rows
## [1] "Census Females 5-year"
## # A tibble: 18 x 1
##
        age
##
      <dbl>
##
  1
          0
##
   2
          5
##
   3
         10
##
   4
         15
##
   5
         20
##
   6
         25
##
   7
         30
##
  8
         35
## 9
         40
## 10
         45
## 11
         50
## 12
         55
## 13
         60
## 14
         65
## 15
         70
## 16
         75
## 17
         80
## 18
         85
## [1] "Census Males"
## # A tibble: 86 x 4
        age `1991` `2001` `2011`
##
##
      <dbl> <dbl> <dbl> <dbl> <
          0 24861. 23791. 31976
          1 21883. 24016. 28452.
##
##
          2 21600. 24629. 28036.
##
          3 21144. 24966. 27342.
##
   5
          4 21149. 25281. 26940.
          5 20679. 25177. 25925.
##
   6
```

```
## 7
         6 19965. 24978. 24627.
## 8
        7 19163. 24795. 23618.
## 9
        8 18386. 24574. 23047
## 10
        9 17972. 24684. 23621.
## # ... with 76 more rows
## [1] "Census Males 5-year"
## # A tibble: 18 x 1
##
        age
##
      <dbl>
   1
##
          0
##
   2
         5
##
   3
         10
##
   4
        15
##
   5
         20
##
   6
         25
## 7
         30
## 8
         35
## 9
         40
## 10
         45
## 11
         50
## 12
         55
## 13
         60
## 14
         65
## 15
         70
## 16
         75
## 17
         80
## 18
         85
```

Thiele log-Normal Hump Spline

##

[1] "relative convergence (4)"

4.794306643

| ## | log_tau2_logpop | log_tau2_logpop | log_tau2_logpop | log_tau2_logpop | 10 |
|----|----------------------|-----------------|-----------------|-----------------|--------|
| ## | 4.058091843 | 6.394115287 | 3.953349700 | 6.313143455 | |
| ## | log_dispersion | log_dispersion | log_lambda_tp | tp_slope | - |
| ## | 0.963206410 | 0.806961282 | 4.987042100 | -0.008254039 | • |
| ## | log_lambda_phi | log_lambda_psi | log_lambda_A | log_lambda_B | log_la |
| ## | 11.258333578 | 11.285317144 | 11.146353424 | 8.258029760 | |
| ## | $log_lambda_epsilon$ | | | | |

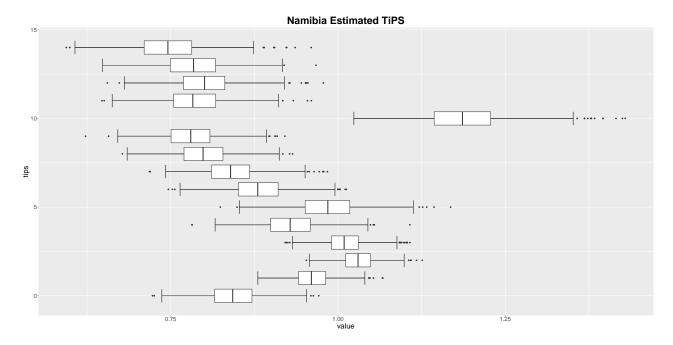


Figure 1: Estimated TiPS

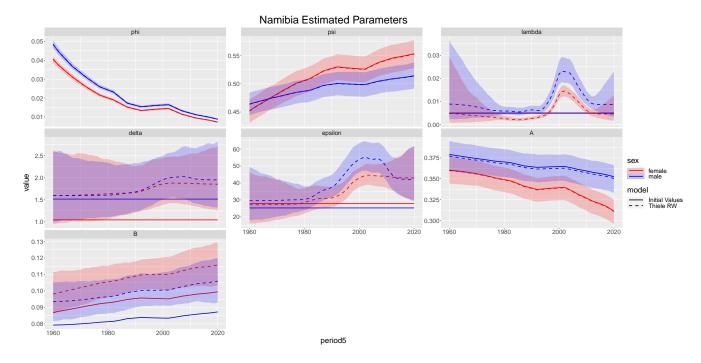


Figure 2: Estimated parameters

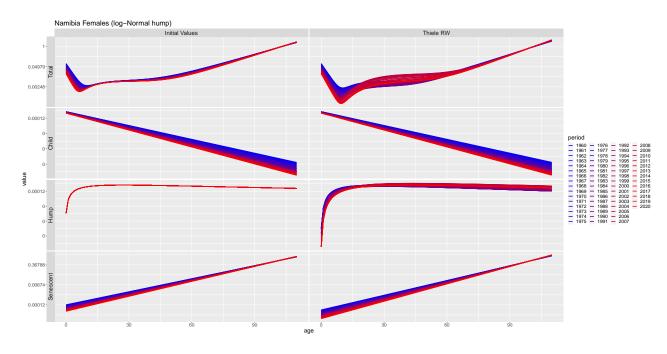


Figure 3: Thiele Decomposed

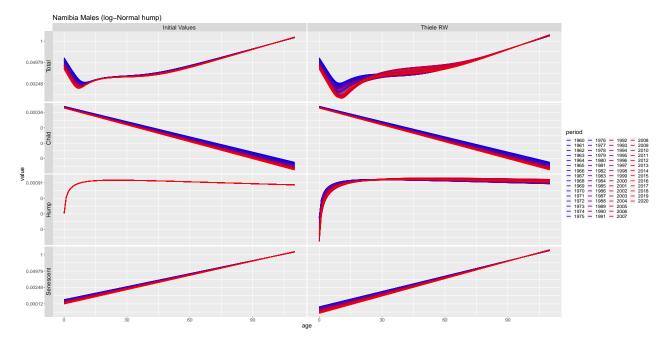


Figure 4: Thiele Decomposed

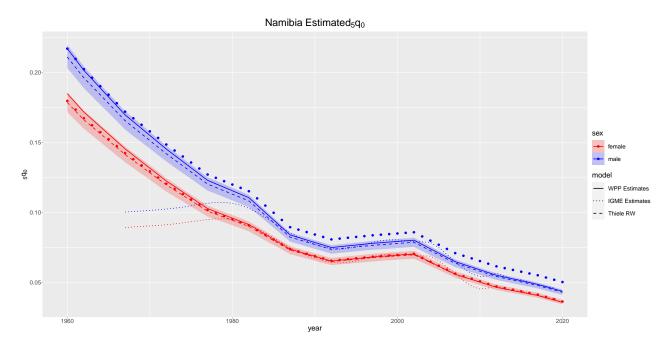


Figure 5: Estimated $_5q_0$

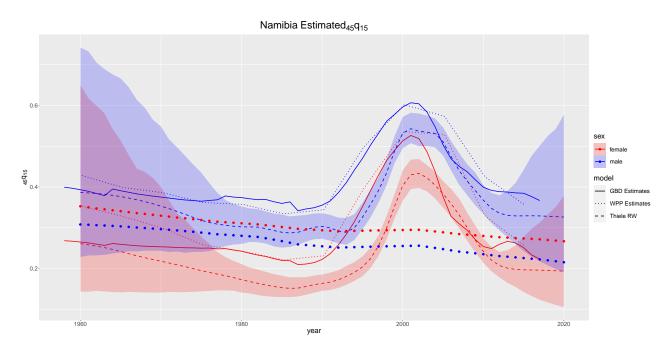


Figure 6: Estimated $_{45}q_{15}$

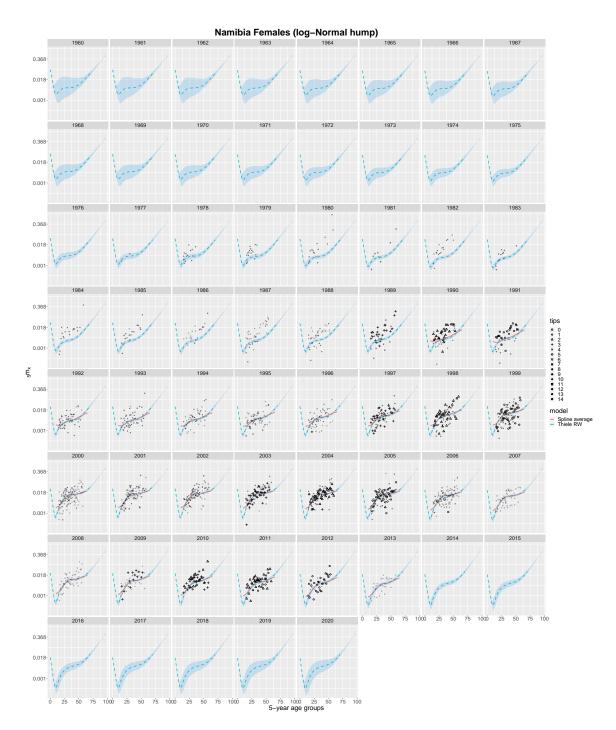


Figure 7: Mortality Schedules

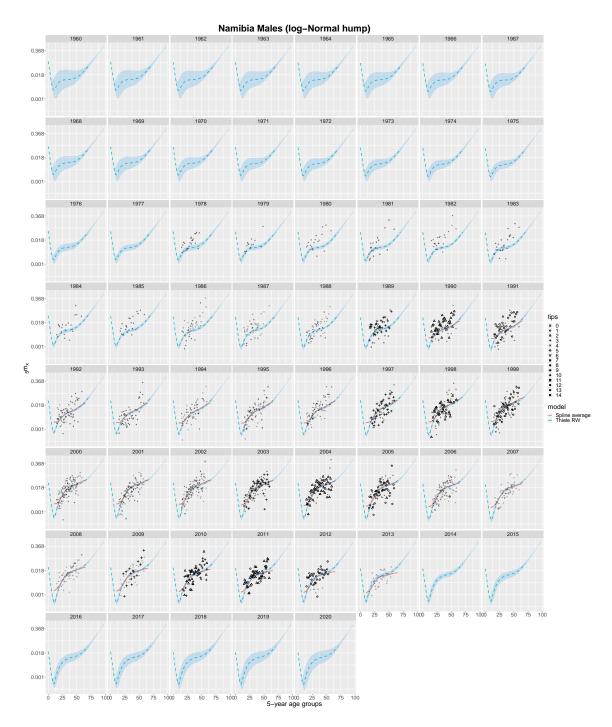


Figure 8: Mortality Schedules

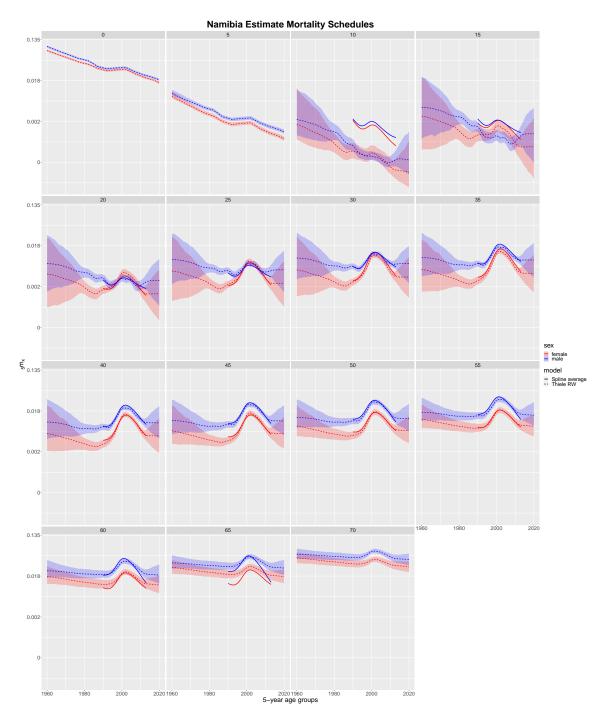


Figure 9: Mortality Schedules

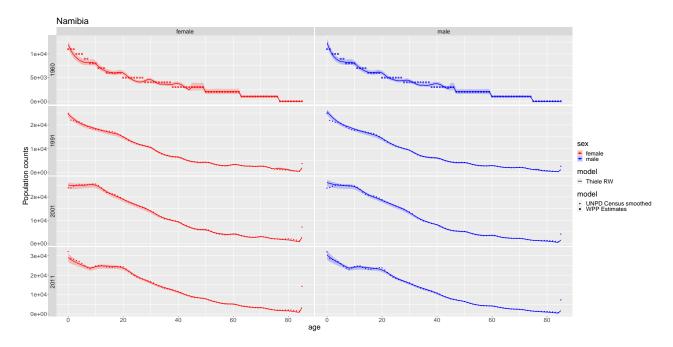


Figure 10: Population

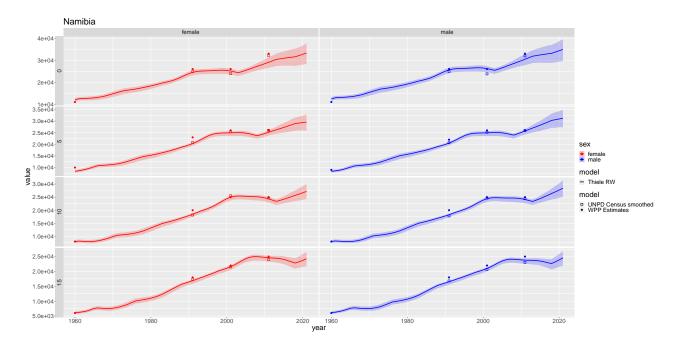


Figure 11: Population

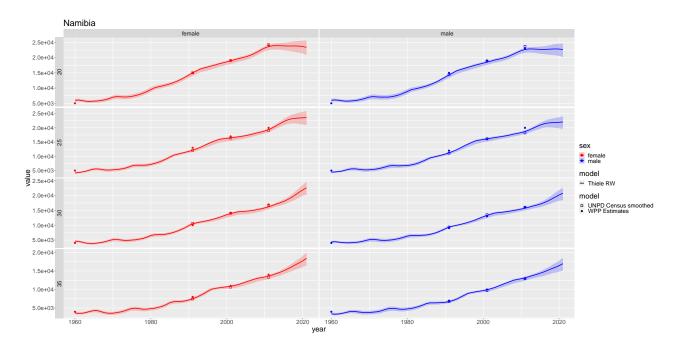


Figure 12: Population

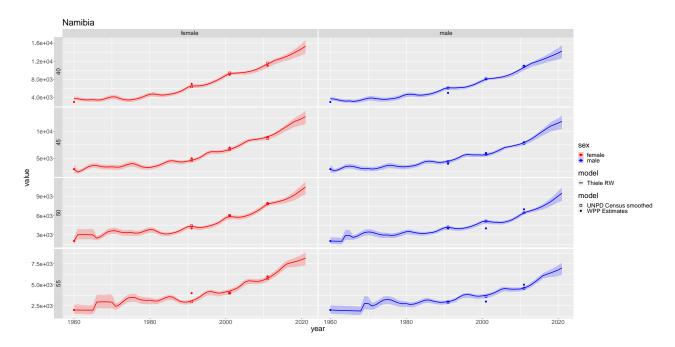
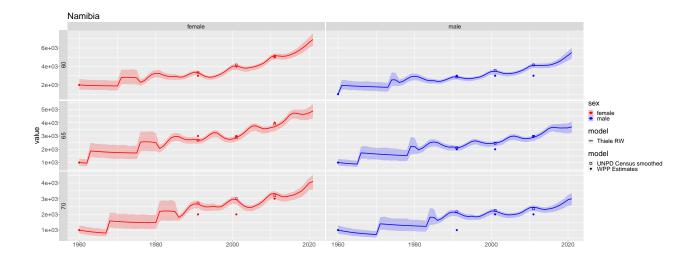


Figure 13: Population



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Figure 14: Population

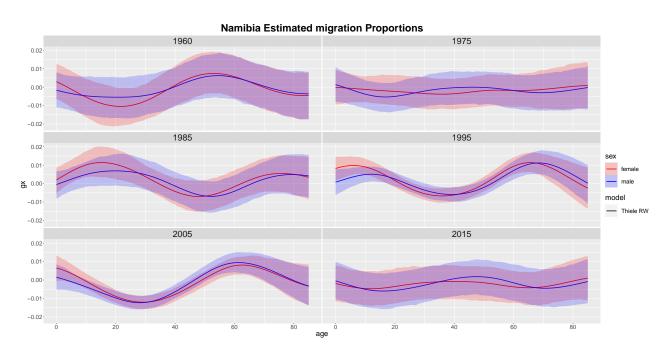


Figure 15: Migration

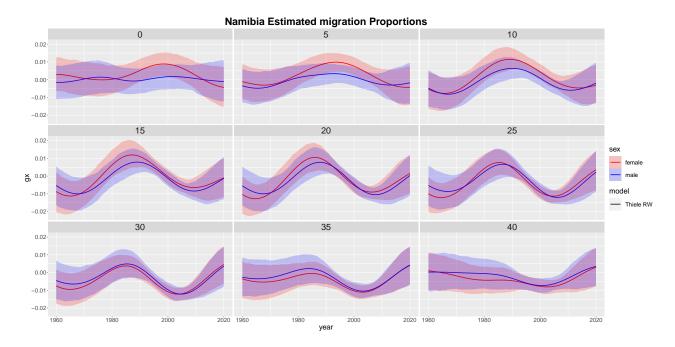


Figure 16: Migration

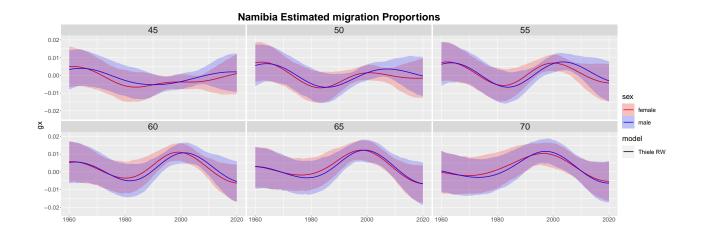


Figure 17: Migration

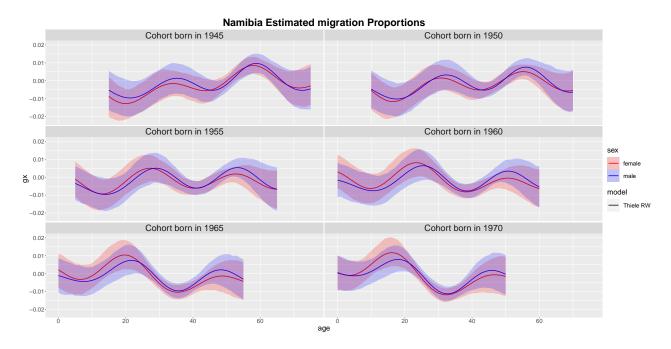


Figure 18: Migration

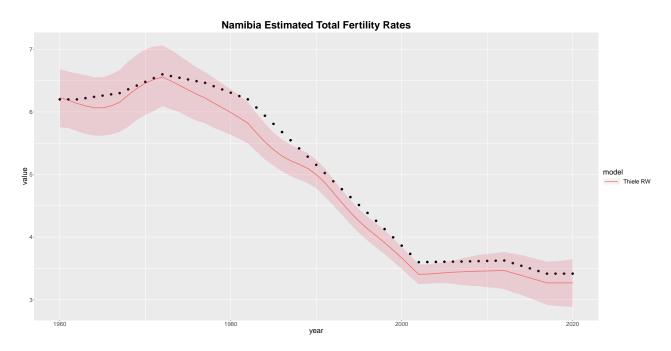


Figure 19: Total Fertility

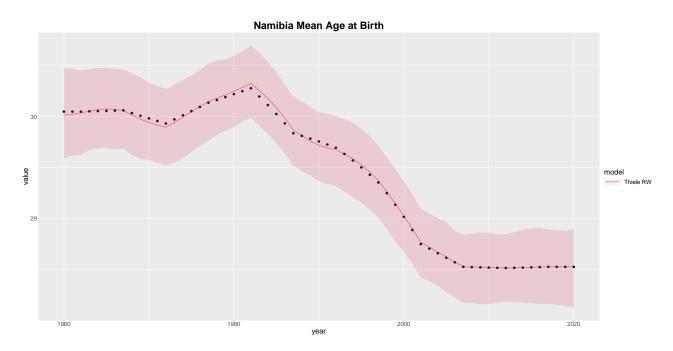


Figure 20: Mean age at births

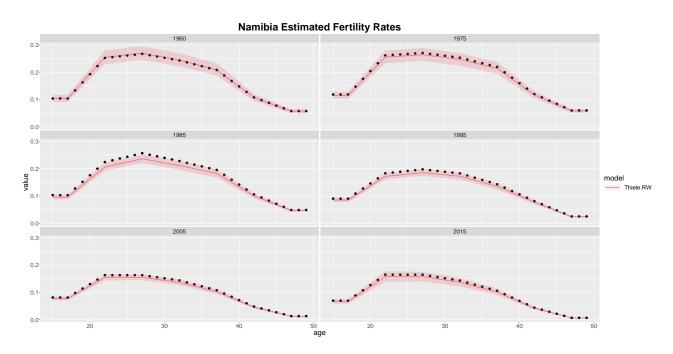


Figure 21: Fertility

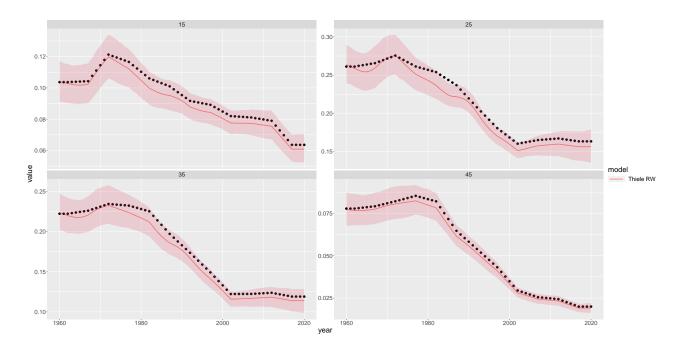


Figure 22: Fertility