Eswatini

```
## [1] "Census Females"
## # A tibble: 18 x 7
##
      aggr.age `1966` `1976` `1986` `1997` `2007` `2017`
##
         <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <
##
   1
             0 33046. 45361. 61800. 69089. 64154. 65289.
##
             5 30797. 39820. 54650. 69897. 67933. 65017.
            10 24770. 34111. 47114. 66820. 68992. 63947.
##
   3
            15 20754. 28627. 40012. 57869. 65809. 59486.
##
##
   5
            20 17102. 23750. 33842. 47164. 58262. 54486.
##
   6
            25 14216. 19219. 27344. 38184. 46485. 50419.
##
   7
            30 12011. 15322. 21149. 31197. 34839. 44426.
                9763. 12596. 16882. 25537. 27473. 33692.
##
   8
##
   9
                7987. 10397. 13831. 20252. 22783. 25384.
            40
## 10
            45
                6530. 8481. 11059. 15970. 18652. 22186.
## 11
            50
                5238.
                       6721. 8299. 12567. 14638. 18810.
##
  12
            55
                4452.
                       5267.
                              6201.
                                     9626. 11855. 15827.
                              5205.
##
  13
            60
                3649.
                       4240.
                                     7462. 10447. 12869.
## 14
            65
                2896.
                       3274.
                              4471.
                                     5751. 8416. 10083.
                              3393.
                                     4353. 5937.
## 15
            70
                2306.
                       2533.
                                                    8294.
## 16
            75
                1281.
                       1893.
                              2271.
                                     3132.
                                             3997.
                                                    5690.
## 17
            80
                 877.
                        837.
                              1595.
                                      2006.
                                             2497.
               1518. 1220.
                              1870.
## 18
            85
                                     2189. 2718.
                                                      NΑ
## [1] "Census Males"
  # A tibble: 18 x 7
##
      aggr.age `1966` `1976` `1986` `1997` `2007` `2017`
##
         <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <
##
   1
             0 31228. 43333. 60281. 67734. 63826. 65605.
             5 30121. 38898. 53400. 68628. 66868. 65496.
##
   2
            10 23480. 32377. 45667. 65235. 65999. 64162.
##
   3
            15 18758. 23942. 35987. 54304. 59398. 61317.
##
    4
##
   5
            20 14580. 17032. 26283. 40757. 49262. 52591.
##
   6
            25 11688. 13565. 19898. 30364. 39138. 46828.
##
   7
               10230. 12073. 16384. 23513. 30855. 42398.
##
   8
                8903. 10997. 13846. 19420. 24394. 33642.
##
   9
                7760. 9633. 12020. 16659. 19208. 24573.
            40
## 10
            45
                6498.
                       8067. 10598. 14014. 15584. 19308.
## 11
            50
                5203.
                       6290. 8491. 11238. 12798. 14178.
## 12
                4413.
                       4896.
                              6147.
                                     8686. 10130. 12134.
            55
## 13
            60
                3424.
                       3941.
                              4494.
                                      6533. 7933. 10119.
## 14
                2445.
                       2892.
                              3411.
                                      4649.
                                             5930.
                                                    7366.
            65
## 15
            70
                1724.
                       2128.
                              2515.
                                     3177.
                                             3969.
## 16
            75
                 712.
                       1467.
                              1641.
                                     2115. 2416.
                                                    3505.
## 17
            80
                 294.
                        379.
                              1051.
                                     1305. 1350.
## 18
            85
                 486.
                        554.
                              1010.
                                     1349. 1291.
                                                      NA
```

Thiele log-Normal Hump RW

system elapsed user ## 28.16 0.64 28.93 ## [1] "relative convergence (4)"

Thiele log-Normal Hump RW (Pop 5-9 to 70-74, DHS 15-19 to 45-49)

```
## user system elapsed
## 27.87 1.08 29.08
```

[1] "relative convergence (4)"

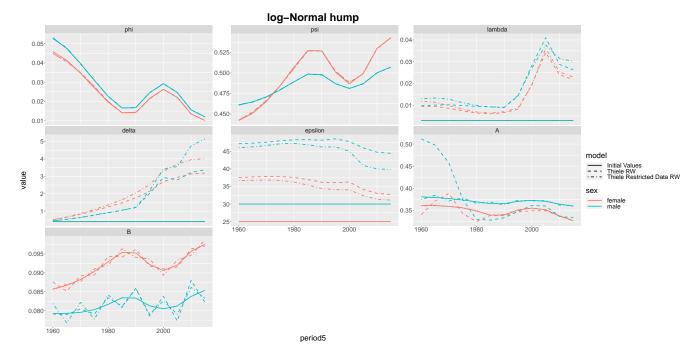


Figure 1: Estimated parameters

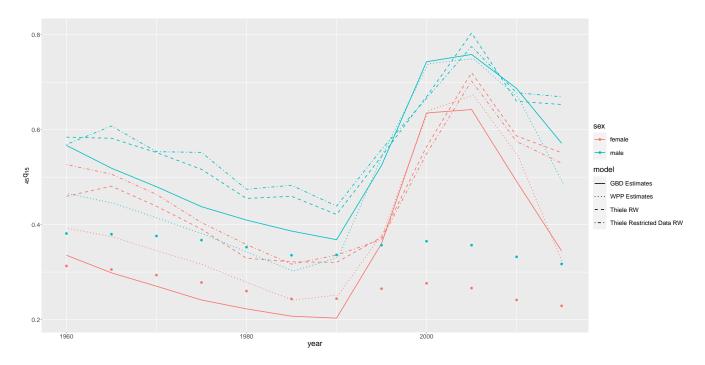


Figure 2: Estimated $_{45}q_{15}$

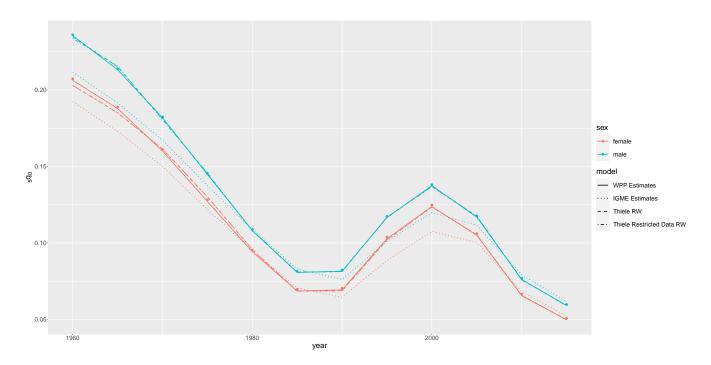


Figure 3: Estimated $_5q_0$

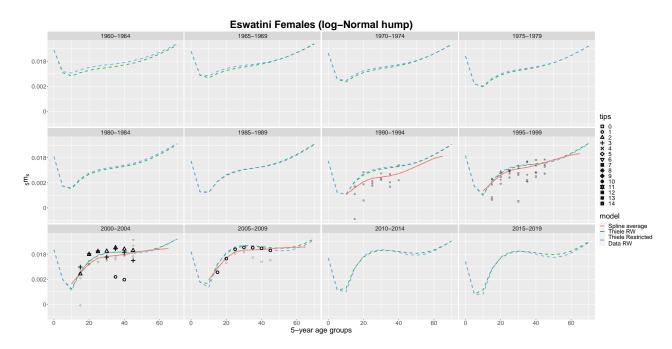


Figure 4: Mortality Schedules

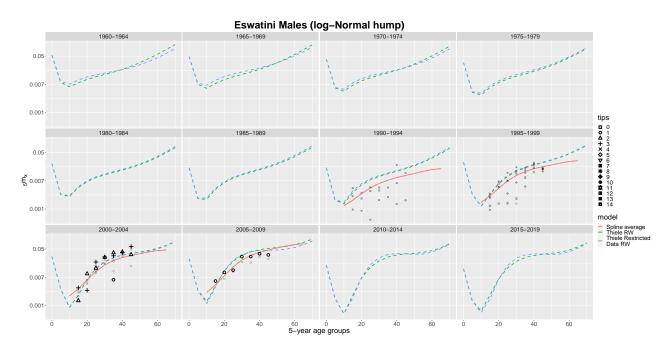


Figure 5: Mortality Schedules

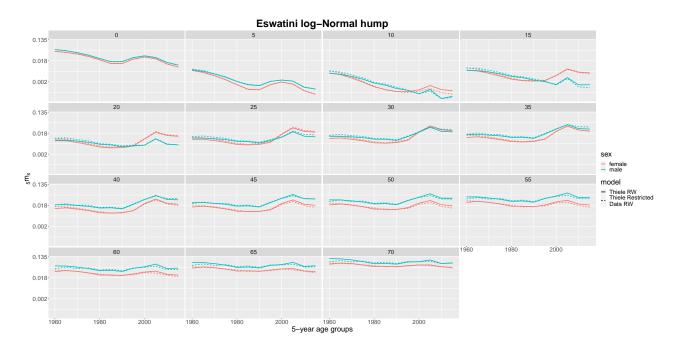


Figure 6: Mortality Schedules

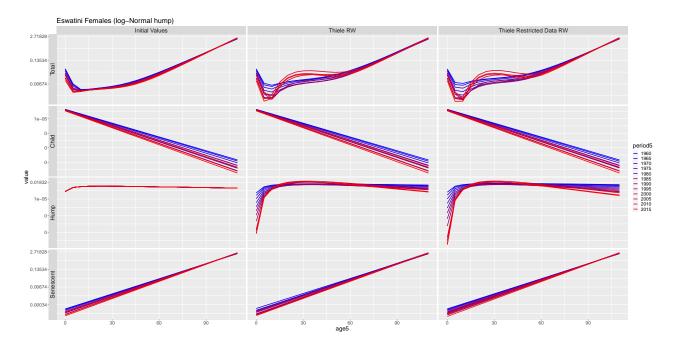


Figure 7: Thiele Decomposed

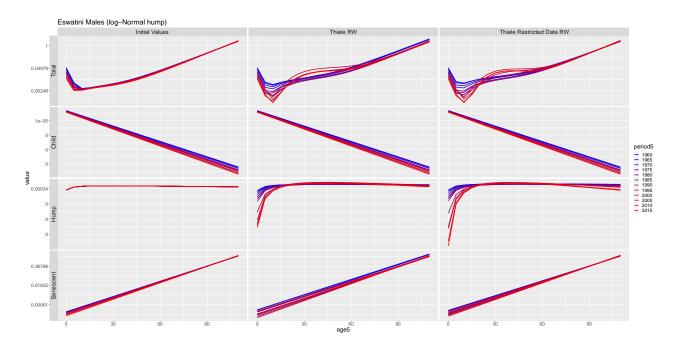


Figure 8: Thiele Decomposed

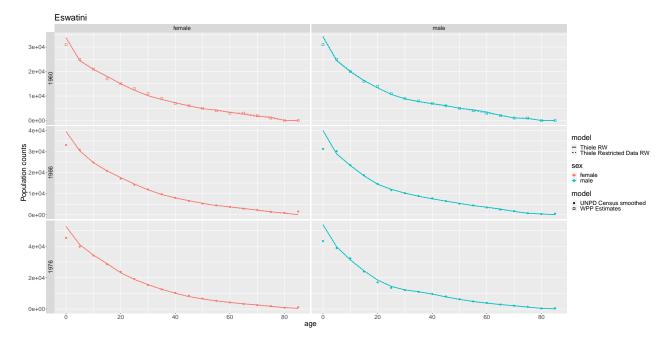


Figure 9: Population

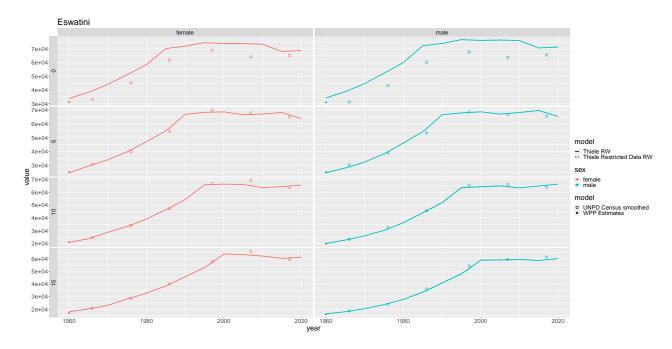


Figure 10: Population

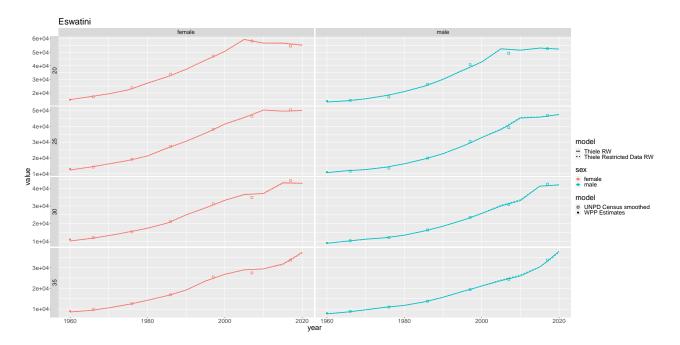


Figure 11: Population

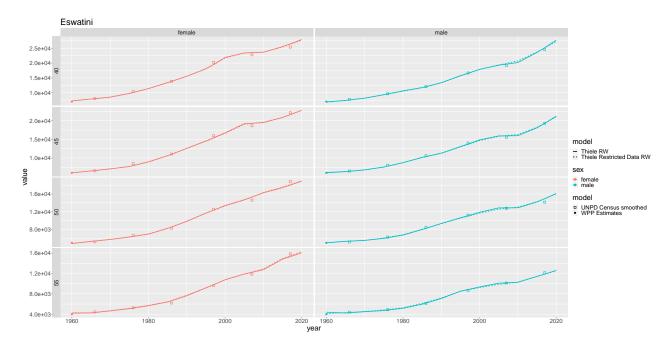


Figure 12: Population

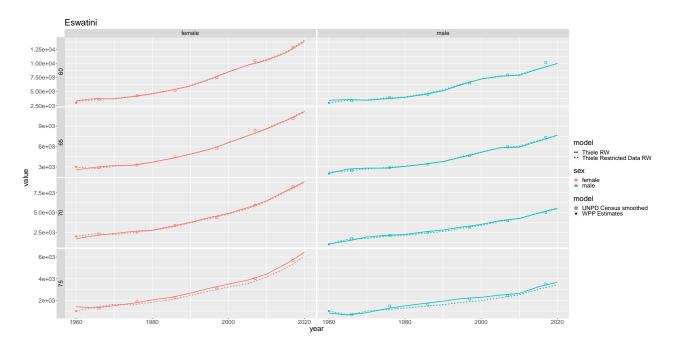


Figure 13: Population

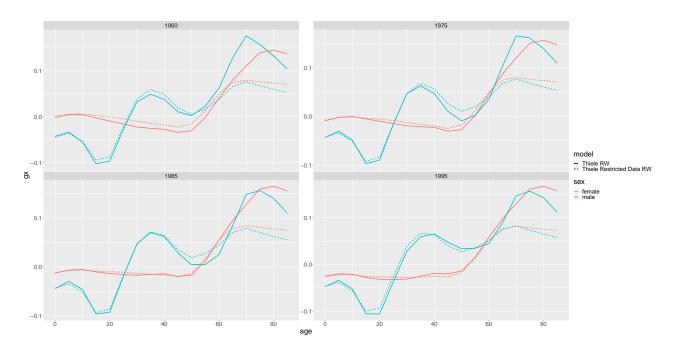


Figure 14: Migration

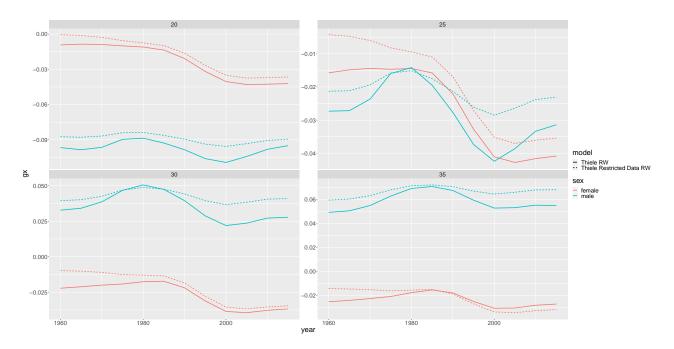


Figure 15: Migration

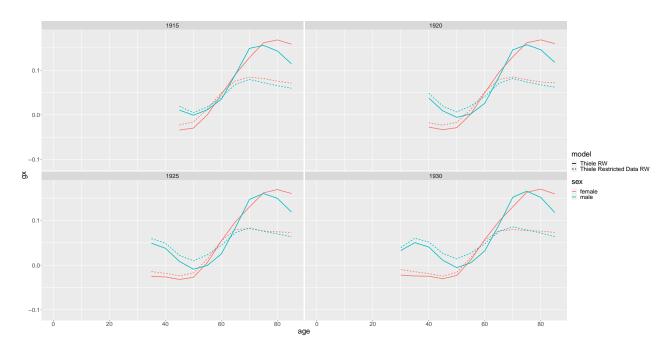


Figure 16: Migration

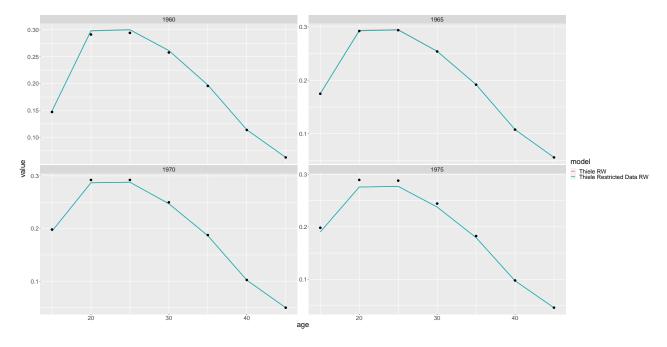


Figure 17: Fertility

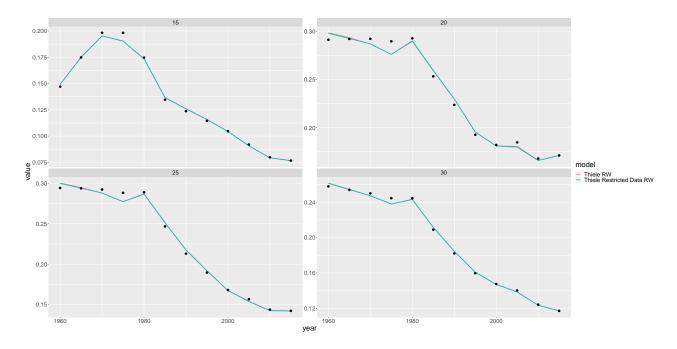


Figure 18: Fertility