## **Burkina Faso**

```
## [1] "Census Females"
  # A tibble: 18 x 5
##
##
                         1985
                                  1996
                                            2006
                 1975
      aggr.age
##
         <dbl>
                  <dbl>
                          <dbl>
                                   <dbl>
                                             <dbl>
##
   1
             0 479362. 730674. 878880
                                         1213119.
##
             5 417499. 655082. 829526
                                         1088934.
            10 327051. 501749. 692800.
##
   3
                                          904373.
##
            15 262454. 384257. 548244
                                          762122.
##
   5
            20 237211. 330693. 446104.
                                          662654.
##
    6
            25 221469. 287343. 378176.
                                          555137.
##
   7
            30 189966. 240637. 322164.
                                          448084.
    8
            35 154009. 202338. 265959.
##
                                          363978.
   9
##
            40 126640. 172337. 215769.
                                          299080.
            45 103550. 145369. 175666.
##
  10
                                          240632.
                83233. 120961. 144223.
##
  11
            50
                                          190845.
##
  12
            55
                 63930. 100543. 116654.
                                          151585.
##
  13
            60
                 48696.
                         83755.
                                  94266.
                                          120665.
##
  14
            65
                 35645.
                         63754.
                                  73728.
                                           92136.
                         44256.
## 15
            70
                25876.
                                  54514.
                                            67405.
## 16
            75
                17660.
                         23964.
                                  35828.
                                            45489.
## 17
            80
                10821.
                         41087.
                                  20043.
                                            27411.
            85
                13098.
                            NA
                                  47060.
## 18
                                           30478.
## [1] "Census Males"
   # A tibble: 18 x 5
##
                1975
                         `1985`
                                  1996
                                            2006
      aggr.age
##
         <dbl>
                  <dbl>
                          <dbl>
                                   <dbl>
                                             <dbl>
##
   1
             0 498118. 733218. 889544
                                         1236779.
    2
             5 454940. 669057. 855549. 1126534.
##
            10 367257. 523028. 715078.
##
    3
                                          926371.
            15 275547. 382357. 528713.
##
    4
                                          716367.
##
    5
            20 209858. 280615. 374910.
                                          557683.
##
    6
            25 175866. 213548. 290199.
                                          449918.
##
    7
            30 155352. 179190. 247737
                                          370217.
            35 135026. 156844. 208632.
##
    8
                                          304022.
##
   9
            40 116652. 138100. 174343.
                                          249630.
                                          202625.
## 10
            45 101729. 123349. 147644.
                88268. 108827. 125516.
## 11
            50
                                          165785.
## 12
                72765.
                         93619. 106586.
            55
                                          136170.
##
  13
            60
                56927.
                         78774.
                                  89198.
                                          109332.
##
  14
                41731.
                         60247.
                                  70396
            65
                                           84418.
##
  15
            70
                 30718.
                         40187.
                                  51780.
                                            61603.
## 16
            75
                20445.
                         21680.
                                  33238.
                                            40173.
## 17
            80
                10919.
                         27286.
                                  17172.
                                            22717.
## 18
            85
                16960.
                            NA
                                  38154.
                                            20701.
Thiele Normal Hump
```

system elapsed

1.05

79.44

##

##

user

77.57

```
## [1] "relative convergence (4)"
Thiele log-Normal Hump
     user system elapsed
             0.64
                   75.91
##
    74.81
## [1] "relative convergence (4)"
Thiele Normal Hump (Pop 5-9 to 70-74, DHS 15-19 to 45-49)
##
     user system elapsed
##
    71.05
             0.80
## [1] "relative convergence (4)"
Thiele log-Normal Hump (Pop 5-9 to 70-74, DHS 15-19 to 45-49)
##
     user system elapsed
    71.00
             0.65
##
                   72.36
## [1] "relative convergence (4)"
```

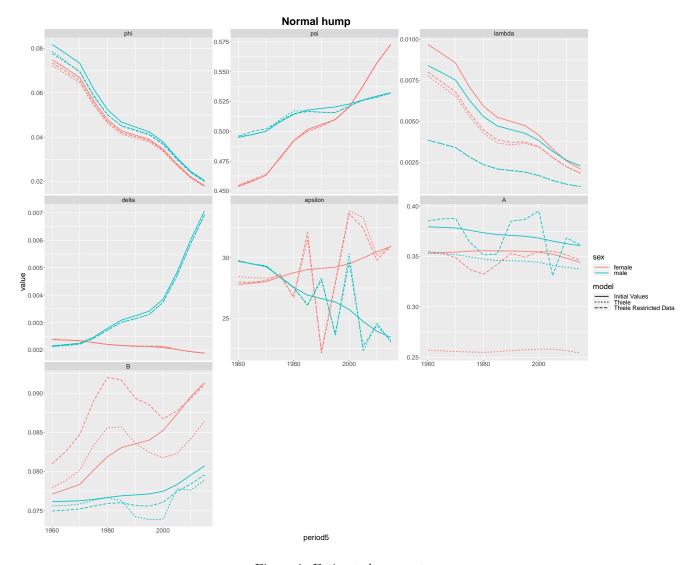


Figure 1: Estimated parameters

## Using Sex as id variables
## Using Sex as id variables
## Warning: Removed 4 rows containing missing values (geom\_point).
## Warning: Removed 4 rows containing missing values (geom\_point).
## Warning: Removed 4 rows containing missing values (geom\_point).
## Warning: Removed 4 rows containing missing values (geom\_point).
## Warning: Removed 4 rows containing missing values (geom\_point).

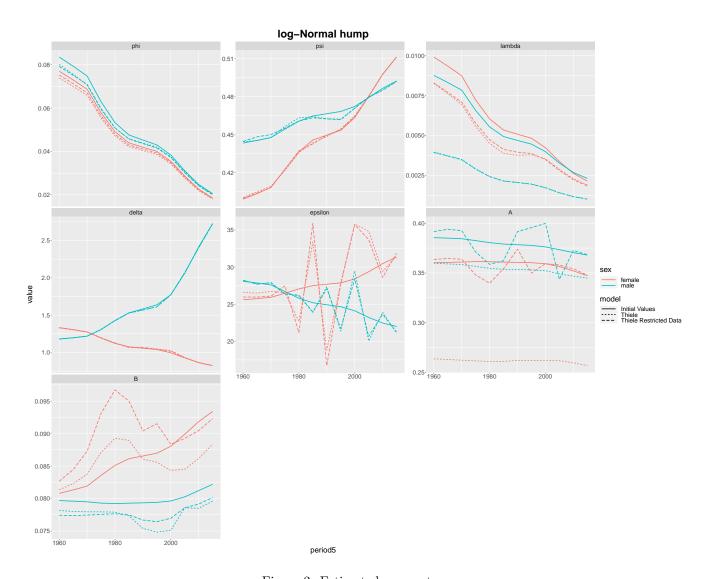


Figure 2: Estimated parameters

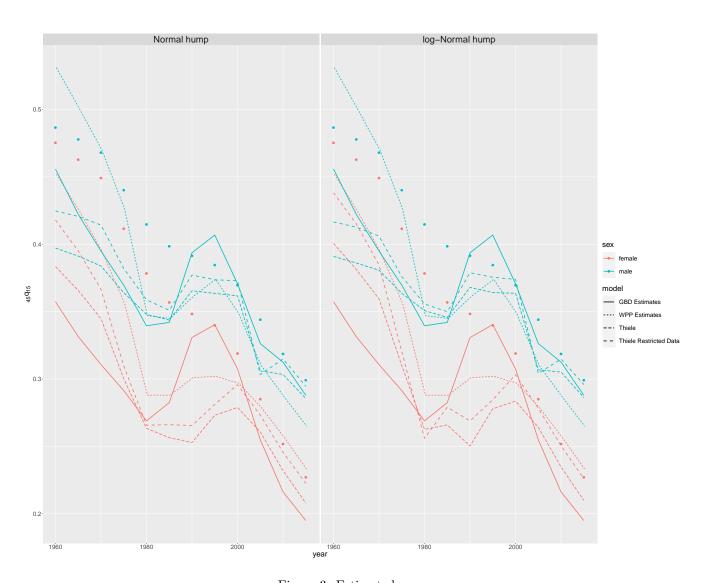


Figure 3: Estimated  $_{45}q_{15}$ 

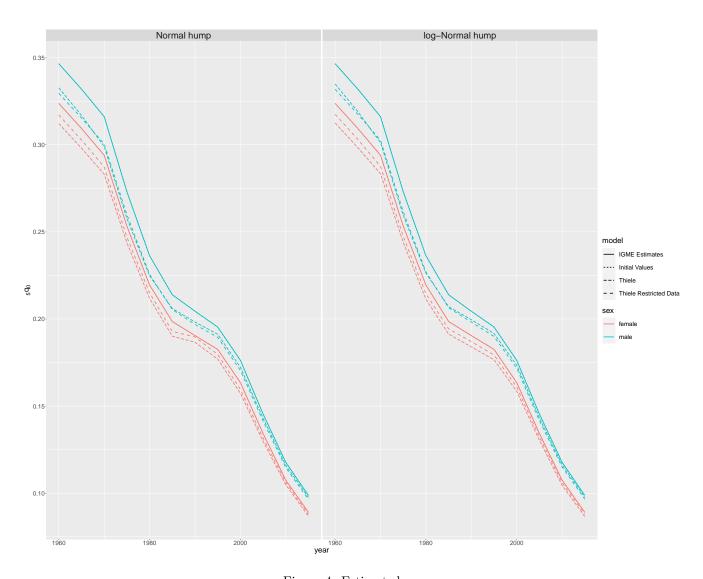


Figure 4: Estimated  $_5q_0$ 

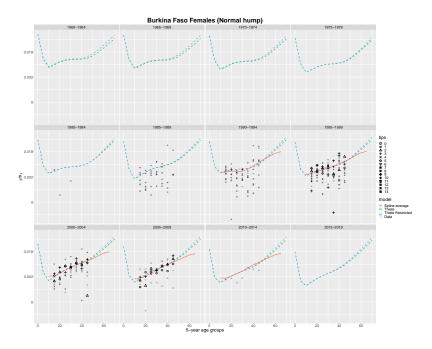


Figure 5: Mortality Schedules

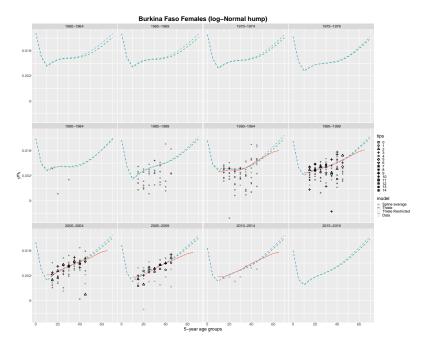


Figure 6: Mortality Schedules

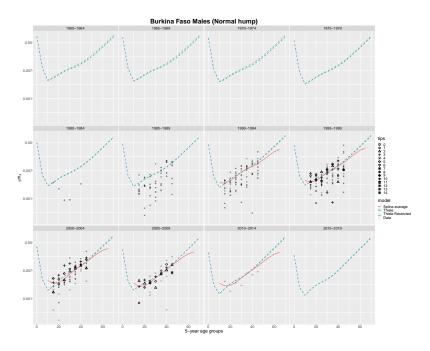


Figure 7: Mortality Schedules

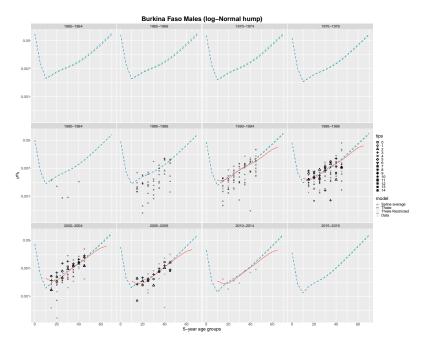


Figure 8: Mortality Schedules

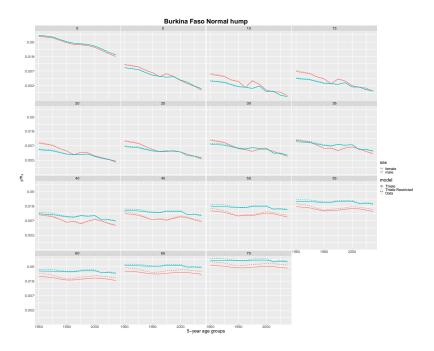


Figure 9: Mortality Schedules

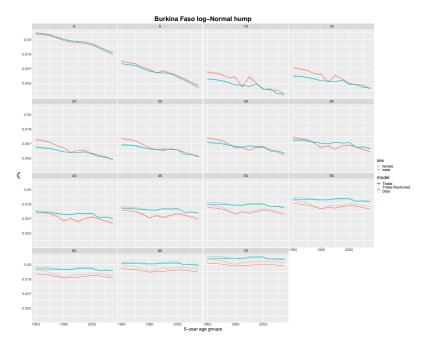


Figure 10: Mortality Schedules

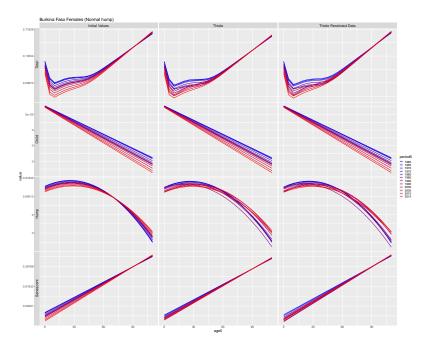


Figure 11: Thiele Decomposed

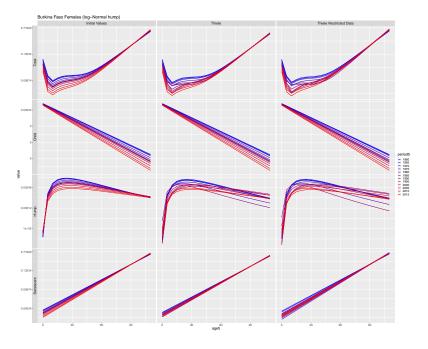


Figure 12: Thiele Decomposed

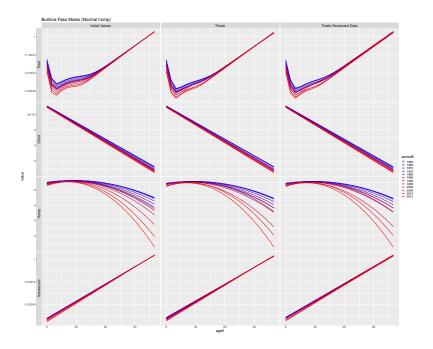


Figure 13: Thiele Decomposed

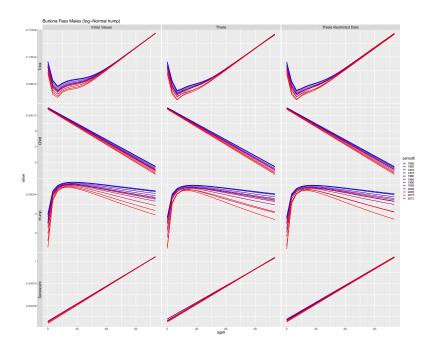


Figure 14: Thiele Decomposed

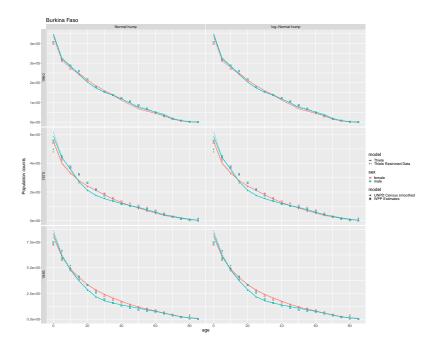


Figure 15: Population

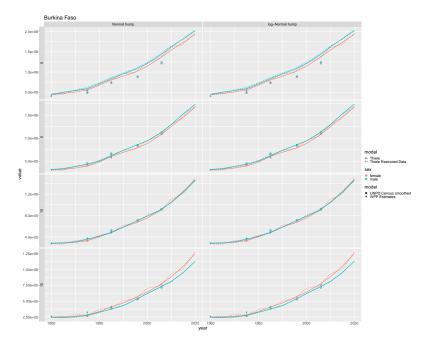


Figure 16: Population

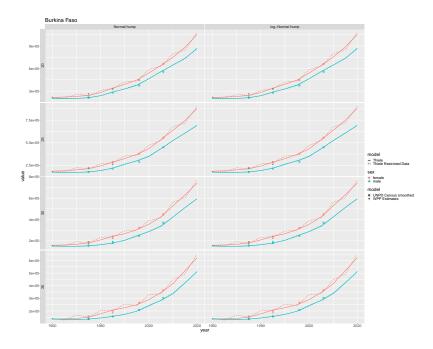


Figure 17: Population

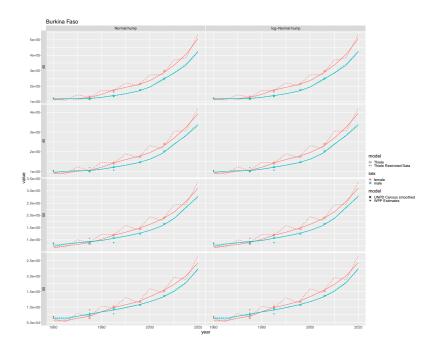


Figure 18: Population

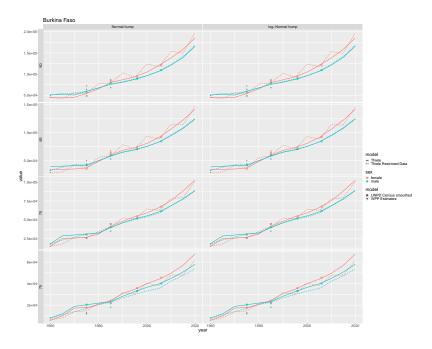


Figure 19: Population

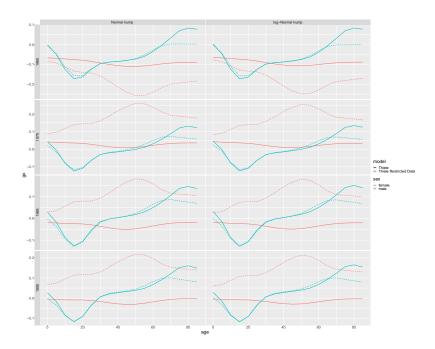


Figure 20: Migration

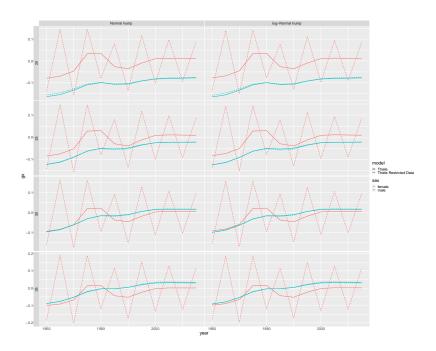


Figure 21: Migration

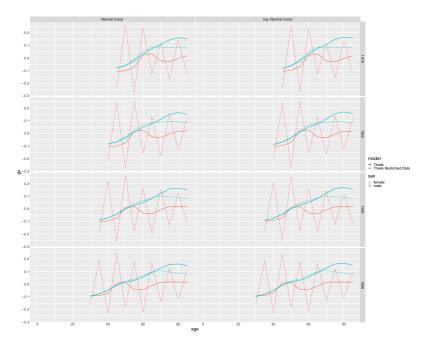


Figure 22: Migration

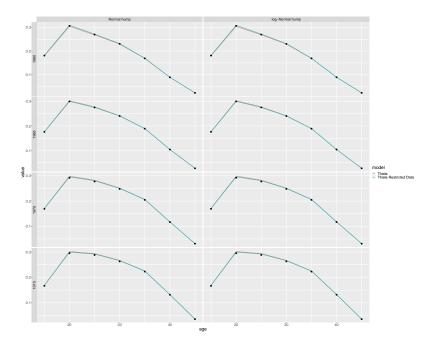


Figure 23: Fertility

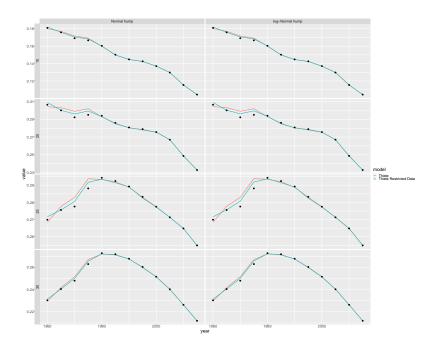


Figure 24: Fertility