Burkina Faso

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

## # A tibble: 18 x 5
##    aggr.age  `1975`   `1985`   `1996`    `2006`
## *     <dbl>   <dbl>    <dbl>    <dbl>     <dbl>
## 1         0 479362. 730674.  878880  1213119.
## 2         5 417499. 655082.  829526  1088934.
## 3        10 327051. 501749.  692800.  904373.
## 4        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.
## 10       45 103550. 145369.  175666.  240632.
## 11       50  83233. 120961.  144223.  190845.
## 12       55  63930. 100543.  116654.  151585.
## 13       60  48696.  83755.   94266.  120665.
## 14       65  35645.  63754.   73728.   92136.
## 15       70  25876.  44256.   54514.   67405.
## 16       75  17660.  23964.   35828.   45489.
## 17       80  10821.  41087.   20043.   27411.
## 18       85  13098.     NA    47060.   30478.

## [1] "Census Males"

## # A tibble: 18 x 5
##    aggr.age  `1975`   `1985`   `1996`    `2006`
## *     <dbl>   <dbl>    <dbl>    <dbl>     <dbl>
## 1         0 498118. 733218.  889544  1236779.
## 2         5 454940. 669057.  855549  1126534.
## 3        10 367257. 523028.  715078.  926371.
## 4        15 275547. 382357.  528713.  716367.
## 5        20 209858. 280615.  374910.  557683.
## 6        25 175866. 213548.  290199.  449918.
## 7        30 155352. 179190.  247737   370217.
## 8        35 135026. 156844.  208632.  304022.
## 9        40 116652. 138100.  174343.  249630.
## 10       45 101729. 123349.  147644.  202625.
## 11       50  88268. 108827.  125516.  165785.
## 12       55  72765.  93619.  106586.  136170.
## 13       60  56927.  78774.   89198.  109332.
## 14       65  41731.  60247.   70396    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 log-Normal Hump RW

```
##    user  system elapsed
##   24.15    0.75   25.08
```

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

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

```
##    user  system elapsed
##   26.33    0.60   27.01
```

```
## [1] "relative convergence (4)"
```
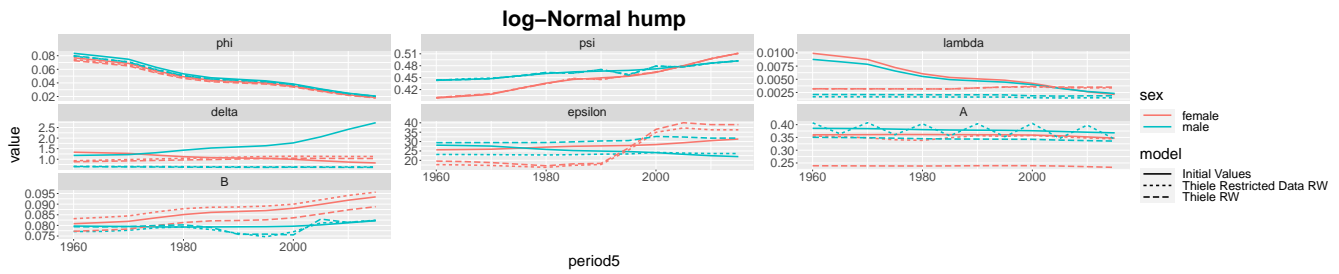
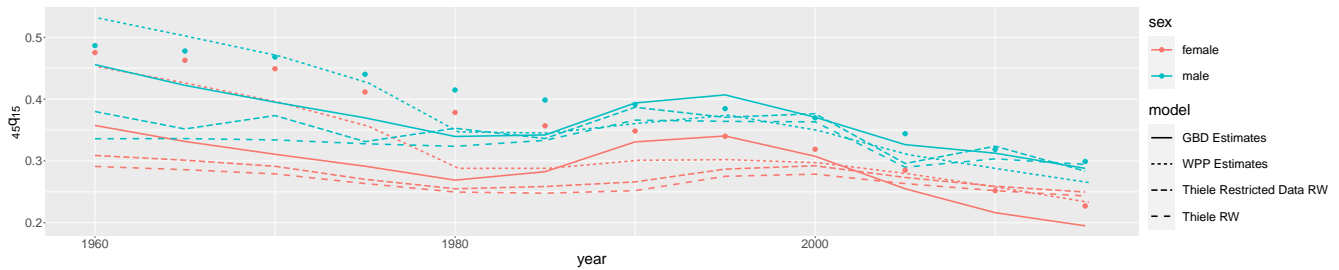Figure 1: Estimated parameters

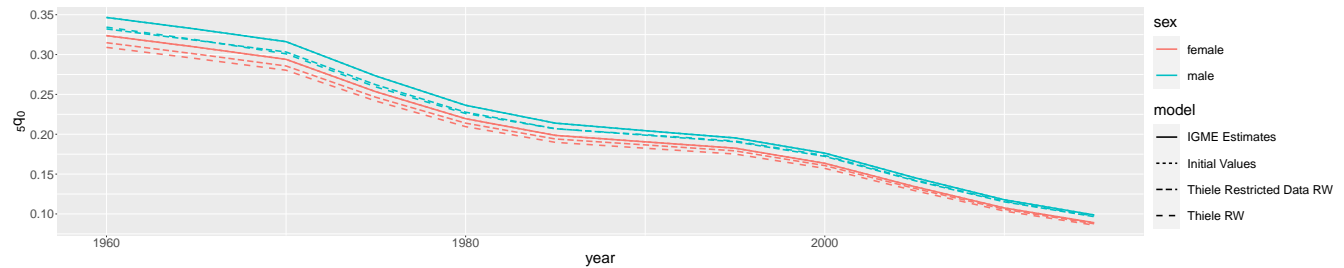## Using Sex as id variables

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

Figure 3: Estimated $_5q_0$

```
## Warning: Removed 2 rows containing missing values (geom_point).

## Warning: Removed 2 rows containing missing values (geom_point).

## Warning: Removed 2 rows containing missing values (geom_point).

## Warning: Removed 2 rows containing missing values (geom_point).

## Warning: Removed 2 rows containing missing values (geom_point).
```
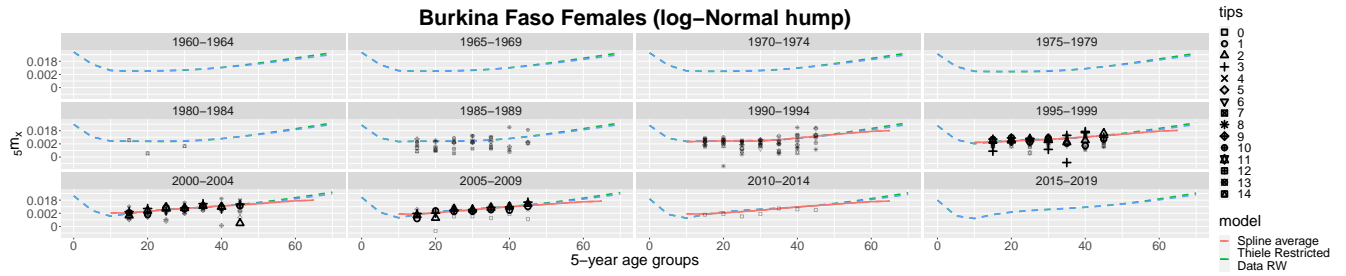
Figure 4: Mortality Schedules
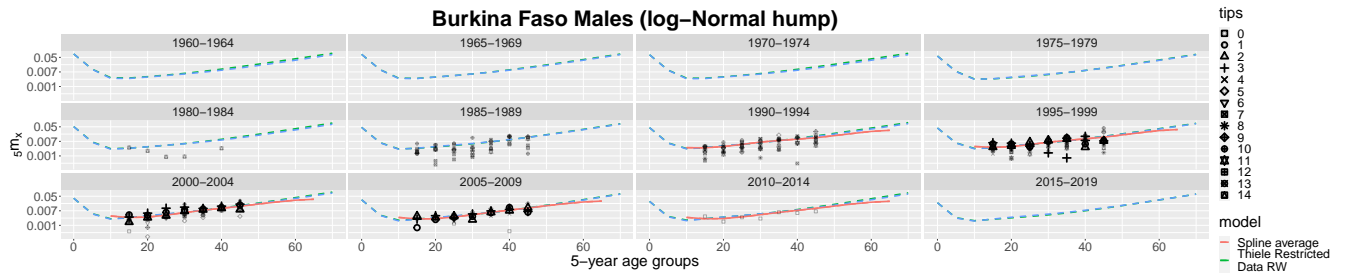
Figure 5: Mortality Schedules
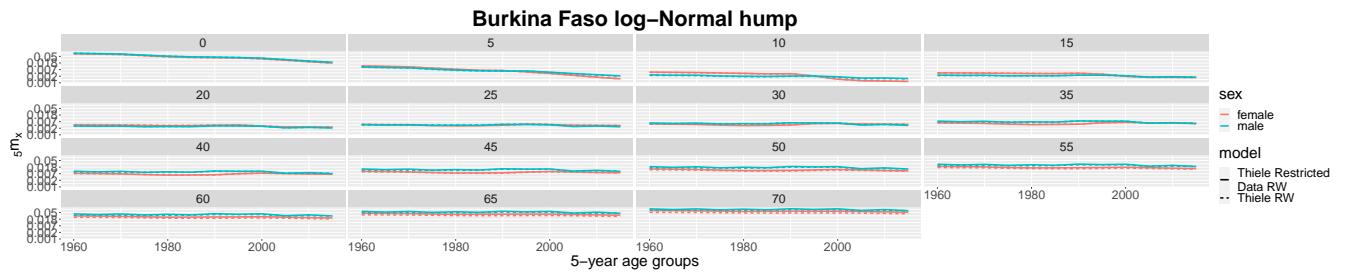
Figure 6: Mortality Schedules
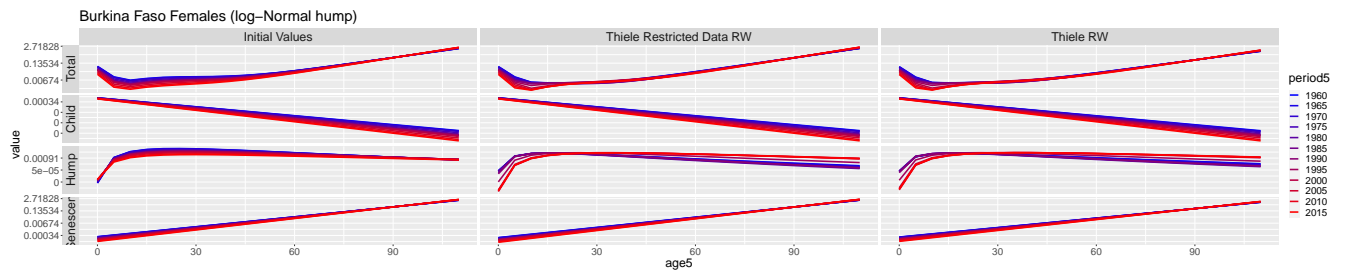
Figure 7: Thiele Decomposed
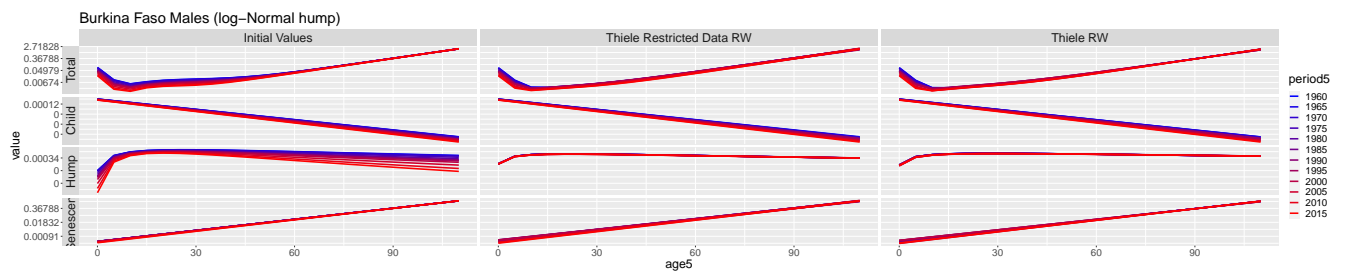
Figure 8: Thiele Decomposed

4
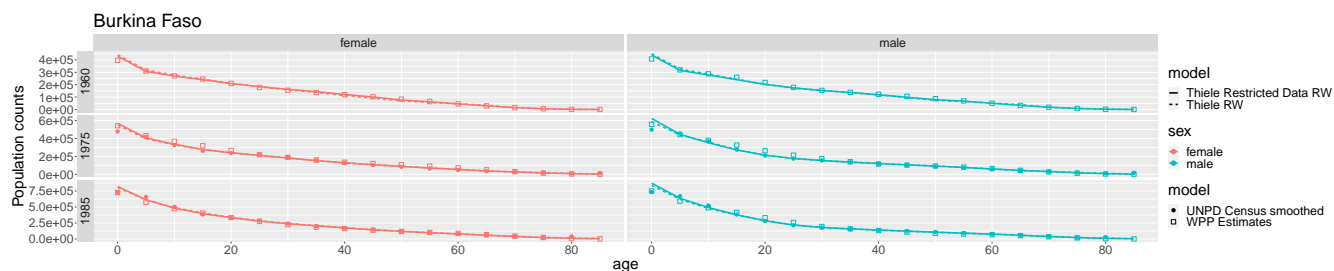
Figure 9: Population
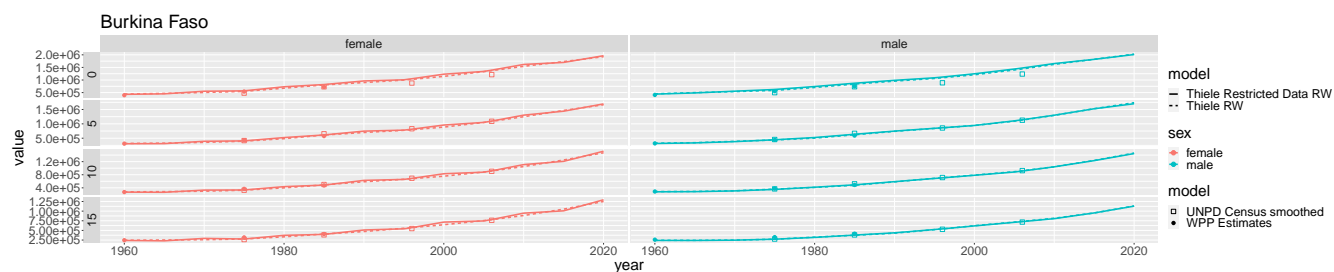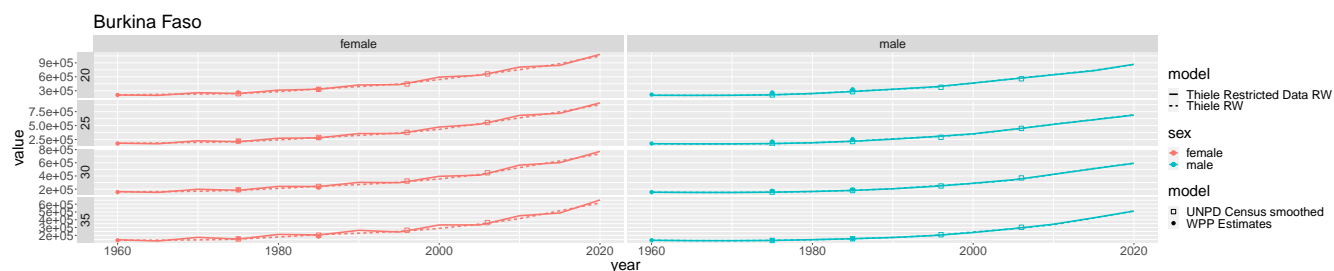

Figure 10: Population
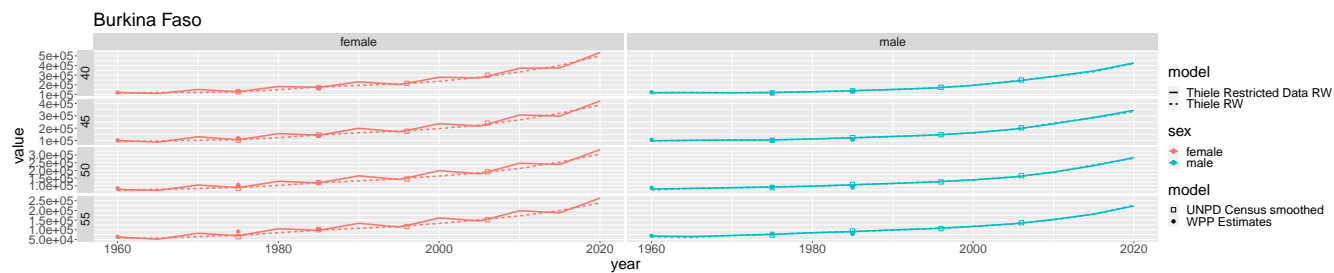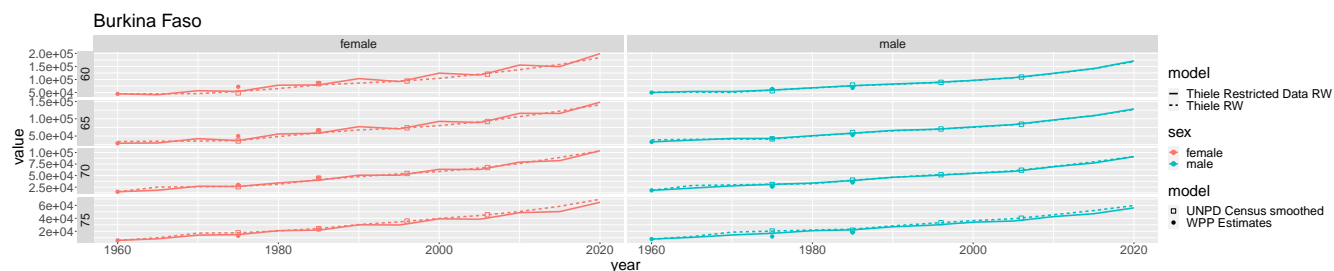

Figure 11: Population
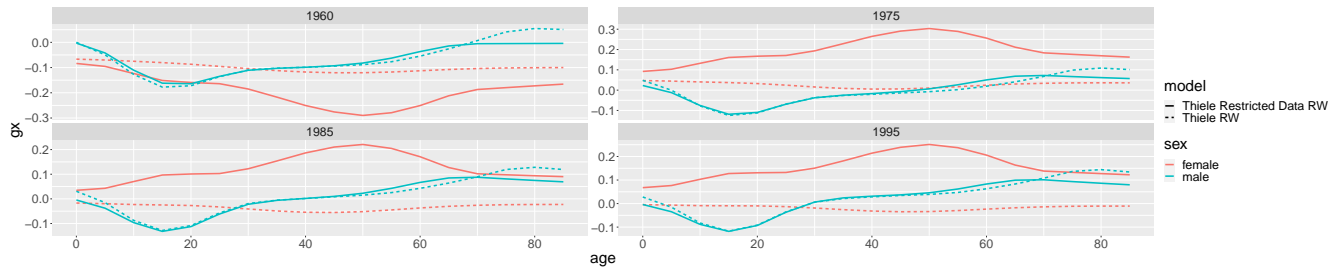

Figure 12: Population

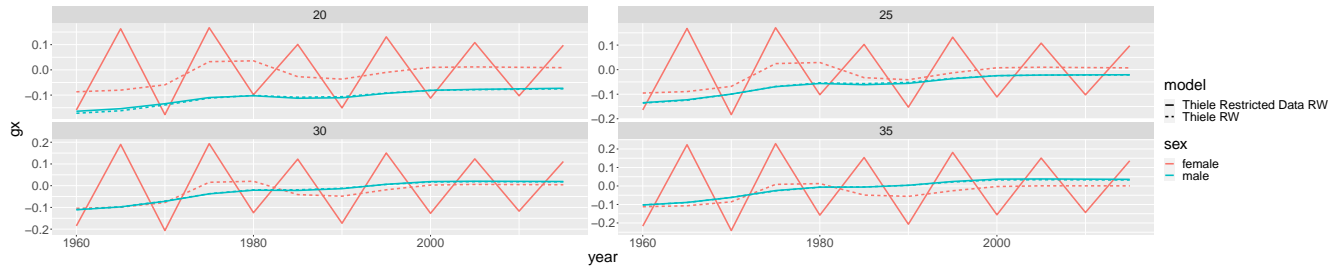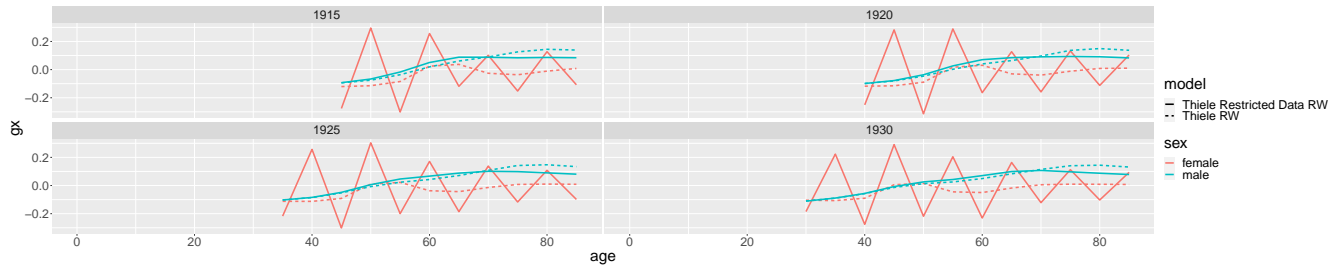Figure 13: Population
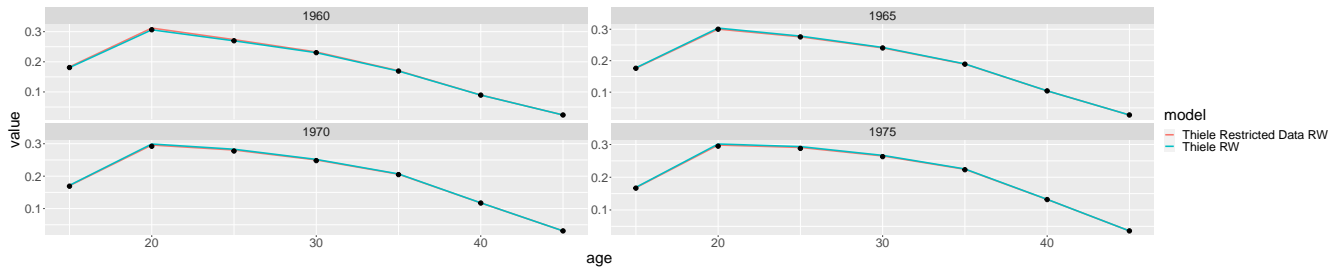
Figure 14: Migration

Figure 15: Migration
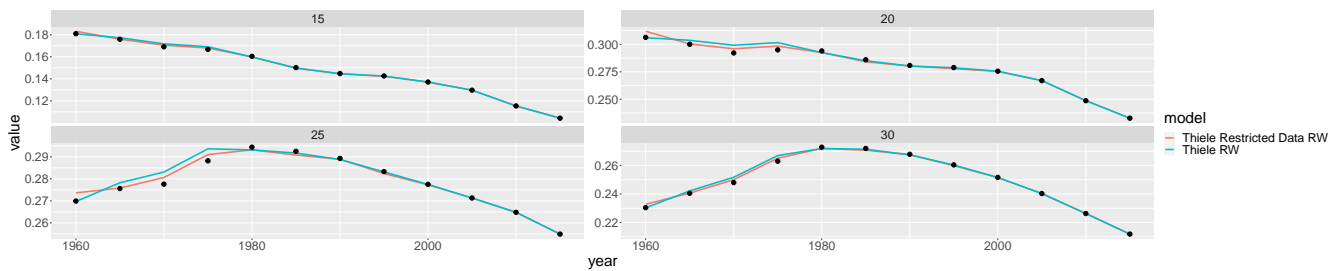

Figure 16: Migration

Figure 17: Fertility

Figure 18: Fertility

6