Congo

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

## # A tibble: 18 x 4
##    aggr.age  `1974`   `1984`   `2007`
## *     <dbl>   <dbl>    <dbl>    <dbl>
## 1         0 122503. 160880.  279158
## 2         5 100522. 142980.  235631
## 3        10  79490. 125040.  209662.
## 4        15  63470. 107660.  197640.
## 5        20  52055.  89407.  187422.
## 6        25  43495.  71045.  168917.
## 7        30  38750.  55496.  142430.
## 8        35  37288.  44130.  114435.
## 9        40  35104.  37502.   88631.
## 10       45  31605.  34621.   68360
## 11       50  27769.  31358.   53193
## 12       55  22732.  26843.   40778.
## 13       60  16571.  21959.   31928.
## 14       65  10763.  16189.   25778.
## 15       70   5981.  10300.   19624
## 16       75    790.   5440.   12855
## 17       80    689.   2437.    7073.
## 18       85     NA     671.    4684

## [1] "Census Males"

## # A tibble: 18 x 4
##    aggr.age  `1974`   `1984`   `2007`
## *     <dbl>   <dbl>    <dbl>    <dbl>
## 1         0 123393. 162414.  278342
## 2         5 101676. 143202.  235910.
## 3        10  79713. 123091.  205899
## 4        15  59314. 103336.  184008.
## 5        20  44571.  84483.  168768.
## 6        25  37019.  66284.  159526.
## 7        30  33944.  50872.  145566.
## 8        35  32040.  40701.  122364.
## 9        40  29112.  35058.   95512
## 10       45  25449.  31134.   70931.
## 11       50  22298.  26306.   51002.
## 12       55  19353.  21239.   36610
## 13       60  14853.  16981.   27375.
## 14       65   9391.  12954.   20781.
## 15       70   4895.   8572.   14673.
## 16       75    720.   4419.    8750
## 17       80    517.   1746.    4313.
## 18       85     NA     487.    2680
```

Thiele Normal Hump

```
##    user  system elapsed
##   84.37    0.69   85.79
```

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

Thiele log-Normal Hump

```
##    user  system elapsed
## 113.61    0.75  115.12
```

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

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

```
##    user  system elapsed
##   72.45    0.84   73.85
```
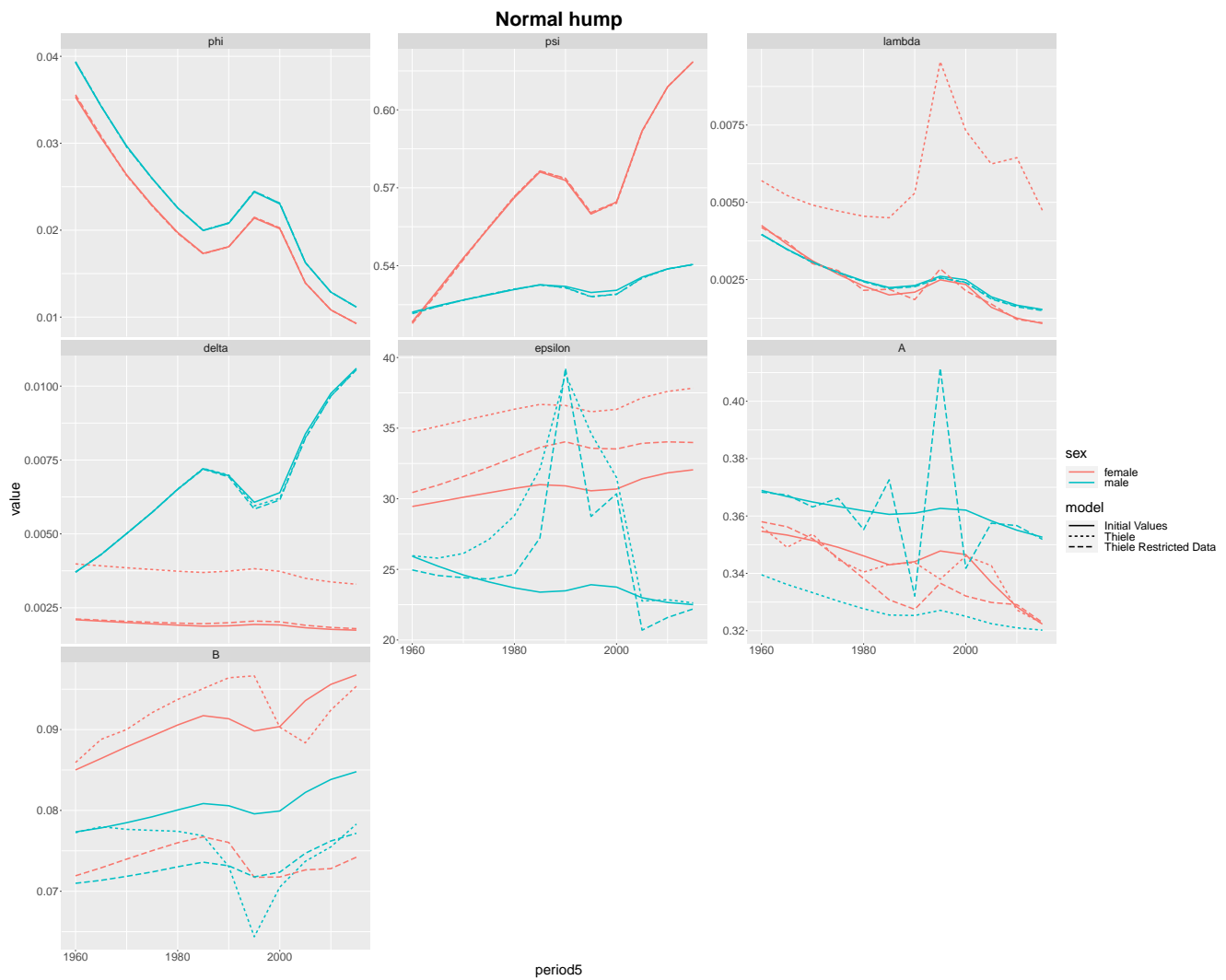
```
## [1] "relative convergence (4)"
```

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

```
##    user  system elapsed
##   80.21    0.66   81.64
```

```
## [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).
```
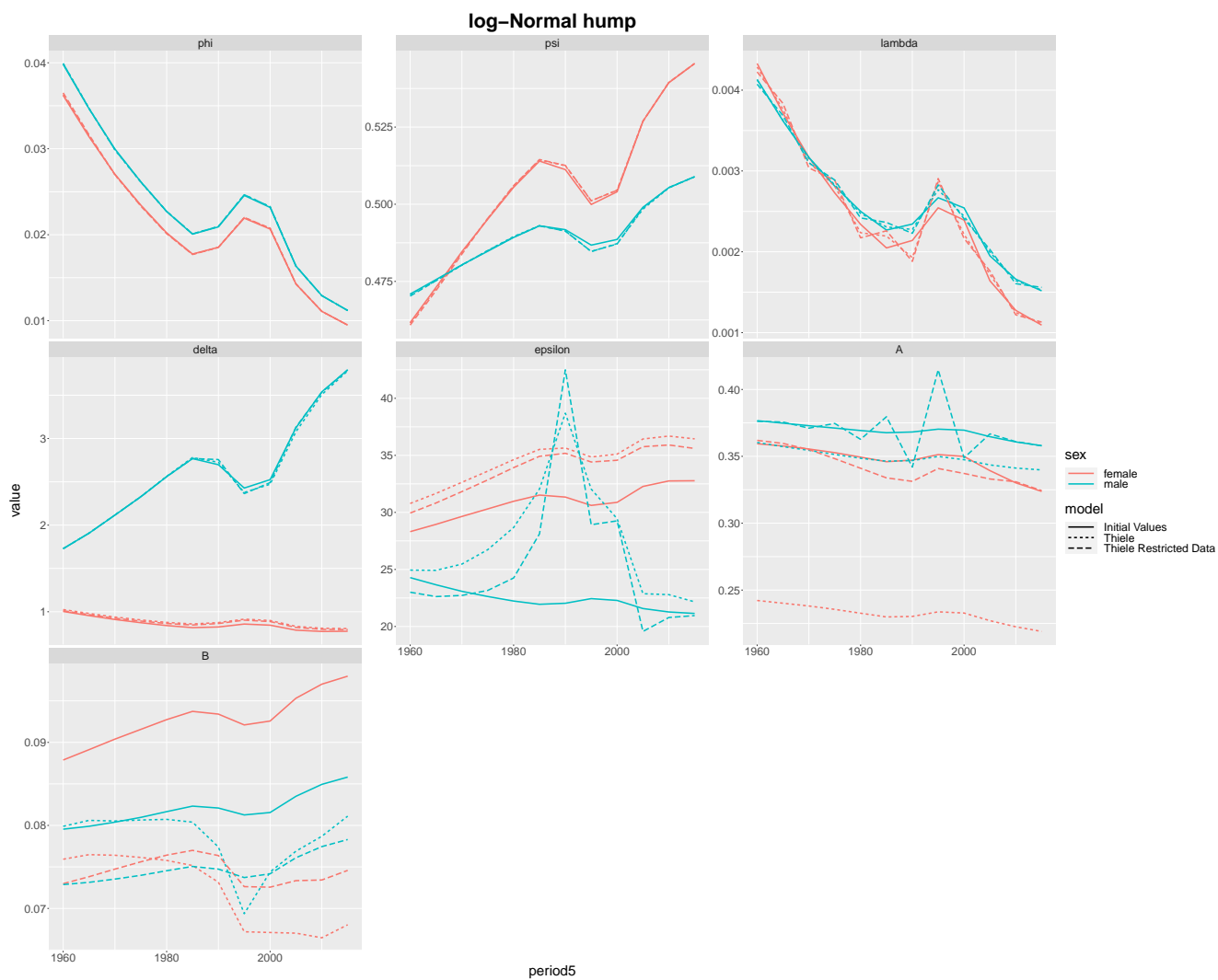
Figure 2: Estimated parameters

4
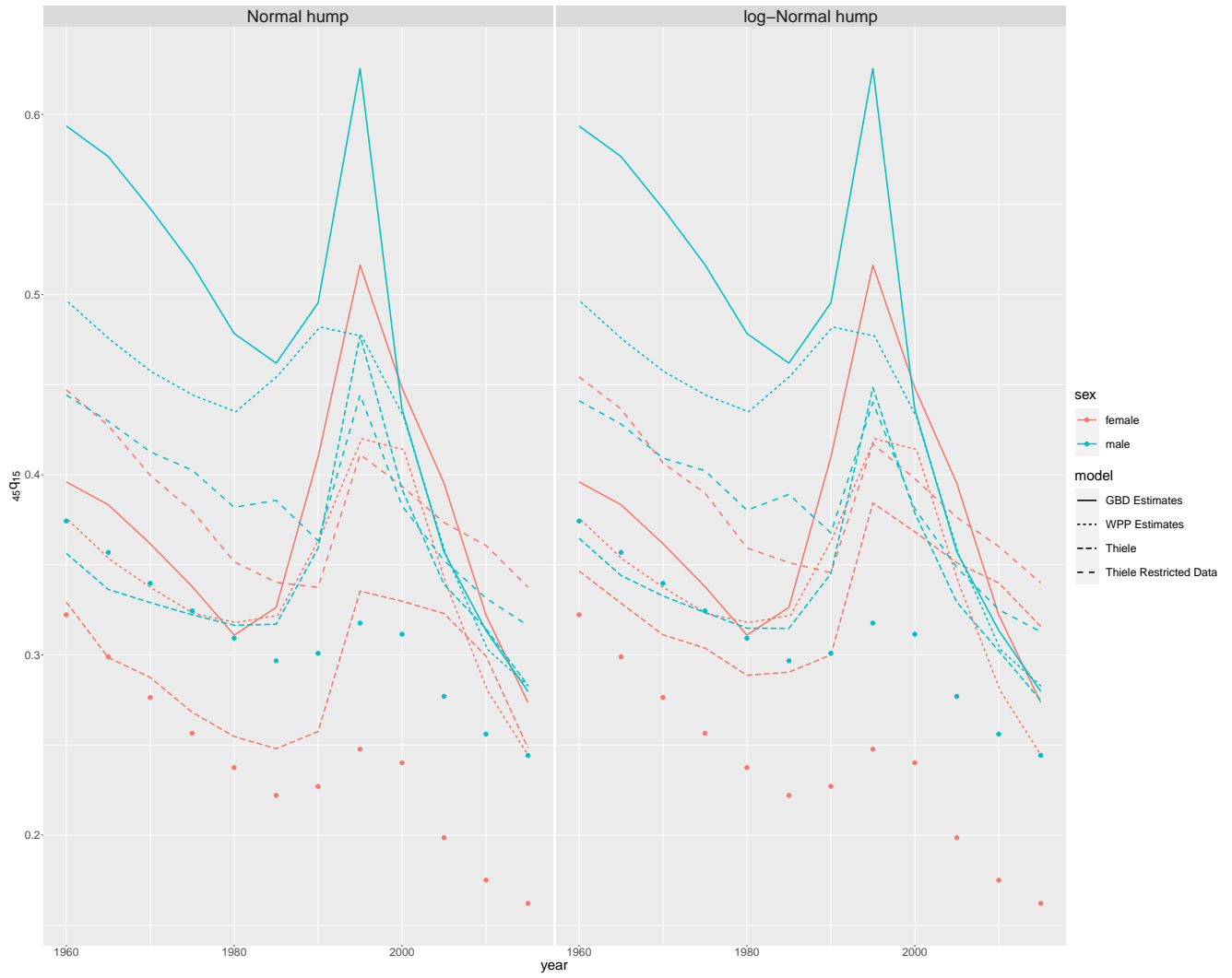
Figure 3: Estimated $_{45}q_{15}$
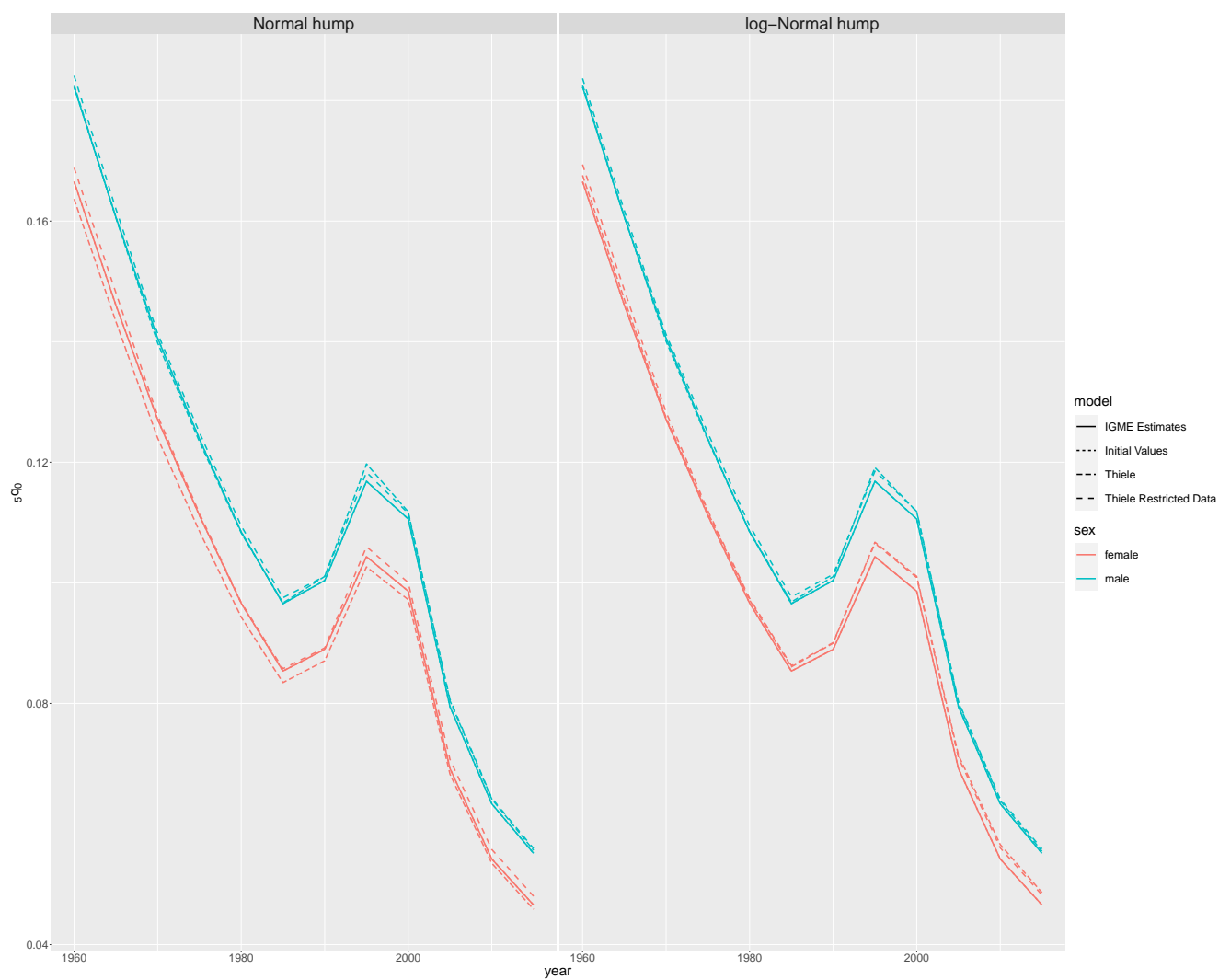
Figure 4: Estimated $_5q_0$
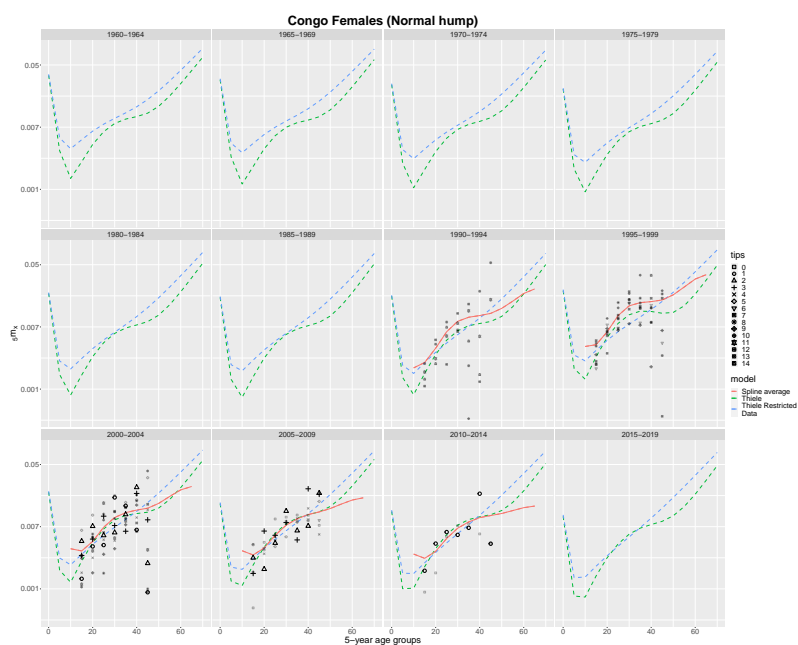
Figure 5: Mortality Schedules
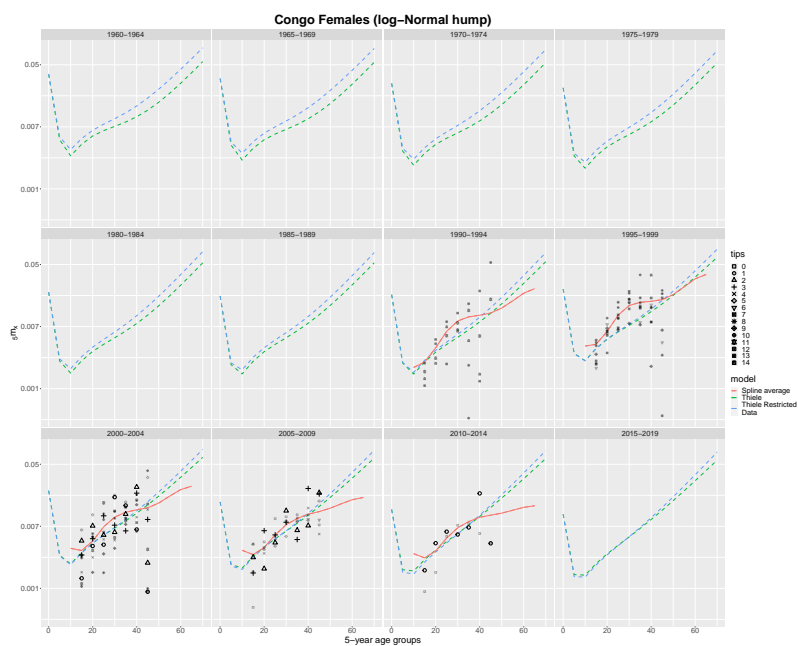
Figure 6: Mortality Schedules
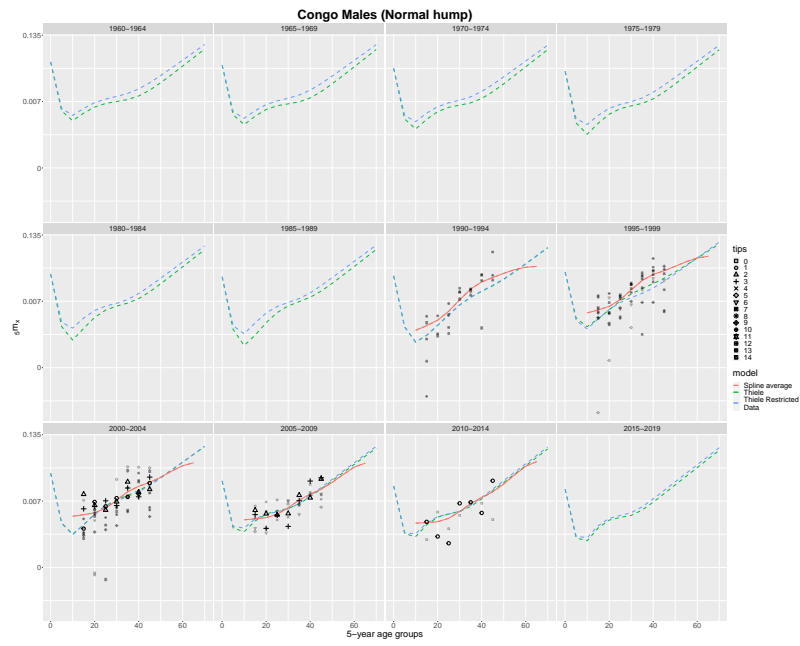
Figure 7: Mortality Schedules
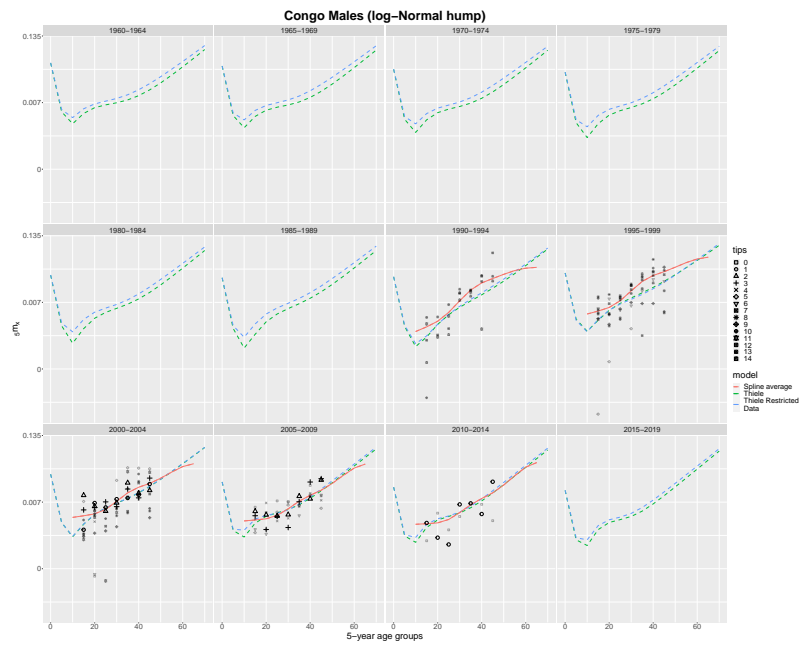
Figure 8: Mortality Schedules
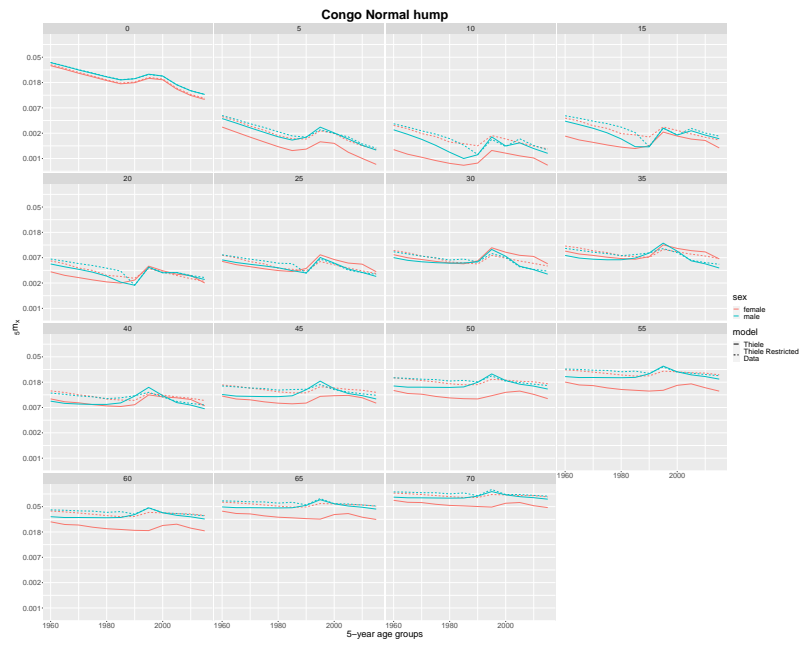
Figure 9: Mortality Schedules
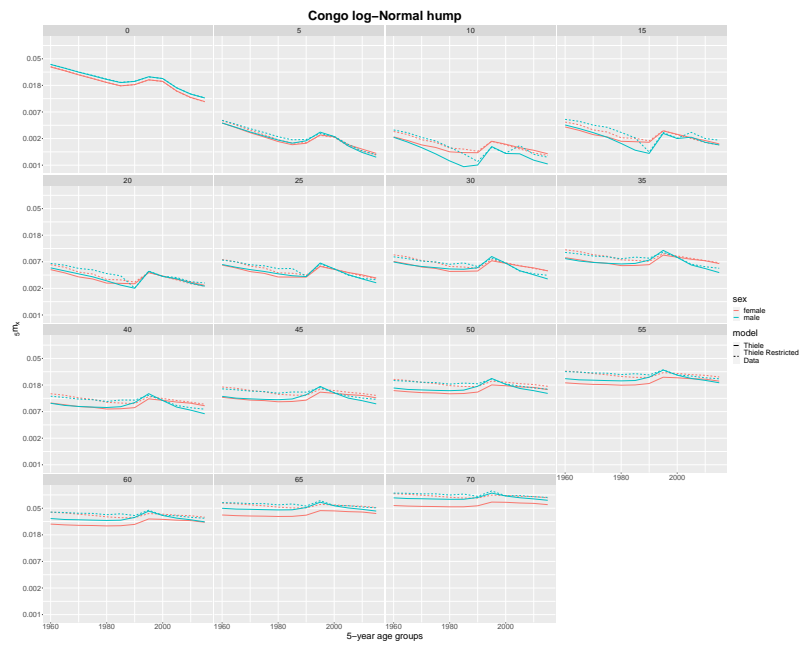
Figure 10: Mortality Schedules
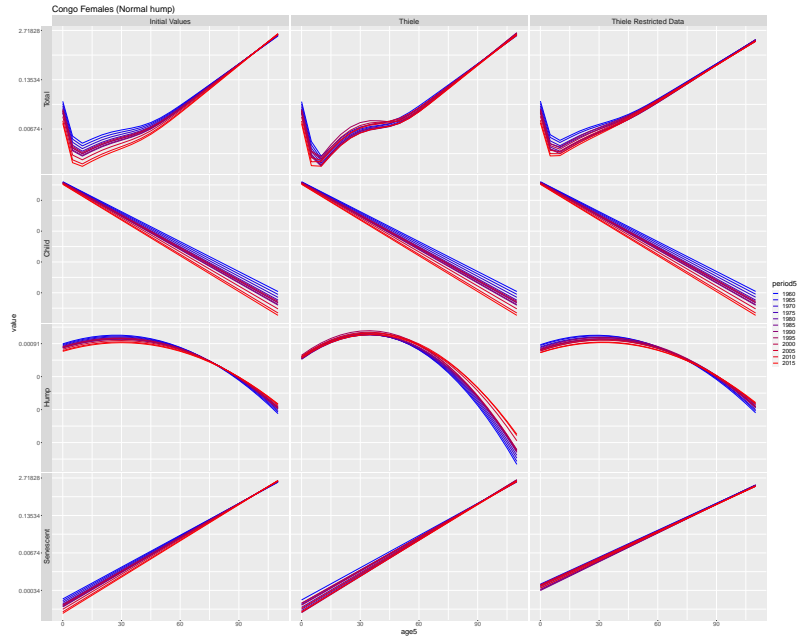
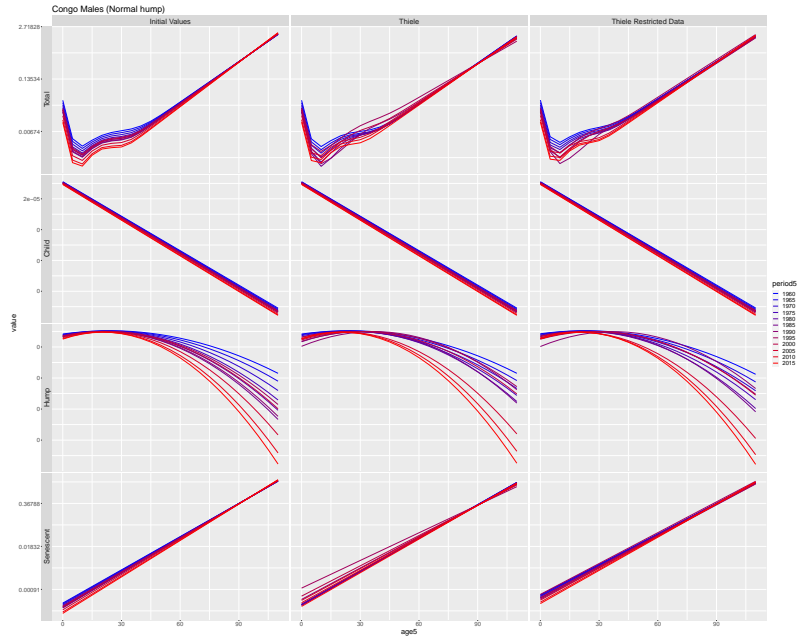Figure 11: Thiele Decomposed
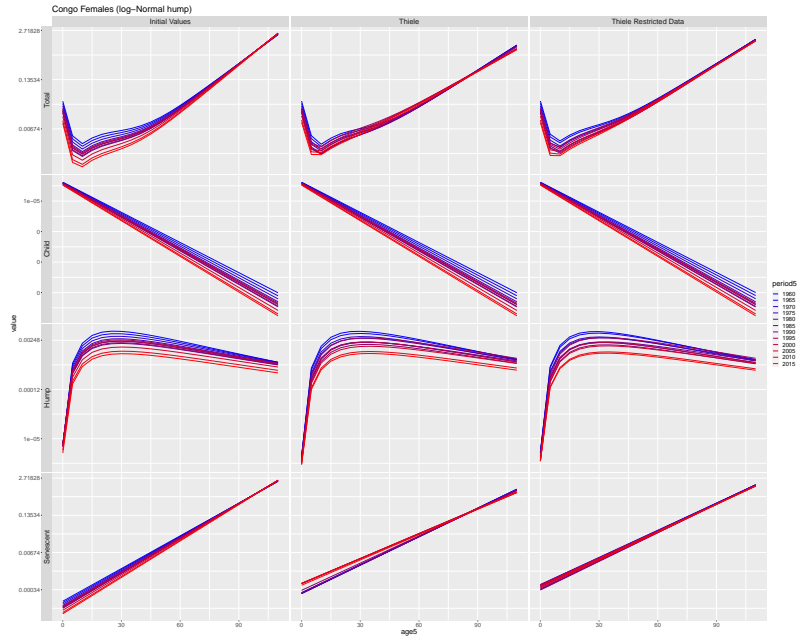
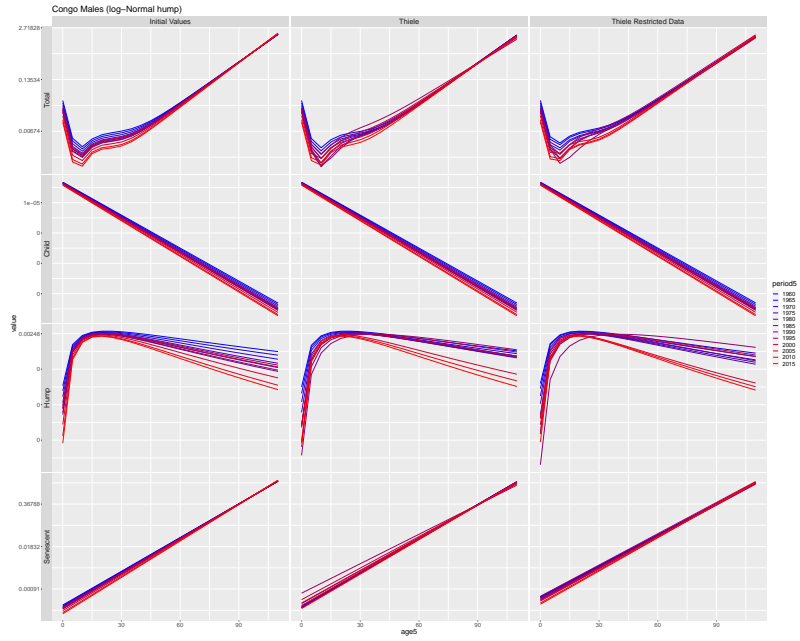Figure 12: Thiele Decomposed

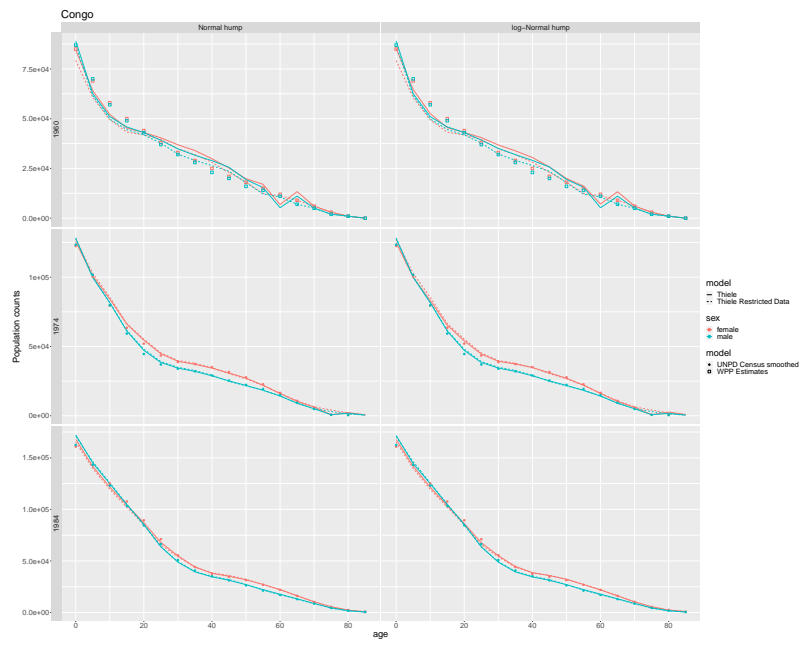Figure 13: Thiele Decomposed
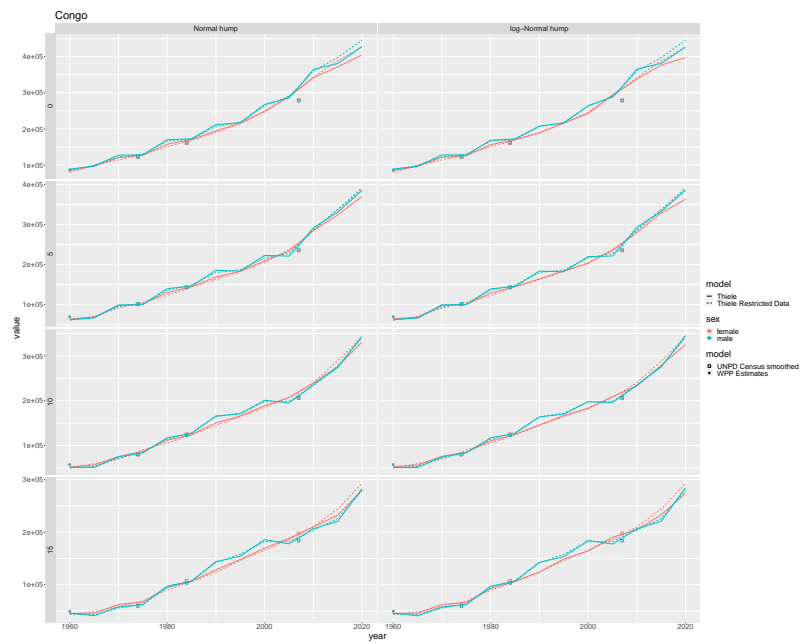

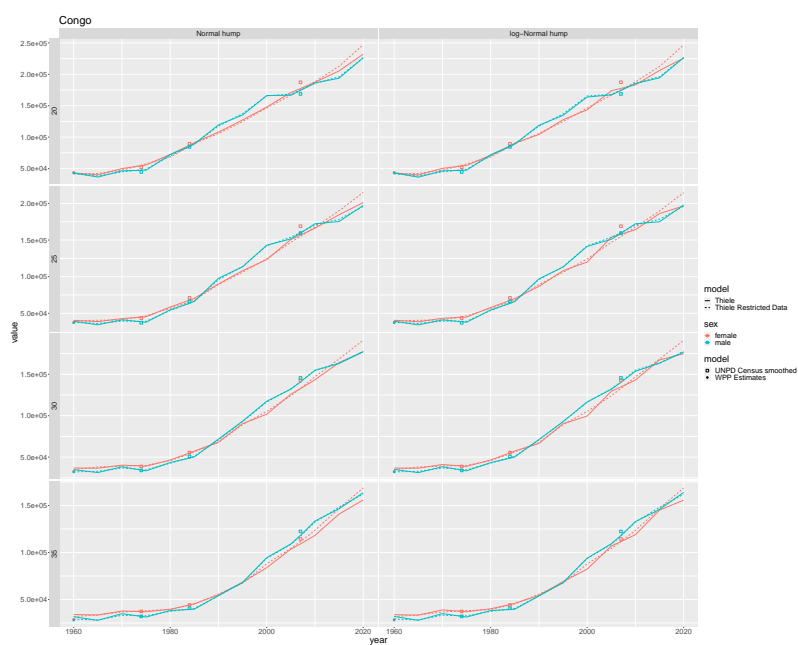Figure 14: Thiele Decomposed

Figure 15: Population
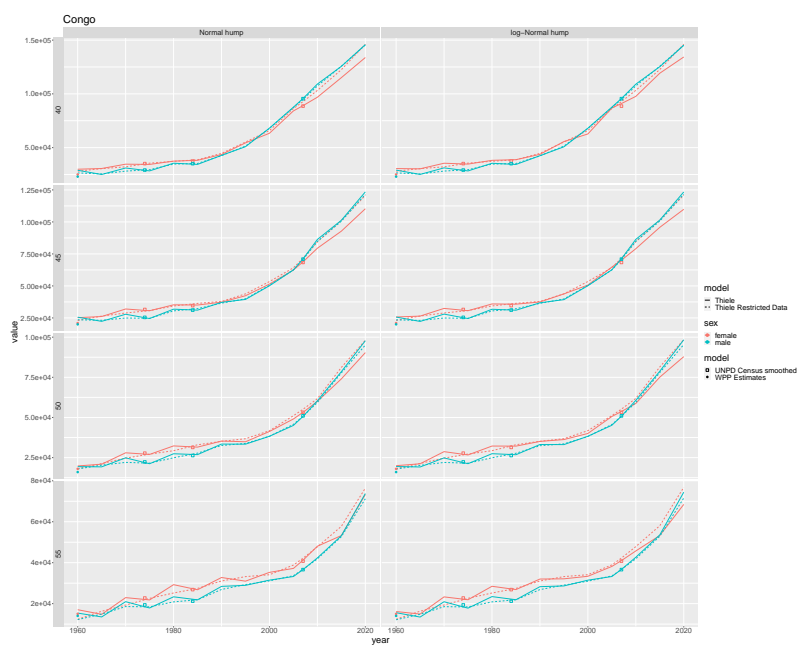

Figure 16: Population

Figure 17: Population
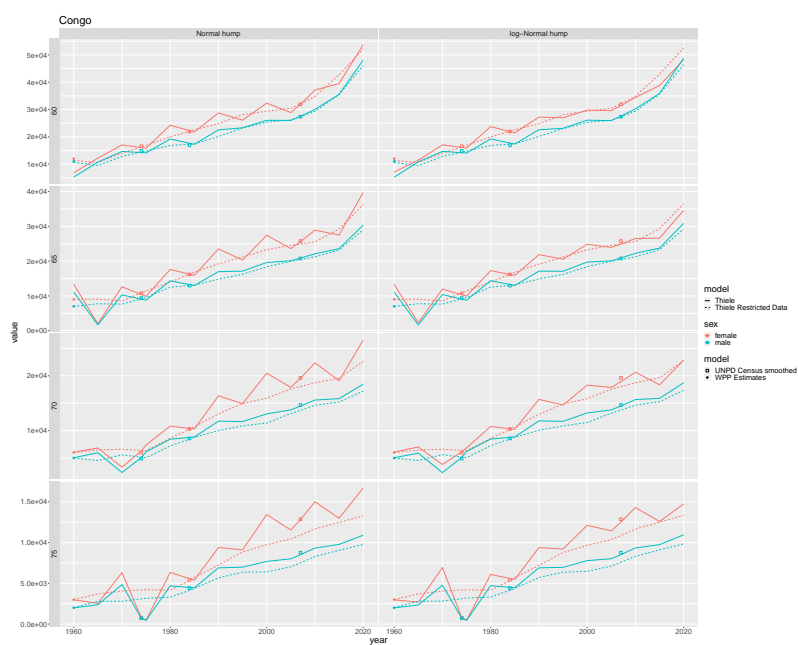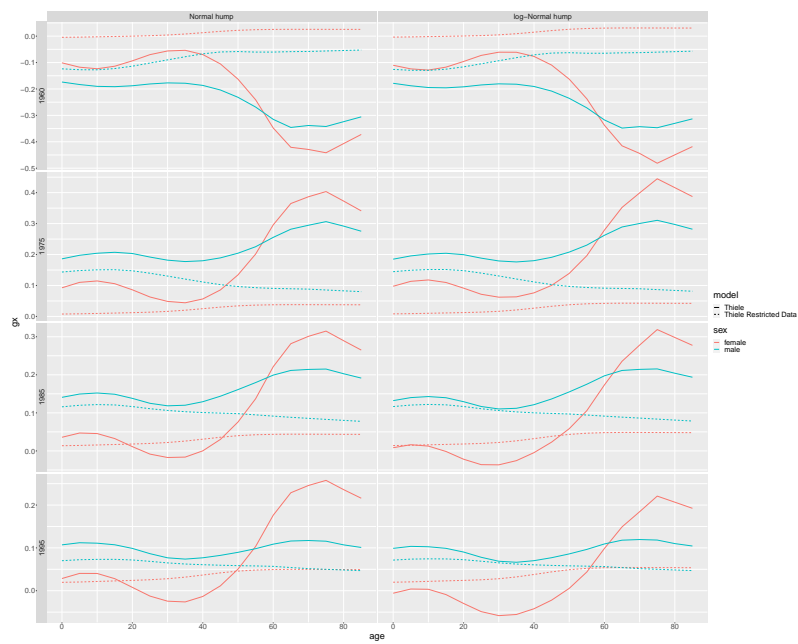

Figure 18: Population

Figure 19: Population
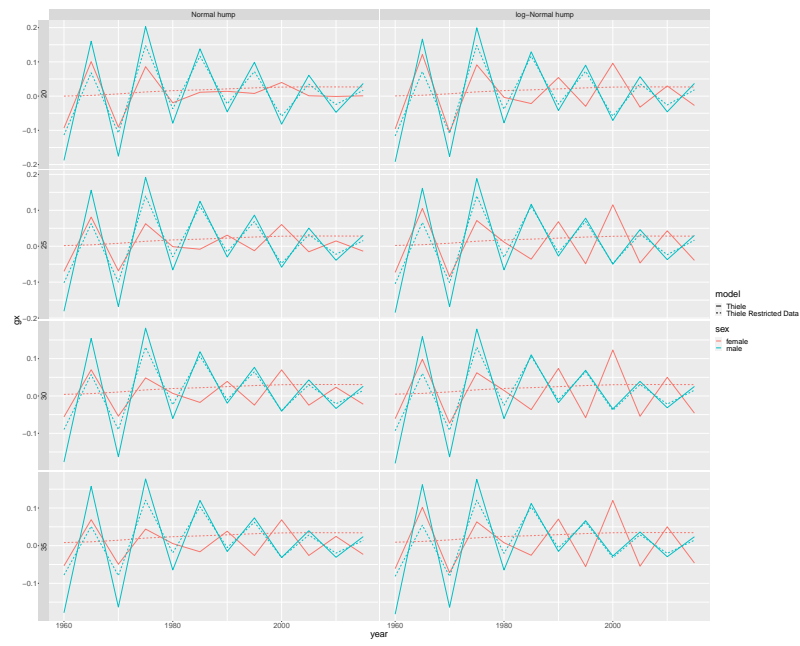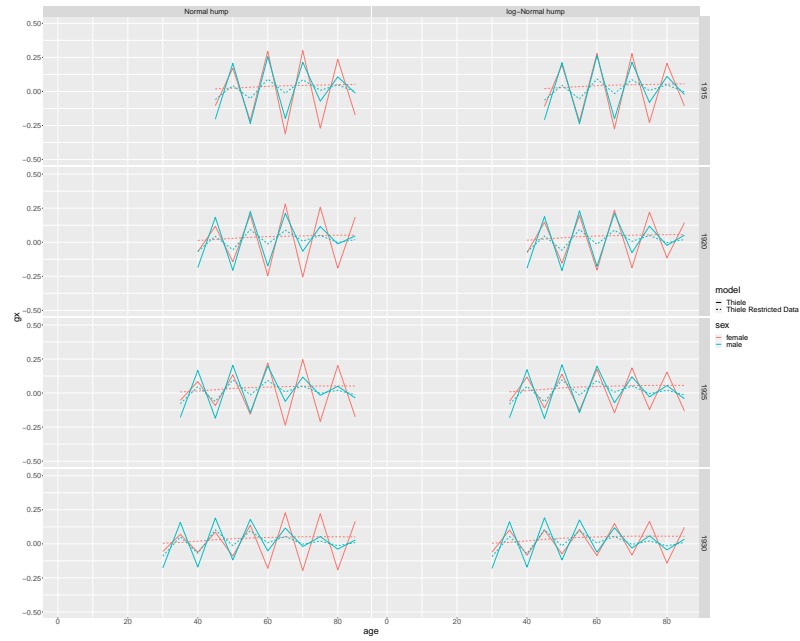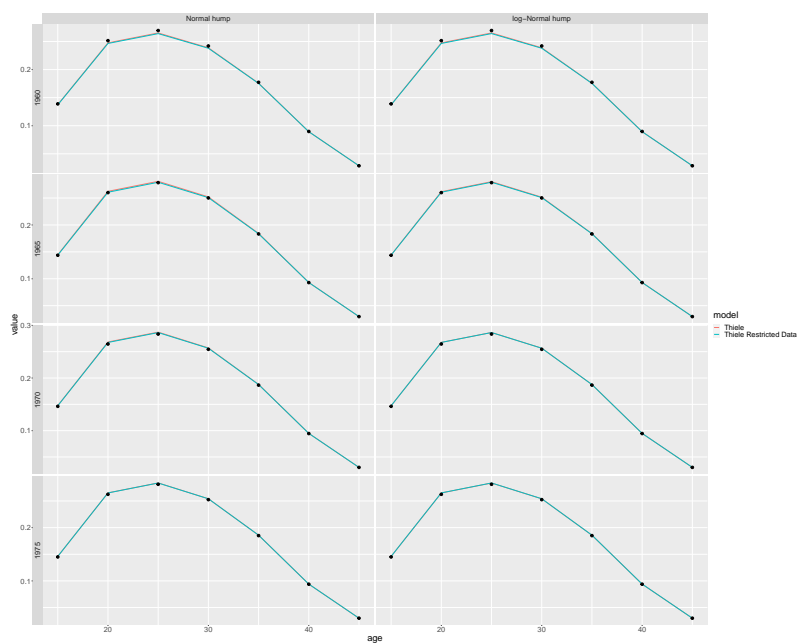

Figure 20: Migration

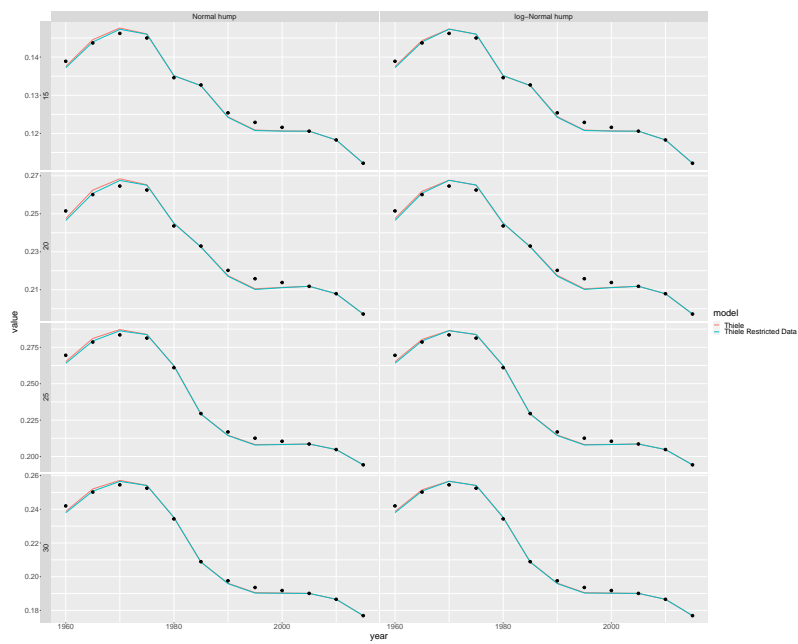Figure 21: Migration

Figure 22: Migration

Figure 23: Fertility

Figure 24: Fertility