

Uganda

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

## # A tibble: 86 x 5
##   age `1969` `1991` `2002` `2014`
##   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
## 1     0 139428. 340153. 502401 586516
## 2     1 186993. 308159. 447336. 574071.
## 3     2 191510. 314681. 450246. 591449
## 4     3 184954. 306938. 443253. 592649.
## 5     4 181866. 298637. 441935. 590639.
## 6     5 171741. 289064. 430734. 578980.
## 7     6 160554. 273462. 417834. 563422.
## 8     7 149220. 258883. 404547. 548996.
## 9     8 137717. 245903. 389734. 534496.
## 10    9 127022. 233325. 375940. 513891.
## # ... 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 5
##   age `1969` `1991` `2002` `2014`
##   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
## 1     0 135287. 334426. 505006 636238
## 2     1 183048. 306161. 449339. 621512.
## 3     2 187557. 310898. 450300. 634773.
## 4     3 182062. 303750. 442612. 633398.
## 5     4 179610. 295341. 441206. 627695.
## 6     5 169936. 285010. 430266. 612267.
```

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## 7      6 159365. 269372. 417144. 591845.
## 8      7 149658. 256683. 402868. 571051.
## 9      8 139504. 245108. 388078. 553863.
## 10     9 130558. 233840. 374840. 530259.
## # ... with 76 more rows
```

```
## [1] "Census Males 5-year"
```

```
## # A tibble: 18 x 1
```

```
##      age
```

```
##      <dbl>
```

```
## 1      0
```

```
## 2      5
```

```
## 3     10
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## 4     15
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## 5     20
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## 6     25
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## 14    65
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## 15    70
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```
## 16    75
```

```
## 17    80
```

```
## 18    85
```

Thiele log-Normal Hump Spline

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

##	log_tau2_logpop	log_tau2_logpop	log_tau2_logpop	log_tau2_logpop	log
##	4.27320457	5.84891908	3.99542155	5.15532653	
##	log_dispersion	log_dispersion	log_lambda_tp	tp_slope	
##	0.82533741	0.82301857	4.19889024	-0.02318063	
##	log_lambda_phi	log_lambda_psi	log_lambda_A	log_lambda_B	log_la
##	11.34580672	11.27138542	11.20881814	8.27815937	
##	log_lambda_epsilon				
##	4.62170335				

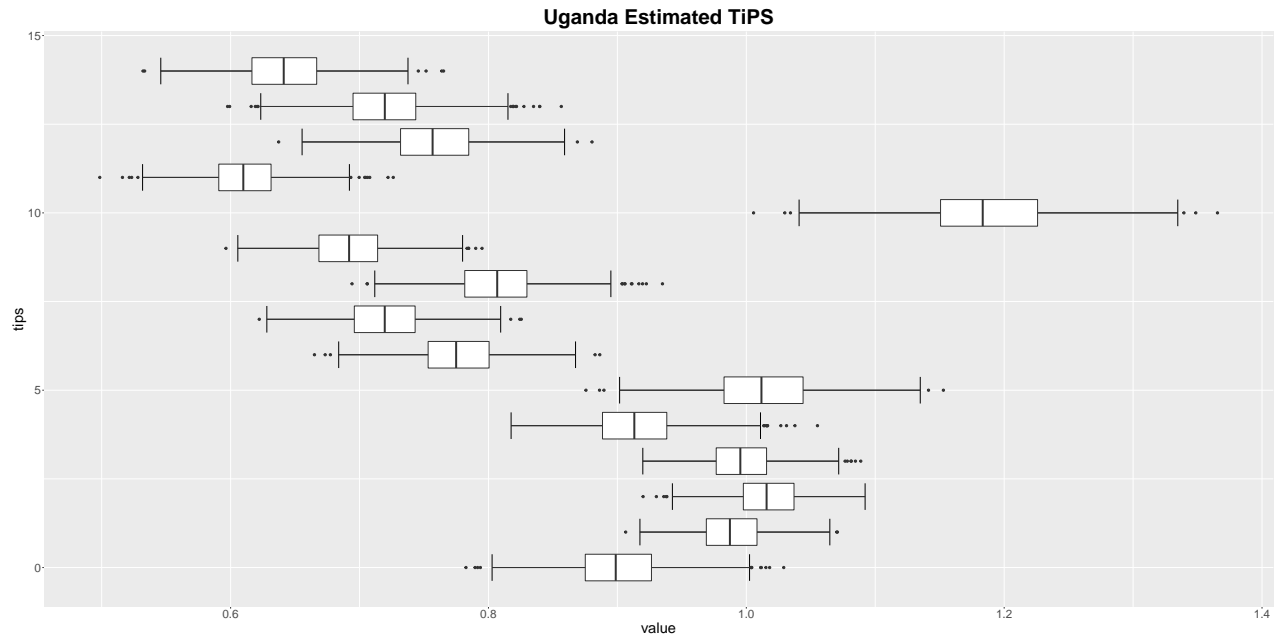


Figure 1: Estimated TiPS

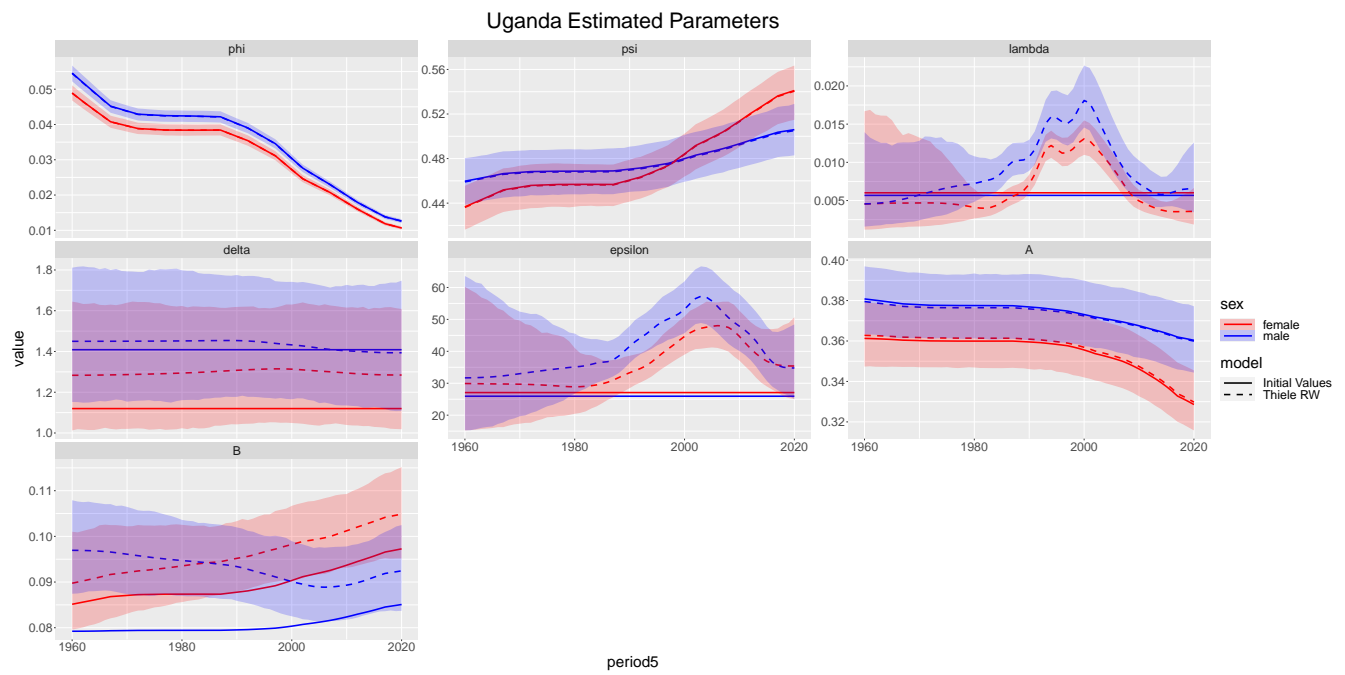


Figure 2: Estimated parameters

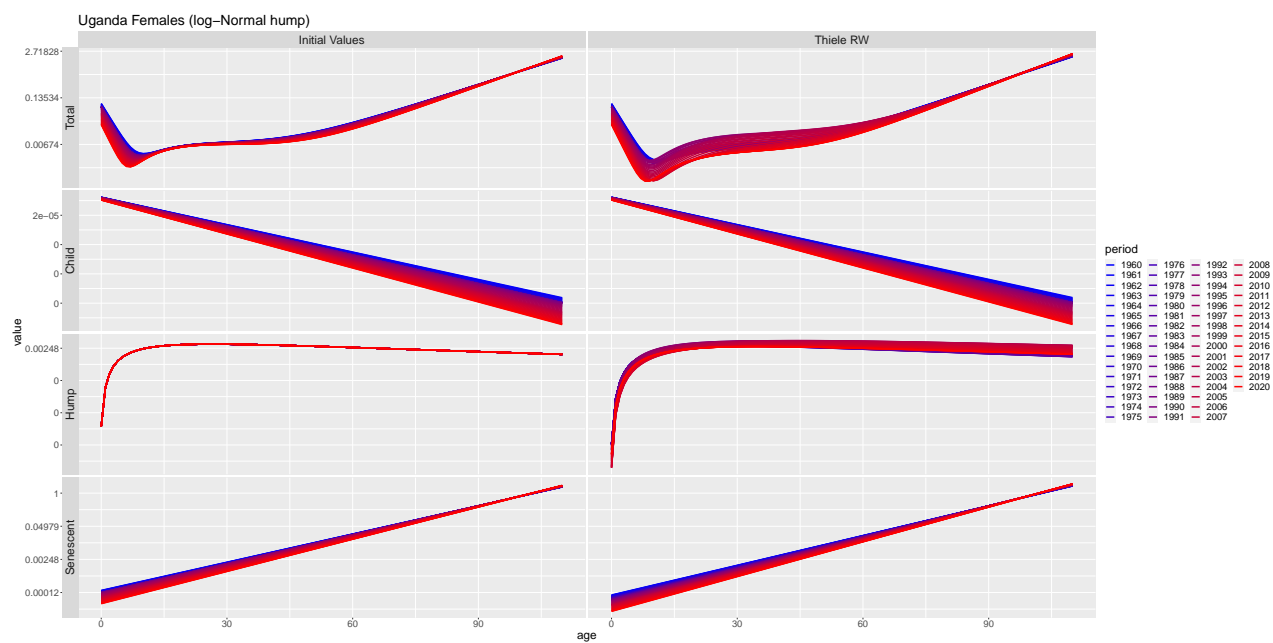


Figure 3: Thiele Decomposed

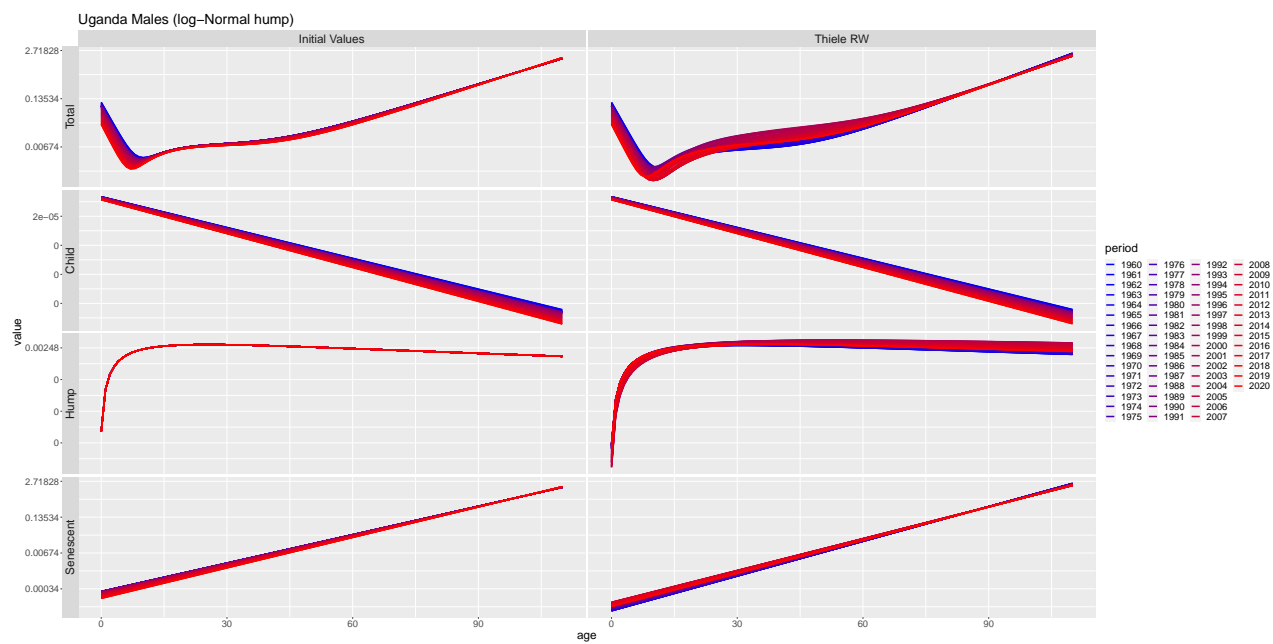


Figure 4: Thiele Decomposed

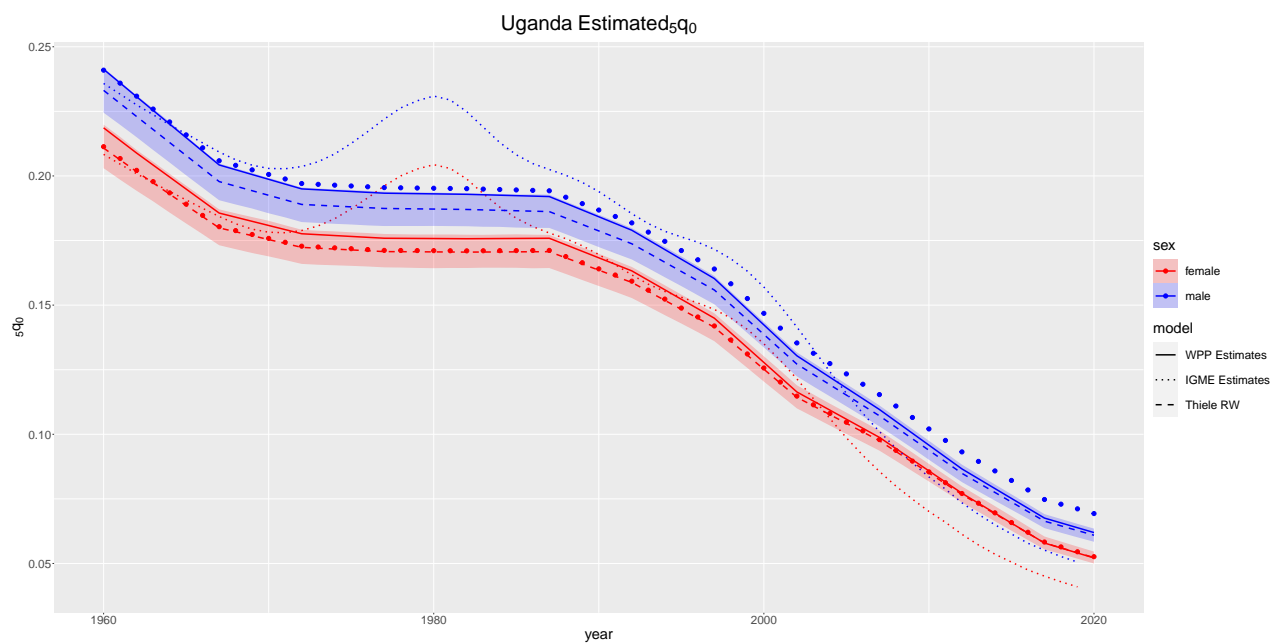


Figure 5: Estimated ${}_5q_0$

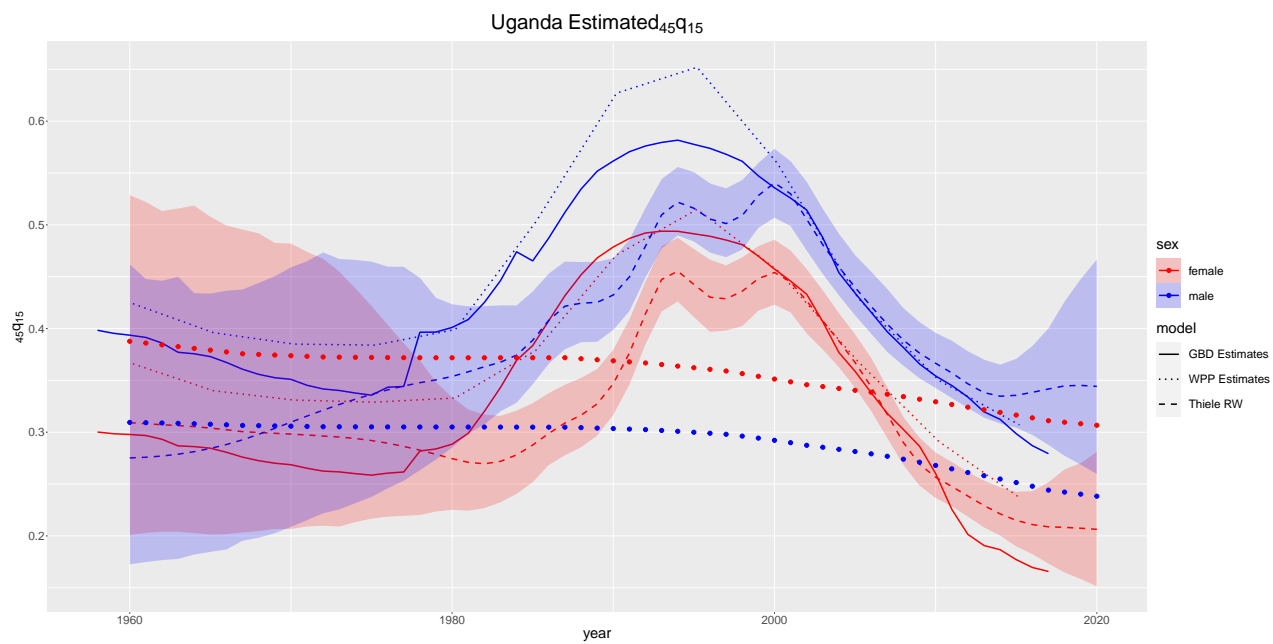


Figure 6: Estimated ${}_{45}q_{15}$

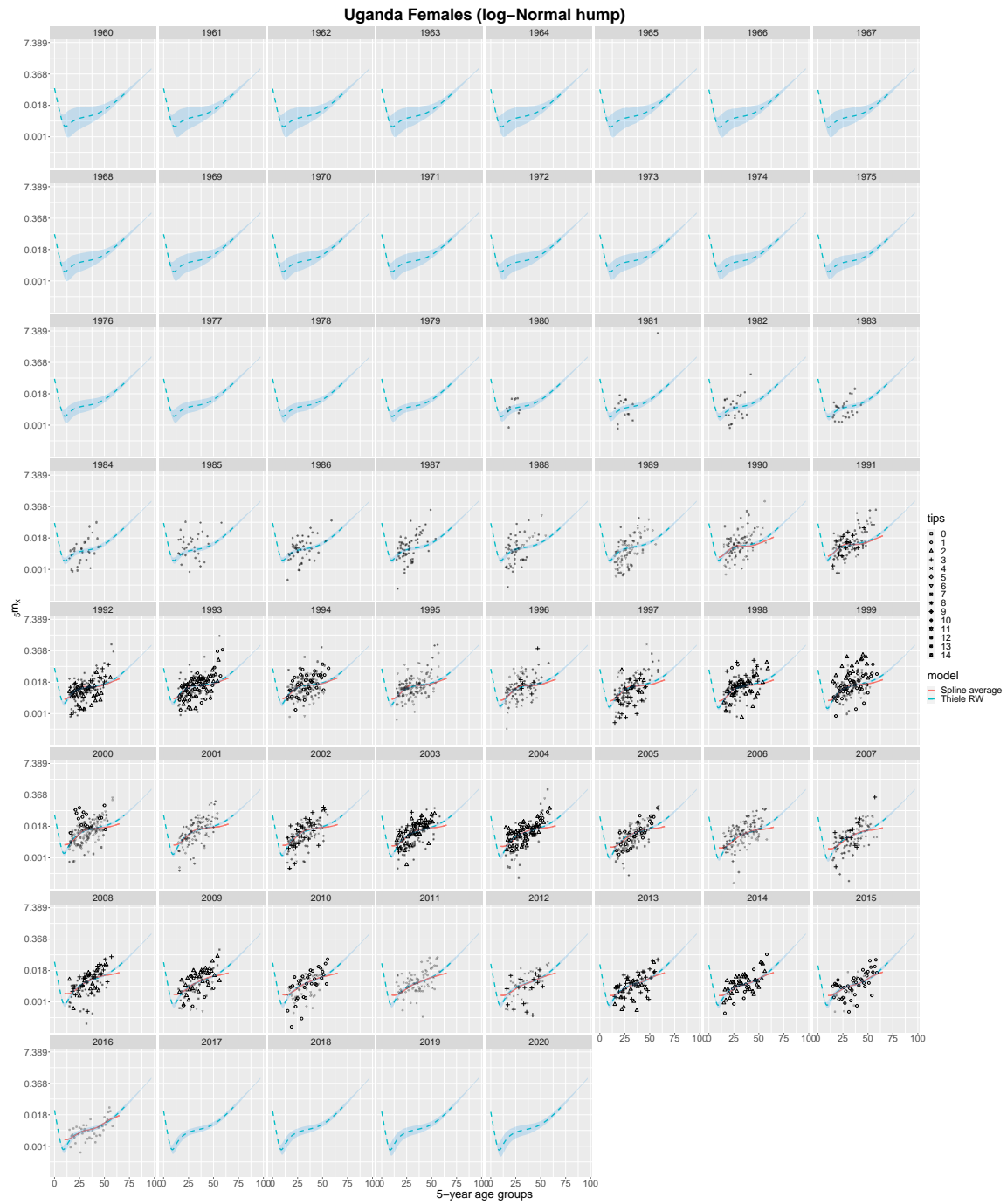


Figure 7: Mortality Schedules

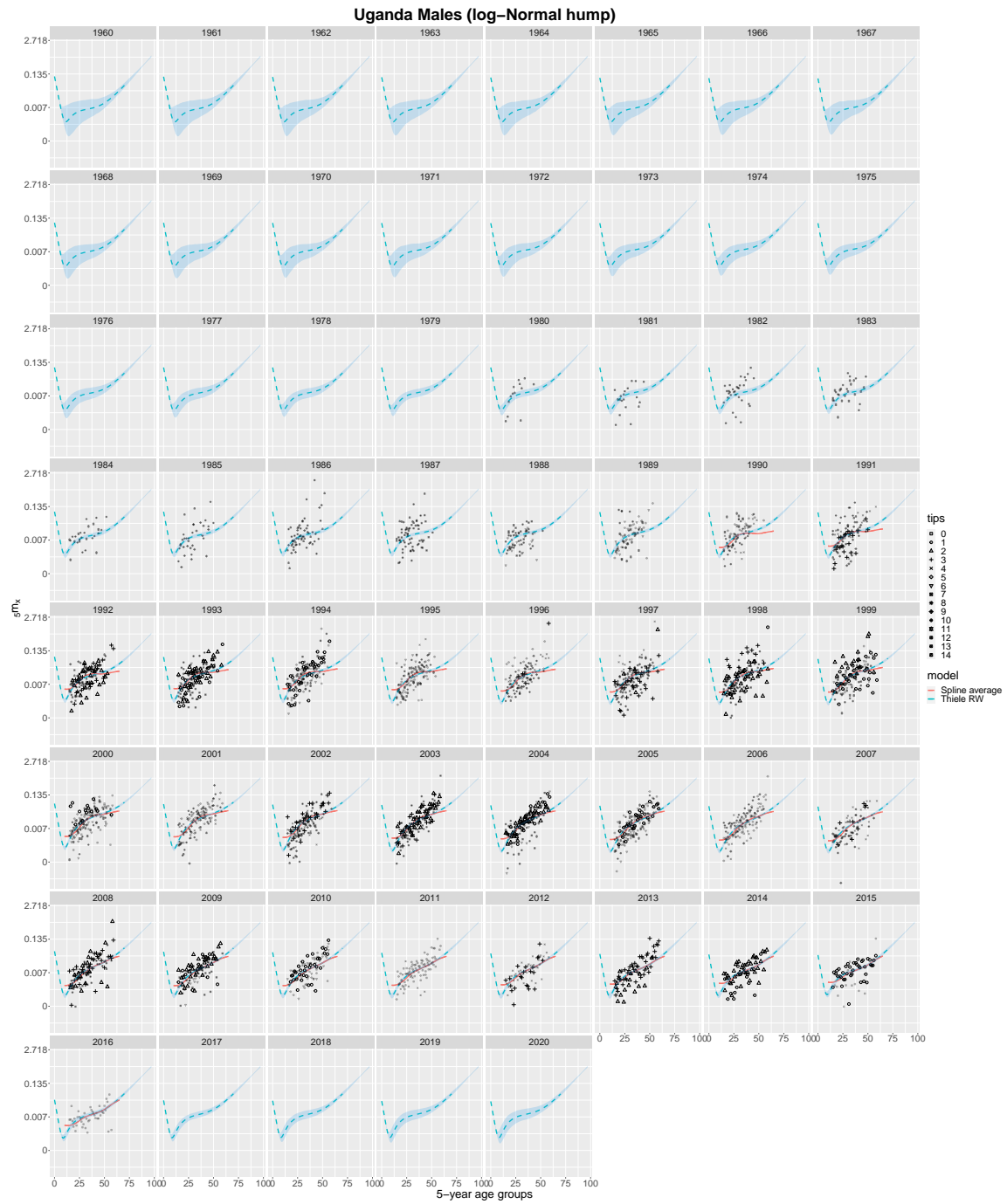


Figure 8: Mortality Schedules

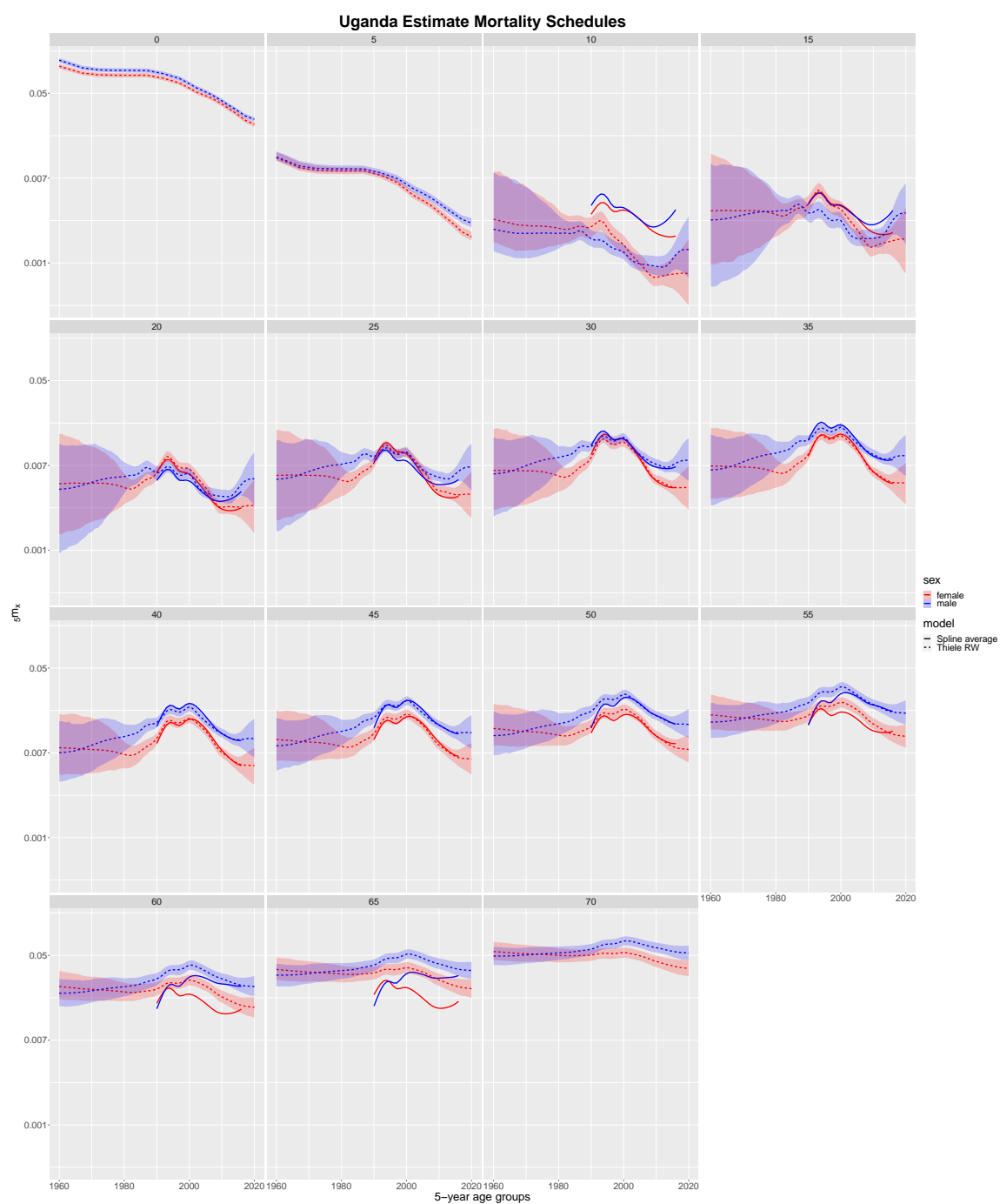


Figure 9: Mortality Schedules

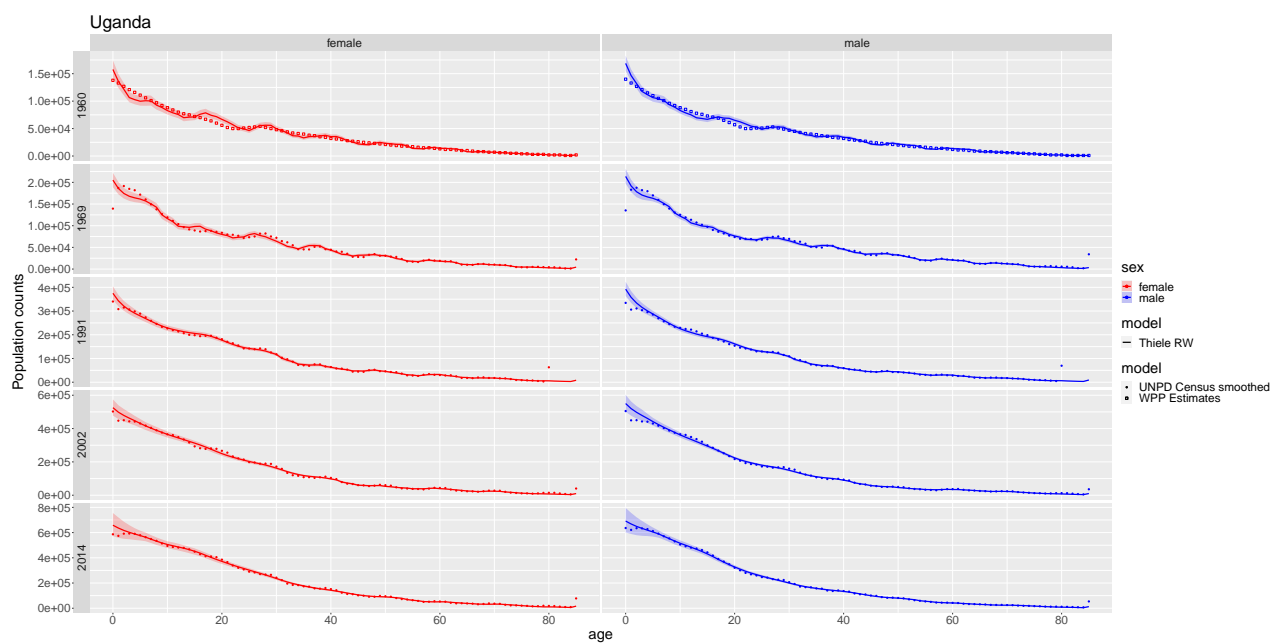


Figure 10: Population

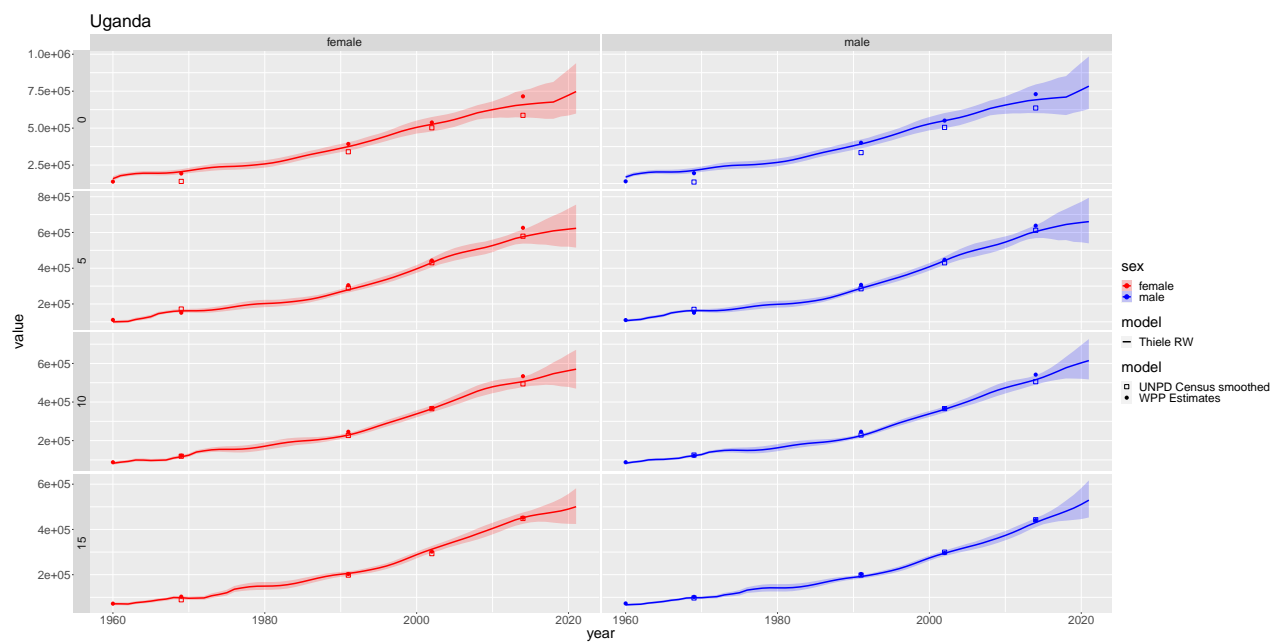


Figure 11: Population

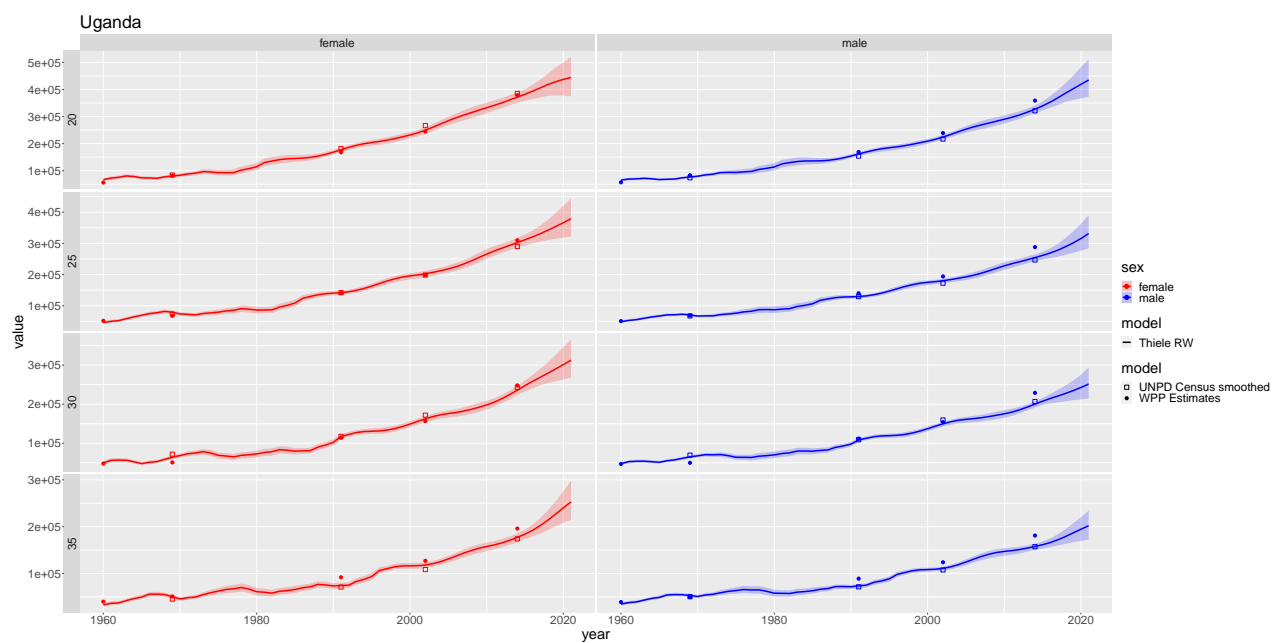


Figure 12: Population

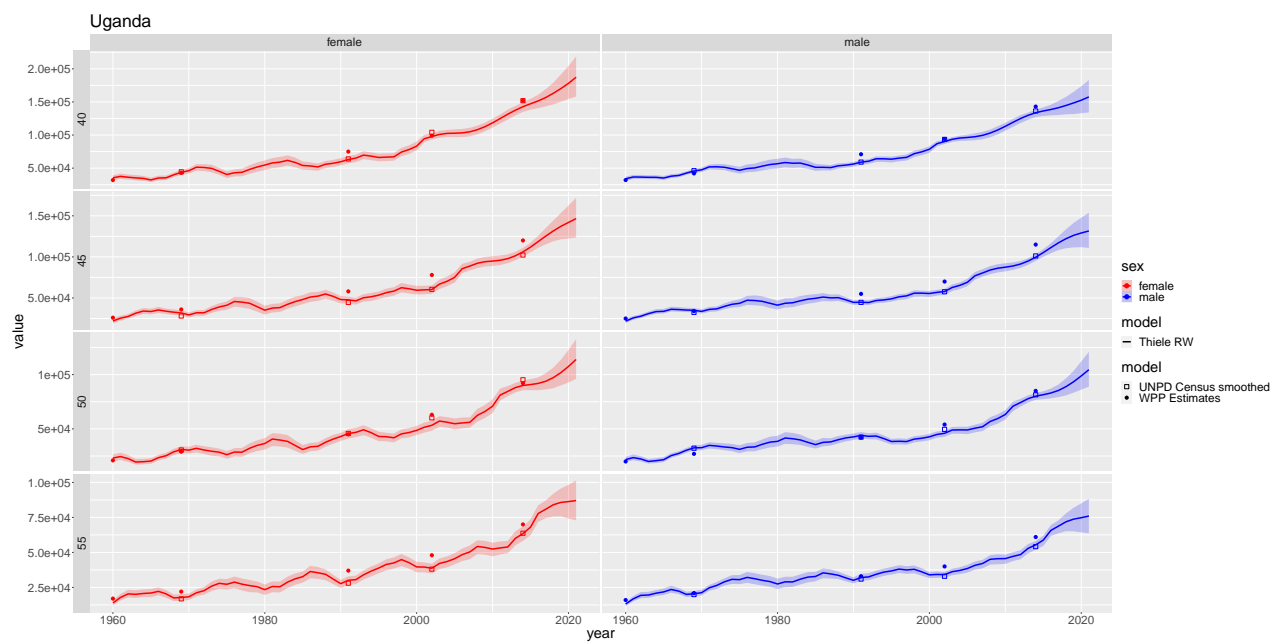


Figure 13: Population

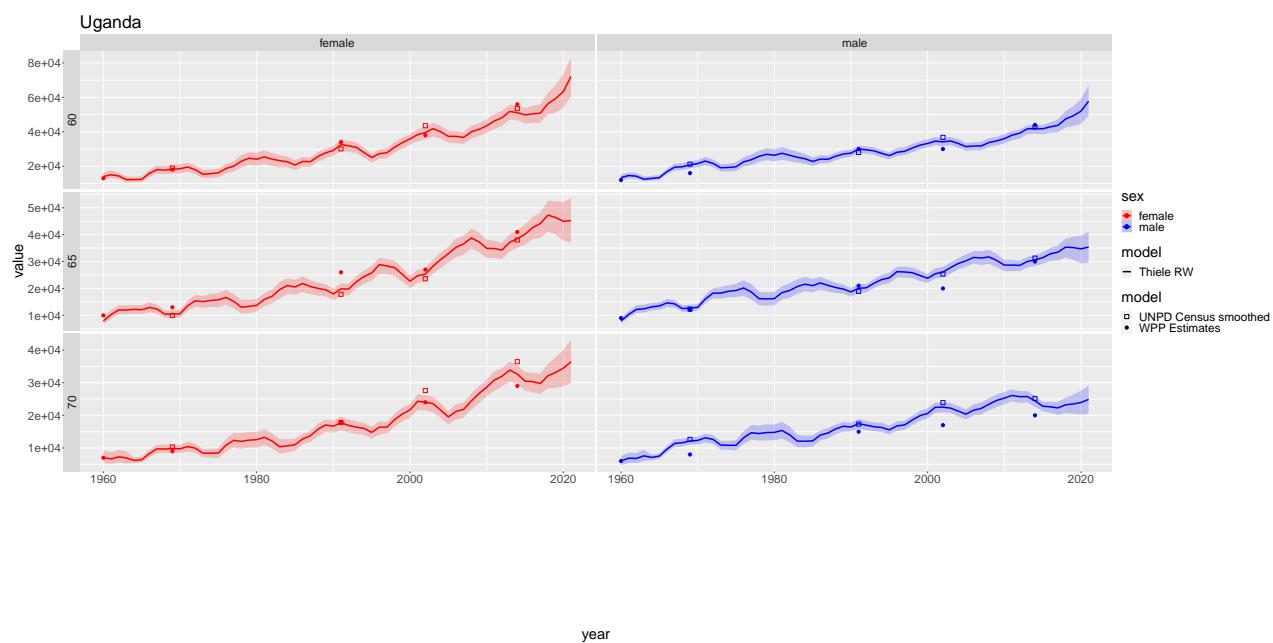


Figure 14: Population

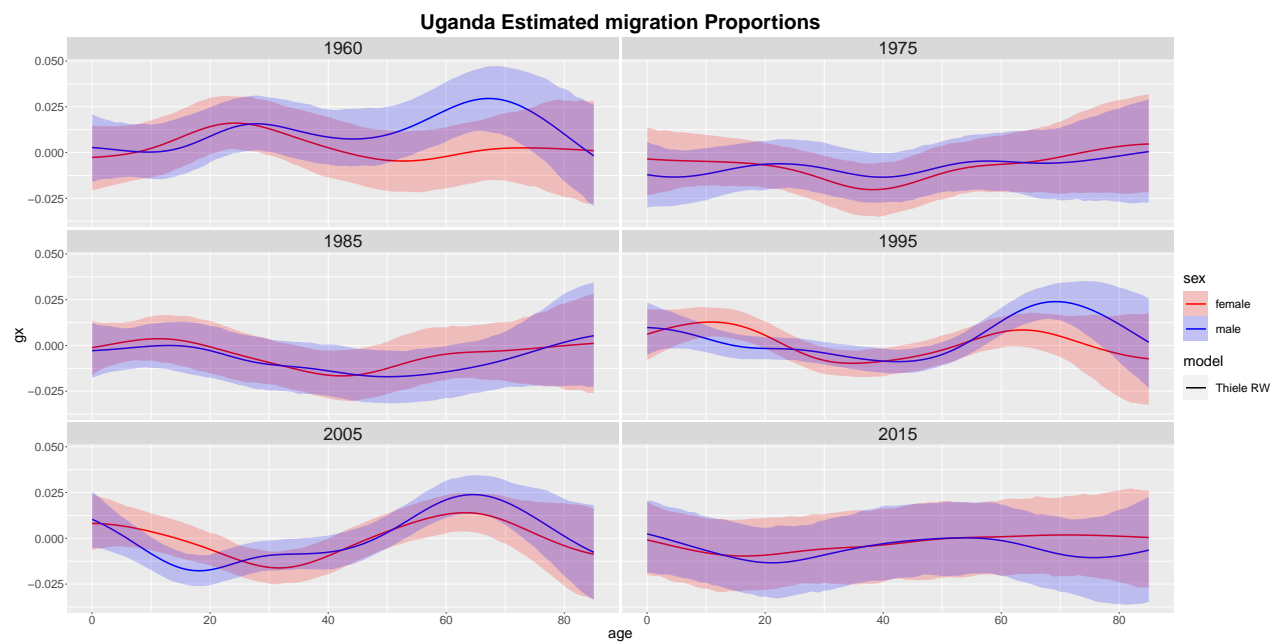


Figure 15: Migration

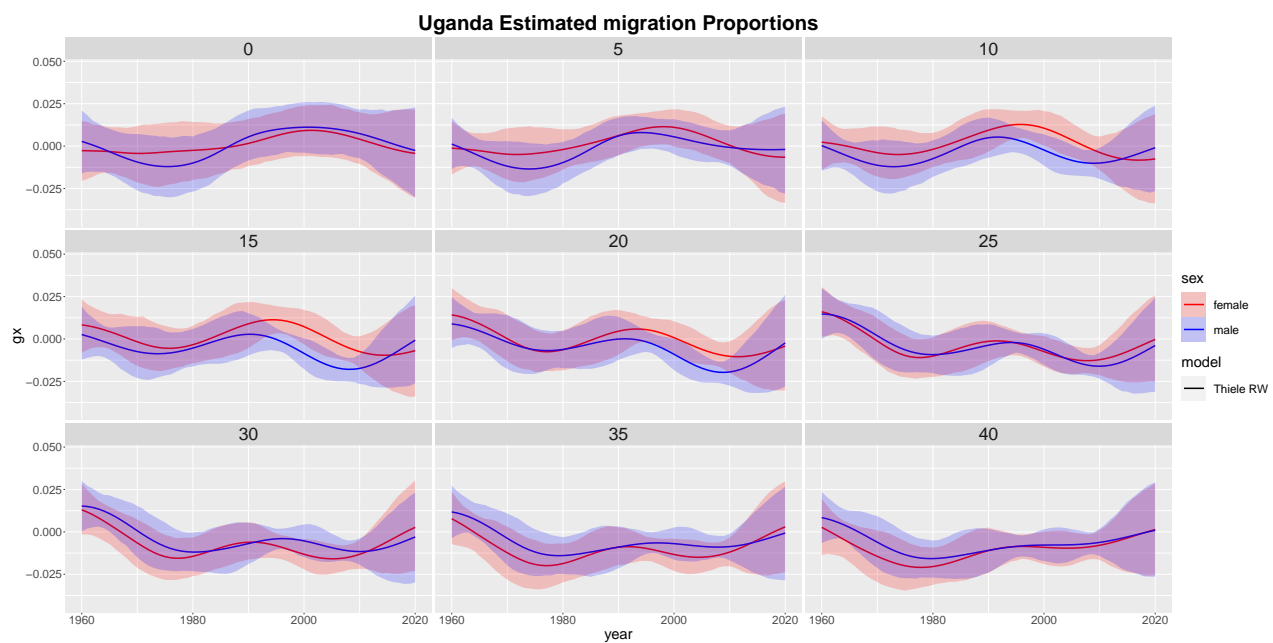


Figure 16: Migration

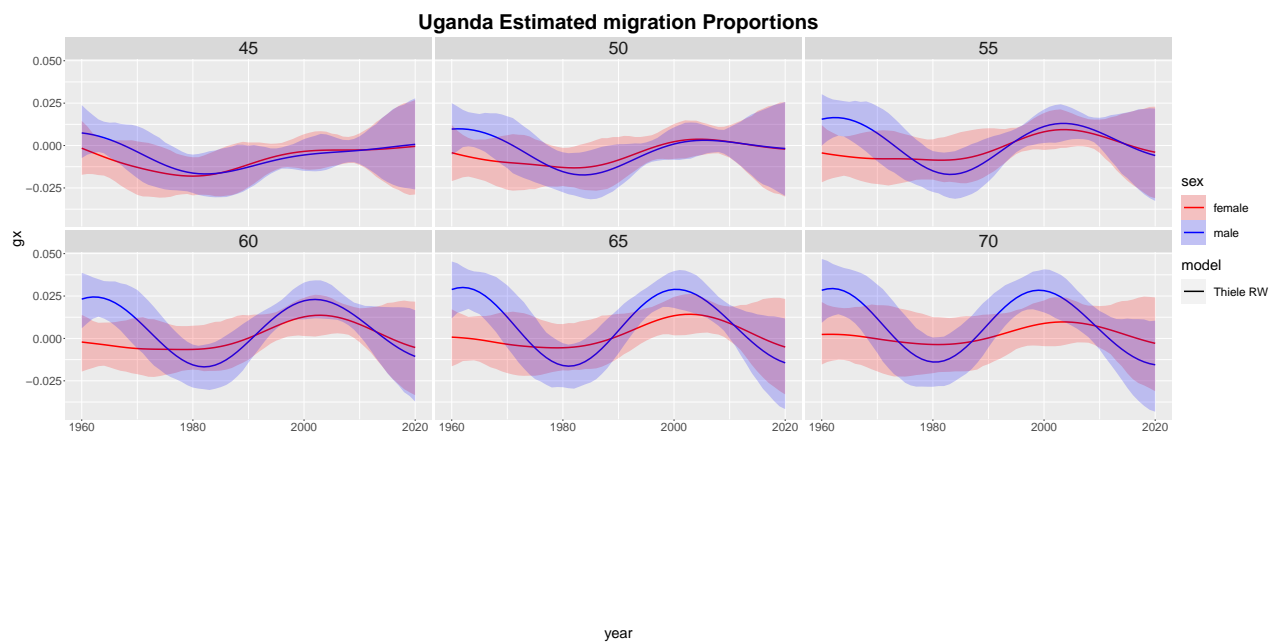


Figure 17: Migration

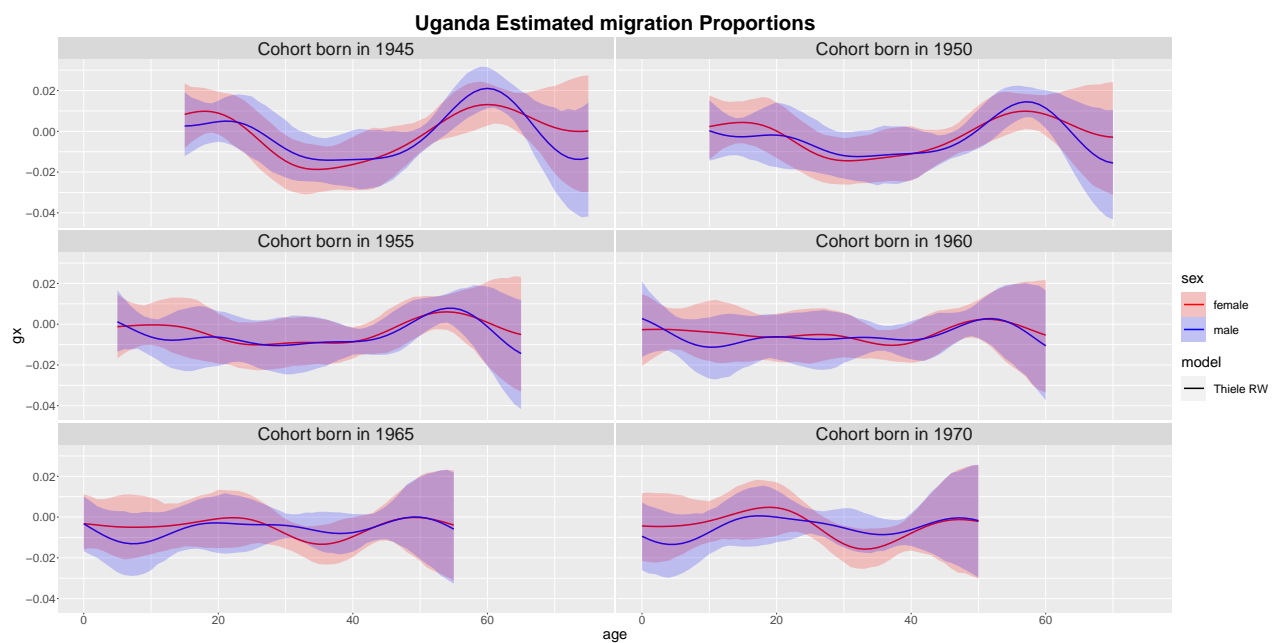


Figure 18: Migration

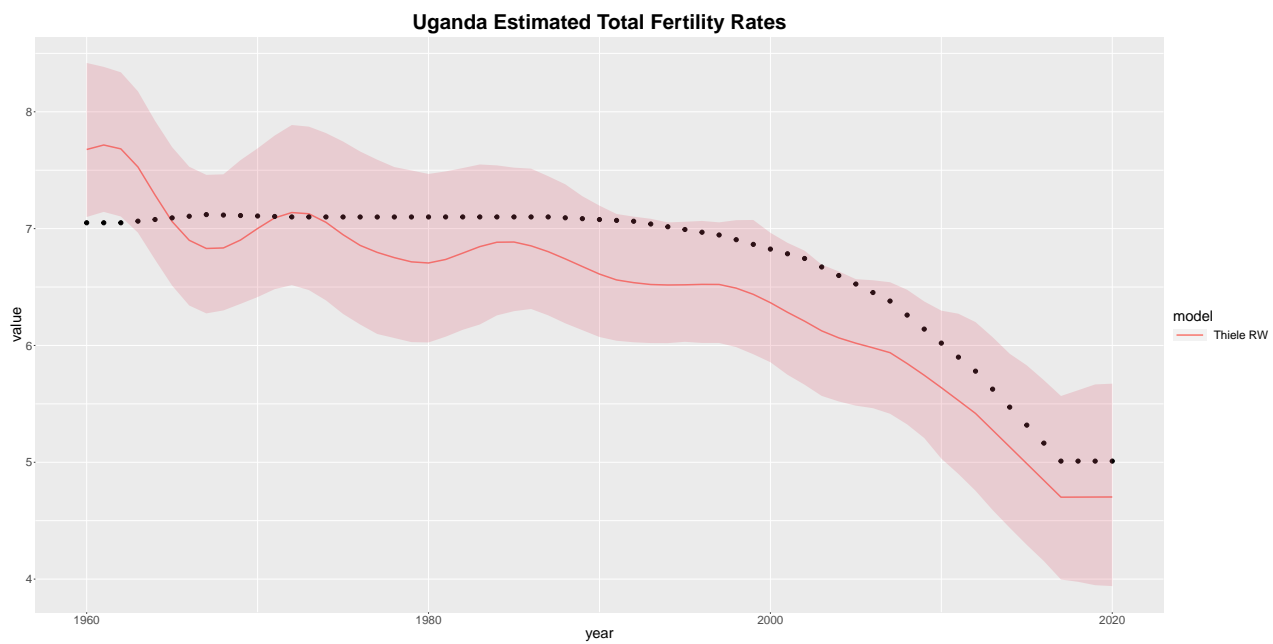


Figure 19: Total Fertility

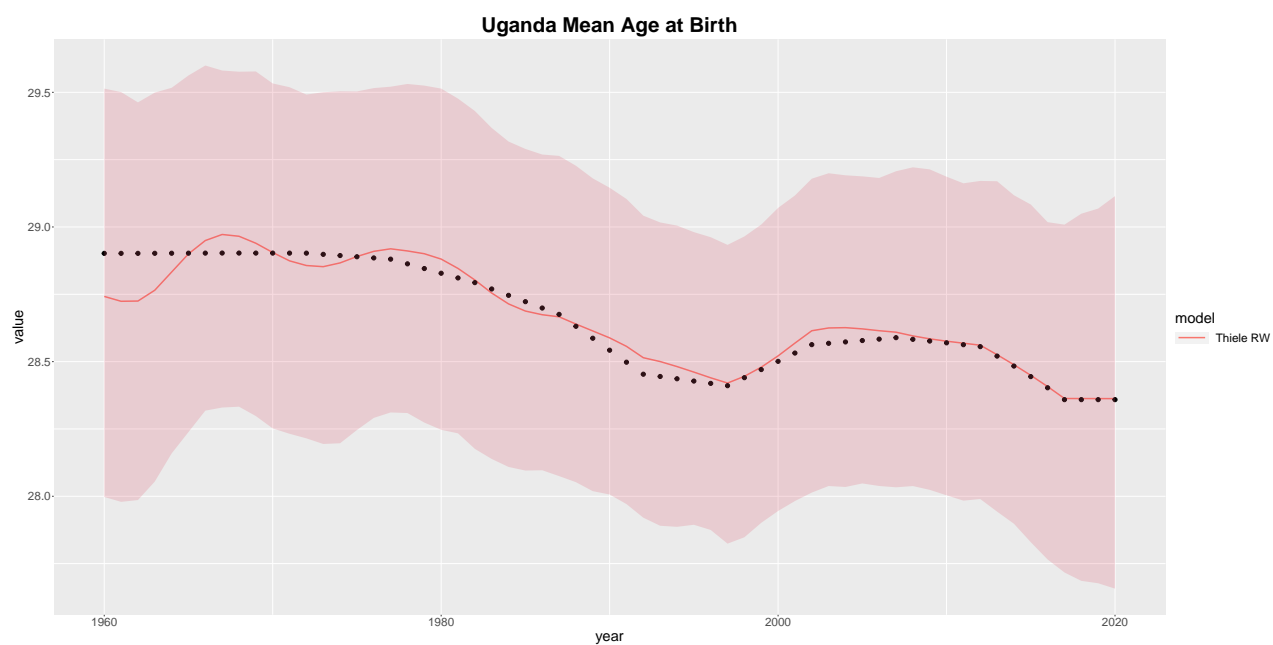


Figure 20: Mean age at births

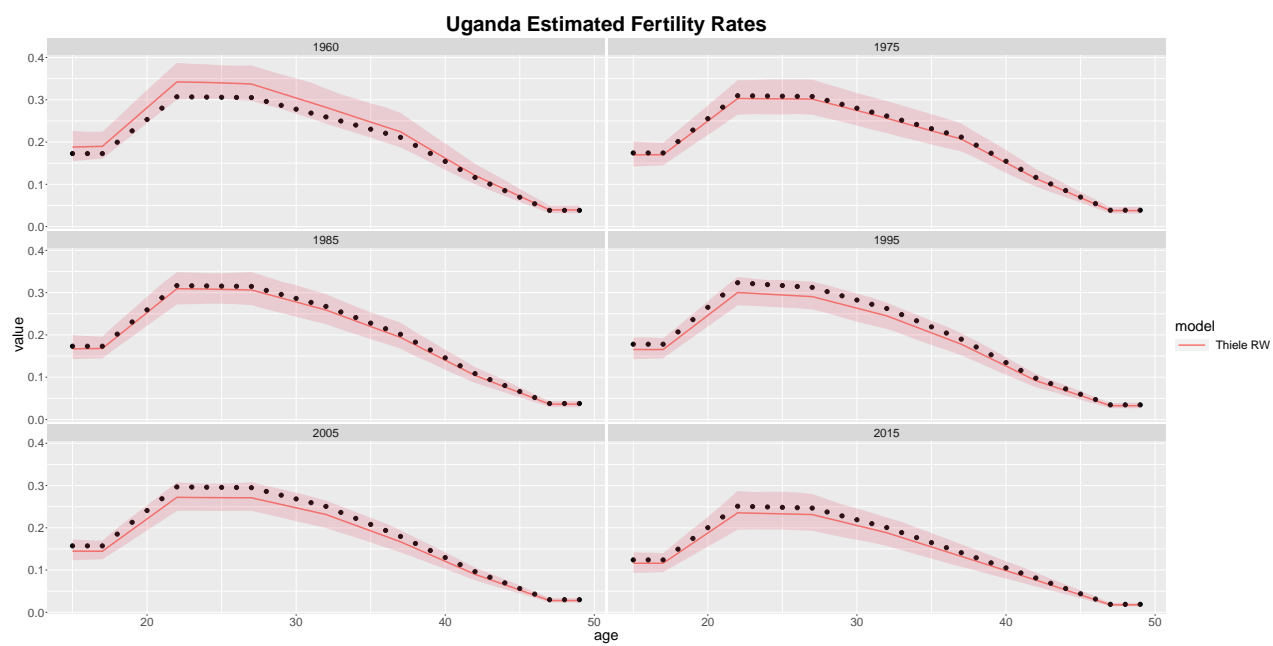


Figure 21: Fertility

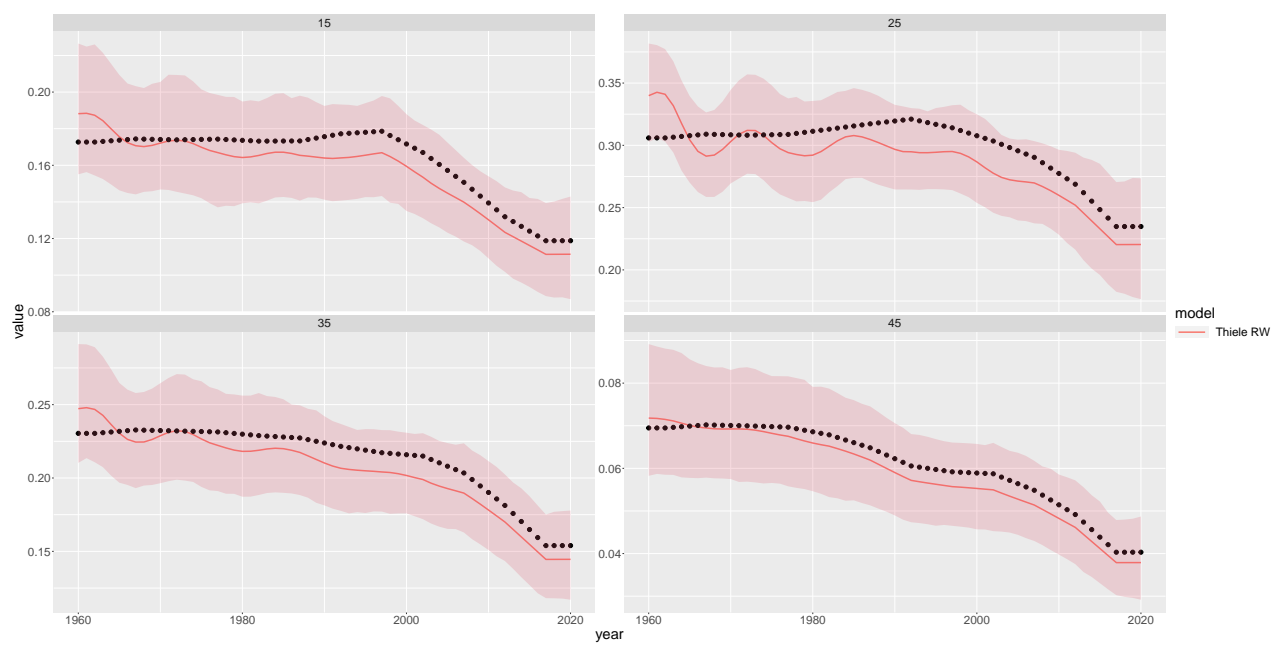


Figure 22: Fertility