

Lesotho

[1] "Census Females"

A tibble: 18 x 7

	aggr.age	`1966`	`1976`	`1986`	`1996`	`2006`	`2016`
*	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
## 1	0	61790.	86137.	111810.	102516.	100598	99362
## 2	5	62869.	80165.	109553.	117963.	105316.	107586.
## 3	10	55535.	75752.	100753.	123895.	110040.	107761.
## 4	15	48562.	67350.	87571.	114216.	111254.	103920.
## 5	20	40932.	55461.	74997.	92603.	102152	99418.
## 6	25	34107.	44109.	62020.	71754.	82608.	91978.
## 7	30	28874.	35611.	49448.	59416.	62339	79414.
## 8	35	25754.	31921.	39635.	50726.	49704	63272.
## 9	40	23274.	29893.	32901.	41871.	43442.	48964.
## 10	45	20512.	25268.	29931.	34156.	38776.	40782
## 11	50	18189.	21805.	27462.	28055.	33541	37417
## 12	55	16204.	20177.	22000.	24845.	27296.	33785.
## 13	60	13836.	16357.	18039.	22459.	21883	28252.
## 14	65	11212.	12186.	16038.	17256.	20130.	22834
## 15	70	8802.	10347.	12161.	12968.	18733.	18834
## 16	75	6078.	8706.	8324.	10184.	13276	15850.
## 17	80	3646.	4372.	5725.	5257.	7928.	11826.
## 18	85	5207.	4445.	7621.	6397.	7309	10006.

[1] "Census Males"

A tibble: 18 x 7

	aggr.age	`1966`	`1976`	`1986`	`1996`	`2006`	`2016`
*	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
## 1	0	60656.	85931.	113851.	104230.	101397	100793
## 2	5	63464.	80153.	110687.	120469.	106391.	107144.
## 3	10	50819.	73397.	99977.	125098.	110763.	107981.
## 4	15	39157.	61668.	82770.	111192.	110441.	104784.
## 5	20	27256.	50032.	67354.	86836.	99943	99918.
## 6	25	18271.	41339.	55999.	66645.	81474	94347.
## 7	30	14614.	34579.	47098.	55028.	62015.	84490
## 8	35	14565.	31374.	39678.	47007.	47748.	68028.
## 9	40	14724.	29008.	33697.	40089.	39735.	50500.
## 10	45	14038.	24309.	30380.	33831.	34131.	38325
## 11	50	12961.	20635.	26824.	27505.	28693.	31438.
## 12	55	11384.	18142.	20728.	22931.	22974.	26018.
## 13	60	9231.	13537.	16158.	18947.	17510.	20652.
## 14	65	7017.	9024.	13203.	13353.	14210.	15852.
## 15	70	5115.	6620.	8928.	9035.	11614	11953
## 16	75	3240.	4774.	5150.	6303.	7321.	8594.
## 17	80	1778.	1927.	2695.	2627.	3709	5297
## 18	85	2130.	1854.	3103.	2588.	2608.	3425

Thiele log-Normal Hump RW

##	user	system	elapsed
##	34.28	1.10	35.56

```
## [1] "relative convergence (4)"
Thiele log-Normal Hump RW (Pop 5-9 to 70-74, DHS 15-19 to 45-49)
## Warning in fit_tmb(input.thiele.loghump.oag.vec.RW.re, inner_verbose = FALSE, : convergence error: fals
##      user  system elapsed
##  71.23    1.72   73.38
## [1] "false convergence (8)"
```

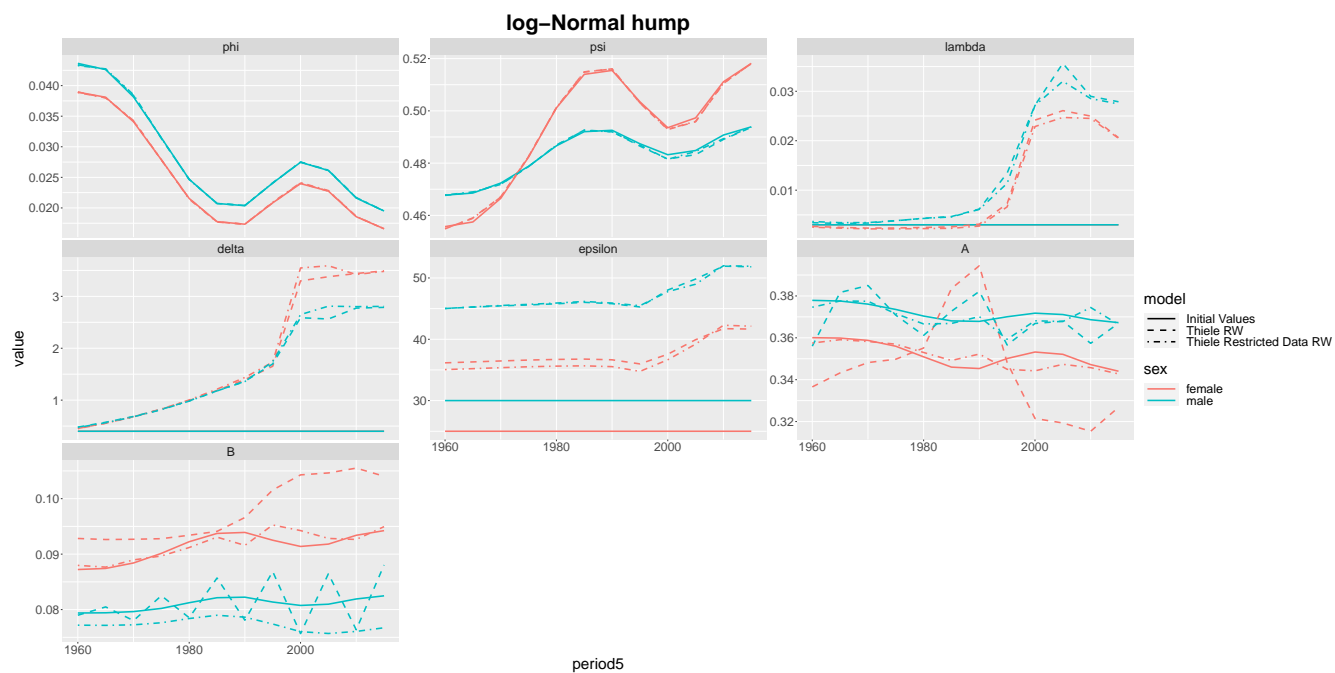


Figure 1: Estimated parameters

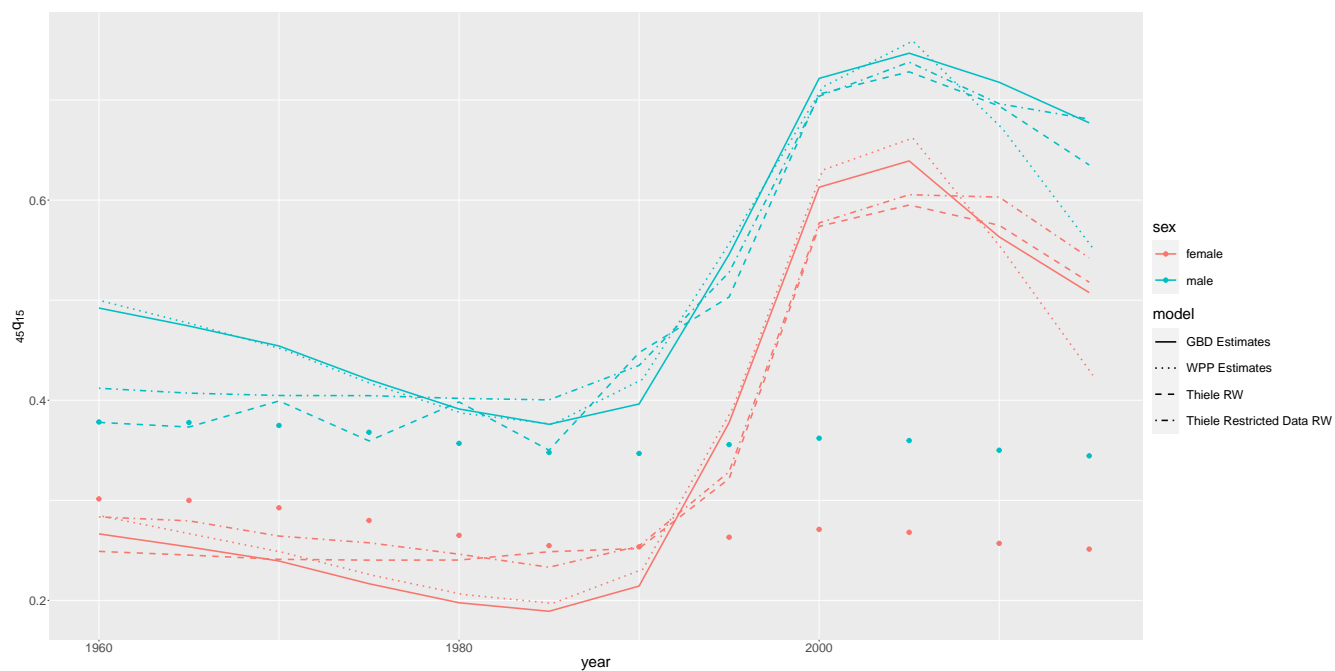


Figure 2: Estimated $45q_{15}$

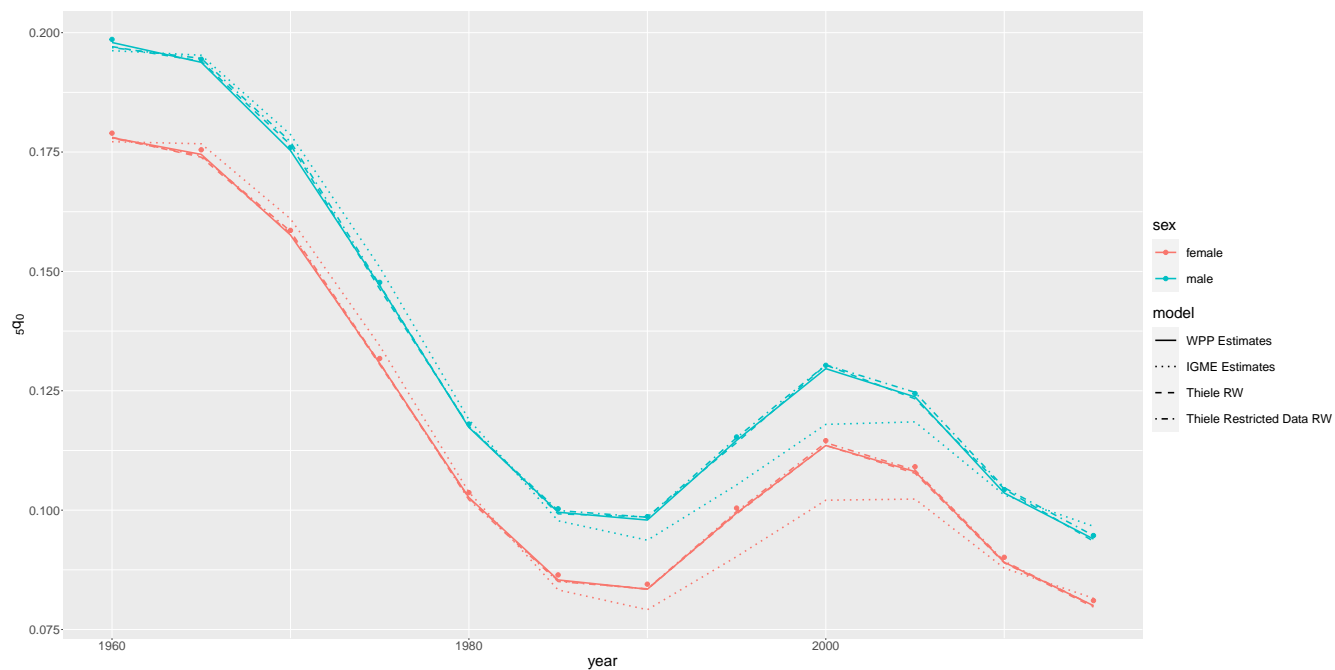


Figure 3: Estimated $5q_0$

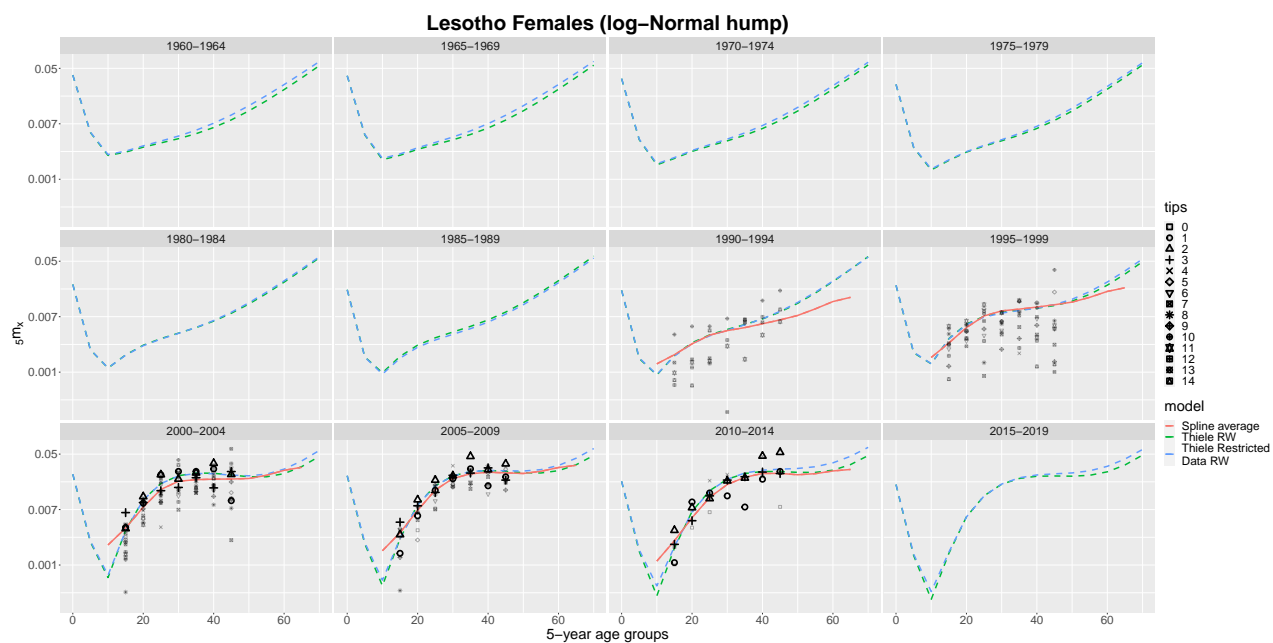


Figure 4: Mortality Schedules

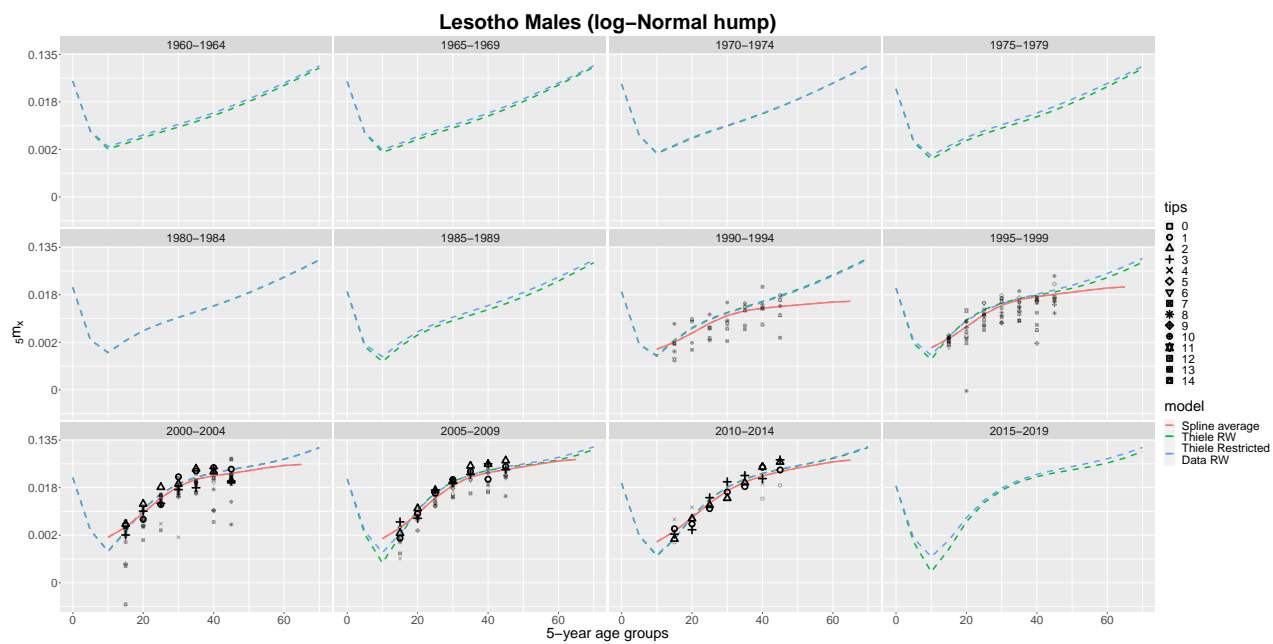


Figure 5: Mortality Schedules

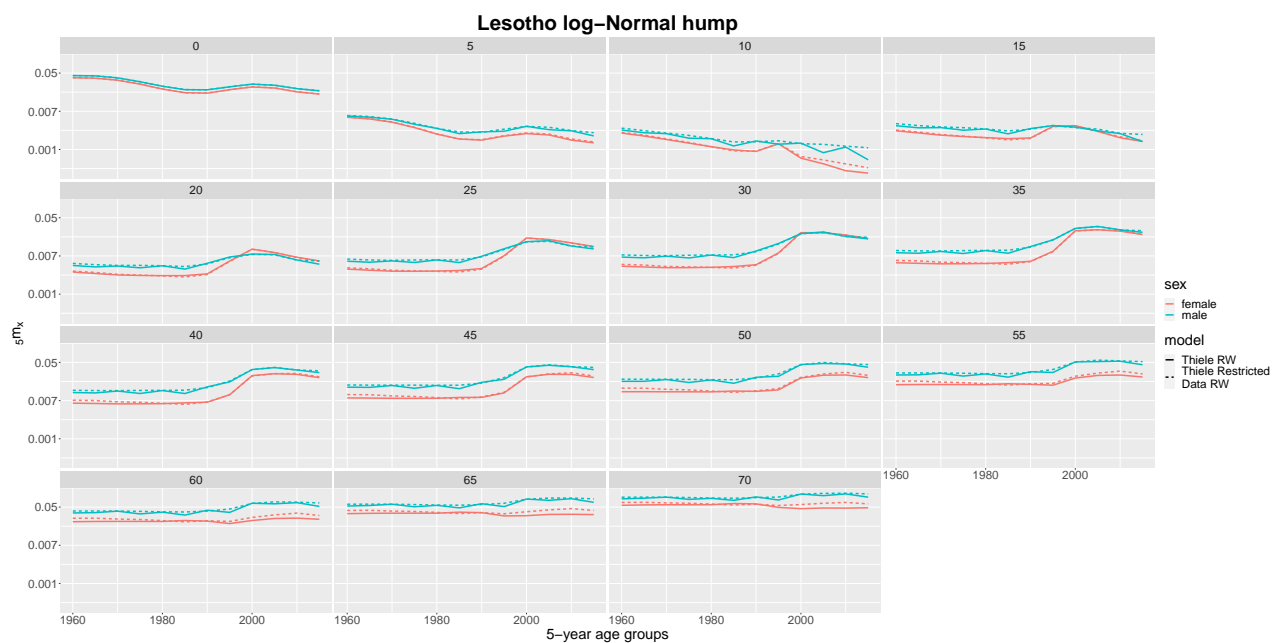


Figure 6: Mortality Schedules

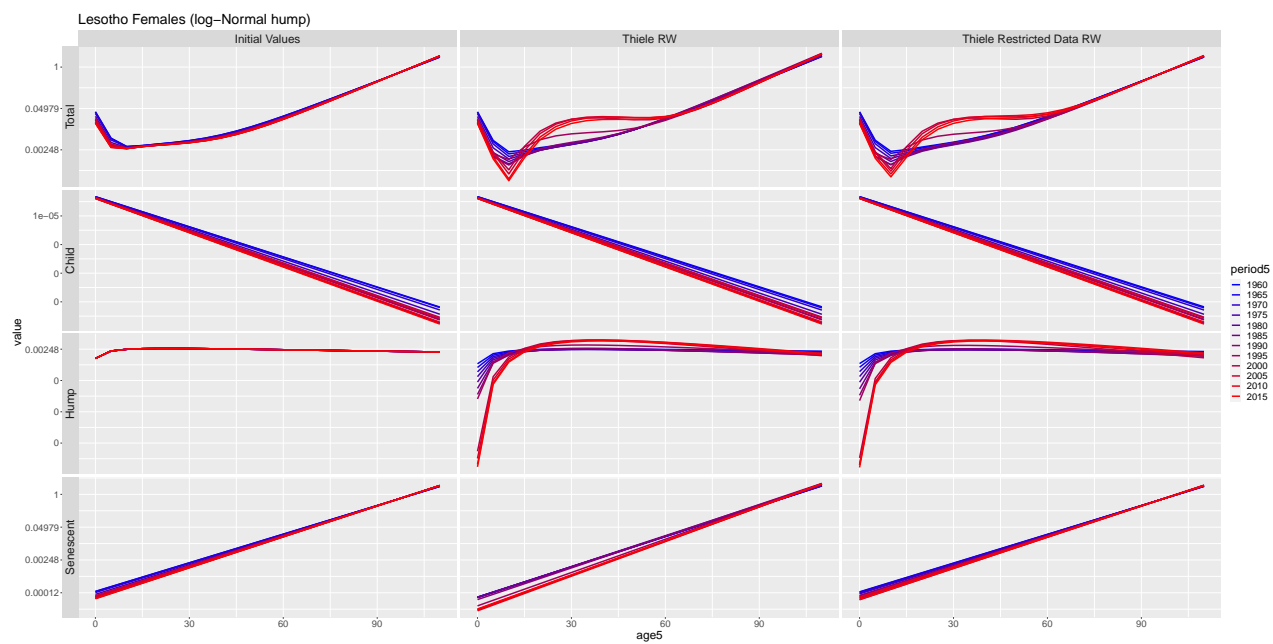


Figure 7: Thiele Decomposed

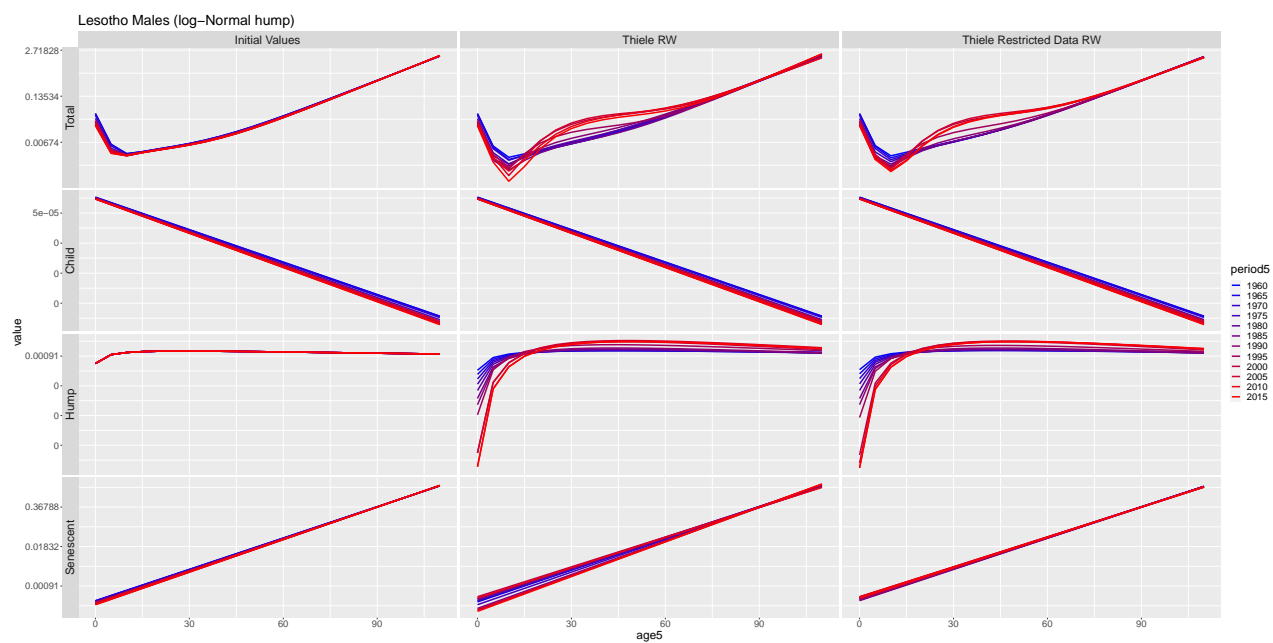


Figure 8: Thiele Decomposed

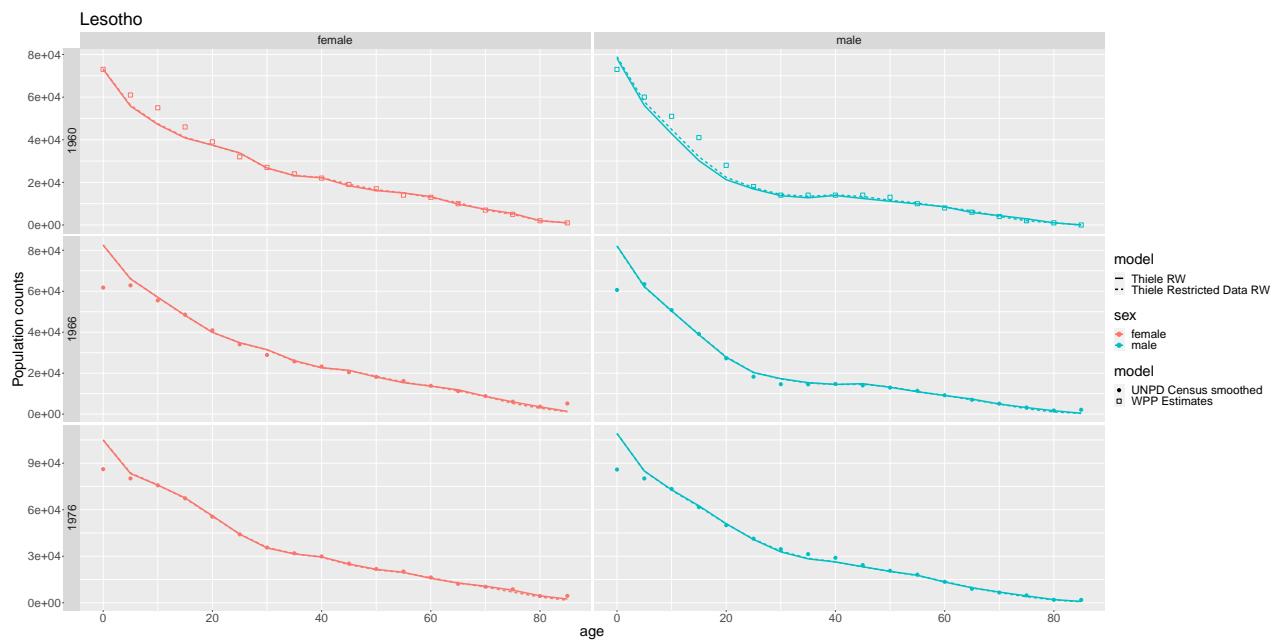


Figure 9: Population



Figure 10: Population

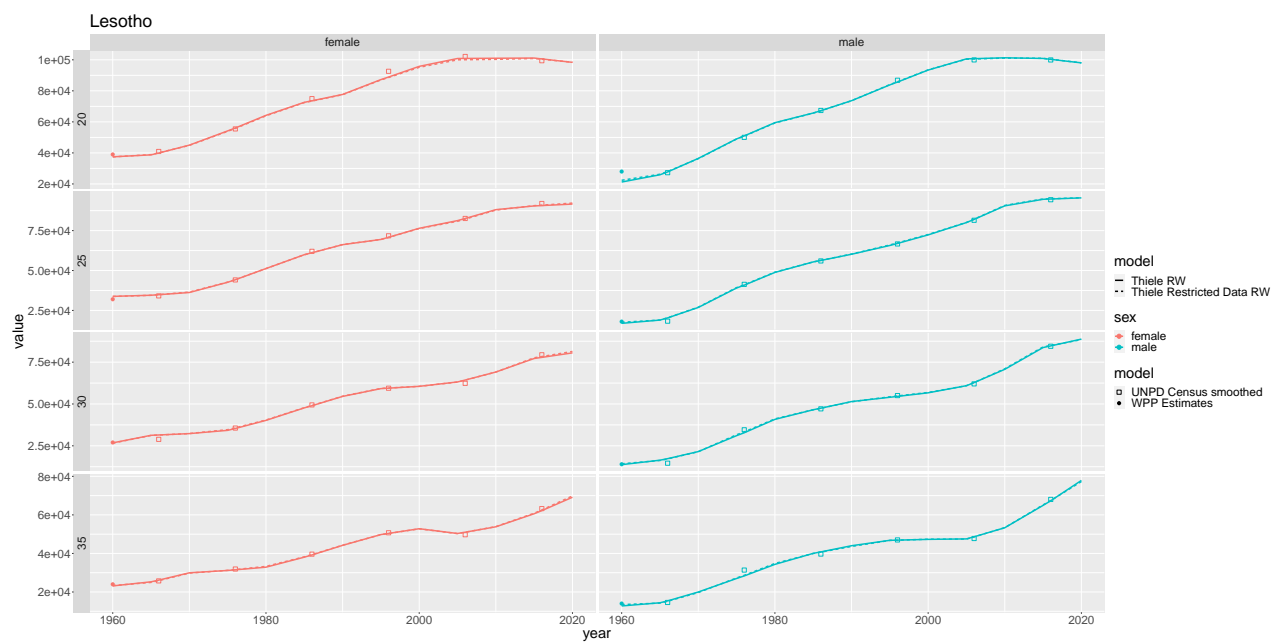


Figure 11: Population

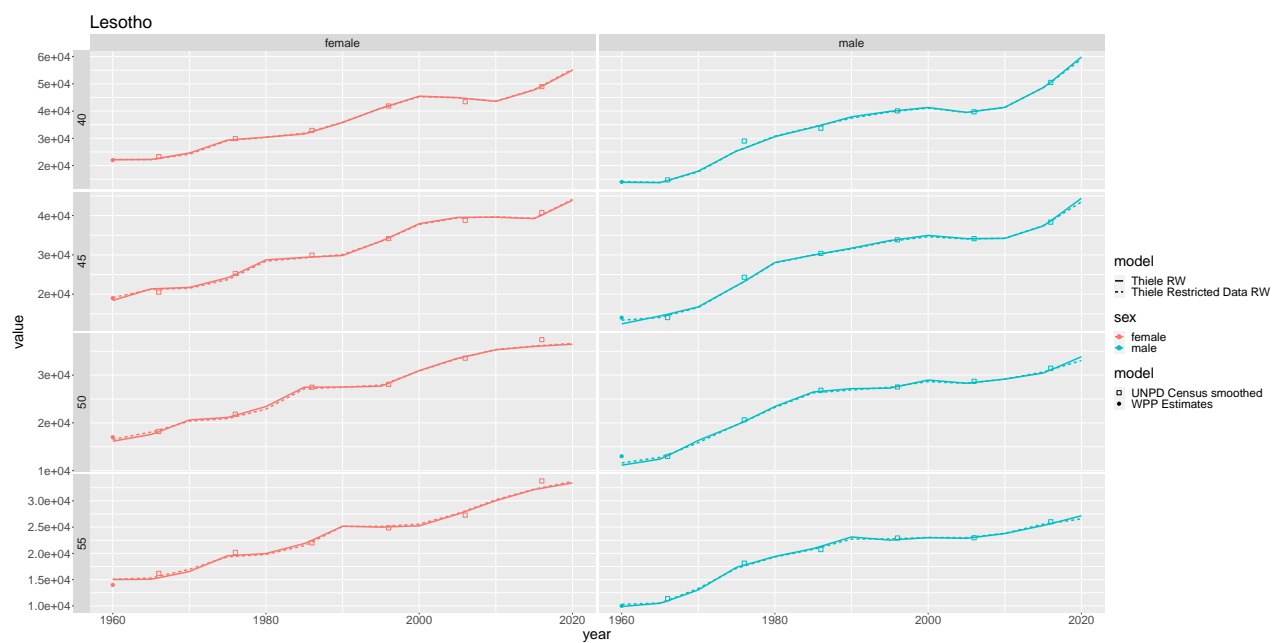


Figure 12: Population



Figure 13: Population

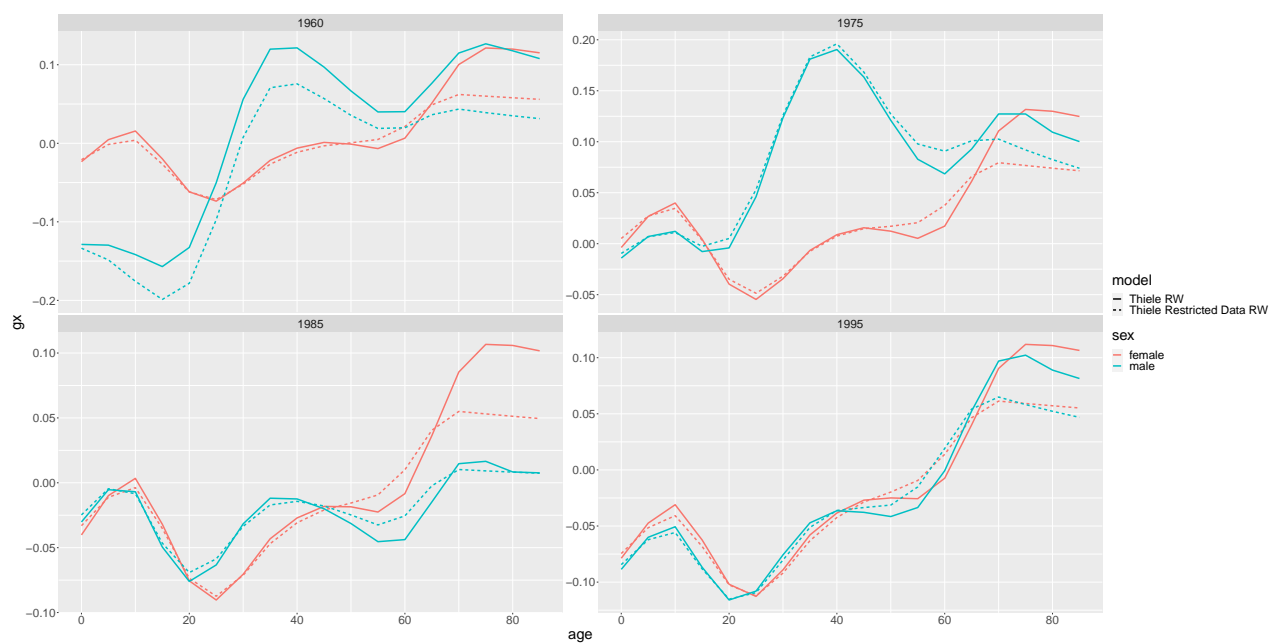


Figure 14: Migration

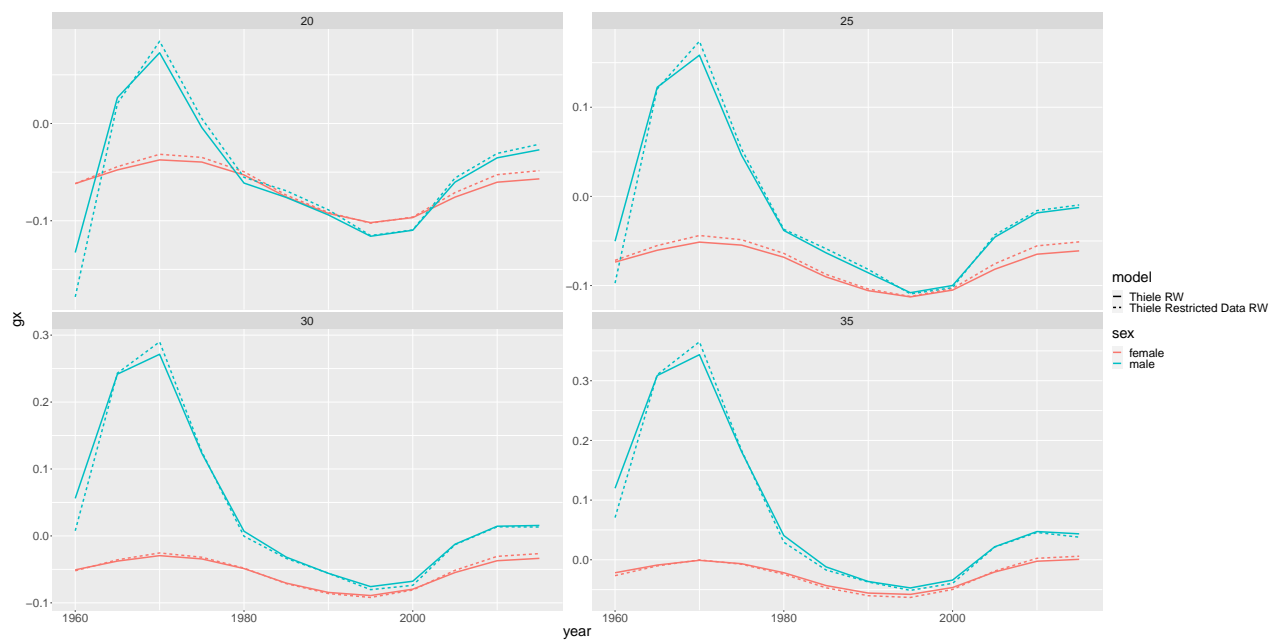


Figure 15: Migration

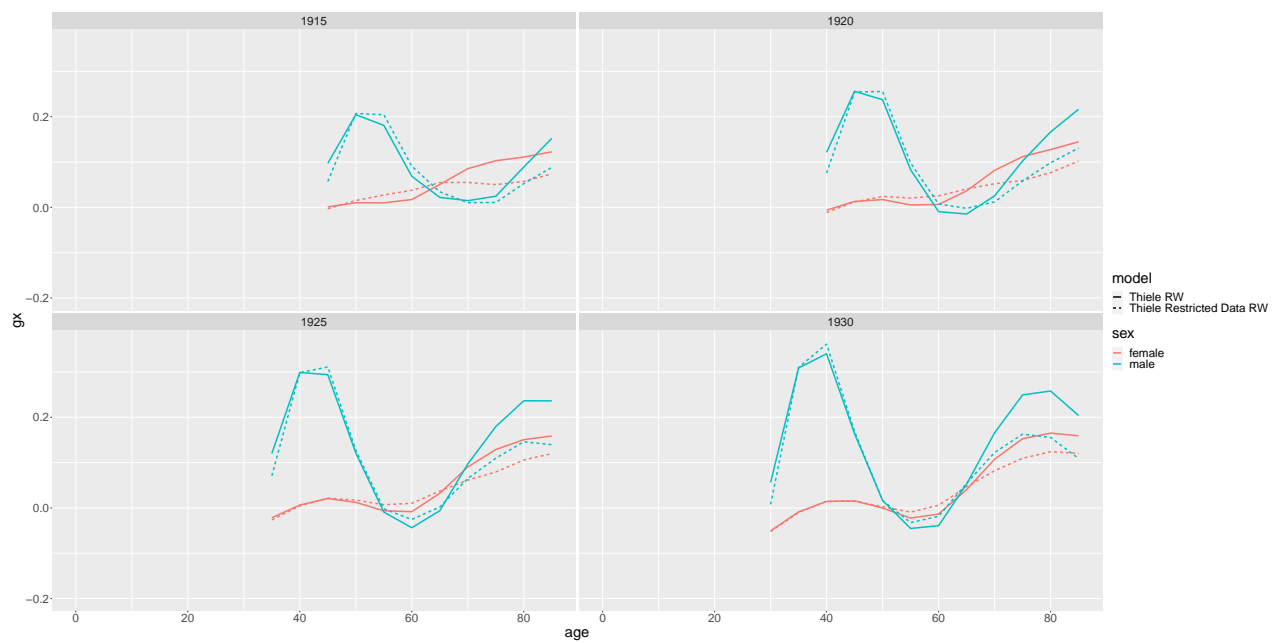


Figure 16: Migration

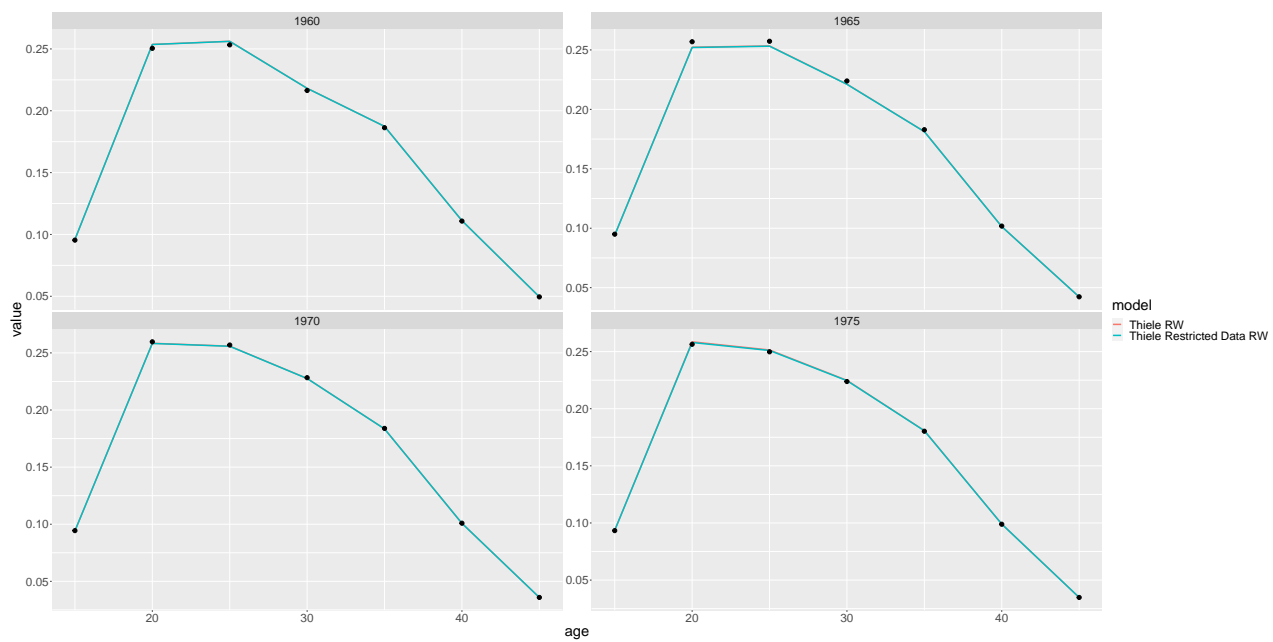


Figure 17: Fertility

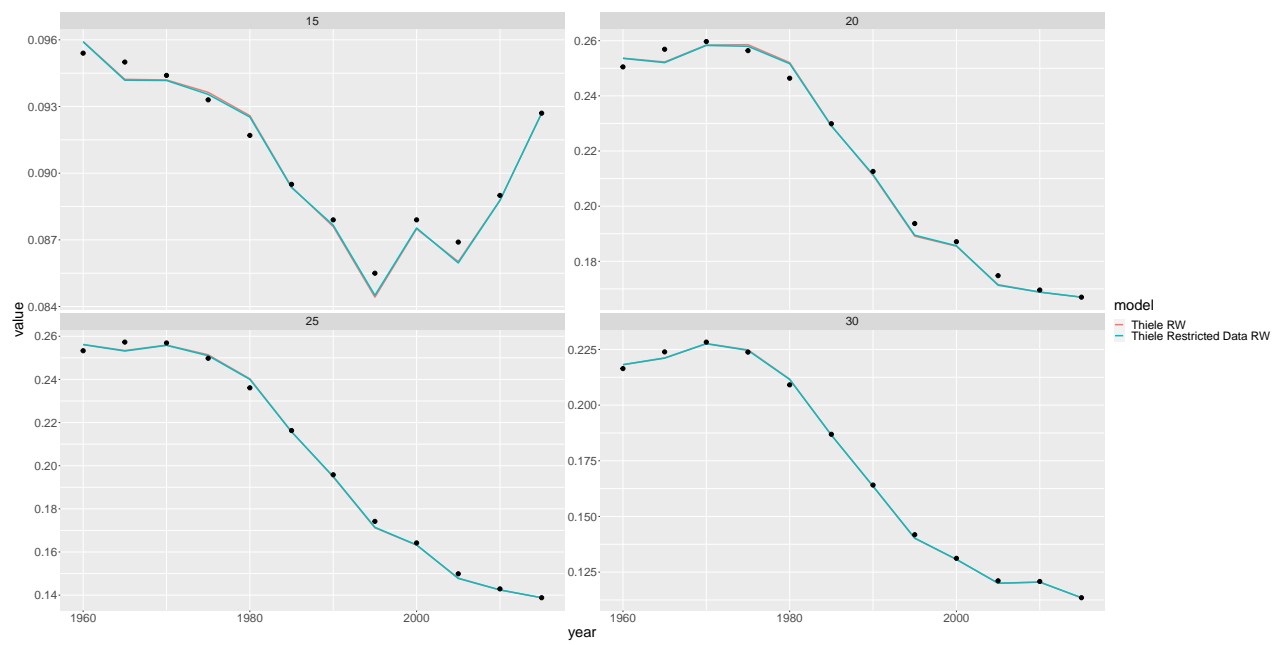


Figure 18: Fertility