

Zimbabwe

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

```
## # A tibble: 18 x 6
```

	aggr.age	`1969`	`1982`	`1992`	`2002`	`2012`
*	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
1	0	1100.	666513.	798430.	841551.	994095.
2	5	1252.	606731.	800838.	786853.	888042.
3	10	1181.	518252.	734654.	766089.	816383.
4	15	935.	427787.	632121.	740696.	732628.
5	20	709.	356139.	515526.	652354.	658733.
6	25	541.	283765.	401947.	513851.	589595.
7	30	437.	216565.	323256.	377382.	486213.
8	35	379.	171958.	259608.	285606.	371333.
9	40	303.	140150.	196167.	235848.	269013.
10	45	227.	112995.	156462.	199664.	210869.
11	50	168.	88392.	131658.	163218.	193389.
12	55	124.	69556.	101596.	124937.	166578.
13	60	95.4	57646.	76774.	95198.	129163.
14	65	67.1	43446.	62335.	74711.	98600.
15	70	35.5	30553.	62691.	57053.	73611.
16	75	17.0	46842.	68635.	41096.	53541.
17	80	9.26	NA	NA	27715.	37440.
18	85	13.4	NA	NA	29432.	44517.

```
## [1] "Census Males"
```

```
## # A tibble: 18 x 6
```

	aggr.age	`1969`	`1982`	`1992`	`2002`	`2012`
*	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
1	0	1156.	644716.	791447.	840935.	988570.
2	5	1278.	600942.	791611.	783064.	883312.
3	10	1207.	516716.	723986.	755159.	812432.
4	15	931.	400975.	607706.	700391.	699246.
5	20	636.	304239.	472762.	586689.	577653.
6	25	459.	241174.	355698.	472073.	507682.
7	30	389.	190946.	282187.	363579.	443238.
8	35	341.	156158.	228982.	259868.	359967.
9	40	280.	137423.	181401.	198311.	265699.
10	45	229.	121965.	150071.	163962.	182884.
11	50	186.	102082.	127067.	130424.	140339.
12	55	142.	81032.	104878.	105187.	119597.
13	60	97.1	65118.	84499.	88204.	97041.
14	65	60.0	46169.	64250.	71083.	76432.
15	70	32.4	29874.	58462.	53914.	59566.
16	75	15.2	39495.	52190.	36893.	43527.
17	80	8.24	NA	NA	22891.	28936.
18	85	7.21	NA	NA	19019.	28690.

Thiele log-Normal Hump RW

```
## user system elapsed
## 36.67 0.56 37.30
```

```
## [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
##  56.62    0.55   57.32
## [1] "false convergence (8)"
```

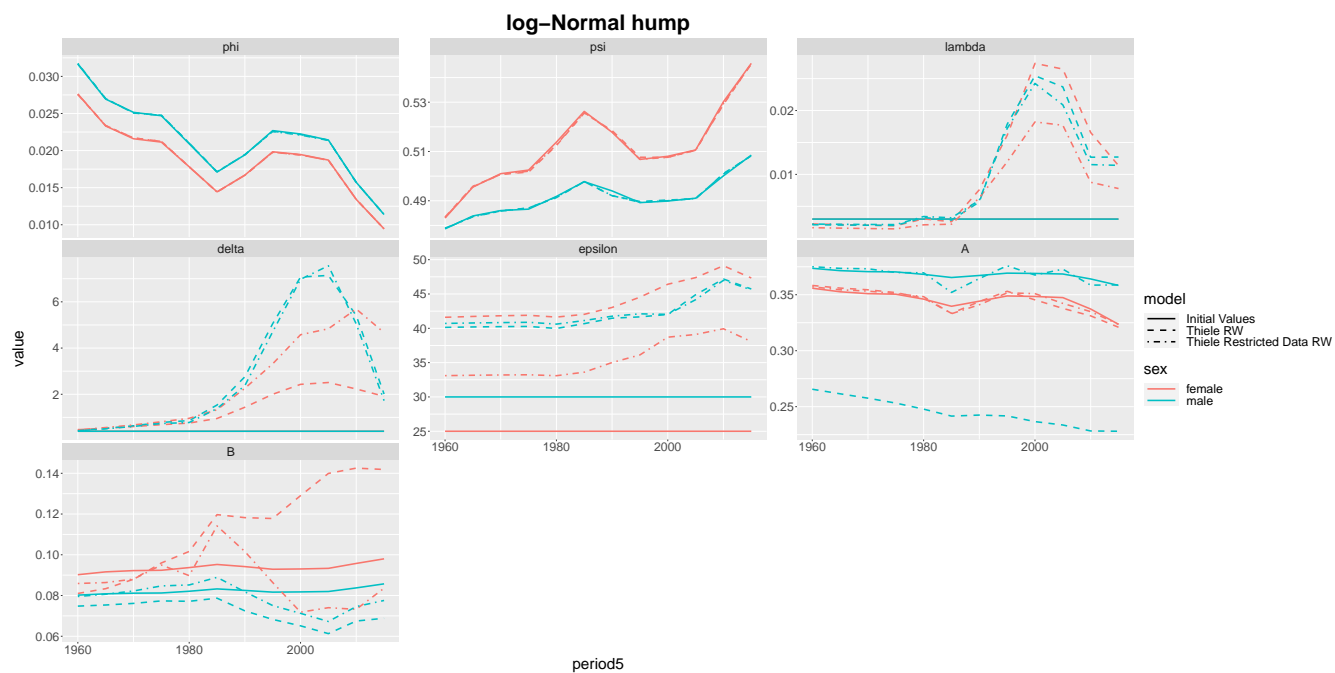


Figure 1: Estimated parameters



Figure 2: Estimated $45q_{15}$

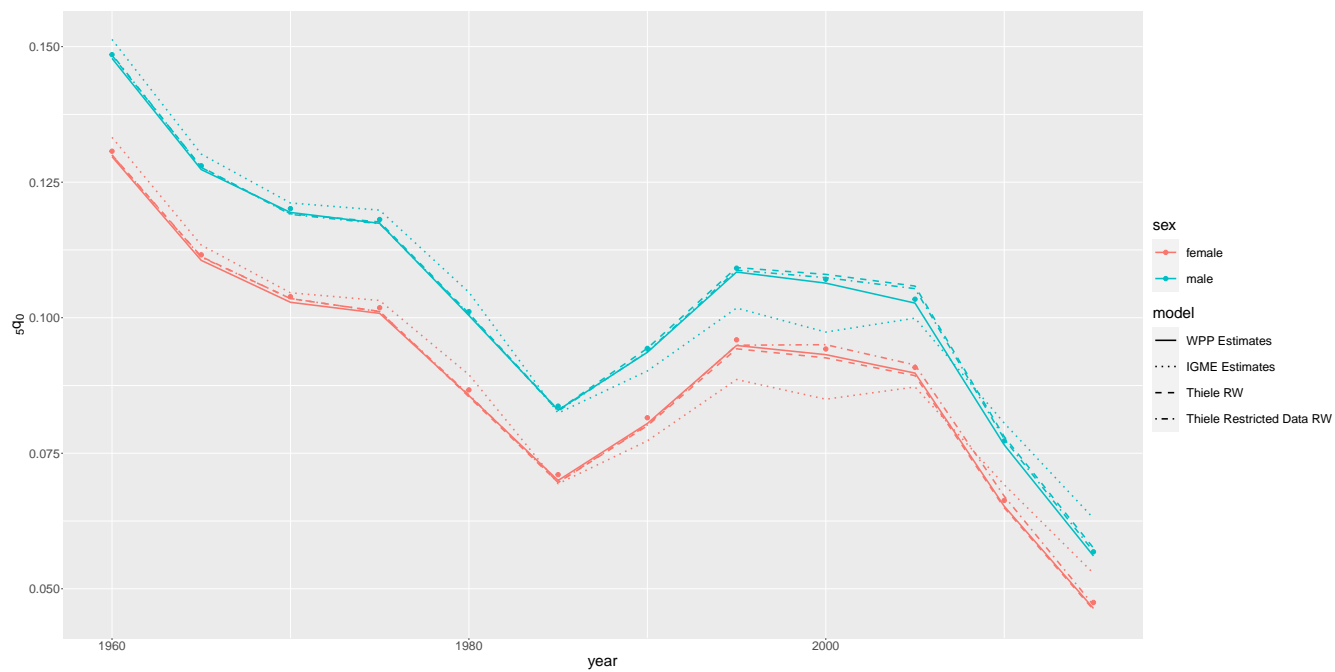


Figure 3: Estimated $5q_0$

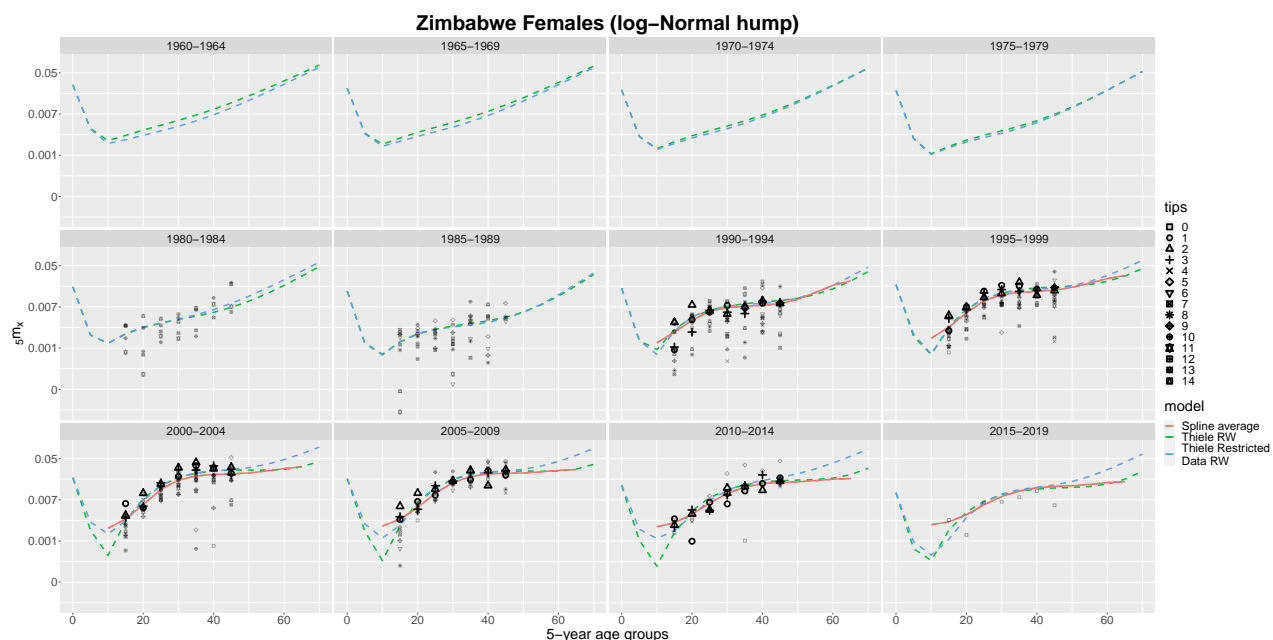


Figure 4: Mortality Schedules

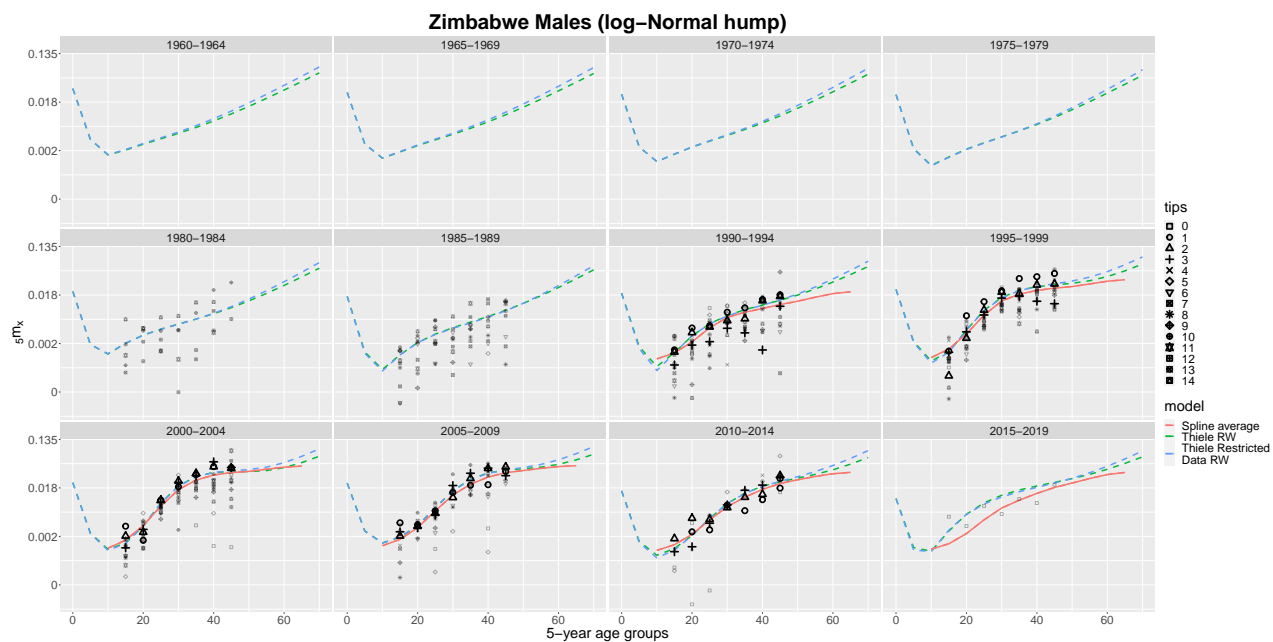


Figure 5: Mortality Schedules

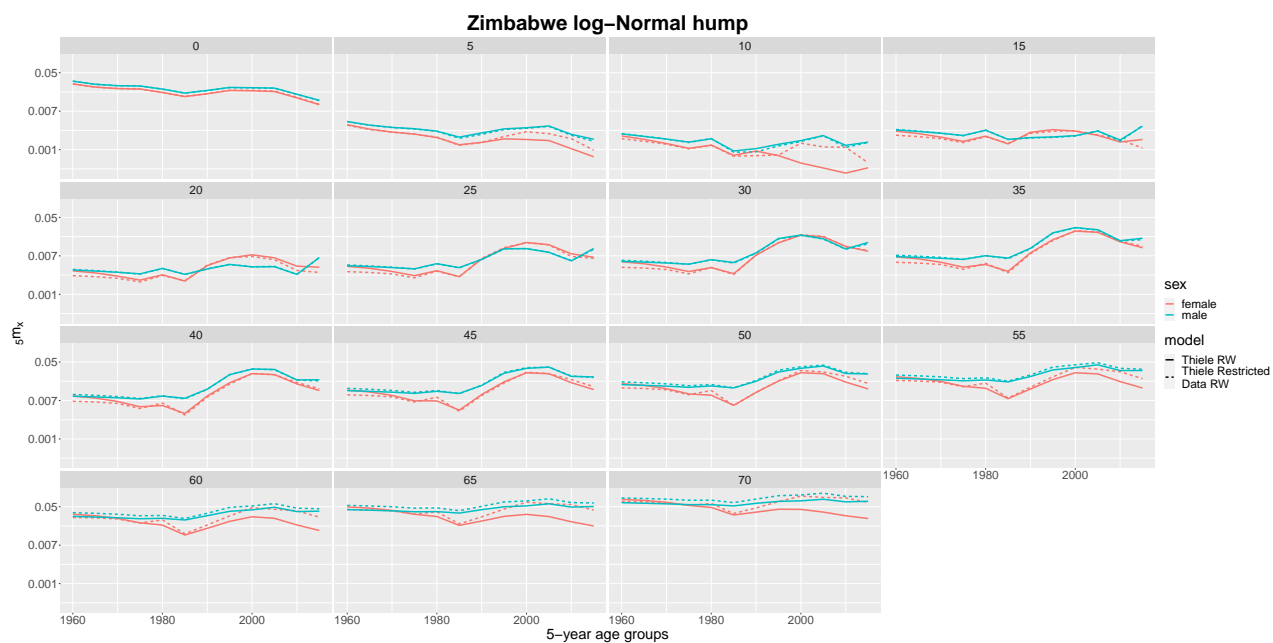


Figure 6: Mortality Schedules

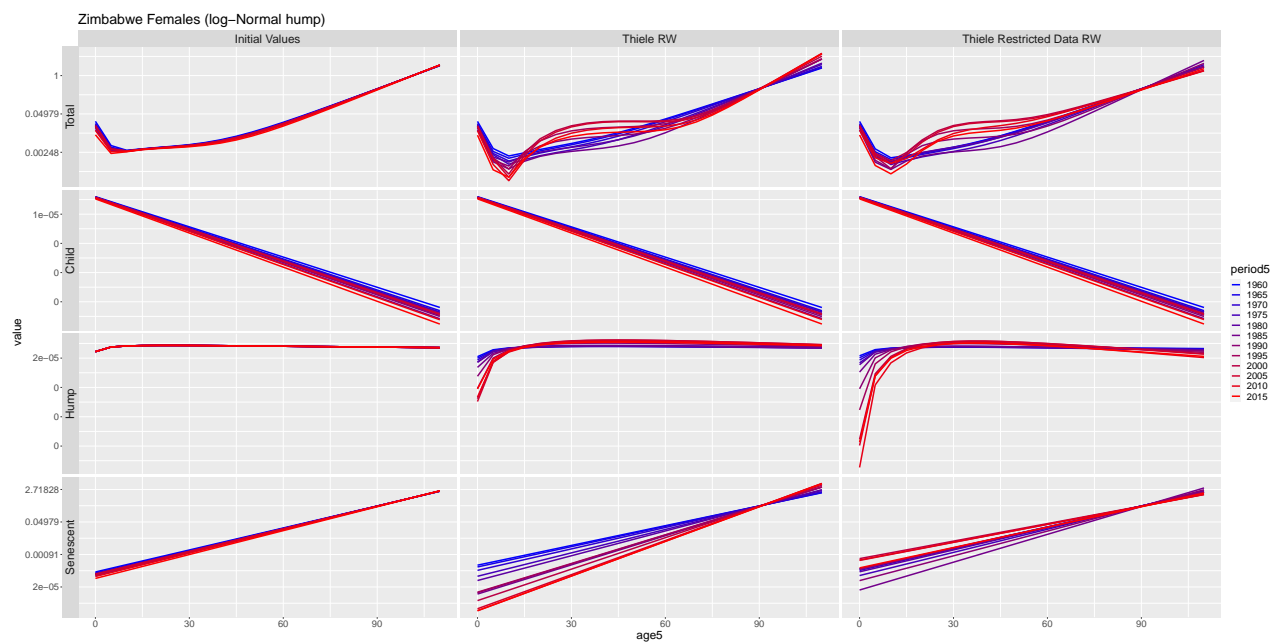


Figure 7: Thiele Decomposed

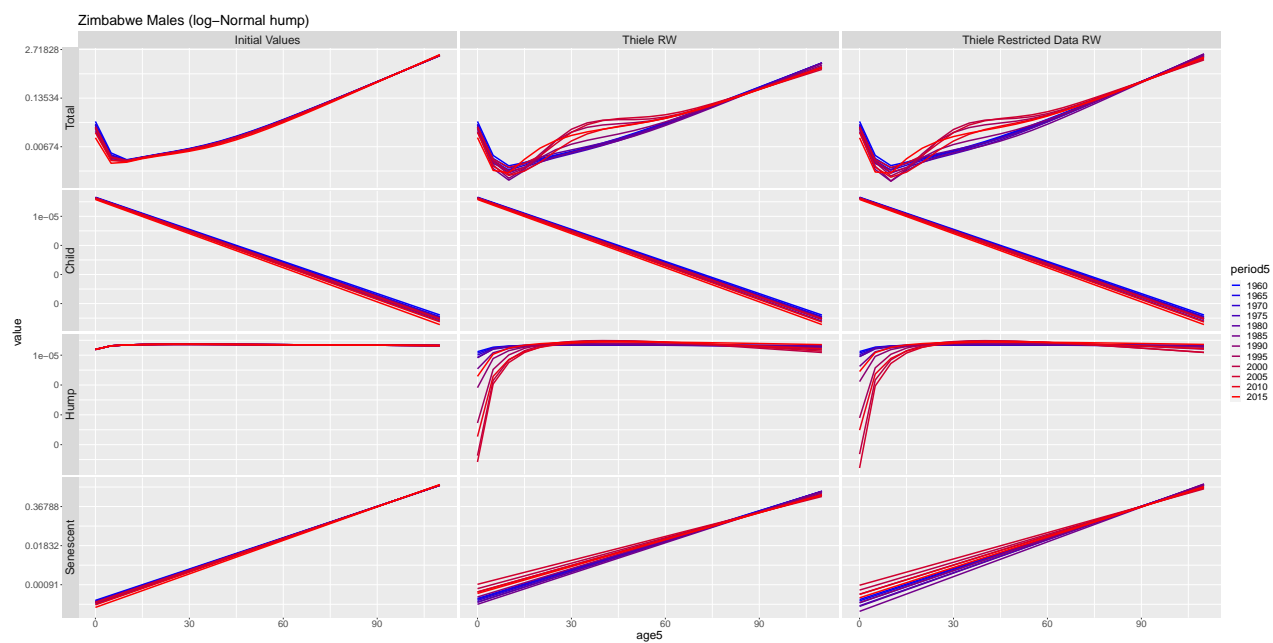


Figure 8: Thiele Decomposed

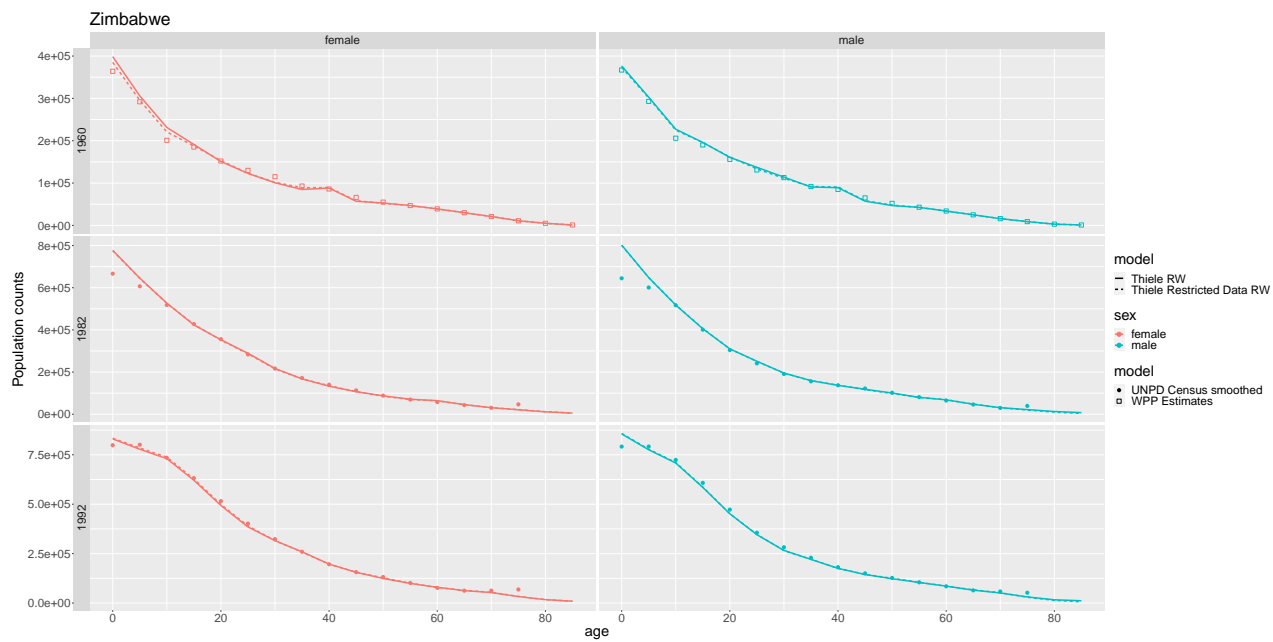


Figure 9: Population

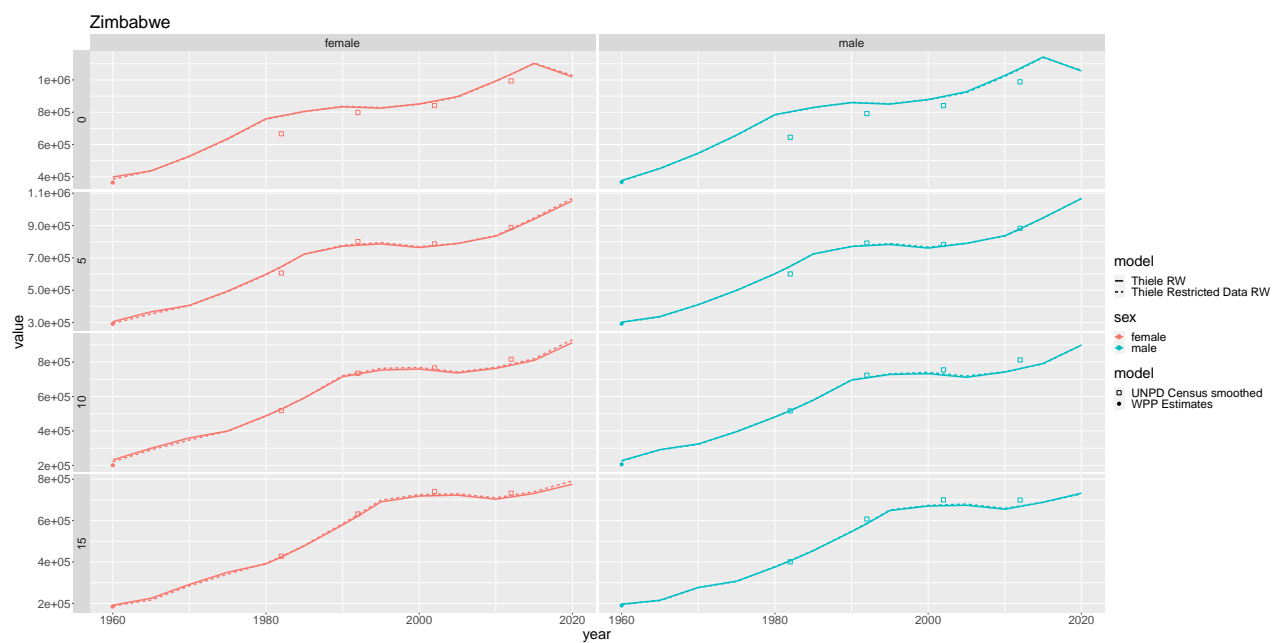


Figure 10: Population

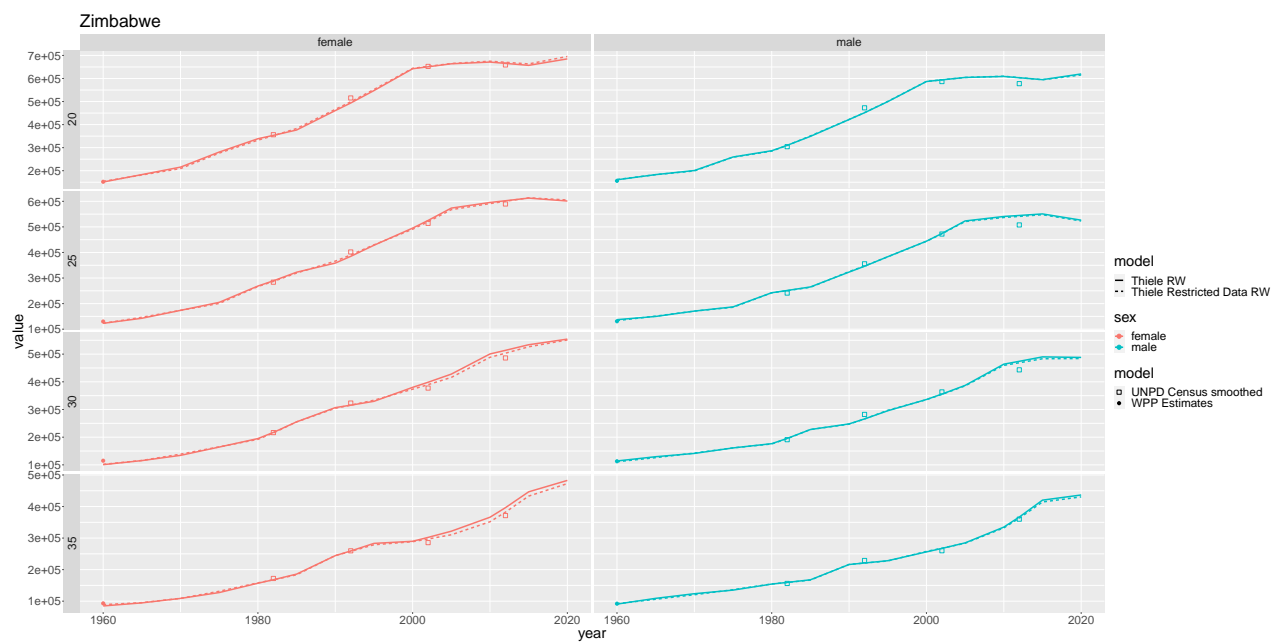


Figure 11: Population

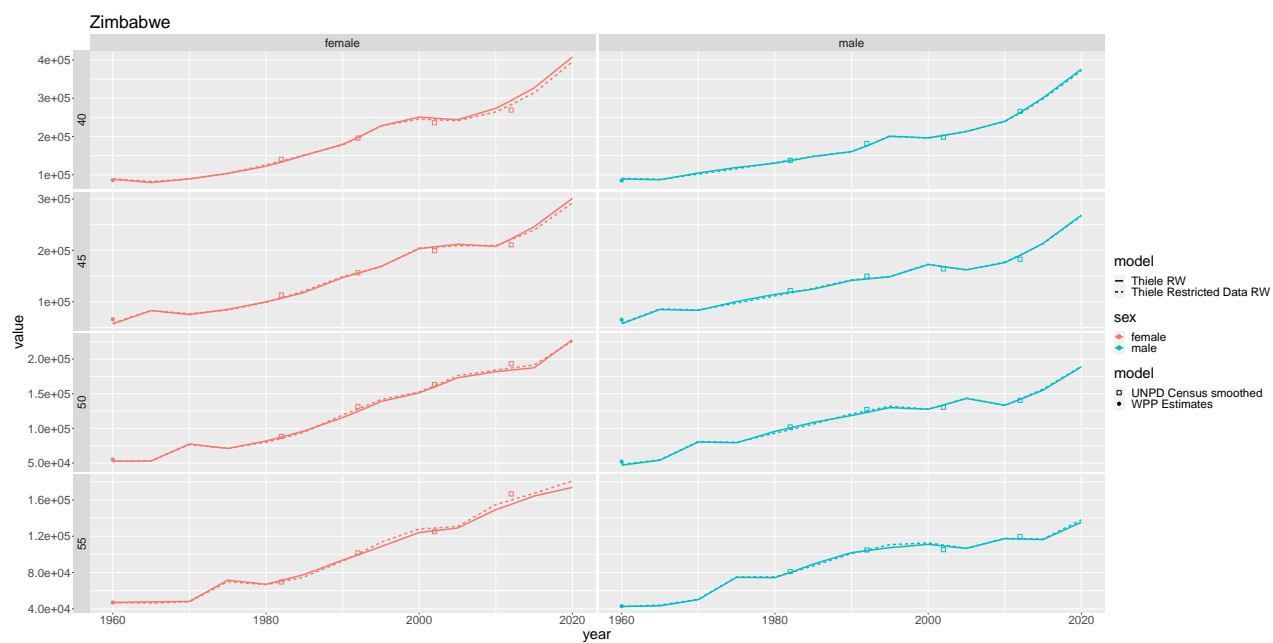


Figure 12: Population

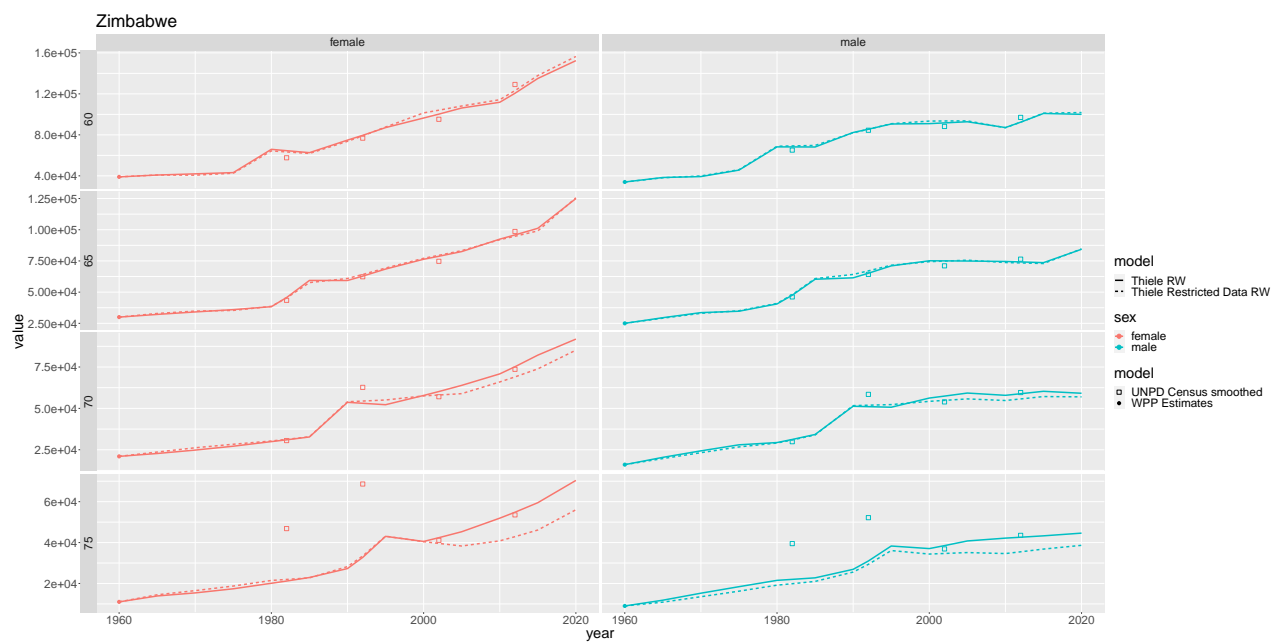


Figure 13: Population

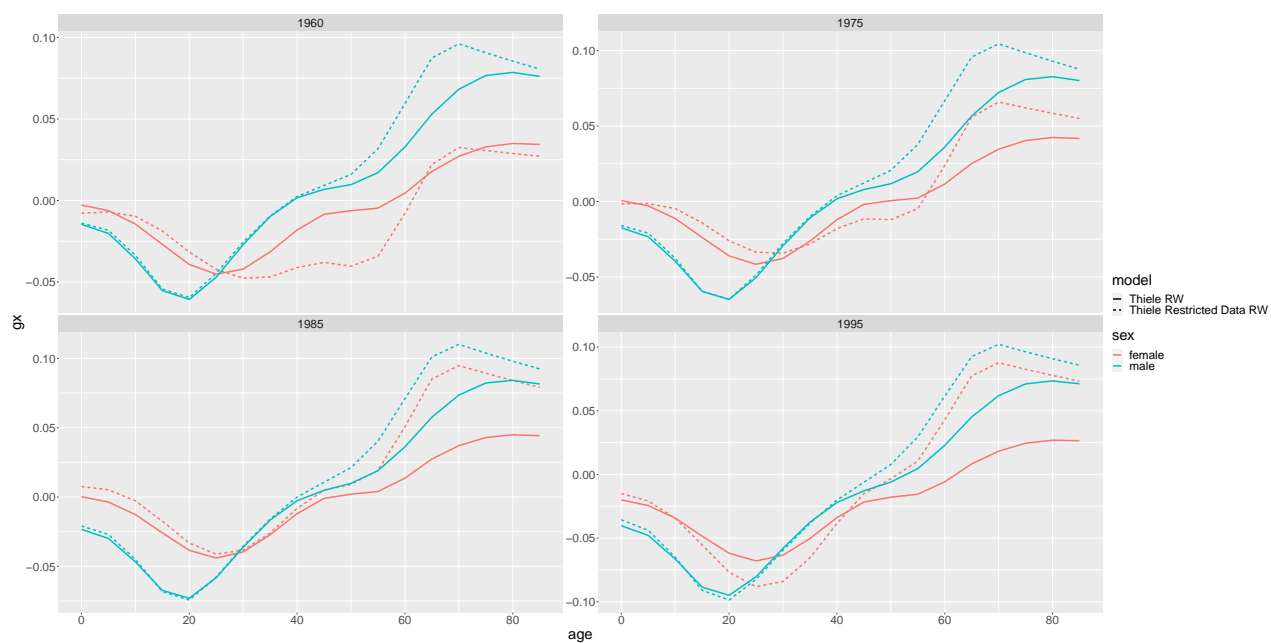


Figure 14: Migration

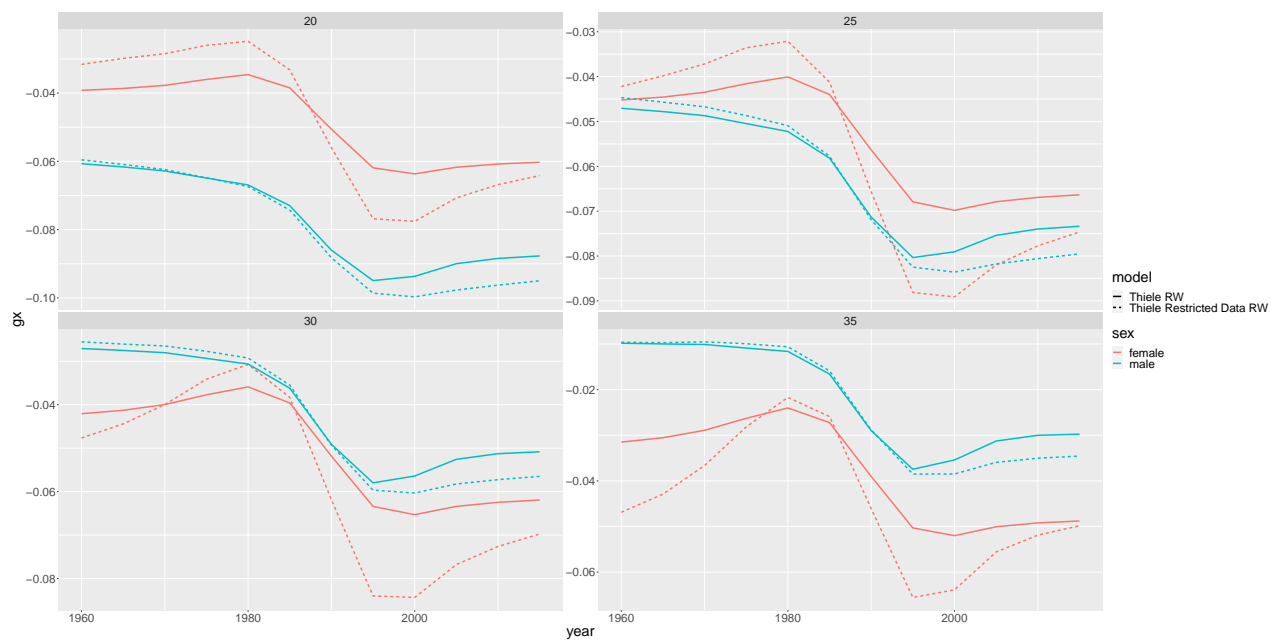


Figure 15: Migration

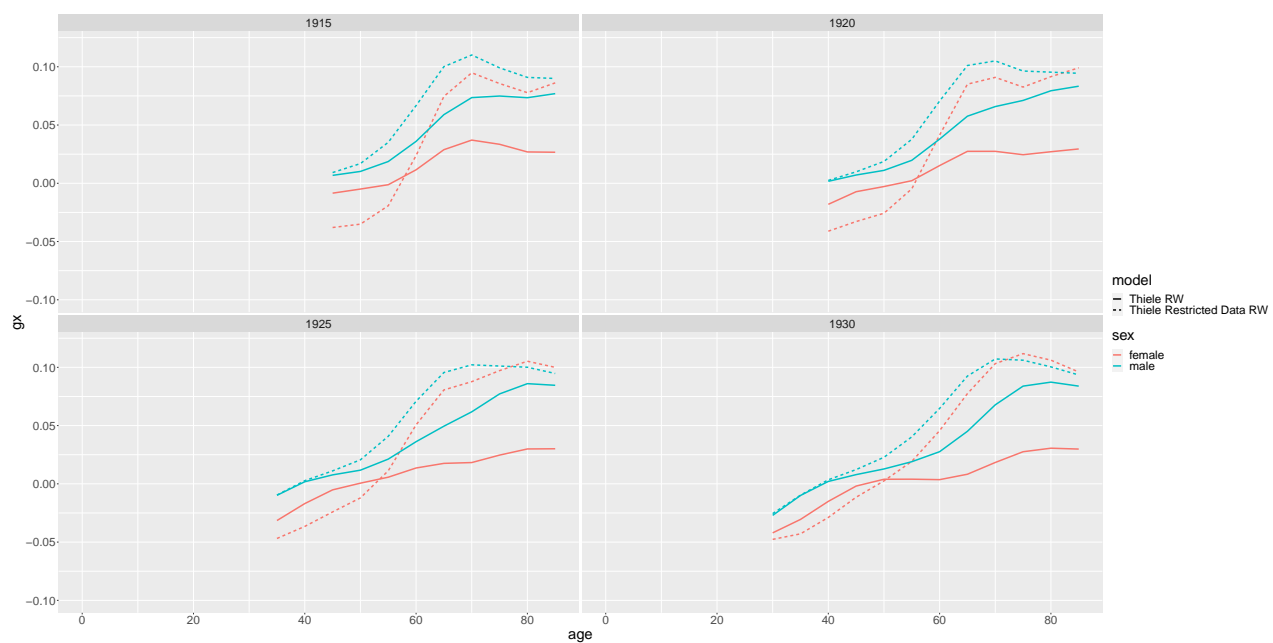


Figure 16: Migration

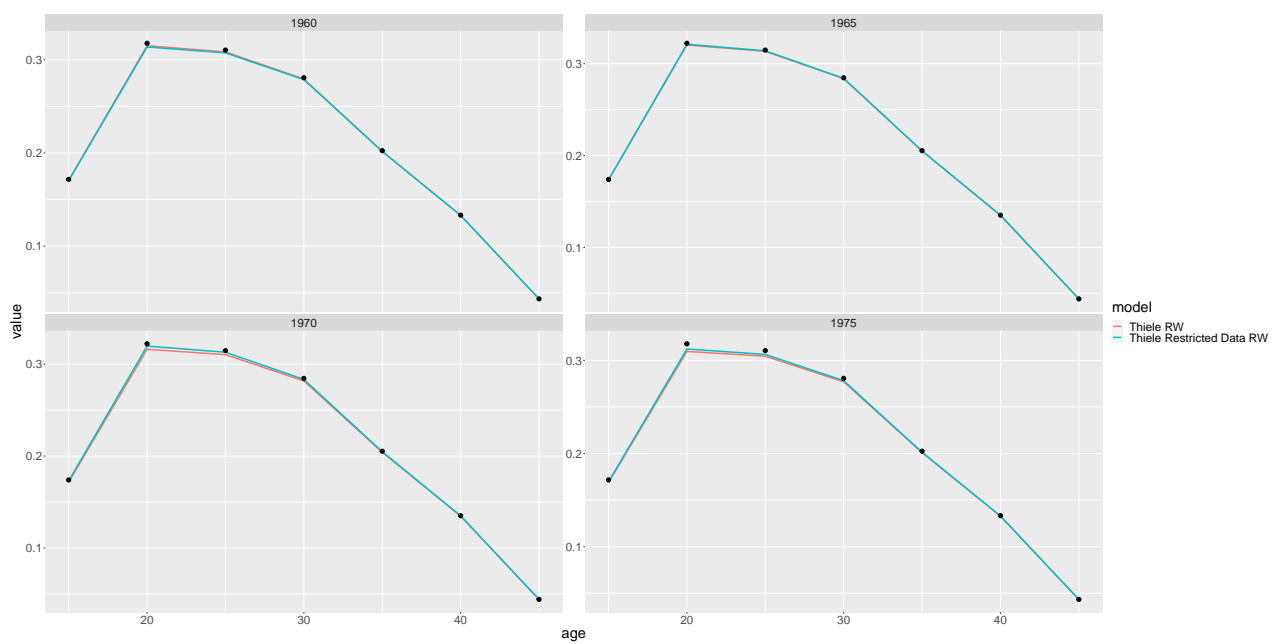


Figure 17: Fertility

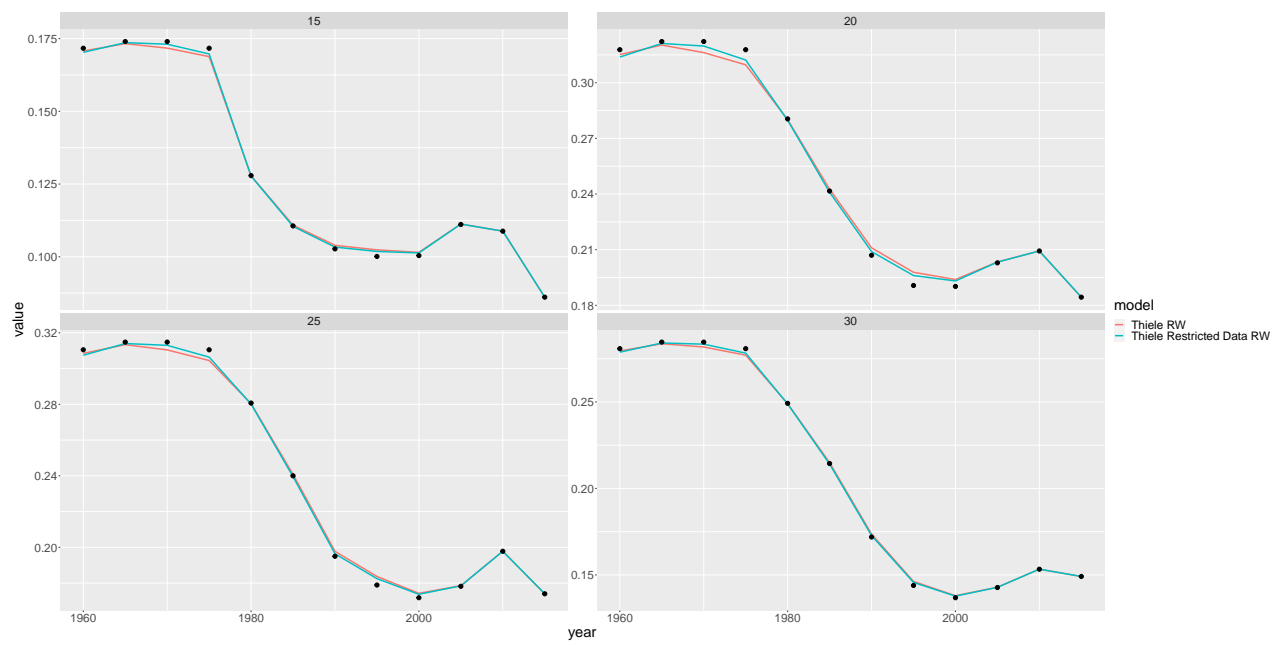


Figure 18: Fertility