

# Zambia

## [1] "Census Females"

## # A tibble: 18 x 6

##	aggr.age	`1969`	`1980`	`1990`	`2000`	`2010`
##	*	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
## 1	0	398488.	518793.	604264.	830931	1131280
## 2	5	320748.	476616.	563099.	724775	987688
## 3	10	240983.	397502.	521398.	624328.	883894.
## 4	15	196736.	319335.	467530.	552577	775484.
## 5	20	182925.	255054.	383400.	480275.	656138
## 6	25	165393.	196620.	292659.	381629.	543766.
## 7	30	142795.	158706.	218409.	287186.	428822.
## 8	35	117739.	134590.	164731.	219323.	322388
## 9	40	92726.	111544.	134696.	167665.	239647.
## 10	45	73906.	89524.	114821.	129007.	185789.
## 11	50	56777.	68471.	94142.	101823.	144190.
## 12	55	40641.	51681.	72442.	80106.	107812.
## 13	60	28653.	40807.	53263.	64630.	86021.
## 14	65	19278.	30199.	37091.	49164.	67975.
## 15	70	10352.	19972.	23907.	32270	49014.
## 16	75	4631.	12734.	14152.	19374	32175
## 17	80	2674.	7293.	7598.	10931	18665.
## 18	85	3913.	6164.	6542.	10294	18036

## [1] "Census Males"

## # A tibble: 18 x 6

##	aggr.age	`1969`	`1980`	`1990`	`2000`	`2010`
##	*	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
## 1	0	387554.	514698.	596079.	825789	1121468
## 2	5	320795.	475023.	554201.	721358.	977176
## 3	10	245341.	391278.	508589.	611265.	865023
## 4	15	180559.	295698.	438289.	511000.	732268.
## 5	20	142234.	220499.	341120.	426847.	588231
## 6	25	126158.	168133.	259595.	355581	493510.
## 7	30	119935.	134902.	204263.	284534.	426331.
## 8	35	110615.	113591.	157810.	216582.	347459
## 9	40	95285.	101126.	126181.	164050	261744.
## 10	45	80149.	90884.	106980.	126000.	191818.
## 11	50	67500.	74835.	90866.	97523.	140823.
## 12	55	54235.	57907.	75059.	76084.	102625.
## 13	60	37807.	46169.	58354.	62440	77534.
## 14	65	23834.	35162.	42995.	51186.	58968.
## 15	70	12626.	23709.	30459.	37483	44158.
## 16	75	5209.	14831.	19120.	24245.	31093
## 17	80	3009.	7286.	8367.	13311	18680.
## 18	85	4663.	6545.	7258.	10667	15920

*Thiele log-Normal Hump RW*

##	user	system	elapsed
##	29.15	0.44	29.76

```
## [1] "relative convergence (4)"  
Thiele log-Normal Hump RW (Pop 5-9 to 70-74, DHS 15-19 to 45-49)  
##      user  system elapsed  
## 24.38    0.40   24.69  
## [1] "relative convergence (4)"
```

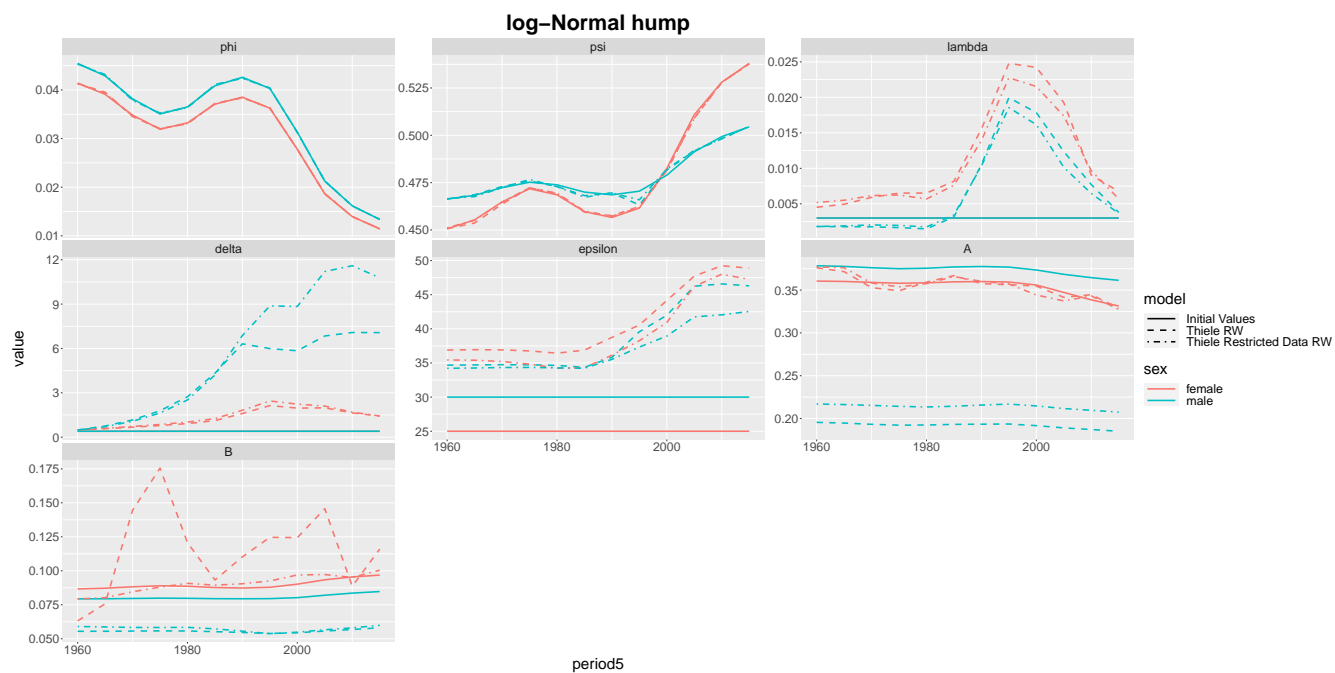


Figure 1: Estimated parameters

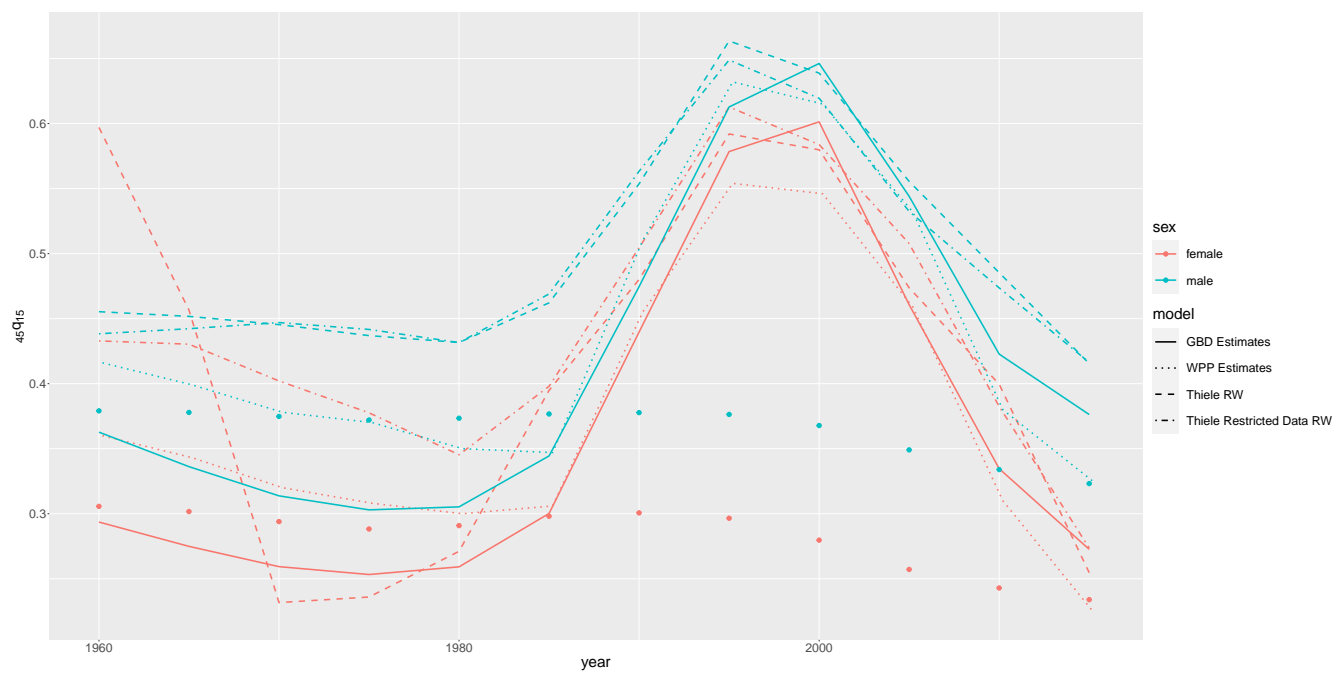


Figure 2: Estimated  $45q_{15}$



Figure 3: Estimated  $5q_0$

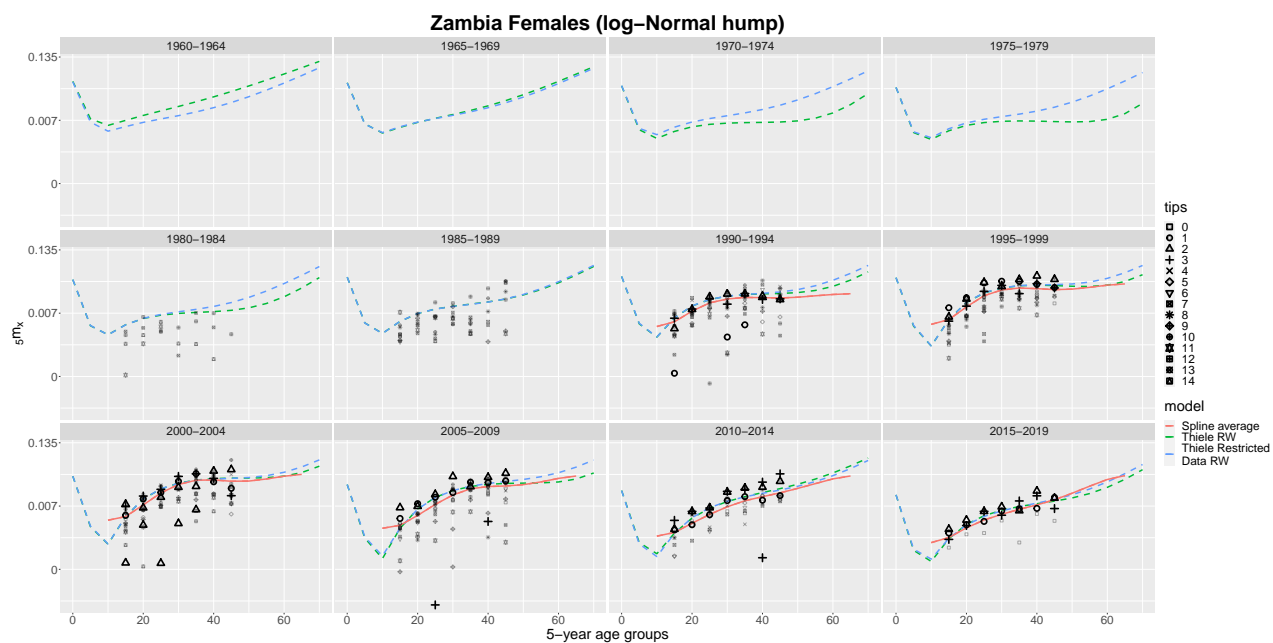


Figure 4: Mortality Schedules

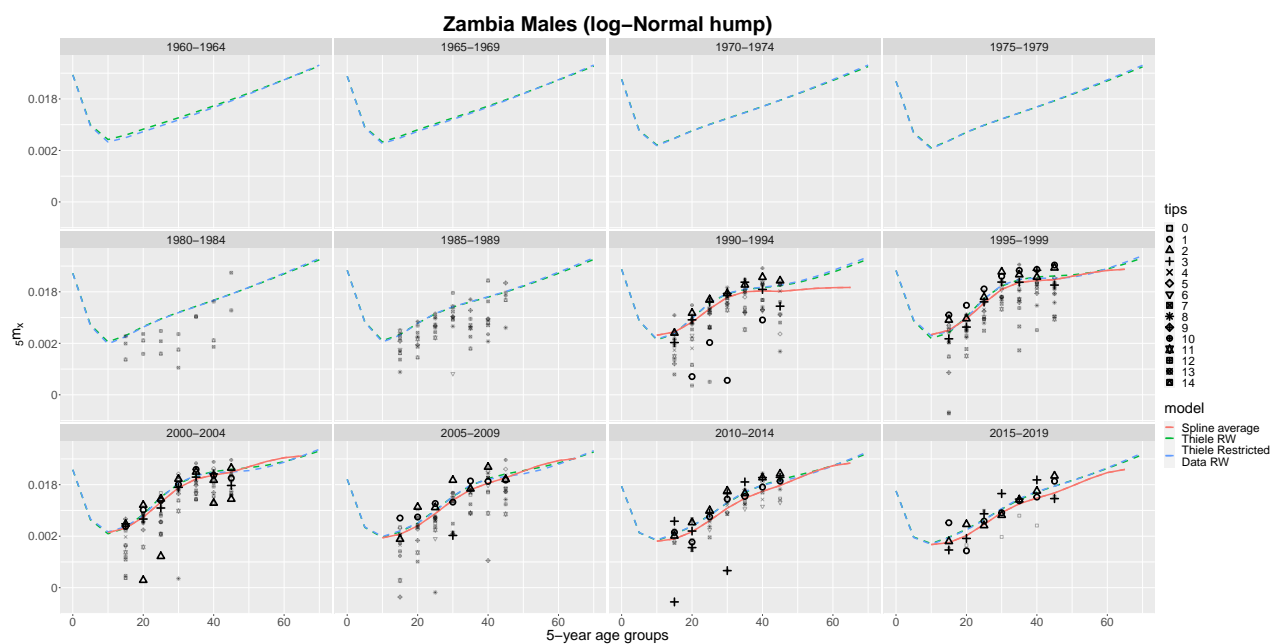


Figure 5: Mortality Schedules

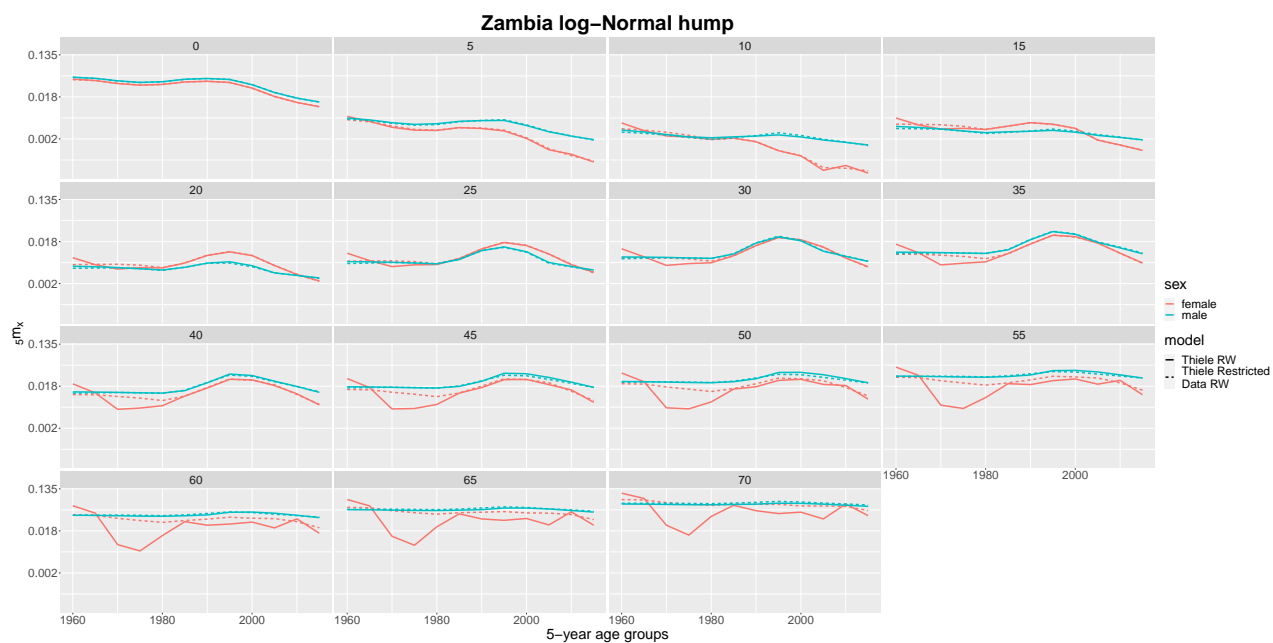


Figure 6: Mortality Schedules

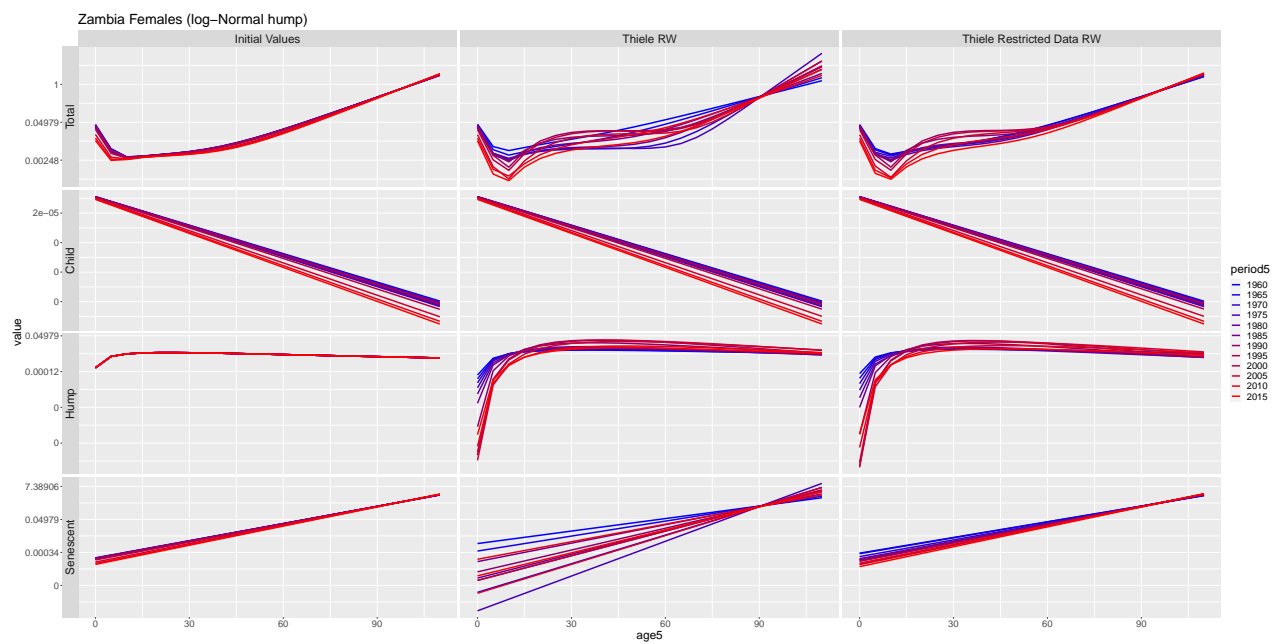


Figure 7: Thiele Decomposed

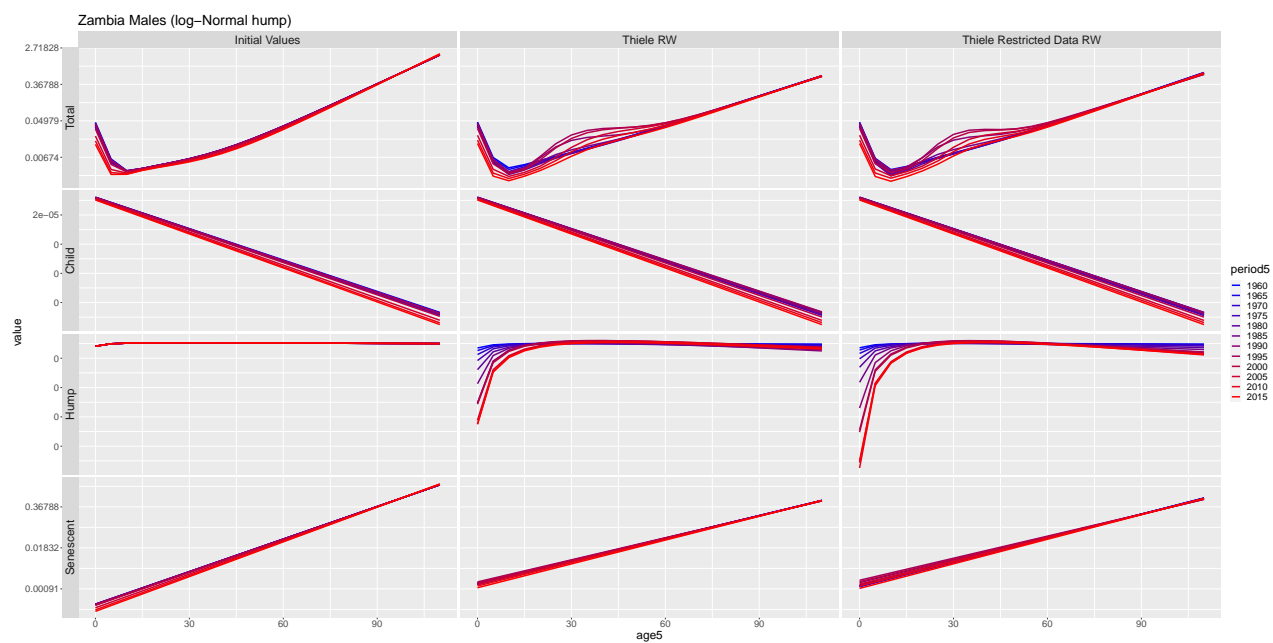


Figure 8: Thiele Decomposed

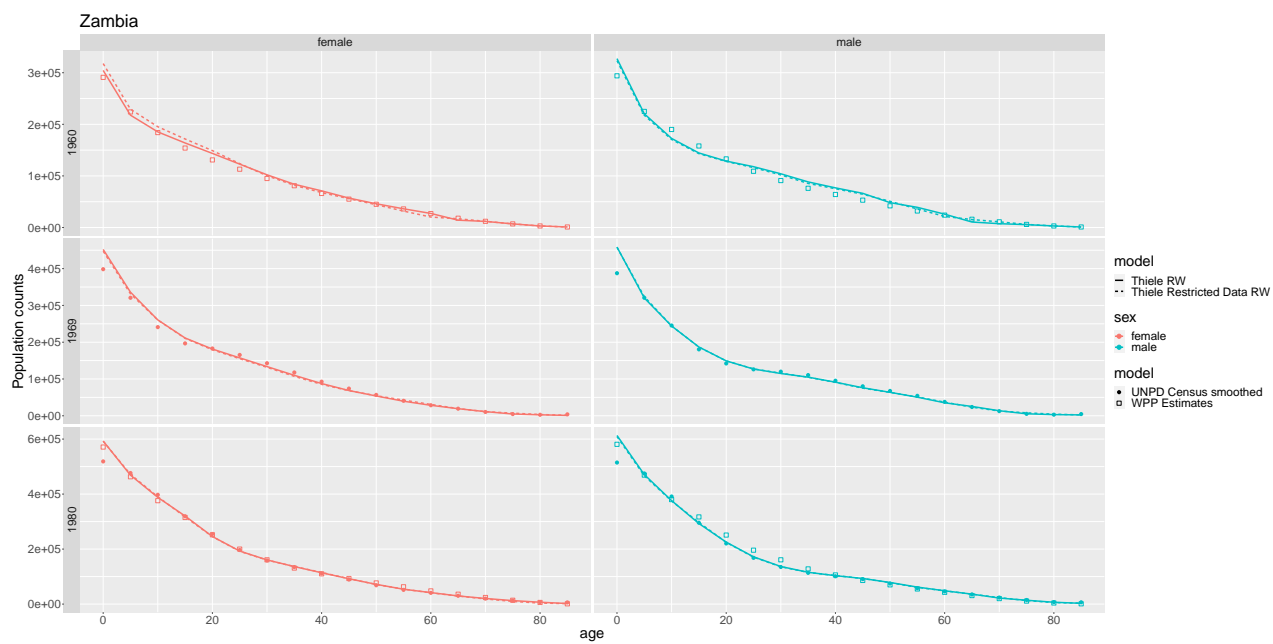


Figure 9: Population

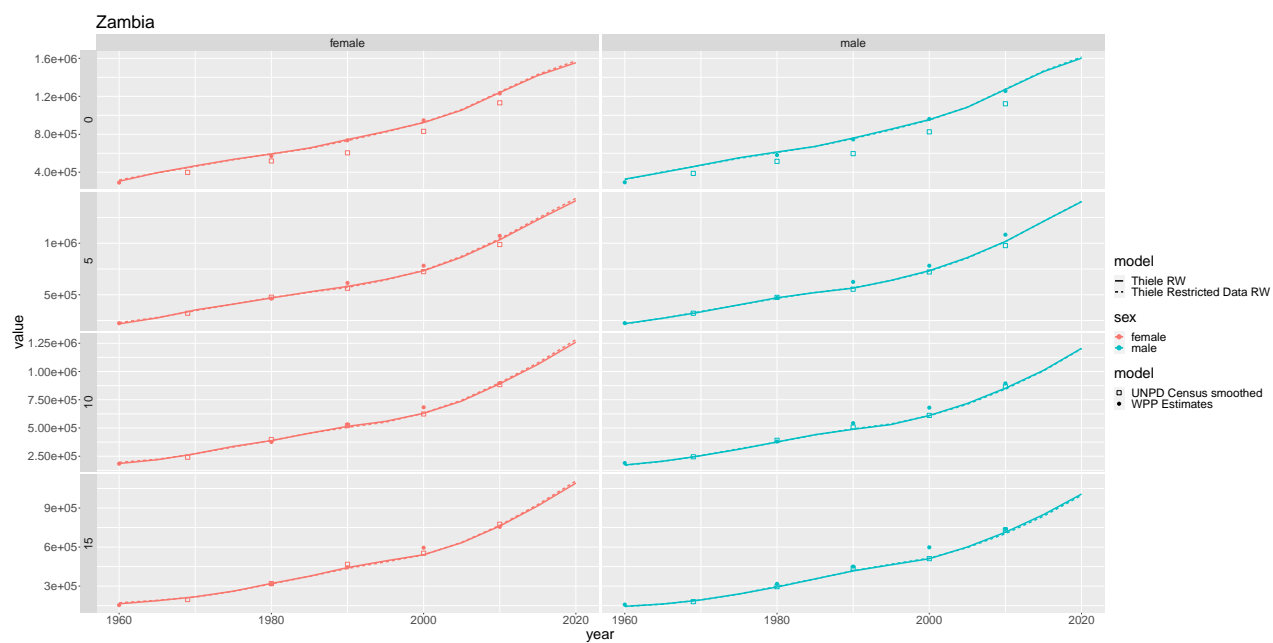


Figure 10: Population

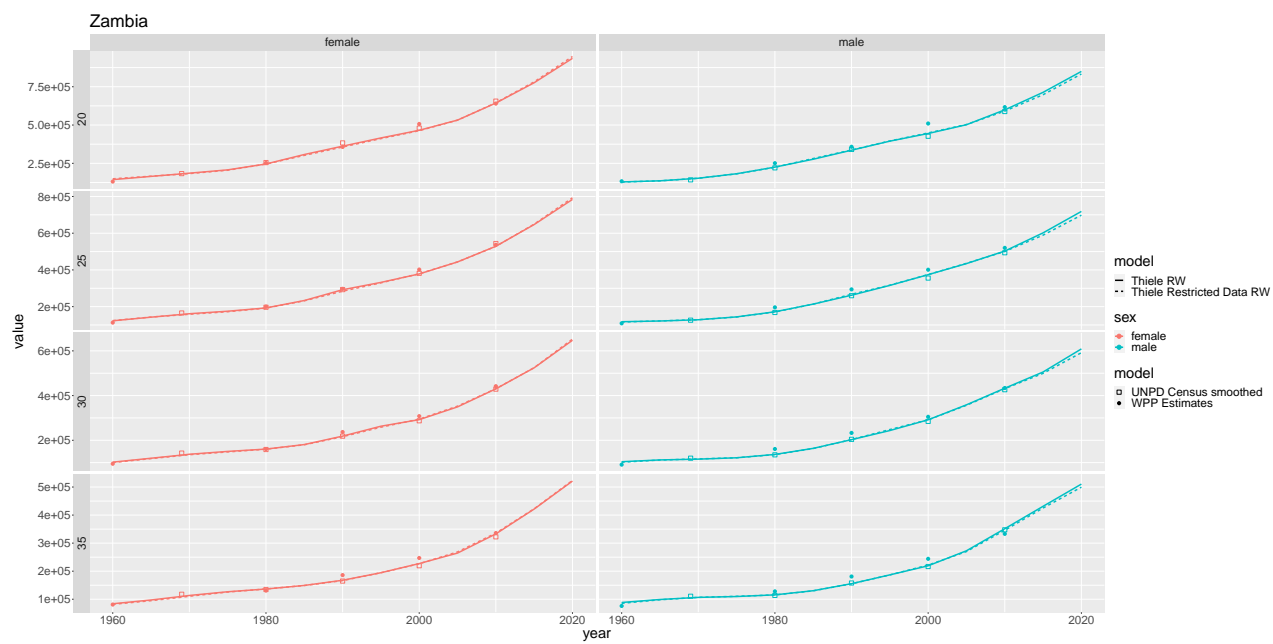


Figure 11: Population



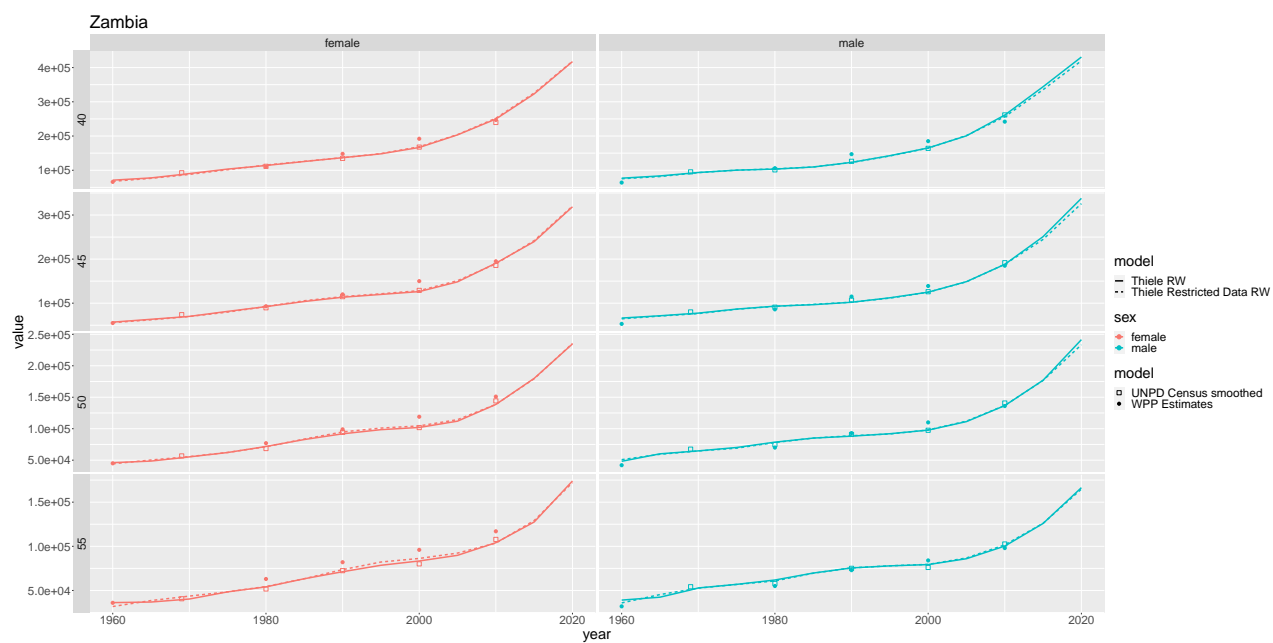


Figure 12: Population

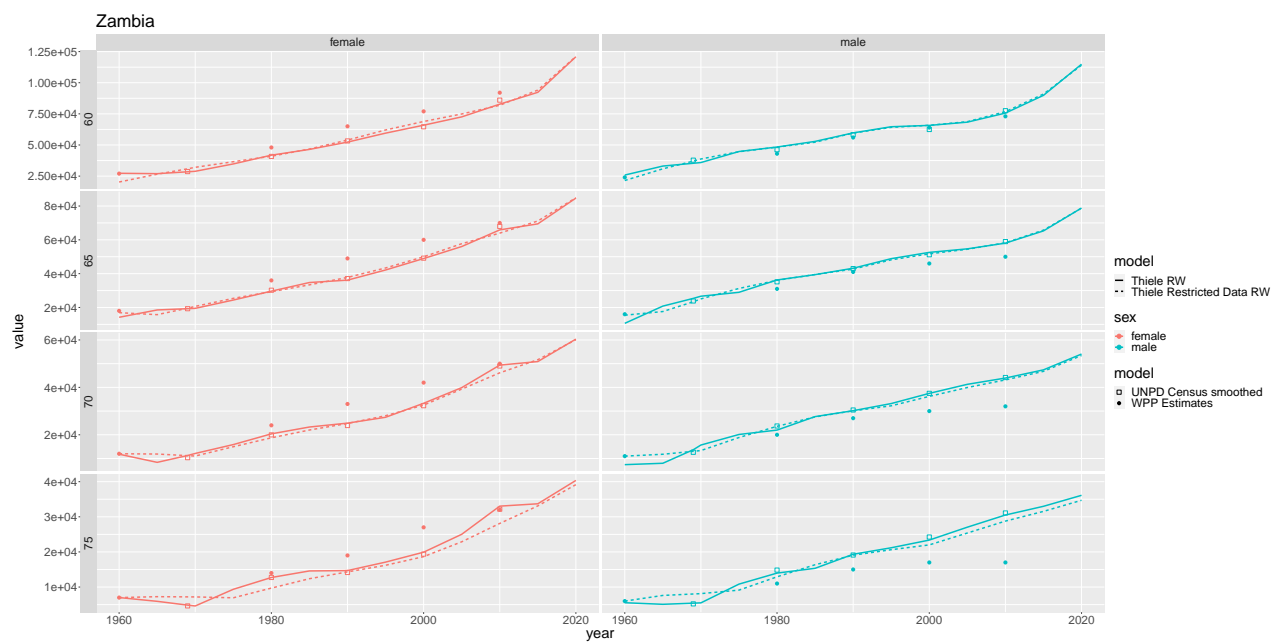


Figure 13: Population



Figure 14: Migration



Figure 15: Migration

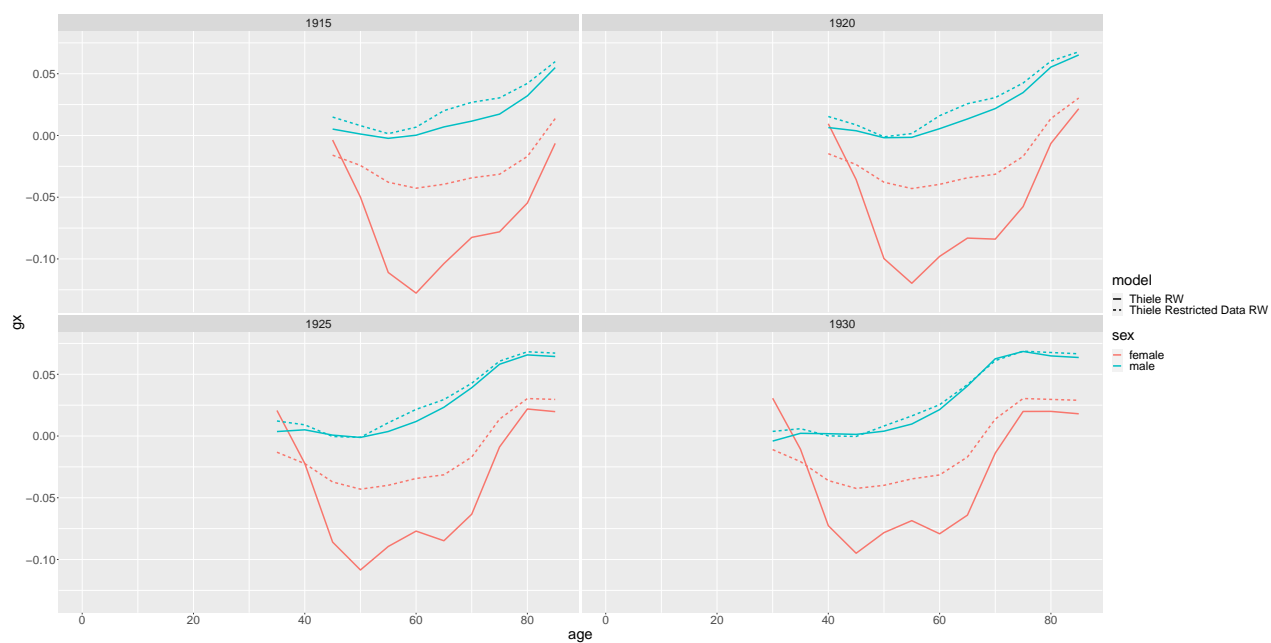


Figure 16: Migration

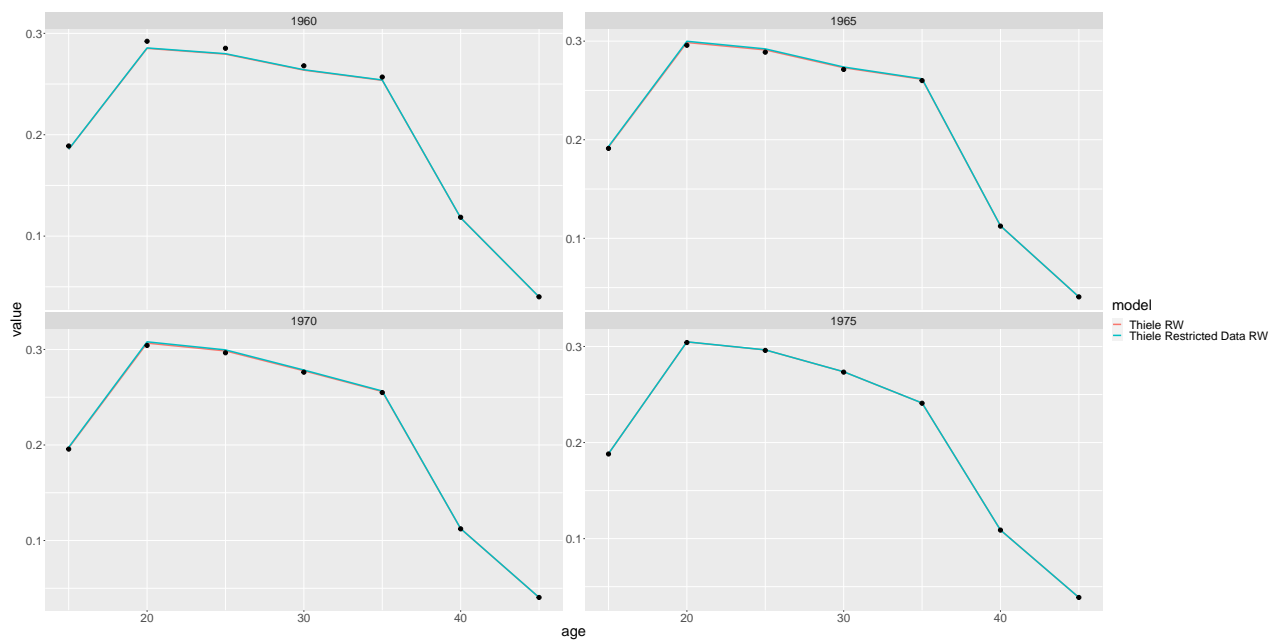


Figure 17: Fertility

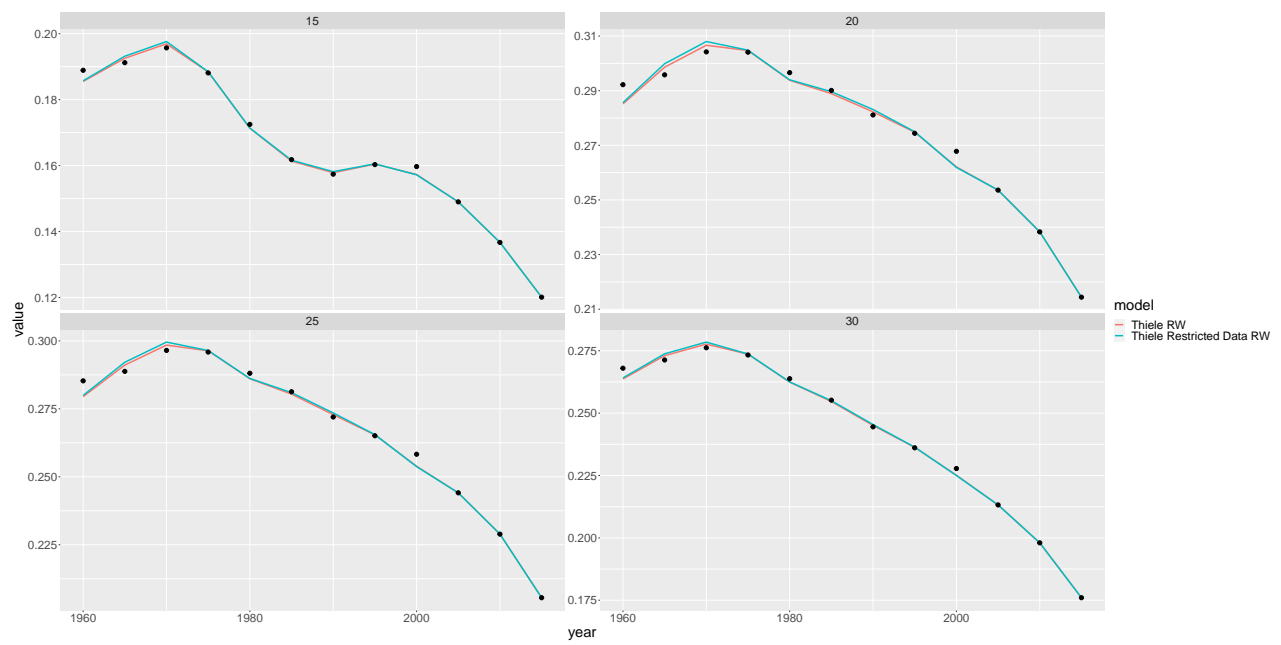


Figure 18: Fertility