Timing of fertility in EAG states of India based on Non-Reproductive life table (NRLT)

Introduction:

The generating of NRLT basically follows the construction of the Life Table for mortality measurement. For applying the life table technique, it is require to identify an event related to fertility, which occurs only once in the life time of a person, like death.

Sivamurthy has used this fact for constructing the NRLT. Since ASFR (Age-specific Fertility Rate) by single year of age can be considered as the unconditional probability that a woman aged x years will have a birth before becoming aged (x+1) years in completed years. Timing of reproductive behaviour in conjectural cohort understanding the fertility conditions through age specific fertility rate.

Suchindran and Horne (1984) have also suggested a similar approach for estimating the ages at First birth and Last birth. The NRLT suggested by Sivamurthy, however, yields more detailed information regarding the fertility conditions in a population. An age reporting error is more likely in single year's age group using the interpolating from the 5 year age group ASFR using a scientific procedure. Intensity of child bearing value varies between 0 and 1. Last births will indicate that fertility is moving towards termination of reproduction of women in their reproductive age.

Objective of study:

To generate the measures of fertility in EAG states using NRLT

Illustration of study

In this paper we have been generating the Non-Reproductive life table for EAG states using 2011 census. This study is influenced by Mathada and Chetna Sivamurty. The main purpose of this study is to present summary measure of fertility named as intensity of child bearing(ICB), mean age of first birth (MAFB), mean age of last birth (MALB) and proportion of women not reproducing (UPWNR) the children in their reproductive age group. To constructing these measures of fertility, Non- Reproductive Life Table (NRLT) is used. From finding we conclude that in India, Mean age Specific Fertility Rate (MASFR) is 26.638, ICB is 0.0968, MAFB 23.15, MALB is 26.638 and UPWNR is 0.07606. The construction of NRLT essentially follows the construction of the Life Table for mortality measurement using life table technique. To developing the NRLT we necessitate only the ASFR which would produces fertility measures useful for appreciative the fertility behaviour.

Table1:**Non-Reproductive life table for India in age group of 15-29, 2011 census**

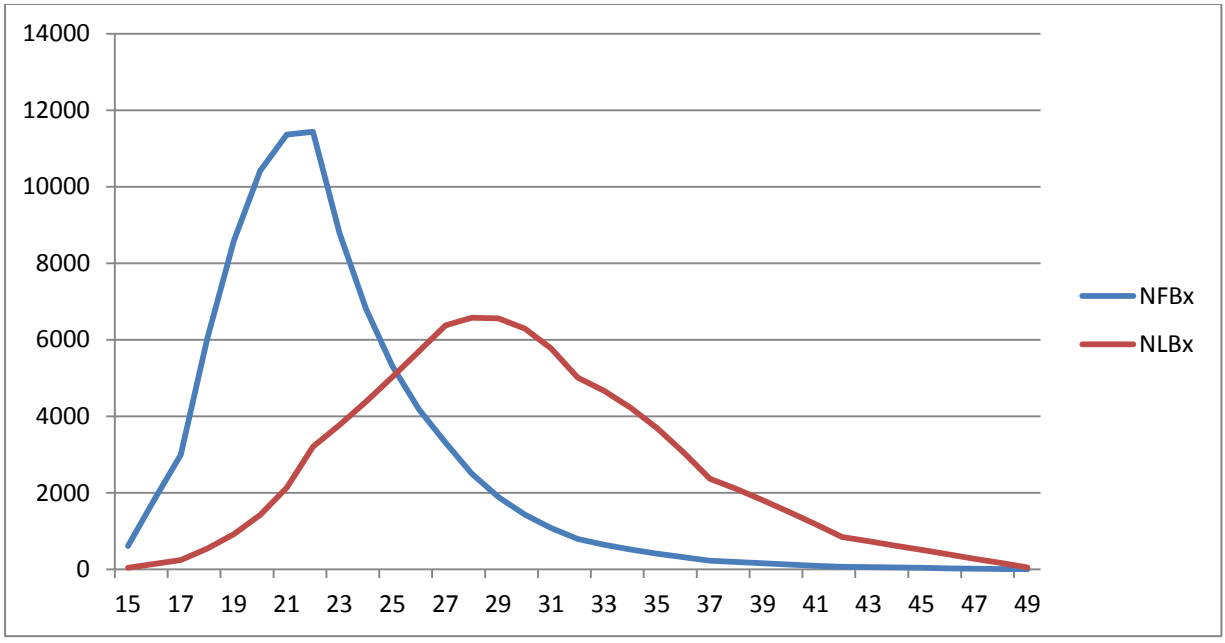
Age	F(x)	CLx	NFBx	NLBx	1-f(x-1)…1-f(b)	(CL(i)+CL(i+1))/2	Sum((CL(i)+CL(i+1))/2)	J2/I2(ECLx)	ECLx=E(Xm)	x+0.5*F(x)	x+0.5*NFB(x)	x+0.5*NLB(x)
15	0.0061	100000	614	47	**0.0765**	99693.00	1018779.10	10.19	24.81	0.09517	9517.0	728.3
16	0.0184	99386	1831	144	0.0780	98470.65	919086.10	9.25	24.75	0.30393	30206.4	2369.6
17	0.0307	97555	2995	247	0.0804	96057.84	820615.45	8.41	24.59	0.53725	52411.6	4321.4
18	0.0639	94560	6042	549	0.0859	91539.16	724557.61	7.66	24.34	1.18215	111784.5	10157.8
19	0.0971	88518	8595	924	0.0952	84220.41	633018.46	7.15	23.85	1.89345	167604.3	18019.4
20	0.1303	79923	10414	1426	0.1094	74715.89	548798.05	6.87	23.13	2.67115	213486.0	29229.1
21	0.1635	69509	11365	2139	0.1308	63826.56	474082.16	6.82	22.18	3.51525	244341.2	45984.0
22	0.1967	58144	11437	3203	0.1628	52425.72	410255.60	7.06	20.94	4.42575	257331.7	72070.9
23	0.1880	46707	8783	3771	0.2006	42315.83	357829.88	7.66	19.34	4.41894	206396.5	88625.0
24	0.1794	37924	6803	4384	0.2444	34522.97	315514.05	8.32	17.68	4.39481	166670.6	107407.9
25	0.1707	31122	5313	5031	0.2947	28465.00	280991.08	9.03	15.97	4.35336	135483.2	128297.9
26	0.1621	25808	4183	5700	0.3517	23717.20	252526.09	9.78	14.22	4.29459	110836.8	151044.1
27	0.1534	21626	3317	6373	0.4154	19967.23	228808.88	10.58	12.42	4.2185	91229.0	175251.6
28	0.1367	18309	2502	6577	0.4812	17057.32	208841.65	11.41	10.59	3.89538	71318.7	187448.5
29	0.1200	15806	1896	6559	0.5468	14858.06	191784.33	12.13	8.87	3.53882	55935.0	193503.2

Table2:**Non-Reproductive life table for India in age group of 30-49, 2011 census**

Age	F(x)	CLx	NFBx	NLBx	1-f(x-1)…1-f(b)	(CL(i)+CL(i+1))/2	Sum((CL(i)+CL(i+1))/2)	J2/I2(ECLx)	ECLx=E(Xm)	x+0.5*F(x)	x+0.5*NFB(x)	x+0.5*NLB(x)
30	0.1032	13910	1436	6295	0.6098	13191.98	176926.27	12.72	7.28	3.14882	43800.1	192000.0
31	0.0865	12474	1079	5775	0.6675	11934.32	163734.29	13.13	5.87	2.72538	33996.2	181920.4
32	0.0698	11395	795	5009	0.7176	10997.02	151799.97	13.32	4.68	2.2685	25848.9	162785.9
33	0.0611	10599	648	4671	0.7643	10275.43	140802.95	13.28	3.72	2.04752	21702.4	156493.4
34	0.0524	9952	522	4230	0.8066	9690.59	130527.52	13.12	2.88	1.80918	18004.1	145929.5
35	0.0438	9430	413	3691	0.8435	9223.34	120836.93	12.81	2.19	1.55348	14648.8	131038.8
36	0.0351	9017	316	3067	0.8742	8858.86	111613.59	12.38	1.62	1.28042	11545.6	111932.3
37	0.0264	8701	230	2370	0.8979	8585.85	102754.73	11.81	1.19	0.99	8613.7	88891.0
38	0.0229	8471	194	2101	0.9189	8374.18	94168.88	11.12	0.88	0.88011	7455.4	80872.8
39	0.0193	8277	160	1810	0.9370	8197.39	85794.71	10.36	0.64	0.76314	6316.8	71506.0
40	0.0158	8117	128	1502	0.9520	8053.39	77597.31	9.56	0.44	0.63909	5187.8	60842.7
41	0.0122	7989	98	1180	0.9638	7940.45	69543.92	8.70	0.30	0.50796	4058.3	48958.1
42	0.0087	7892	69	846	0.9723	7857.22	61603.48	7.81	0.19	0.36975	2917.9	35949.9
43	0.0075	7823	59	737	0.9796	7793.48	53746.25	6.87	0.13	0.32712	2559.0	32046.1
44	0.0063	7764	49	625	0.9859	7739.46	45952.77	5.92	0.08	0.28213	2190.5	27815.0
45	0.0052	7715	40	511	0.9910	7694.94	38213.31	4.95	0.05	0.23478	1811.3	23266.9

46	0.0040	7675	31	396	0.9950	7659.76	30518.37	3.98	0.02	0.18507	1420.4	18413.9
47	0.0028	7644	21	279	0.9978	7633.79	22858.61	2.99	0.01	0.133	1016.7	13270.2
48	0.0017	7623	13	168	0.9994	7616.68	15224.83	2.00	0.00	0.08148	621.1	8143.4

Graph1: Comparsion of number of first and last births in the single year age group from Non-Reproductive life table,2011



Graphs depicted that number of firsts births in age interval of x to x+1 is higher as comparison to numbers of last births in same age interval x to x+1. The shape of numbers of last births is shown as in normal distribution form.