

WHY IS CHINA'S TFR SO LOW?

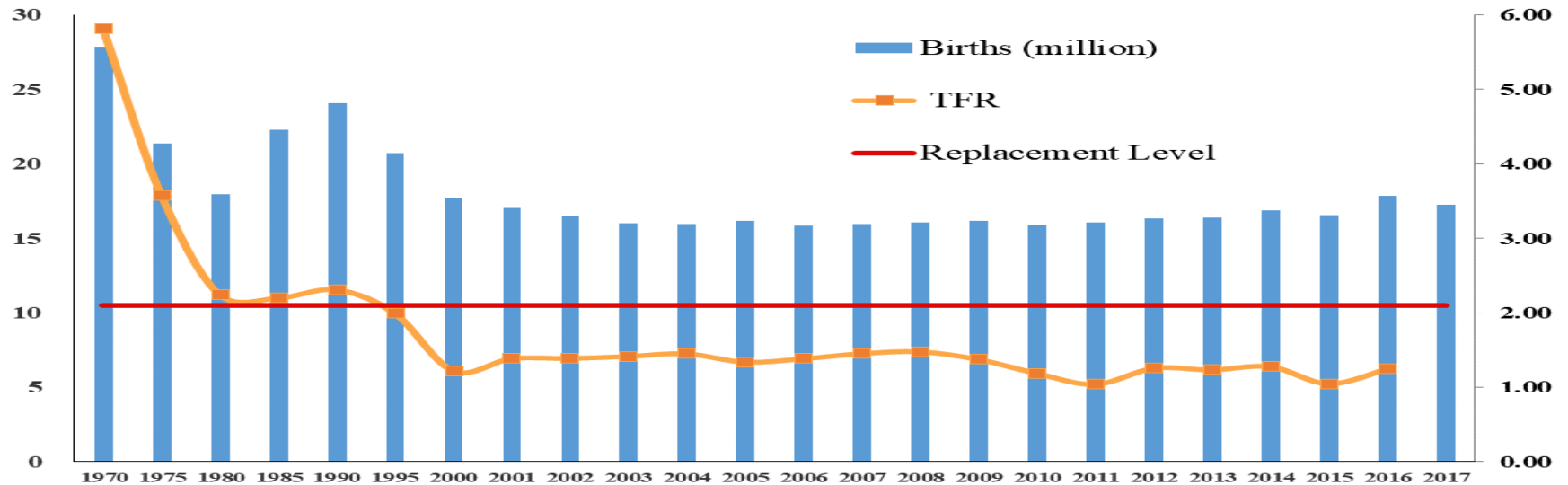
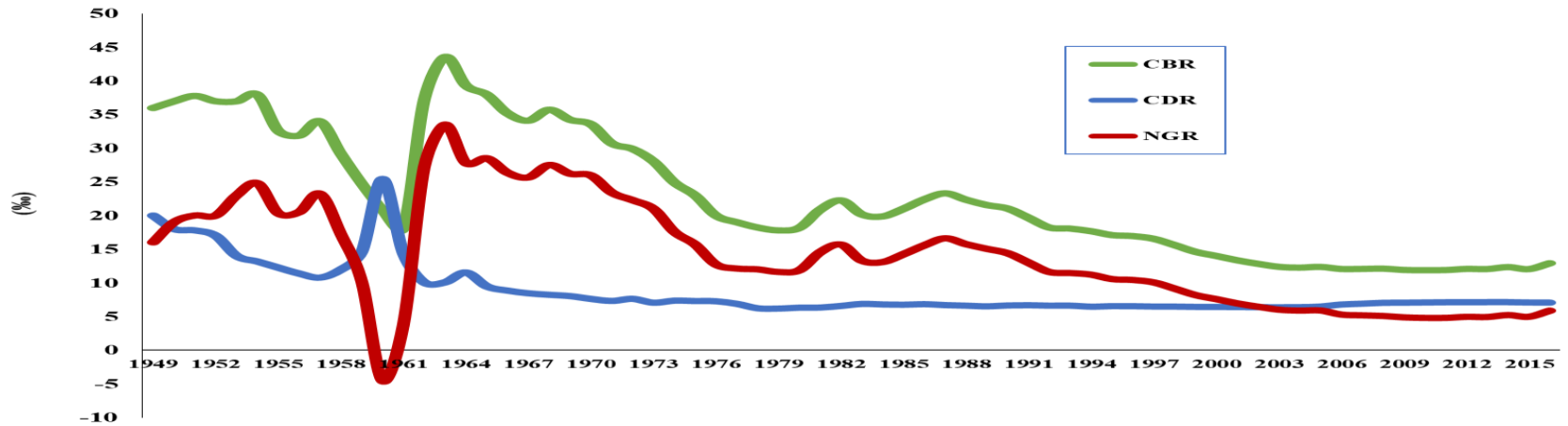
A Decompositional Analysis

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Demographic Transition in China



Fertility Policy Change in China

- November 2013, allow one of the spouse as single child to have a second child
- October 2015, allow all the couples to have two children
- Official ending of the 35 years long One-Child Policy in China

China's TFR reported by Census

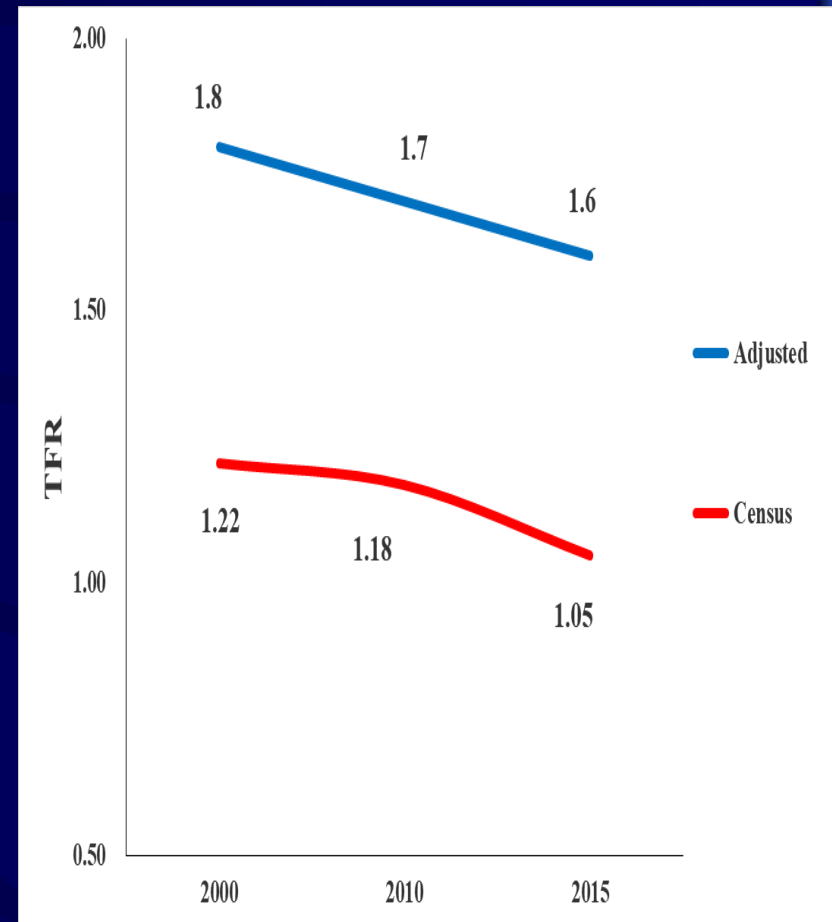
- 2000: 1.22
- 2010: 1.18
- 2015: 1.05

Reactions to the Census reported TFR

- Factually not so low
- Can not be that low
- Distorted by tempo effect

Reactions to the Census reported TFR

- Adjusted is much higher
- Still far below replacement
- Still show downward trend
- Still not answer why so low



TFR – Total Fertility Rate

- Sum of ASFRs for women aged 15-49
- Real picture of behavior during the period
- True outcome of childbearing by women
- Change in TFR due to changes in ASFRs

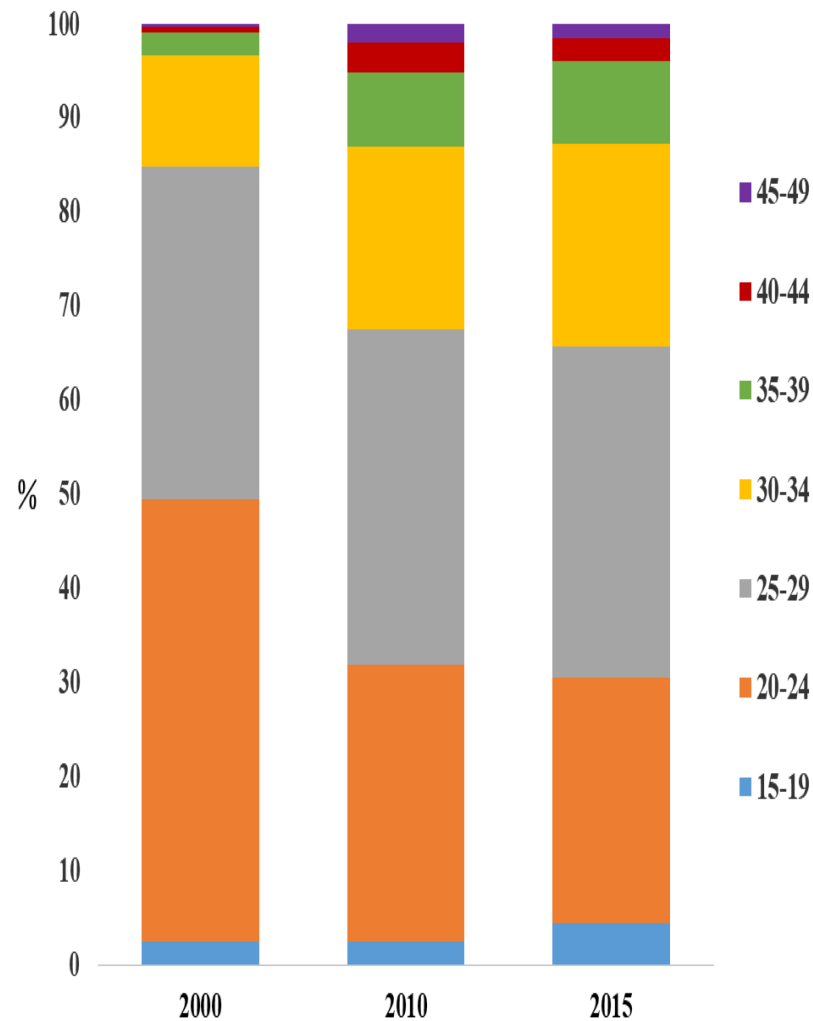
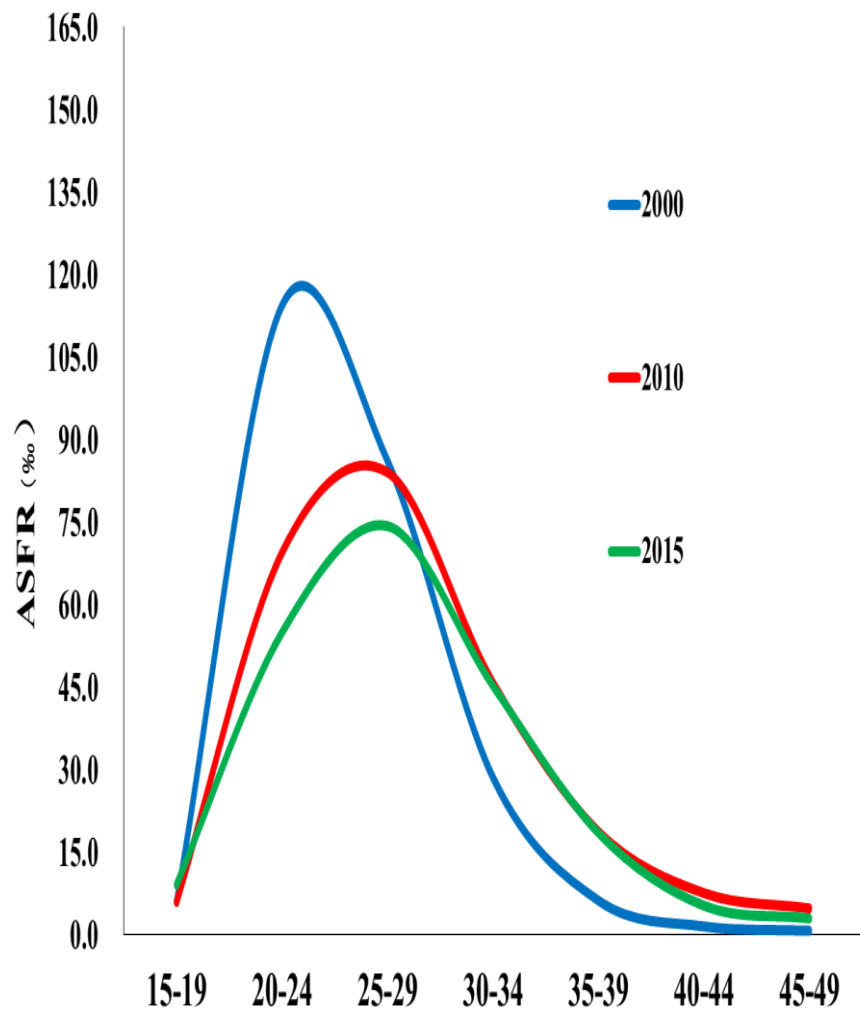
A Decompositional Analysis on TFR

- Dynamics between postponement and recuperation
- Postponement: younger women and ASFRs in 20s
- Recuperation: older women and ASFRs in 30s
- Decomposing TFR into changes in ASFRs
- Possible effect of the 2013 fertility policy change

ASFRs and TFR in China: 2000-2015 (Observed value)

	ASFR (‰)			Compositional Ratio (%)			Change in ASFR over period (‰)		
	2000	2010	2015	2000	2010	2015	2000-2010	2010-2015	2000-2015
15-19	6.0	5.9	9.2	2.5	2.5	4.4	-0.5	16.5	16.0
20-24	114.5	69.5	55.0	47.0	29.4	26.1	-225.0	-72.5	-297.5
25-29	86.2	84.1	74.3	35.4	35.6	35.2	-10.5	-49.0	-59.5
30-34	28.6	45.8	45.3	11.7	19.4	21.5	86.0	-2.5	83.5
35-39	6.2	18.7	18.6	2.5	7.9	8.8	62.5	-0.5	62.0
40-44	1.5	7.5	5.4	0.6	3.2	2.5	30.0	-10.5	19.5
45-49	0.7	4.7	3.1	0.3	2.0	1.5	20.0	-8.0	12.0
Total	1218.5	1181.0	1054.5	100.0	100.0	100.0	-37.5	-126.5	-164.0
TFR	1.22	1.18	1.05						

ASFRs and TFR in China: 2000-2015 (Observed value)



ASFRs and TFR in China: 2000-2015 (Assumed value)

	Assumed ASFR (‰)			Compositional Ratio (%)			Changes in ASFR over period (‰)		
	2000	2010	2015	2000	2010	2015	2000-2010	2010-2015	2000-2015
15-19	6.0	5.9	9.2	2.5	3.0	5.2	-0.5	16.5	16.0
20-24	114.5	69.5	55.0	47.0	35.4	31.3	-225.0	-72.5	-297.5
25-29	86.2	84.1	74.3	35.4	42.8	42.4	-10.5	-49.0	-59.5
30-34	28.6	28.6	28.6	11.7	14.6	16.3	0	0	0
35-39	6.2	6.2	6.2	2.5	3.2	3.5	0	0	0
40-44	1.5	1.5	1.5	0.6	0.7	0.9	0	0	0
45-49	0.7	0.7	0.7	0.3	0.3	0.4	0	0	0
Total	1218.5	982.5	877.5	100.0	100.0	100.0	-236.0	-105.0	-341.0
TFR	1.22	0.98	0.88						

Note: Assuming to keep the ASFRs of age 30-49 at the level of 2000 over the period to 2010 and 2015.

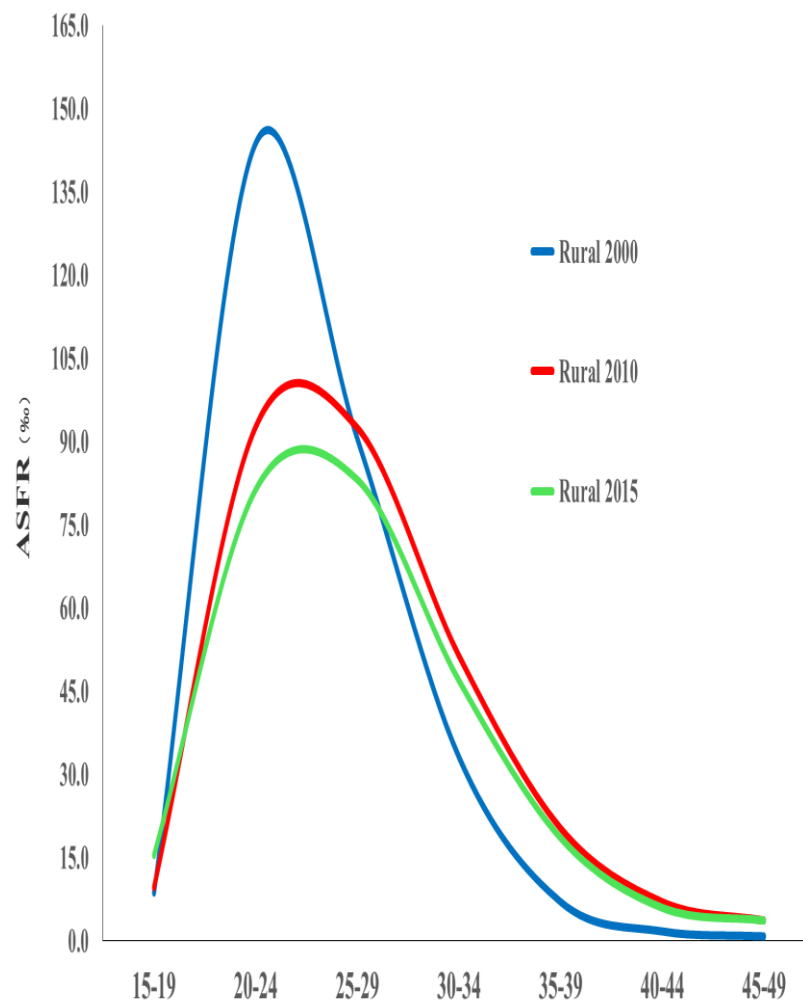
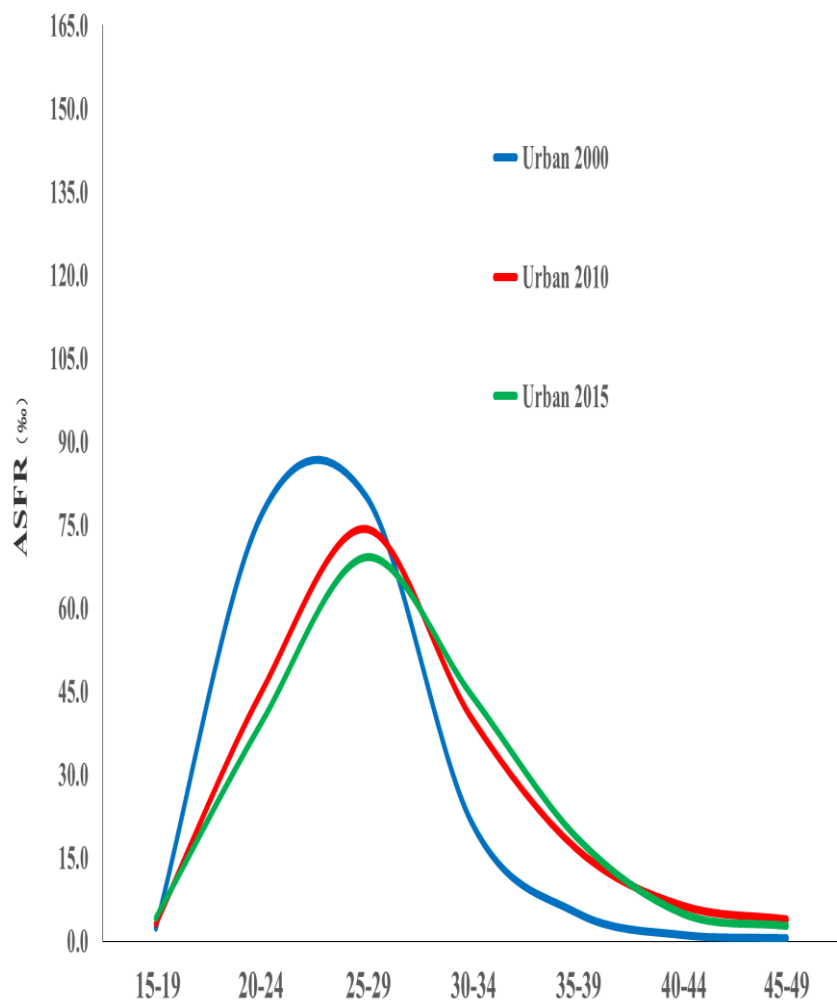
ASFRs and TFR in Urban China: 2000-2015

	ASFR (‰)			Compositional Ratio (%)			Change in ASFR over period (‰)		
	2000	2010	2015	2000	2010	2015	2000-2010	2010-2015	2000-2015
15-19	2.4	3.1	4.1	1.3	1.6	2.2	3.5	5.0	8.5
20-24	76.6	44.7	39.2	40.9	23.6	21.4	-159.5	-27.5	-187.0
25-29	80.1	74.2	69.2	42.7	39.2	37.8	-29.5	-25.0	-54.5
30-34	21.5	40.2	44.4	11.5	21.3	24.2	93.5	21.0	114.5
35-39	5.1	16.6	18.7	2.7	8.8	10.2	57.5	10.5	68.0
40-44	1.1	6.4	5.0	0.6	3.4	2.7	26.5	-7.0	19.5
45-49	0.5	3.9	2.7	0.3	2.1	1.5	17.0	-6.0	11.0
Total	936.5	945.5	916.5	100	100	100	9.0	-29.0	-20.0
TFR	0.94	0.95	0.92						

ASFRs and TFR in Rural China: 2000-2015

	ASFR (‰)			Compositional Ratio (%)			Change in ASFR over period (‰)		
	2000	2010	2015	2000	2010	2015	2000-2010	2010-2015	2000-2015
15-19	8.7	9.6	15.4	3.0	3.5	6.1	4.5	29.0	33.5
20-24	143.8	92.6	81.4	50.4	33.5	31.9	-256.0	-56.0	-312.0
25-29	90.5	92.4	83.2	31.7	33.4	32.6	9.5	-46.0	-36.5
30-34	33.1	51.3	46.9	11.6	18.5	18.4	91.0	-22.0	69.0
35-39	7.0	20.2	18.5	2.4	7.3	7.3	66.0	-8.5	57.5
40-44	1.7	6.9	5.9	0.6	2.5	2.3	26.0	-5.0	21.0
45-49	0.8	3.6	3.6	0.3	1.3	1.4	14.0	0.0	14.0
Total	1428.0	1383.0	1274.5	100	100	100	-45.0	-108.5	-153.5
TFR	1.43	1.38	1.27						

ASFRs and TFR in Urban and Rural China: 2000-2015



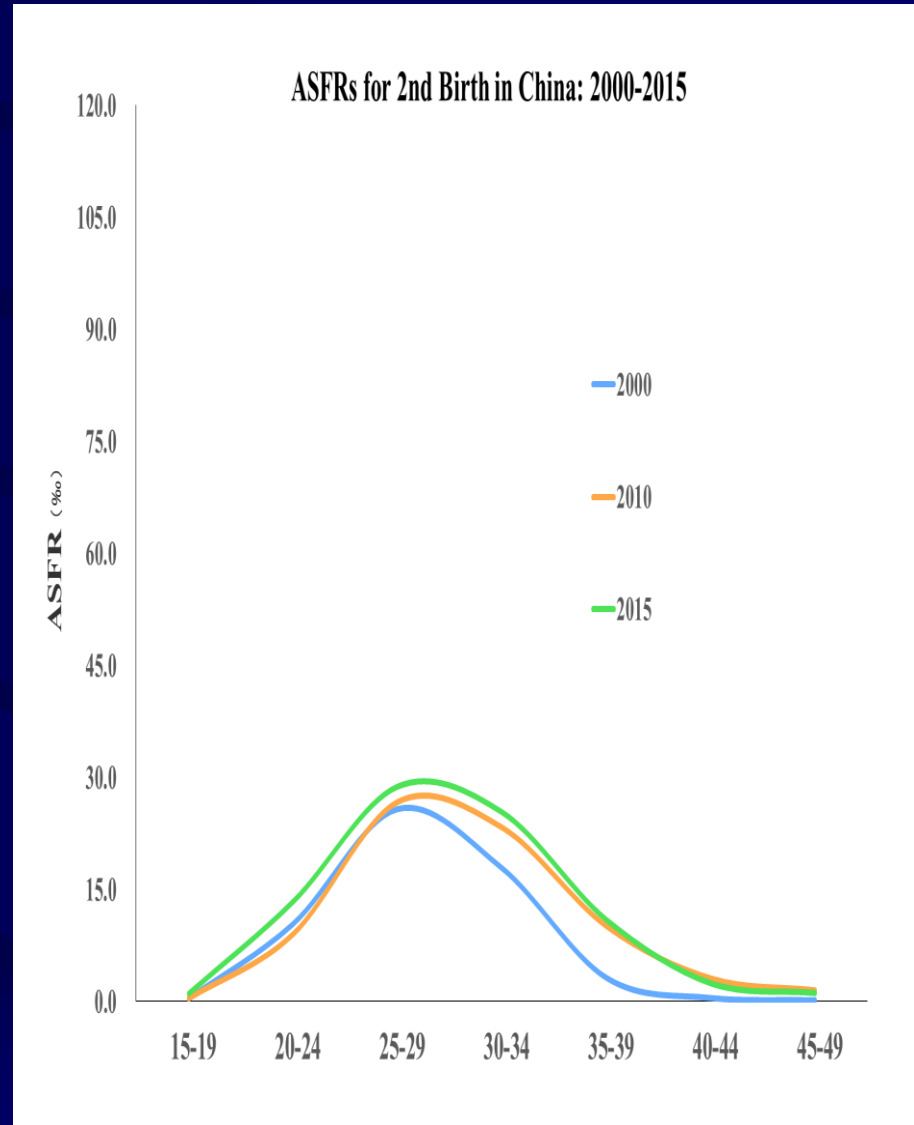
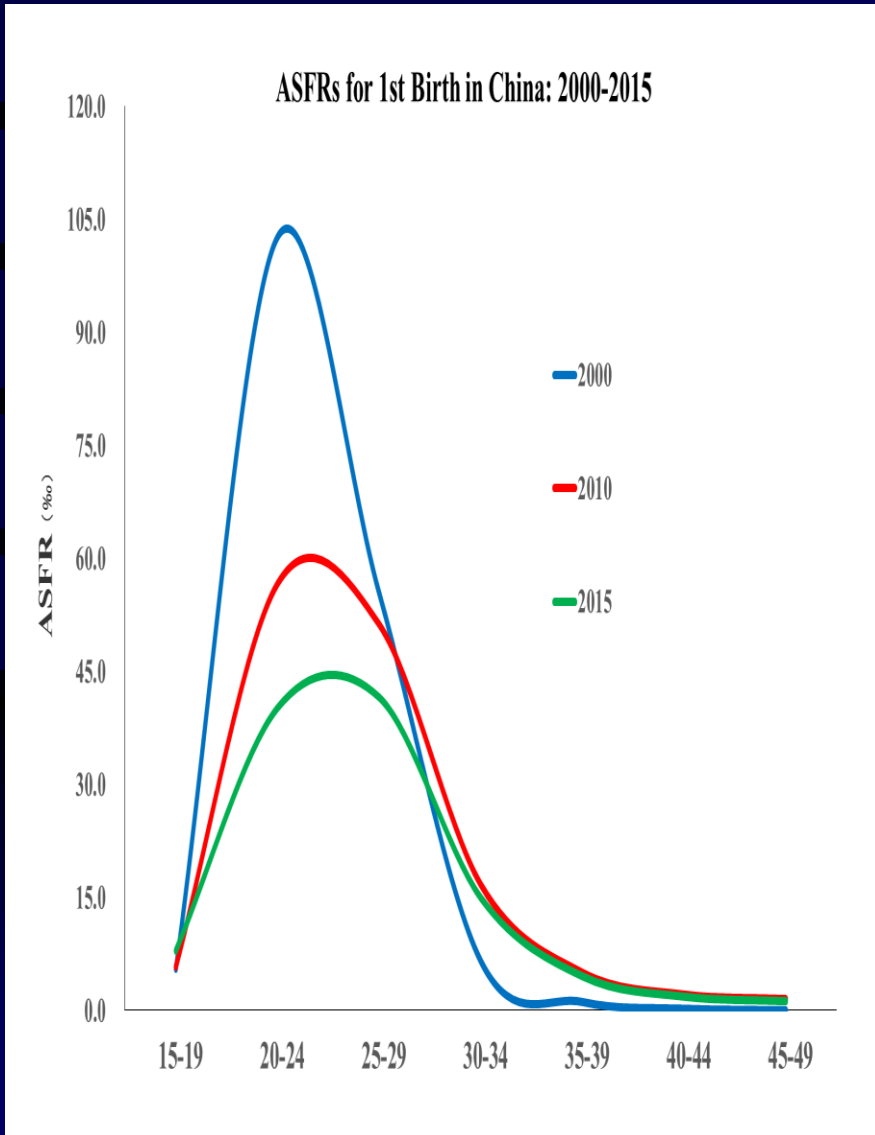
ASFRs and TFR for 1st Birth in China: 2000-2015

	ASFR (‰)			Compositional Ratio (%)			Change in ASFR over period (‰)		
	2000	2010	2015	2000	2010	2015	2000-2010	2010-2015	2000-2015
15-19	5.6	5.8	8.0	3.3	4.1	7.1	1.0	11.0	12.0
20-24	102.6	56.7	40.2	59.7	40.8	35.7	-229.5	-82.5	-312.0
25-29	55.4	51.3	41.6	32.2	36.9	37.0	-20.5	-48.5	-69.0
30-34	6.6	16.7	15.0	3.8	12.0	13.3	50.5	-8.5	42.0
35-39	1.2	5.0	4.6	0.7	3.6	4.1	19.0	-2.0	17.0
40-44	0.3	2.1	1.9	0.2	1.5	1.7	9.0	-1.0	8.0
45-49	0.1	1.5	1.3	0.1	1.1	1.1	7.0	-1.0	6.0
Total	859.0	695.5	563.0	100.0	100.0	100.0	-163.5	-132.5	-296.0
TFR	0.86	0.67	0.56						15

ASFRs and TFR for 2nd Birth in China: 2000-2015

	ASFR (‰)			Compositional Ratio (%)			Change in ASFR over period (‰)		
	2000	2010	2015	2000	2010	2015	2000-2010	2010-2015	2000-2015
15-19	0.4	0.4	1.1	0.7	0.6	1.3	0.0	3.5	3.5
20-24	10.4	9.0	13.4	17.8	12.2	16.1	-7.0	22.0	15.0
25-29	25.8	26.7	28.8	44.2	36.0	34.5	4.5	10.5	15.0
30-34	17.9	23.3	25.4	30.6	31.4	30.5	27.0	10.5	37.5
35-39	3.2	10.1	11.0	5.5	13.6	13.2	34.5	4.5	39.0
40-44	0.5	3.1	2.5	0.9	4.2	3.0	13.0	-3.0	10.0
45-49	0.2	1.5	1.2	0.3	2.0	1.4	6.5	-1.5	5.0
Total	292.0	370.5	417.0	100.0	100.0	100.0	78.5	46.5	125.0
TFR	0.29	0.37	0.42						

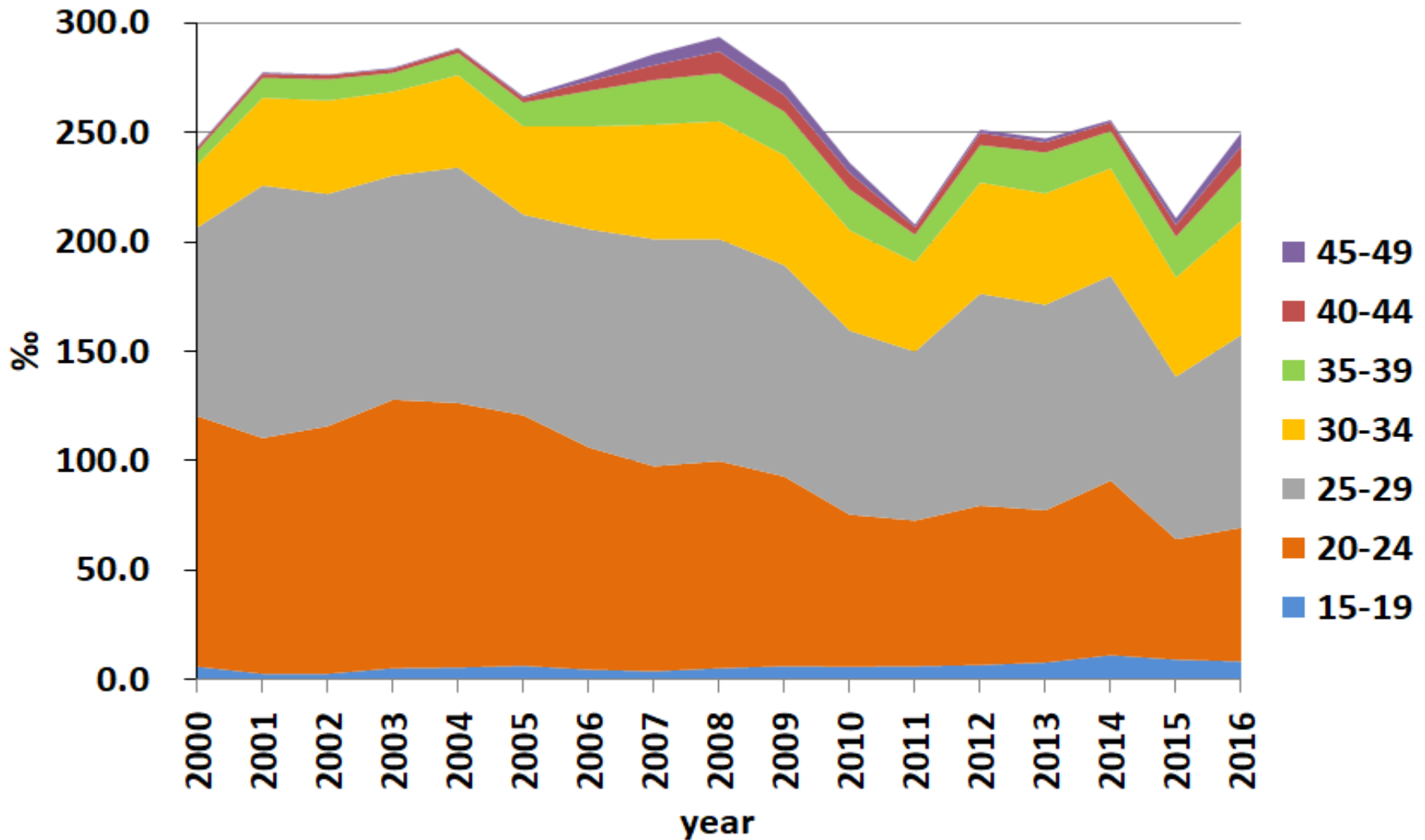
ASFRs and TFR for 1st and 2nd Birth in China: 2000-2015



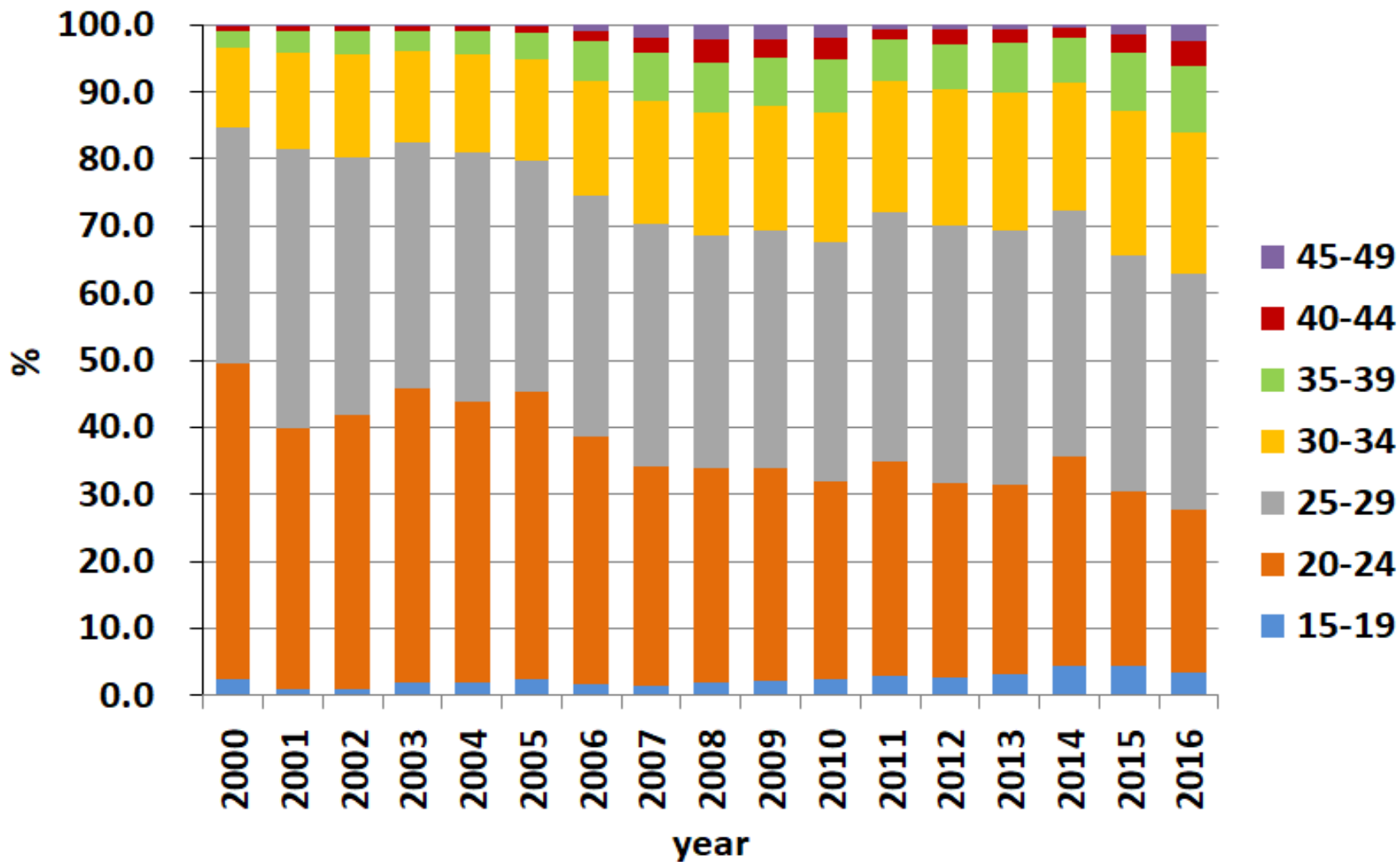
ASFRs and TFR for 3⁺ Birth in China: 2000-2015

	ASFR (‰)			Compositional Ratio (%)			Change in ASFR over period (‰)		
	2000	2010	2015	2000	2010	2015	2000-2010	2010-2015	2000-2015
15-19	0.0	0.0	0.1	0	0	0.6	0.0	0.5	0.5
20-24	1.5	0.9	1.4	11.4	6.0	9.3	-3.0	2.5	-0.5
25-29	4.9	4.0	4.0	37.1	26.5	26.5	-4.5	0.0	-4.5
30-34	4.1	4.9	4.9	31.1	32.4	32.4	4.0	0.0	4.0
35-39	1.8	3.1	3.0	13.6	20.5	19.9	6.5	-0.5	6.0
40-44	0.6	1.4	1.1	4.5	9.3	7.3	4.0	-1.5	2.5
45-49	0.3	0.8	0.6	2.3	5.3	4.0	2.5	-1.0	1.5
Total	66.0	75.5	75.5	100.0	100.0	100.0	9.5	0.0	9.5
TFR	0.07	0.08	0.08						

Annual Changes in ASFRs: 2000-2016



Proportional Distribution of Annual Changes in ASFRs: 2000-2016



Changes in TFR since 2000

- Downward ASFRs in 20s suggest postponement
- Upward ASFRs in 30s suggest recuperation
- More changes in 2000-2010 than in 2010-2015
- Effect of policy change since 2013 is minor
- Strong postponement and weak recuperation
- Inevitably result China's fertility to go downward

Thank You!