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### FERTILITY IN RUSSIA

This study is connected with fertility analysis in Russia. The purpose of the study is to estimate the changes in Russian cohort fertility and parity cohort fertility, and to study some factors of differences in fertility (female employment, level of education, nationality).

Data: Russian Census 2002.

Methodology: The method of cohort analysis and method of parity-progression table is used to study parity distribution (the probability-mass function). To make picture more clear we stress Pollard's decomposition of the TF difference to measure the impact of each parity (each parity-progression ratio) on the cohort total fertility differences (the cohorts born from before 1932 to 1963-67). The mean number of siblings and the mean birth order (composite fertility quantum indicators) are calculated for total, urban and rural population.

Let me start with static picture of female age-parity distribution. According to census 2002 distribution of female population in age 15 years and more by age and parity is constructed on Picture 1. Among women are over fifteen share of them who has no child is 22%, who has one child is 31%, etc.<sup>1</sup>



Picture 1. Distribution of female population over 15 in 2002 by age and parity, census 2002

To analyse change in cohort fertility we consider cohorts born from years before 1932 (women were over 70 years in 2002) to 1963-67 (women were 35-39 years in 2002)<sup>2</sup>. Traditionally we shoud stop our analysis with cohort in which women were 40-44 or 45-49 years in census year. However, for long period (from 1970th) we have type fertility in Russia when the

<sup>&</sup>lt;sup>1</sup> Some results of period fertility analisis see in Appendix 1, Appendix 1a.

<sup>&</sup>lt;sup>2</sup> We have five-year type of data

proportion of all births which take place to women aged under 40 years no less than  $98,6\%^3$ . That why we consider 1963-1967 cohort also. Moreover, sometimes we give caculations for 1968-1972 cohort (women were 30-34 years in 2002). It is obviously that the last cohort do not finished its reproductive history. And we do only some estimation for this cohort. Neveretheless, inspite of process of ageing of fertility in Russia (which we are faceing during several last years) the proportion of all births which take place to women aged under 35 years no less than 92-93%.

Pictures 2-6 show cohort total fertility rates of total, urban, rural, married, occupied female population and ones of women with different level of education. Tables 1 consists of calculation of total fertility rates for theese cohorts by nationality.

From 1933-1937 cohort Russian population did not reach the replacement level of fertility. For three decades (from 1933-1937 cohort to 1963-1967 one) total fertility rate decreased from 2,01 to 1,67 (0,35 child per woman). By this fact rural TFR dropped more significantly (0,59 child per woman) than urban TFR (0,21 child per woman) because higher difference in level of fertility of older rural and urban cohorts. We could say about the closing in fertility level to urban and rural female population. The difference between urban TFR and rural TFR was shorten approximatelly by two time: from 0,93 (1933-1937 cohort) to 0,57 (1963-1967 cohort).

Increasing of TFR for 1953-1957 cohort (and clother ones), probably, was connected with the pronatalist policy of the middle of the 1980<sup>th</sup>, when women of this cohort were "main" reproductive ages and risk of second and third births was higher<sup>4</sup>. Another cause of this fluctuation is returning to general fertility trend after "weak" war cohorts.

Lag in cohort TFRs and period TFRs (the last ones are lower) is evidence of fertility ageing in modern Rusia.

# Picture 2. Cohort total fertility rates: total, urban and rural Russian female population, census 2002

<sup>&</sup>lt;sup>3</sup> See Appendix 1a.

<sup>&</sup>lt;sup>4</sup> Some Russian demographers recognize significant period effect of the policy 1980<sup>th</sup> (Elizarov 2004: 349) and forecast positive cohort effect of this policy. Another demographers suppose that the policy 1980<sup>th</sup> did not have positive effect on cohort fertility level, but it led only to shifts of births timing (Vishnevsky 2006:175). Five-years type of data do not permit us to make more sharp analysis.

TFR, real cohorts



Picture 3 demonstrates the adujusted TFRs for the same cohorts in compare whith the TFRs calculated on census 2002 data. For older cohorts we estimated effect of population selection using data of census 1989, for younger cohorts we made valuation using the dynamic of the proportion of all births which take place to women aged under 30 and 35 years. According to our estimation the TFR for cohort born in 1963-1967 will 1,72, and the TFR for cohort born in 1968-1962 will 1,56 child per woman. And for three decades (from 1933-1937 cohort to 1963-1967 one) total fertility rate decreased from 2,05 to 1,72 (0,33 child per woman).



Picture 3. Adjusted cohort total fertility rates: total female population

As we expected TFRs for married women are higher than ones for total women to all cohorts. From 1933-1937 cohort to 1963-1967 one total married fertility rate decreased from

2,10 to 1,81 (minus 0,29 child per woman in compare 0,35 child per women for total women without adjustment).

We could say nothing about closing in fertility level to married and total female population without estimation marriage history for younger cohorts (1963-1967 and 1968-1972).



Picture 4. Cohort total fertility rates: total women and married women, census 2002

We have intresting observation that TFRs of occupied women practicaly did no change for three decades (again from 1933-1937 cohort to 1963-1967 one). It was only 0,02 child per woman. And afterwar female generations showed the strong closing in fertility level dynamics.

The growth of TFRs for the middle cohorts occupied woman is, probably, connected with the pronatalist policy of the 1980<sup>th</sup>, wich concentrated mainly on improvment of rules and conditions for combination of "mother" and "worker" roles for Soviet woman. Obviously, that in the low fertility countries such policy's measures not only shifted timing of births and had short-term period effect (Hoem, Hoem 2000:324-325) but also could had cohort effect.



Picture 5. Cohort total fertility rates: total women and occupied women, census 2002

On the background tendency of the fertility declining there is the closing in fertility level to majority of socio-demographic groups. If we exclude from our analysis women who have no education (because this social group in our days is small marginal group<sup>5</sup>) that we'll get the proof of this gypothesis for the extreme levels of education. The difference between TFR for women with university level of education (graduated and post-graduated ones) and TFR for women with primary school level of education for 1933-1937 cohort was 1 child per woman (2,48-1,48), but for 1963-1967 cohort – 0,67 child per woman (2,07-1,40) (see Picture 6).

However, TFRs of graduated women in compare with TFRs of women with college education<sup>6</sup> did no change so dramatically and had light tendency to growth which changed into opposite trend, may be, to tuch the level of 1933-1937 cohort's difference. The same story was for investigated period in order to comparison of TFRs of women with college education and TFRs of women with tertiary education (see Picture 7). Probably, the effect of the pronatalist policy of the 80th influenced women with lower level of education by more significant way: college education in opposite of university one and tertiary school education in opposite of college one. Women with lower lever of education, and with more manual and more hard work correspondingly, took extended maternity leave more often than graduated women.



Picture 6. Cohorts total fertility rates by educational level, census 2002

Picture 7. TFRs' differences by educational level

<sup>&</sup>lt;sup>5</sup> According to census data educational structure of female population was changed dramatically for the investigated period. F.e., in cohort born in 1933-1937 graduated and postgraduated education rate was 120‰, college education rate was 205‰, primary school education rate was 250‰, and without education was 22‰. But in cohort born in 1963-1967 there were 241‰, 412‰, 6‰, and 3‰ correspondingly (<u>http://www.perepis2002.ru/index.html?id=12</u>). <sup>6</sup> Approximatelly one half of modern female population by educational level.



Ethnic female groups in Russia are in th process of the closing in fertility level on the background tendency of fertility declining (see dynamics of dispersion in ethnic TFRs in Table 1). Russian population (79,8% of population in 2002) has the most low level of fertility (excluding Jewish women).

Nationalities		Conorts										
	1958-1962	1953-1957	1948-1952	1943-1947	1938-1942	1933-1937	1932 <					
Jewish	1,451	1,399	1,373	1,323	1,345	1,294	1,401					
Russian	1,755	1,809	1,770	1,719	1,797	1,871	2,088					
Byelorussian	1,791	1,875	1,869	1,910	1,931	2,005	2,278					
Ukrainian	1,847	1,902	1,908	1,883	1,921	2,024	2,228					
Mordovian	1,885	1,966	2,065	2,195	2,463	2,650	2,967					
Tatar	1,888	1,969	2,014	2,071	2,339	2,543	2,967					
Karelian	1,948	1,931	1,914	1,933	1,989	2,227	2,482					
Komi	2,003	2,174	2,127	2,121	2,539	2,839	3,206					
Adugei	2,006	2,107	2,250	2,446	2,623	2,810	3,057					
Chuvash	2,052	2,185	2,255	2,378	2,598	2,789	2,988					
Osset	2,060	2,199	2,253	2,283	2,339	2,447	2,727					
Udmurt	2,093	2,183	2,268	2,285	2,537	2,796	2,946					
Bashkir	2,125	2,306	2,434	2,599	3,079	3,414	3,695					
Balkar	2,137	2,315	2,531	2,754	3,345	3,502	3,879					
Mansi	2,141	2,502	2,557	2,518	3,000	3,215	3,615					
Armenian	2,143	2,139	2,161	2,181	2,321	2,437	2,570					
Kalmyk	2,148	2,247	2,287	2,463	3,380	3,971	4,466					

Table 1. Cohorts total fertility rates by some nationalities, census 2002<sup>7</sup>

<sup>&</sup>lt;sup>7</sup> I have been indebted to Vladimir Arkhangelskiy for the calculation of ALL TFRs in this table and for the discussions on dynamic of Russian fertility. <sup>8</sup> Nationalities were ranked in order to TFR of cohort born in 1958-1962.

~							1
Circassian	2,167	2,343	2,436	2,661	3,092	3,467	3,441
Mari	2,176	2,344	2,435	2,452	2,760	3,013	3,200
German	2,185	2,229	2,214	2,299	2,565	2,821	3,078
Komi-Permyaki	2,189	2,395	2,402	2,454	2,991	3,134	3,315
Kazakh	2,231	2,550	2,900	3,705	4,548	5,164	4,901
Koryak	2,273	2,464	2,426	3,097	3,979	4,530	3,846
Khakass	2,303	2,541	2,595	2,486	2,838	3,452	3,414
Karachai	2,350	2,595	2,845	2,905	3,291	3,784	3,902
Kabardinian	2,371	2,487	2,616	2,718	2,972	3,304	3,420
Buryat	2,401	2,624	2,840	2,989	3,571	3,836	3,943
Yakut	2,428	2,568	2,600	2,806	3,406	3,990	4,553
Azerbaijanian	2,441	2,596	2,849	3,007	3,376	3,874	3,969
Altai	2,474	2,769	2,969	3,312	3,815	4,008	3,821
Evenk	2,646	2,914	2,724	3,064	3,188	3,811	4,386
Lezghin	2,716	3,009	3,438	3,742	4,354	4,737	4,609
Chukchi	2,732	3,000	3,164	3,392	4,153	4,280	4,747
Khanty	2,754	2,751	2,722	3,214	3,481	4,096	4,538
Kumyk	2,760	2,920	3,206	3,451	3,738	4,104	4,023
Dolgan	2,799	3,014	2,839	3,255	3,395	3,521	4,137
Tuvinian	2,880	3,362	3,739	4,204	4,696	5,157	5,557
Avar	2,903	3,227	3,614	3,890	4,067	4,207	3,826
Dargin	2,959	3,315	3,892	4,090	4,552	4,628	4,093
Chechen	3,130	3,469	3,857	4,014	4,195	4,571	4,607
Nenets	3,459	3,636	3,688	4,021	4,334	4,501	4,784
Ingush	3,617	4,038	4,439	4,773	5,234	5,434	5,020
DISPERSION	0,21	0,29	0,43	0,59	0,79	0,94	0,81

To analyze Russian cohort fertility by parity we constructed series of the parityprogression tables. The changes in Russian fertility for the cohorts born from before 1932 to 1963-67 developed both decreasing of total level of fertility (see Table2) and the transformation in parity distribution (see Pictures 7-8). It was significantly for second parity.

Table 2	2. Total ferti	lity (TF), n	nean nu	mber of	siblings	(MNS) an	d the mean	birth o	order
(MBO)	for Russiar	n cohorts (t	otal poj	pulation)					

Cohorts	MNS	MBO	TF
1963-1967	2,21	1,60	1,66
1958-1962	2,36	1,68	1,82
1953-1957	2,44	1,72	1,87
1948-1952	2,45	1,72	1,84
1943-1947	2,46	1,73	1,80
1938-1942	2,63	1,81	1,90
1933-1937	2,82	1,91	2,00
1932<	3,26	2,13	2,18

Picture 7. Probability-mass function for cohorts, Russia



Picture 8. Parity-progression ratio for cohorts, Russia



Pollard's decomposition (Pollard 1988: 265-276) of the TF difference (Picture 9) permits us estimate the impact of each parity-progression ratio on the cohort total fertility differences (we consider the pairs of cohorts born from "1930" (before 1932) to "1965" (1963-67)). Younger cohort demonstrate increasing changes in weight of first birth.



TFr1-TFr2



Pictures 10-11 and 12-13 and table 3 show the transformation for parity distribution and fertility level for urban and rural population. We could see that rural cohorts are being later to have 1-2 children model like urban ones (espesialy urban cohort born in 1963-67). Urban population have more asymmetrical distribution by parity, and urban cohorts started to decrease level of fertility and to refuse from births of higher parities early than rural ones.

Table 3. Total fertility (TF), mean number of siblings (MNS) and the mean birth order (MBO) for Russian cohorts (urban and rural population)

Cohorts	MNS		MBO		TF		
	urban	rural	urban	rural	urban	rural	
1963-1967	2,01	2,64	1,50	1,82	1,66	1,66	
1958-1962	2,15	2,84	1,57	1,92	1,82	1,82	
1953-1957	2,21	3,00	1,61	2,00	1,87	1,87	
1948-1952	2,19	3,09	1,60	2,04	1,84	1,84	
1943-1947	2,15	3,20	1,57	2,10	1,80	1,80	
1938-1942	2,21	3,36	1,60	2,18	1,90	1,90	
1933-1937	2,33	3,60	1,66	2,30	2,00	2,00	
1932<	2,82	3,93	1,91	2,46	2,18	2,18	

Picture 10. Probability-mass function for urban cohorts, Russia









Picture 12. Probability-mass function for rural cohorts, Russia

Picture 13. Parity-progression ratio for rural cohorts, Russia



To look clearly for theese tendencies we could see the probability-mass functions for the youngest cohort which stoped its fertility (1958-62) and for the oldest one at our data (born before 1932). The probability-mass functions for theese cohorts we construct not only for urban and rural female population (Picture 14), but also for occupied and total female population (Picture 15), and for married and total female population (Picture 16)<sup>9</sup>. Both urban and rural cohorts increased significantly the proportion of women with two children. Urban cohorts did it also in order to first child. The proportion women whith three children in rural cohorts is rested relatively higher.

# Picture 14. Probability-mass functions for younger cohort and older one by urban and rural population

<sup>&</sup>lt;sup>9</sup> In Appendix 3 there are PPRs and Final Probability Mass Functions for occupied and married cohorts. In Appendix 4 it is possible to see the total fertility (TF), the mean number of siblings (MNS) and the mean birth order (MBO) for Russian cohorts of occupied women and married women. Appendix 5 consists of parity-atteinment proportion for total cohorts.

Appendix 2 demonstrates the comparison of the TFRs and the Table TFs (parity progression tables) for totalm urban, rural, married and occupied cohorts.



In contrast to urban/rural populations occupied cohorts had difference with total cohorts only in the past as we could see early. Picture 15 shows that its difference takes place mainly in relation to first birth and birth of higher (3d, 4th, 5th) parity.

Picture 15. Probability-mass functions for younger cohort and older one by occupied and total population



Married population, as we have undestood, did not have differences with total population. The changes in the fertility level of theese population appeared synchronously. As far as parity concerns we also do not have distinctions. The proportion of women with two children is the biggest like for married women as for total women both in the past and nowdays.



Picture 16. Probability-mass functions for younger cohort and older one by married and total population

Estimation of younger cohorts' parity fertility permits us to propose the important changes for Russia – the growth of impact of childlessness. The childlessness level was a main difference between parity-progression shedules of Western and Russian (and East European) population. So cold "universal childbearing" was consequences of Socialist general welfare system and pronatalist policy (Barkalov 2004: 30) – there were free public child-care facilities, long paid post-maternity leaves, protection of childbearing of single mother, etc.

The cohorts were born before and in the time of Second World War had relatively higher level of childlessness (7-9%) because disproportion on the marriage market during repression, war, and recovery periods (Picture 16). The next cohorts had biological level of childlessness (5-7%). However, two younger cohorts permit us to propose the increasing of childlessness level (especially for urban population – till 8-11%). Traditionaly rural and married population have less level of childlessness.

Picture 16 introduces us another issues: we could compare childlessness level of the occupied women and one of the total women. After war cohorts of occupied women had lower childlessness level than total ones. This phenomenon could be linked with more active reaction of the occupied women on the policy 1980<sup>th</sup> (we discussed it early).

### Picture 16. The ultimate proportion childless for different female population

## **Ultimate Proportion Childless**



Calendar									
time	Age-s	specific	fertility	rates				TFR	MAB
(years)	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
1958-1959	28,4	157,9	156,4	101,9	57,7	19,9	3	2,63	28,21
1964-1965	22,7	150,8	122,8	77,3	39,2	13,4	1,5	2,14	27,57
1969-1970	28,3	146,9	107,4	69,3	32,2	9	1,1	1,97	27,01
1974-1975	33,9	158,8	110,5	58,6	28,9	7,3	0,6	1,99	26,42
1979-1980	42,7	157,1	101,2	52,6	18,4	5,1	0,4	1,89	25,70
1980-1981	43,6	157,6	102	52	18,8	4,6	0,4	1,90	25,66
1981-1982	43,6	159,1	105,9	54,9	21,9	4,3	0,4	1,95	25,79
1982-1983	44,7	163,8	113,1	59,8	23,9	4,1	0,3	2,05	25,89
1983-1984	46,1	166,3	114,9	61,2	24	3,7	0,3	2,08	25,86
1984-1985	46,9	164,2	113,3	60	23,2	3,7	0,3	2,06	25,81
1985-1986	46,9	165,7	117,5	63	24,5	4,3	0,3	2,11	25,92
1987	48,5	170,6	122,6	67,8	27,8	6,1	0,2	2,22	26,09
1988	49,6	167,9	114,1	61,8	25,6	5,6	0,2	2,12	25,89
1989	52,5	163,9	103,1	54,6	22	5	0,2	2,01	25,58
1990	55	156,5	93,1	48,2	19,4	4,2	0,1	1,88	25,29
1991	54,2	145,9	82,7	41,5	16,5	3,7	0,2	1,72	25,06
1992	50,7	132,9	72,4	34,9	13,9	3,2	0,2	1,54	24,88
1993	47	118,2	63,3	28,7	11	2,5	0,2	1,35	24,67
1994	48,8	118,6	66,3	29,2	10,6	2,2	0,1	1,38	24,62
1995	44,8	112,7	66,5	29,5	10,6	2,2	0,1	1,33	24,79
1996	38,9	105,5	65,5	30,1	10,8	2,3	0,1	1,27	25,05
1997	35,6	97,6	64,5	31	10,7	2,1	0,1	1,21	25,23
1998	33,5	98,1	66,7	33,1	11,5	2,3	0,1	1,23	25,43
1999	28,9	91,8	63,7	32,2	11,1	2,2	0,1	1,15	25,58
2000	27,3	93,2	67	35	11,8	2,4	0,1	1,18	25,78
2001	27,3	93,1	70,2	38	12,9	2,4	0,1	1,22	25,94

## Appendix 1. Period fertility data, Russia

2002	27,4	95,7	75,1	41,7	14,7	2,6	0,1	1,29	26,12
2003	27,6	95,1	78,3	44,1	16	2,7	0,1	1,32	26,26
2004	28,2	93,4	80,2	45,9	17,6	2,9	0,1	1,34	26,39

Calculated on data from *Demographic Yearbook (2005)* 

Appendix 1a. The mean number of children which were born by women aged under some years<sup>10</sup>

								under	under
								35	40
Calendar time	under 20	under 25	under 30	under 35	under 40	under 45	TFR	(%)	$(\%)^{12}$
1958-1959	0,14	0,93	1,71	2,22	2,51	2,61	2,63	84,65	95,64
1964-1965	0,11	0,87	1,48	1,87	2,06	2,13	2,14	87,35	96,52
1969-1970	0,14	0,88	1,41	1,76	1,92	1,97	1,97	89,27	97,44
1974-1975	0,17	0,96	1,52	1,81	1,95	1,99	1,99	90,77	98,02
1979-1980	0,21	1,00	1,51	1,77	1,86	1,89	1,89	93,67	98,54
1980-1981	0,22	1,01	1,52	1,78	1,87	1,89	1,90	93,72	98,68
1981-1982	0,22	1,01	1,54	1,82	1,93	1,95	1,95	93,18	98,80
1982-1983	0,22	1,04	1,61	1,91	2,03	2,05	2,05	93,09	98,93
1983-1984	0,23	1,06	1,64	1,94	2,06	2,08	2,08	93,28	99,04
1984-1985	0,23	1,06	1,62	1,92	2,04	2,06	2,06	93,39	99,03
1985-1986	0,23	1,06	1,65	1,97	2,09	2,11	2,11	93,11	98,91
1987	0,24	1,10	1,71	2,05	2,19	2,22	2,22	92,31	98,58
1988	0,25	1,09	1,66	1,97	2,10	2,12	2,12	92,61	98,63
1989	0,26	1,08	1,60	1,87	1,98	2,01	2,01	93,22	98,70
1990	0,28	1,06	1,52	1,76	1,86	1,88	1,88	93,71	98,86
1991	0,27	1,00	1,41	1,62	1,70	1,72	1,72	94,08	98,87
1992	0,25	0,92	1,28	1,45	1,52	1,54	1,54	94,39	98,90
1993	0,24	0,83	1,14	1,29	1,34	1,35	1,35	94,94	99,00
1994	0,24	0,84	1,17	1,31	1,37	1,38	1,38	95,32	99,17
1995	0,22	0,79	1,12	1,27	1,32	1,33	1,33	95,16	99,14
1996	0,19	0,72	1,05	1,20	1,25	1,27	1,27	94,79	99,05
1997	0,18	0,67	0,99	1,14	1,20	1,21	1,21	94,66	99,09
1998	0,17	0,66	0,99	1,16	1,21	1,23	1,23	94,33	99,02
1999	0,14	0,60	0,92	1,08	1,14	1,15	1,15	94,17	99,00
2000	0,14	0,60	0,94	1,11	1,17	1,18	1,18	93,96	98,94
2001	0,14	0,60	0,95	1,14	1,21	1,22	1,22	93,69	98,98
2002	0,14	0,62	0,99	1,20	1,27	1,29	1,29	93,24	98,95
2003	0,14	0,61	1,01	1,23	1,31	1,32	1,32	92,88	98,94
2004	0,14	0,61	1,01	1,24	1,33	1,34	1,34	92,32	98,88

Calculated on data from *Demographic Yearbook (2005)* Appendix 2. TFR and Table TF. Russian cohorts

	Total		Urban		Rural		Occupied		Married	
		TF		TF		TF		TF		TF
Cohorts	TFR	(Table)	TFR	(Table)	TFR	(Table)	TFR	(Table)	TFR	(Table)
1963-1967	1,668	1,664	1,524	1,521	2,087	2,081	1,600	1,597	1,812	1,808
1958-1962	1,827	1,822	1,685	1,681	2,259	2,251	1,773	1,770	1,956	1,950
1953-1957	1,878	1,872	1,733	1,729	2,351	2,338	1,826	1,822	2,003	1,997
1948-1952	1,845	1,837	1,697	1,692	2,367	2,348	1,757	1,754	1,966	1,958
1943-1947	1,807	1,797	1,636	1,631	2,417	2,391	1,652	1,648	1,920	1,910
1938-1942	1,913	1,901	1,676	1,671	2,532	2,500	1,624	1,619	2,015	2,002
1933-1937	2,014	1,997	1,736	1,730	2,674	2,631	1,618	1,612	2,104	2,087
1932<	2,211	2,180	1,950	1,935	2,773	2,710	1,640	1,632	2,253	2,229

 <sup>&</sup>lt;sup>10</sup> See also Appendix 6 *Mean number of birth wich take place to women aged some years* <sup>11</sup> The proportion of all births which take place to women aged under 35 years
<sup>12</sup> The proportion of all births which take place to women aged under 40 years

### Appendix 3. PPRs and Final Probability Mass Functions for occupied and married cohorts



Appendix 4. Total fertility (TF), mean number of siblings (MNS) and the mean birth order (MBO) for Russian cohorts (occupied women and married women)

						/	
occupied	MNS	MBO	TF	married	MNS	MBO	TF
1963-1967	2,07	1,54	1,60	1963-1967	2,27	1,64	1,81
1958-1962	2,23	1,62	1,77	1958-1962	2,42	1,71	1,95
1953-1957	2,31	1,66	1,82	1953-1957	2,49	1,75	2,00
1948-1952	2,23	1,62	1,75	1948-1952	2,49	1,75	1,96
1943-1947	2,14	1,57	1,65	1943-1947	2,50	1,75	1,91
1938-1942	2,13	1,56	1,62	1938-1942	2,67	1,83	2,00
1933-1937	2,17	1,59	1,61	1933-1937	2,85	1,92	2,09
1932<	2,33	1,66	1,63	1932<	3,15	2,08	2,23

Appendix 5. Parity-attainment proportion, total female population, Russian cohorts





# Appendix 6. Mean number of birth wich take place to women aged some years, census 2002

Some conclusions in brief.

- Fertility declines in Russia practically from cohort to cohort.
- The small rise of fertility 1953-1957 cohort (and clother ones) was connected either with the pronatalist policy of the 1980<sup>th</sup> or with returning to general fertility trend after "weak" war cohorts.
- Younger actual birth cohort demonstrates higher fertility level than period cohort that is we note the ageing of fertility in Russia.
- There is the closing in fertility level of different groups of population: urban and rural cohorts, occupaid and total cohorts, cohorts on extreme levels of education, and ethnic cohorts.
- The most significantly changes in parity distribution by actual rural cohorts 1930<sup>th</sup>-1960<sup>th</sup> were in order to second parity which dominates in modern parity distribution of modern rural cohorts. Urban cohorts had domonation of seconr parity proportion during whole investigated period.
- The younger cohorts demonstrate the increasing of proportion of the first births.
- Cohort and parity analyses show that the changes in the fertility level and parity distribution of married and total cohorts appeared synchronously.
- The occupied cohorts had differences with total cohorts mainly in the past in relation to first births and births of higher (3d, 4th, 5th) parities.
- After war cohorts of occupied women had lower childlessness level than total ones because more active reaction of the occupied women on the policy 1980<sup>th</sup>.
- We could forecast the growth of the childlessness level for younger cohorts because the changes of welfare system, and the ageing fertility in Russia.

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