Dramatic health improvement in Moscow: illusion or reality?

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While trends in Russian life expectancy kept being quite unfavorable for the past 20 years, Moscow seems to enjoy rapid progress since the mid-1990s (Figure 1). Is this very strong divergence actual or is there any artefact that can explain it?

A first way to discuss the matter is to consider other countries of the former USSR and see if such divergence exists between the capital city and the rest of the country. Data were gathered for Ukraine since 1996, Belarus since 1997, and Baltic countries since 2000. Everywhere mortality in capital city is more or less lower than in the rest of the country but much less than in Russia (Table 1). Moreover, nowhere any clear divergence appears. It was also possible to compare the case of Moscow to that of other large Russian cities. Mean mortality for the other 10 largest cities together, though much lower than Russian mortality, does not show any divergence since the end of the 1990s (dotted line on Figure 1). On the reverse, from that time, there is a big divergence between Moscow and the other cities.

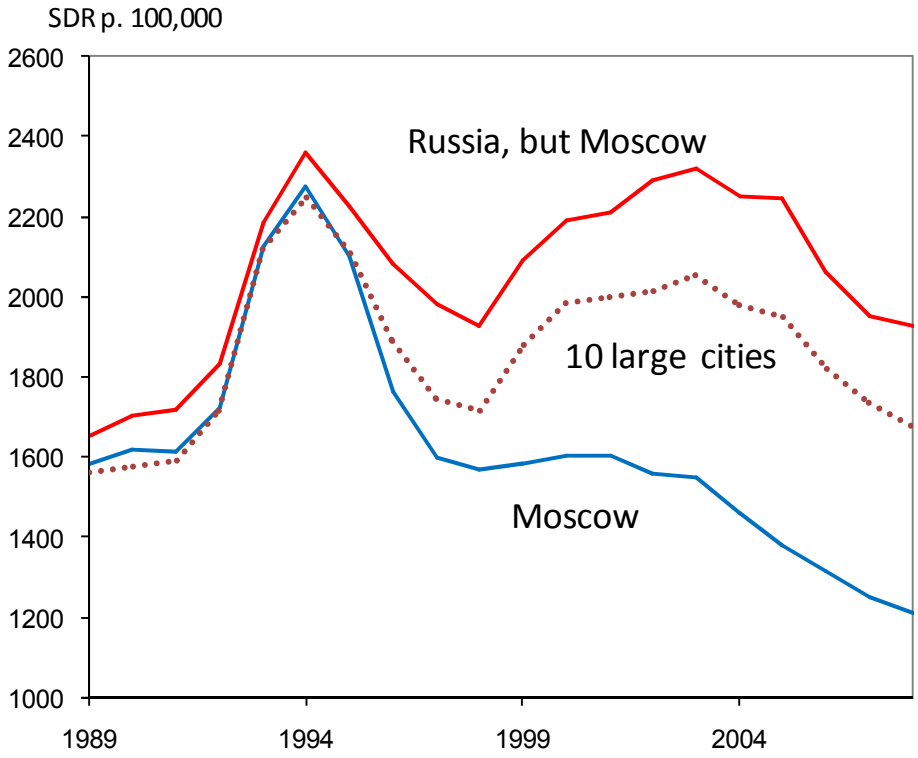

Figure 1. Trends in male standardized mortality rates since 1989 in Moscow, 10 large other cities and in Russia without Moscow

Table 1. Life expectancy at birth in the capitals and other part of 6 countries in 2007

Country	Male			Female		
	Capital	Country but capital	Difference	Capital	Country but capital	Difference
Belarus	67.4	63.9	3.8	78.2	75.8	2.5
Estonia	68.5	66.7	1.6	79.2	78.6	0.7
Lithuania	66.3	64.6	2.3	78.3	77.0	1.0
Latvia	66.6	65.3	1.9	77.1	76.1	1.3
Russia	68.1	60.8	7.0	77.1	73.6	3.4
Ukraine	65.6	61.6	4.2	75.5	73.6	2.1

What could be the reasons for such a divergence? The last Russian census (2002) produced rather unexpected population counts for Moscow, much higher than the post 1989 census estimates (10.3 millions instead of 8.6). This resulted in a recalculation of inter-census population estimates that progressively increases the denominator of mortality rates from 1989 to 2002. Moreover post 2002 estimates were made taking in account the new 1989-2002 migration trends. If population difference between 2002 census and former estimates is due to an overestimation of 2002 census, it can have artificially created the observed mortality divergence. This question requires discussion because, differently from the rest of the country, Moscow households were solicited for census by three independent ways that could have produced numerous double counts.

An attempt was made to estimate mortality by using former population estimates until 2002 and coherent further projections. Mortality trends are then much closer to that of the ten other large cities. Moscow mortality is still significantly lower but a large part of the divergence disappeared.

A clearer view on the real impact of the overestimation of population will be given by the comparison of observed differences between cause-specific mortality trends when using “new” or “old” population estimates. The fact that population overestimation varies with age significantly could have different impact on different causes of death. For that reason the role of each specific cause of death in the Moscow mortality divergence will be analyzed.

If mortality trends keep being more favorable in Moscow after controlling for population overestimation, the role of several factors as differential growth in proportion of educated people or selection effect of recent immigration to Moscow will be discussed.