XXXVII IUSSP International Population Conference, 2013

Session 20-02: Population and development in East Asia

Future development challenges in Mongolia: Multi-state population projections by age, sex, and education

Thomas Spoorenberg[1,*] **and Munkhbadar Jugder**[2]
[1] *United Nations Population Division*
[2] *Director, Population and Housing Census Bureau, National Statistical Office of Mongolia*

* The views expressed in this paper are those of the author and do not necessarily reflect the views of the United Nations. Its contents have not been formally edited and cleared by the United Nations.

In this paper, the future development challenges in Mongolia are investigated through the application of multistate population projections by age, sex, and education. The present situation of the country is interesting on many aspects and its population development contrasts with what is observed elsewhere in East Asia. As the result of a very swift fertility decline in the early 1990s, the country is opening its demographic window of opportunity. Further, Mongolia became nowadays the fastest growing economy in Asia thanks to the recent exploitation of its mining resources. Yet, these favorable factors may be hindered by a series of challenges. On the demographic side, the fertility has increased by about 0.6-0.7 children since its nadir in 2005 to 2.61 children per woman in 2011. By introducing sudden shocks in the age structural transition, this fertility increase bears a series of challenges for the planning of the national development. Whether Mongolia can set the most appropriate conditions to benefit from its current economic boom remains an open question. Based on different assumptions on the future course of fertility and education in the country, the implications and challenges for development of the future population composition of Mongolia are discussed.

Data and methods

In order to investigate the future implications and challenges for development of the future population composition of Mongolia, we project the population by age, sex and education using data from the latest census conducted in November 2010. To achieve this, we need to estimate first mortality and fertility levels and trends by education level from the body of available survey and census data. For both components, we employ the 2000 and 2010 censuses, the 2005 and 2010 Multiple Indicator Cluster Survey (MICS) and the 2003 and 2008 Reproductive Health Survey (RHS) and both direct and indirect methods to derive consistent estimates for each of the main education levels.

Based on the recent levels and trends, we formulate projection variants that help us examining the main effect of the demographic components on the future population development in the country. Further, based on the changes observed in the educational composition of the population, future scenarios for education development in Mongolia are devised.

To project the population of Mongolia by age, sex and education, we draw on multistate population projection method and follow the general philosophy of the analytical approach given in Samir et al.

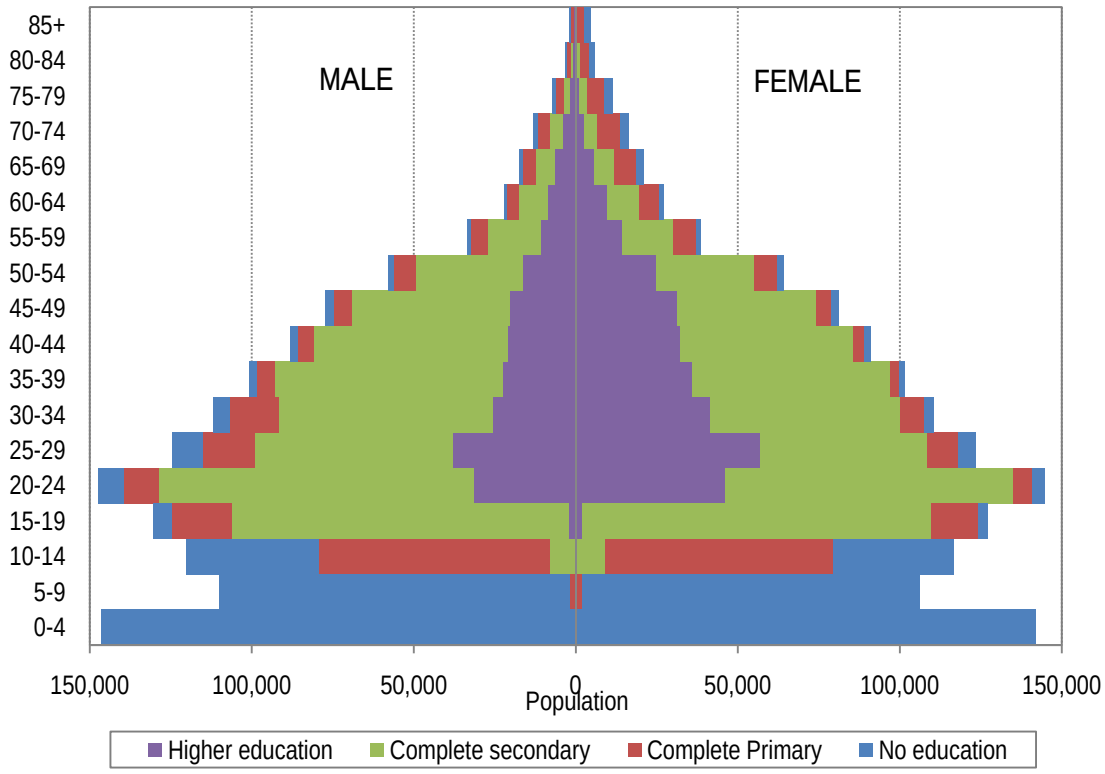
(2010).

Analysis (*work in progress*)

The population by age, sex and main education level as observed in the 2010 census is presented in Figure 1. Among the instructive points given by these data, one can note the fertility increase recorded since 2005 (that is translated in larger numbers of children in the youngest age group (age 0-4) at the

base of the population pyramid). This increase put an end to a continuous fertility decline whose onset dated from the mid-1970s and was later accelerated during the 1990s with the end of socialism (Gereltuya 2008, Spoorenberg 2009). While the swift fertility decline of the 1990s had been opening one of the largest demographic windows of opportunity in Asia (Spoorenberg 2008), this fertility increase is undoubtedly introducing a sudden shock in the cohort flows; the age-structural transitions are becoming less regular and the new influx of larger cohorts of children in the population poses a new challenge for development. The education system and later the labor market need to accommodate them in the future.

Figure 1. Population by age, sex and education levels, Mongolia, 2010
Source: 2010 Population and Housing Census of Mongolia



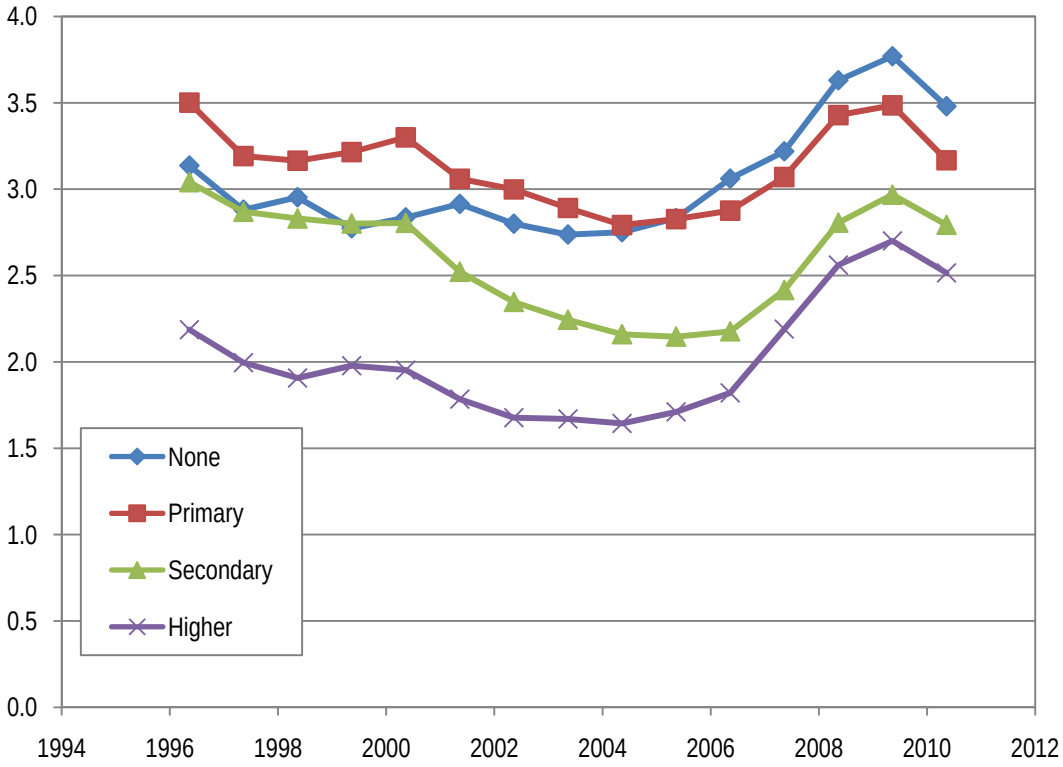
What Figure 1 reveals also is that women in Mongolia are benefiting of higher level of education. For instance, the number of women age 25-29 that have reached higher education is 1.5 times higher than the number of men of the same ages in 2010. These patterns can be seen as mainly the product of different parental strategic investments in their children, and structural changes related to instauration of a market economy during the difficult transitional years in the 1990s. Parents have begun to invest more on the education of their daughters, considering that boys will always be eager to find a job in livestock activities in the rural areas.

While other (East) Asian countries count also more women at higher educational levels, it coincides usually with (very) low fertility levels, as women face the conflict between pursuing higher education and professional career on one hand, and marriage and fertility on the other hand. In contrast, despite similar female-skewed pattern in education, Mongolia is not only presenting higher fertility level, but is experiencing as well a fertility increase since 2005, indicating that the conflict of priorities between the childbearing and study/paid activities did not arise. Even more interesting, survey data indicate a rather unusual gradient of fertility by education, with a quite high fertility level among women with higher education (Spoorenberg and Enkhtsetseg 2009).

Figure 2 below presents fertility estimates by level of education and shows that the recent fertility increase was spread among all strata of the societies. Furthermore, women of higher education seem to have experienced one of the largest increases. While some doubt remain on the true extend of the increase by

education category (due to the limitations of the (indirect) method used to derive the estimates), the broad patterns sketched in Figure 2 are of definite interest, especially so in regard of the experiences of other (East) Asian countries.

Figure 2. Fertility estimates by education, Mongolia, 1996-2010
Source: 2010 Population and Housing Census of Mongolia
Note: Fertility estimates were computed applying the reverse survival method to the 2010 census data.



The present overview points out that the recent population development in Mongolia is rather exceptional in regard of the situation observed elsewhere in East Asia. Whether these patterns can subsist in the future and what are their implications and challenges in terms of national development remain though to be examined. Here are these issues this paper proposes to address.

References

Gereltuya, A. (2008), “Dramatic fertility decline in Mongolia and its determinants: The demise of the pronatalist State”, *Asia-Pacific Population Journal* 23(2): 81-99.

Samir KC, B. Barakat, A. Goujon, V. Skirbekk, W. Sanderson and W. Lutz (2010), “Projection of populations by level of educational attainment, age, and sex for 120 countries for 2005-2050”, *Demographic Research* 22(15): 383-472.

Spoorenberg, T. (2008), "The demographic window, development, and population policy implications in Mongolia", *Asian Population Studies* 4(2): 215-232.

Spoorenberg, T. (2009), "The impact of the political and economic transition on fertility and family formation in Mongolia: A synthetic parity progression ratios analysis", *Asian Population Studies* 5(2): 127-151.

Spoorenberg, T. and B. Enkhtsetseg (2009), "Future low fertility prospects in Mongolia? An evaluation of the factors that support having a child", *Journal of Population Research* 26(3): 227-247.