Gender Equity and Its Effect on Transition to Lower-Order Births in Moldova*

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Abstract

The aim of this paper is to empirically assess the impact of gender equity on the timing and the timing of low-order births in the Republic of Moldova. The empirical analysis uses data from the 2005 Moldova Demographic and Health Survey (MDHS). Hazard modeling has been applied to study the transition to first and second birth. Considered for the first time are gender equity measures, indicators that are essential in evaluating premises of gender equity theory. A main focus of the analysis is to study whether the effects of gender equity have changed across successive female cohorts and its implications for the timing of first and second births. We also address the relative importance of the effects of gender equity, education and wealth, and discuss the merit of using both gender equity and education measures when modeling the timing of first and second births.

Key Words: Marital Fertility, Moldova, gender equity, economic crisis, second demographic transition

Much has been written about the recent fertility reduction in the former socialist countries of Eastern Europe, including the phenomenon of so called "lowest-low" fertility (Goldstein, Goldstein, Lutz, & Scherbov, 2003; Kohler, Billari, & Antonio, 2002; Lutz, O'Neill, & Scherbov, 2003). The proposed explanations of this phenomenon evolve around some combination of the two major perspectives:

(1) the economic crisis hypothesis (e.g. Adler, 1997; Darsky, 1993; Eberstadt, 1994; Stloukal, 1997; Witte and Wagner, 1995) attributes the "lowest-low" fertility to the tempo effect characterized by the temporary postponement of childbearing. According to this view, the main forces behind this fertility postponement are falling per-capita incomes, a rise in economic uncertainty, and the disintegration of social support systems. In this case, the fertility decline is thought to be temporary setback and the return to higher fertility levels of the 1980s is predicted to occur as soon as the economy recovers.

(2) second demographic transition theory (e.g., Hoem et al., 2007; Lesthaeghe & Surkyn, 2002; Zakharov, 1997) does not put emphasis on the economic difficulties associated with the social transformation, but rather considers the transformation as a convergence process towards "western" social and economic pattern for childbearing. This view also suggests that low fertility is to stay and economic hardship is seen only as a precipitating force of a more prolonged trend towards greater individual autonomy and eroding family values (Lesthaeghe & Surkyn, 2002).

Given the fact that the majority of existing studies on the fertility decline in Eastern Europe explore either of the two theoretical models, little has been done to find an empirical support for a new theoretical perspective that has emerged in Western Europe as an attempt to

complement, if not to invalidate, the second demographic theory. Based on the empirical study of Chesnais (1996) and later theoretically elaborated by McDonald (2000), gender equity theory focuses on changes in culture, not economy, in a similar way as the second demographic transition theory does, but arrives to the conclusions similar to those of the social crises hypothesis. Gender equity theory postulates that the return to the replacement-level fertility is possible with further increases of gender equity in family-oriented social institutions.

Unfortunately, there are virtually no empirical studies focused on the fertility decline in Eastern Europe that have explicitly tested the premises of gender equity theory. In all likelihood, the scarcity of empirical research is attributable to the fact that there was and still is a deficit of reliable national-level data, such as Moldova Demographic and Health Survey (MDHS), with sufficient coverage of both gender equity and fertility topics coming from this region. In attempt to fill the gap in empirical research devoted to gender equity theory in Eastern Europe, this study empirically evaluates all the aforementioned theoretical explanations of the recent change of fertility regime in the region on the example of Moldova. The novelty of study lies not only in the fact that it brings into light Moldova, a country that still remains in the shadow of demographic research, but also that we consider for the first time gender equity measures that reflect women's independence in decision-making. These variables are important because they allow testing the main tenets of gender equity theory.

Our interest in Moldova is not trivial. First and foremost, Moldova presents a unique case in the European republics where the below-replacement fertility was reached only after the dissolution of the USSR. Up to the end of the 1980s, the level of fertility in Moldova was the highest in the European part of the Soviet Union and in the mid-1980s was the second highest

in Europe after Albania. Only in Moldova, did the transition to below-replacement fertility extended to the mid-1990s (Bulgaru et al., 2000).

Also noteworthy is the position of Moldova in Europe with respect to timing of childbearing. In contrast to Western Europe, all Eastern European countries, until very recently, were displaying a similar timing pattern of fertility with the majority of births occurring to young women (Kohler et al., 2002). This indicated early marriage and a relatively fast transition from marriage to the birth of the first child. However, even for an Eastern European country, Moldova was an extreme case, where until the beginning of the 2000s more than half of total fertility was realized between age 19 and 24 (Bulgaru et al., 2000).

Additionally, Moldova is the only European republic of the former USSR which experiences a full-scale civil war at the beginning of the 1990s (for more on War of Transnistria see Delgado, 2005; Goodhand, 2001). The causes of this conflict are complex, involving, apart from ethnic factors, struggle for power and wealth among regional elite groups. This conflict, coupled with the deep economic crisis, resulted in the extreme economic deprivation of vast segments of Moldovan population. This leads to the final point to consider: lest the impact of economic hardship on the decline of fertility in Eastern Europe be underestimated by earlier studies, Moldova would be a special case to examine this impact.

THEORETICAL CONSIDERATIONS

The widely cited, and much discussed, the second demographic transition theory (e.g. Lesthaeghe & van de Kaa, 1986, van de Kaa, 1987, 1994, 1997, 1999; Lesthaeghe, 1995) attempts to explain the decline of fertility to below-replacement levels which is now found in

virtually all European countries. It has roots in "classical" demographic transition theory, which in turn is based on the works of Durkheim (1997) and Tönnies (2001), who envisioned modernization as the replacement of social bonds that are personal and direct with those based on complex, impersonal relationships. Common to both classical and second demographic transition theories is the attention to the role of female education on the desired family size and, ultimately, marital fertility. Consequently, an indirect relationship between fertility (measured in terms of both tempo and quantum effects) and female education has been widely accepted as an axiom of classical transition theory (Jaquette & Staudt, 2006). Having assumed that there is no end-point for fertility decline at the simple replacement level, second demographic transition theory also emphasizes a key role of female education in the postponement of marriage and parenthood, a hallmark of the transition itself. Moreover, the young, more educated women, have been specifically identified as the forerunners of the second demographic transition (Van de Kaa, 1997:9).

In a cross-national perspective, when fertility rates fall while female primary and secondary enrollment and labor participation rates rise at the same time and in the same place, it follows from second demographic theory that the declines in fertility are explainable in terms of increased female educational attainment and labor participation. It should also be noted that parallel increase of female educational attainment and decrease in fertility, especially marital fertility, was characteristic during the years followed WWII in the European part of the Soviet Union, which includes Moldova. In support of the second demographic transition theory, the most recent cross-national evidence confirms the trend toward ever-lower levels of childbearing in the conditions of unprecedented economic growth in some Easter European countries (Lutz et al., 2003).

The tenets of the second demographic theory are also supported by the parallel theoretical developments in other social disciplines, such as the individualization theory (Beck & Beck-Gernsheim, 1995; Giddens, 1992) and New Home Economics (Becker, 1975; Mincer, 1974). By addressing the question of why ever more women (and men) opt for careers and consumer goods instead of children, all these theories provide further insights into the secular fertility decline of the late 20th century in the West. Furthermore, these theories unanimously predict that women's education and workforce participation are inversely related to fertility, as this has always been the case in Europe after the industrial revolution and is still the case in the developing countries on their way to the later stages of demographic transition.

Yet the Scandinavian countries, with more egalitarian gender structures have higher fertility rates than than most other Western European countries, but particularly Italy, Spain and Greece, where some vestiges of patriarchy are still present in family relations. This paradox has been first addressed by Chesnais (1996: 738) who, notes that "higher status of women … may in fact become the preconditions for achieving and maintaining a level of fertility that is socially desired." This argument has been taken one step further by McDonald who is often credited with the development of gender equity theory (McDonald, 2000). This theory exploits the fact that, despite the best efforts of Lesthaeghe (1995) and van de Kaa (1987), the role of gender equity on fertility transition remains incompletely understood (Chesnais, 1996). The main difference between these two points of view is that second demographic transition theory asserts that further increases in gender equity will bring about parallel fertility declines, while the argument of gender equity theory is exactly the opposite: further increases in gender equity will result in stabilization of fertility around 2.1 children per woman. McDonald asserts that second demographic transition theory does not distinguish

between gender equity in individual-level institutions (such as the education system or the labor market) and gender equity in family-oriented institutions. The main postulate of gender equity theory is that the second demographic transition will become complete only when gender equity in family-oriented institutions is accomplished. This means that further shift in gender roles will occur in the way that sharing not only economic but also domestic responsibilities will become the natural basis of male-female partnerships in the future. Hence, according to gender equity theory, second demographic transition theory needs to be adjusted to incorporate not only indicators of female education and labor market participation, but also variables reflecting gender equity in the family.

In summary, the comparison the two theoretical perspectives—gender equity and second demographic transition theories—reveals that the former could be seen as a complement of the latter and not as its competitor. Indeed, both theories share a strong focus on cultural, but not economic, factors affecting reproductive behavior. The view which is often presented as an alternative to the second demographic transition theory postulates the primacy of economy among the factors related to reproductive behavior. It asserts that the present low level of period fertility is determined by the fall, or at least stagnation, of standards of living. According to the explanation pertaining to the United States, which is known as the economic deprivation hypothesis (Easterlin & Crimmins, 1991), cohort fertility is determined as a behavioral response by a given cohort (generation) to macroeconomic trends, or more exactly, by a change in real income relative to aspirations. This could be the bottom of an economic and fertility cycles and that the future will bring an upward trend. The empirical support for this hypothesis has been week, to say at most, with more studies point out that the structural differences between American and European cohorts after WWII. However, in the context of

the social, economic and political transformation that swept post-Communist Eastern Europe, an analogous view suggesting that the impressive fertility decline occurred in the 1990s and spilled over into the 2000s may be reversed has developed (e.g. Adler, 1997; Darsky, 1993; Eberstadt, 1994; Stloukal, 1997; Witte & Wagner, 1995). Per this perspective, outlined earlier as the economic crisis hypothesis, many couples might have delayed childbirth in response to the economic hardship associated with the transition to a market economy. Accordingly, this type of "crisis" behavior will be mainly manifest among the most vulnerable groups, primarily the poor, for whom subsidies from public funds were an important part of the family budget.

HYPOTHESES

This article expands the scope of earlier studies, while explaining the role of gender equity, educational attainment and wealth in the most recent fertility changes in Moldova. In doing so, we explore the following hypotheses:

(1) In the context of the economic crisis hypothesis, the predicted fertility pattern of married women in Moldova would reflect crisis behavior characterized by the postponement of first and second birth. This behavior is more likely to be exhibited by those who are on the bottom of the socio-economic spectrum, especially among the younger cohorts of Moldovan women, who are more vulnerable to economic insecurity, rising consumer prices and unemployment.

(2) Assuming that second demographic transition theory explanation of the fall in marital fertility rates in Moldova is true, women's education have an impact on the timing of fertility. According to this view, in pursuit of career opportunities the young, more educated women

are more likely to postpone low-order births, then women with lower levels of educational attainment, particularly those of the older cohorts.

(3) If the tenets of gender equity theory are correct, then women who are more independent in their consumer decisions and have greater decision power over their earnings are more likely to delay or limit lower-order childbearing than their less "emancipated" counterparts who are not the main decision-makers in their households.

It should be noted that the research hypotheses outlined above stress the importance of a temporal aspect of fertility change under the influence of explanatory variables (wealth, education, gender equity). Hence there is a need to test interaction terms between birth cohorts, on the one hand, and wealth, educational attainment and gender equity indicators, on the other.

DATA SOURCE AND SAMPLE DESCRIPTION

As indicated early, the data used for the analyses are from MDHS. The total sample includes 7,440 women ages 15-49 from 11,095 households. Because of our focus on marital fertility, we limit the estimation sample to currently married women only, i.e. 4,565 cases or 61% of the total sample (weighted). Our decision to examine marital fertility was primarily motivated by the fact that questions regarding gender equity in MDHS survey were asked only to married women. Additionally, our descriptive analyses showed that non-marital fertility in Moldova is negligible (out-of-wedlock births constitute less than 6% of all births) and is mainly due to teenage fertility whereas unmarried women of older ages have virtually zero exposure to pregnancy.

These MDHS data has several advantages that make them suited for the purposes of this study. First, the data contain retrospective fertility histories of Moldovan women and, therefore, allow for the cohort analysis of these histories. Second, the data provide us with a unique set of gender equity variables and an index of wealth. Third, the data were collected very recently – in 2005. Fifth, the response rate for the survey is 95% and the information on the key variables is remarkably complete: share of missing cases was less than 0.5% for all variables. Here we should note that missing values of all variables were imputed using the Monte-Carlo technique (the SAS' *proc mi*), with the efficiency of the resulting estimates within 95% confidence interval (for more information on Monte-Carlo imputation see Rubin 1987, 1996).

Despite all advantages of the MDHS data, they have one, albeit consequential, limitation – namely, they are cross-sectional in nature. Although educational and fertility histories, as mentioned above, can be compared retrospectively, the same is not true about measures capturing gender equity and wealth. Given this limitation, we are unable to assess the longitudinal effects of gender equity and wealth on hazards of first and second births. We do not suggest here that that wealth and gender equity at the time of the survey and after marriage were the same. On the contrary, as evidence suggests (e.g., Haas & Hwang, 2000; Jaquette & Staudt, 2006), entering union is usually associated with less gender equity for women, but greater wealth. Hence, unable to prove the opposite, we make the simplifying assumption that that the effects of marriage and first childbirth on gender equity and wealth are even for all women.

VARIABLES

Our dependent variables are the timings of first and second childbirth, or, more exactly, the timings of the conceptions that resulted in the first- and second-parity births. We moved back the date of birth nine months to obtain an approximate date of conception with purpose of eliminating the impact of events that occurred after conception. In the case of the first birth, we calculate the timing since the beginning of the marriage (not necessarily the first marriage) in which the first birth occurred, while in the second case we model the timing between the first birth and the conception that lead to the second birth.

As noted at the outset, this study employs a composite measure of women's empowerment. On the issue of gender equity, it has been suggested that using such macroeconomic measures as sex ratios in education and labor force participation are hardly applicable to the majority of Post-Communist countries because their government has long been promoting educational and employment opportunities for women (Weber & Goodman, 1981). In Moldova, as in many other former Soviet republics, there are virtually no gender-based disparities in the levels of educational attainment and labor force participation (Bulgaru et al., 2000). Considering this fact, and also that the need to distinguish between gender equity in individual-level institutions, such as the education system or the labor market, and gender equity in family-oriented institutions has long been emphasized by McDonald (2000), we measured gender equity in terms of female autonomy in decision making. The MDHS data contain several measures of women's autonomy and status, such as women's control over their own earnings and women's roles in making four different types household decisions (on their health care; on making large household purchases; on making household purchases for daily needs; and on visits to family or relatives). For all aforementioned measures, response

choices were: self only, jointly (with husband), husband only, someone else only. Since preliminary inferential analyses (not shown) indicated that hazards of having first- and second-parity births do not differ significantly for women who fall into the last three categories of decision-makers, we collapsed these three categories into a single one. Hence, given our focus on women's autonomy, we distinguish the women decisions taken by themselves from those taken by or with the help of others. Because our exploratory factor analysis results indicate that all gender equity variables can be represented by a common factor, we constructed an index of gender equity as an average of individual weights (standardized factor scores) of the aforementioned variables.

Women's education has always been analyzed as one of the main factors that explain family formation behavior (Hoem, 1986; Hoem & Kreyenfeld, 2006). In this study we use three levels of educational attainment at the time of event (first and second births): incomplete secondary education (reference category), complete secondary education and university education. The cases for persons with or without primary education that constituted only a tiny fraction of the sample (0.22%) were imputed.

Another important independent variable in this study is a wealth index. It should be noted that the boundaries of wealth and educational attainment do not always overlap. This is particularly true for the former socialist countries, where real wages of intelligentsia (the "educated" class) were at the level of a skilled worker (Bulgaru et al., 2000; Gessen, 1997). Indeed, our exploratory analyses revealed that correlation between educational attainment and wealth in our sample is low (Pearson's correlation coefficient = 0.28). The wealth index was developed and used by the DHS in many countries (for more on the DHS wealth index see Rutstein, 1999; Rutstein & Rojas, 2003). The information on wealth in the MDHS data is

based on the presence of durable goods in household, such as a television, a bicycle and/or a car, as well as housing characteristics, such as source of drinking water, sanitation facilities, and type of material used for flooring. Standardized factor scores for each item generated from the principal components analysis were used to construct the index. Again, as with the gender equity variables, we conducted exploratory analyses indicating that only those women falling into the lowest quintile of wealth index have significantly higher risks of second, but not first, births than the rest of women. Given that, our multivariate analyses described in the following section compare women in the lowest wealth quintile to the rest of women.

Since the urban/rural differences are still present in Moldova's fertility pattern (Bulgaru et al., 20000, we also control for residence. In order to the period dimension to our analyses, we include the control for age group (cohort). Four different cohorts of Moldovan women based on their age at the time of the survey have been isolated as follows: born in 1980-1990 or those under 26, born in 1970-1979 or 26-35 year olds, , born in 1960-1969 or 36-45 year olds, and born prior to 1960 or45 years of age and over. We designated the youngest cohort, i.e. those born in the 1980s, as reference category.

RESULTS

Descriptive statistics of our sample are shown in Table 1. Several features of the sample are noteworthy. First, the length of the birth intervals is commensurable with the relatively young childbearing discussed in previous sections. Further descriptive analyses (not shown) indicated that the length of the birth interval increases with the level of mothers' education, and with gender equity in decision-making. Second, the age pyramid reflects the deficit of the young population and a relatively large baby boom cohort following World War 2. As our

auxiliary descriptive analysis indicate, this is true for both sexes. Third, the majority of respondents reside in rural areas, which is quite unique for Moldova, where the urbanization rate in the post-war period lagged behind the neighboring Romania and Ukraine (Bulgaru et al., 2000). Fourth, the majority of Moldovan women apparently are willing to share control of their earnings and responsability in decision-making with their husbands (57.23%) and only few reported that they do not participate in the major household decisions, i.e. those who stated that their spouses or other family mambers were the main decision-makers (together 3.74%). The most striking is the percentage of those who reported that they are the main decision-makers reguarding control of their earning and decisions regarding their health care, large and small household purchases and visits to relatives—39.03%. This information is conspicuous enough to judge about gender equity in Moldova, especially when the DHS gender equity data from other countries are compared (for more information, see DHS, 2007). When considering DHS gender equity indicators, Moldovan women are better off than their counterparts not only in developing countries of Africa, Asia and Latin America. In Armenia, another fragment of the former Soviet Union where a DHS survey has been conducted in 2003, considerably lower percentages of women reported having decision-making power equal to or greater than their spouses (DHS, 2007). Oddly enough, these gender equity data are in apparent contrast with the aforementioned fact that Moldova is still predominantly a rural country (as well as in other countries where DHS surveys were carried out), where, theoretically, traditional values regarding gender roles should linger. Fifth, the distribution of women with respect to educational attainment shows that almost all women in Moldova move out of primary school to secondary and higher educational institutions. In a social context of the former USSR as well as other former socialist countries of Eastern Europe, which made

great strides towards promoting equal education to both sexes after the World War 2, Moldovan case is far from being unique. Finally, wealth distribution is still more or less even, in spite of the growing disparities in the distribution of wealth since the collapse of the Soviet Union.

[Insert Table 1 about here]

For our multivariate analyses, we employ Cox proportional hazards model, the use of which in the literature on reproductive behavior is fairly common (e.g., Bracher & Santow, 1998; Choe et al., 2004; for more details on Cox proportional hazard model, see Yamaguchi (1991)). Our analytic strategy includes expressing the hazard of first conception as a function of duration since first marriage, and the hazard of second birth as a function of duration since the first birth. Tables 1 and 2 show the relative risks of having a first and a second child, respectively. For each of the dependent variables, i.e. timings of first and second births, we introduce three models.

[Insert Table 2 about here]

Model 1 represents the baseline model that includes only gender equity index and two controls—age (cohort) and type of residence (urban vs. rural). The estimated coefficients in for all controls in this model are in predicted directions. To begin, gender equity index has a negative and significant effect on the timing of the first birth. This effect will remain in other models of Tables 1 and 2. As expected, for women residing rural areas the event of first childbirth occurred earlier than for women residing in urban eras. Notice that the cohort coefficients were not universally significant. The hazards of first birth for those born in the 1970s and 1980s were not significantly different ($p<0.05$) in this and subsequent models of Table 2 and 3.

Model 2 builds on model 1 by including educational attainment. It is obvious that women with university education had a low risk of first childbirth after marriage, while the risks for other two education categories (complete and incomplete secondary education) were about the same. The effect of gender equity, albeit still strongly negative, declined in magnitude and in significance in comparison to the baseline model. The same is true about the cohort effects of those born in the 1960s and earlier cohorts, for which the relative risks of first pregnancy significantly declined. This can be explained by the mediating effect of educational attainment on gender equity and on cohort effects. In the case of the former, the more educated women are likely to have greater autonomy in the family domain, while in the case of the latter, the educational level of younger cohorts is expected to be higher than that of older cohorts. Both observations are easily deduced from the available empirical and theoretical models connecting, on the one hand, women's education and emancipation and, on the other, educational progress of women and upward intergenerational mobility (Jaquette & Staudt, 2006; Mincer, 1974; Schultz, 1989; Woodhall, 1973).

Model 3 adds wealth index, the effect of which is not significant. Observe that the effect of cohorts born in the 1950s and earlier decreases both in magnitude and significance, while that of born in the 1960s slightly increases in magnitude. Most importantly, the addition of the wealth index in model 3 results in the significant increase of the effects of gender equity and complete secondary education. Hence, the both aforementioned effects were suppressed prior to the inclusion of wealth index, a result showing that the addition of even an insignificant effect may reveal that the other effects in the regression model were otherwise underestimated.

[Insert Table 3 about here]

Table 3 presents the same hazard models as Table 2, with the exception that the dependent variable here is the relative risk of second conception by duration since the birth of the first child. Again, as in Table 2, gender equity is negatively associated with the risk of having second child in all three consecutive models. In contrast with Table 2, the rural/urban differences in risks of second birth remain significant in all Table 3 models. Observe that the magnitude of the rural/urban effect is also stronger than in the parallel models of Table 2. Thus, all other conditions equal, women living in urban areas were significantly likely to postpone second childbirth than women in rural areas. The effects of cohorts were the same as in the baseline model of Table 2. The addition of educational attainment in model 2 showed that the relative risks of the transition to second pregnancy were significantly higher for university educated women than for women with incomplete secondary education. With the addition of educational attainment, the effects of place of residence and older cohorts (35 years and over) decrease in magnitude and in significance (in the case of the cohort effects only). At the same time, the effect of gender equity remained negative and significant.

Model 3 incorporated wealth index, the effect of which was, as in the parallel model of Table 2, insignificant. Observe that in both Tables 2 and 3, the inclusion of this variable resulted in the decline of the rural effect and the cohort effects for those born in the 1960s. Obviously, this is due to the mediating effect of wealth, as those urban dwellers are likely to be better off economically than rural residents. As far as the cohort effects, the differences between the younger and older cohorts in the timing of second births can be attributed, at least partially, to the wealth differentials between them.

In order to examine whether the effects of wealth, education and gender equity vary by cohorts, as stipulated by our research hypotheses, we conducted additional analyses parallel to

those reported in Tables 2 and 3. Specifically, we explored the interaction terms of birth cohort and explanatory variables (i.e., wealth index, educational attainment, female decision-making autonomy). In order to minimize collinearity, we added each set of the interaction terms at a time to a model analogous to model 3 of Tables 2 and 3. The complete results are not shown for parsimony. Below we show the relative risks of first and second birth predicted from disaggregated by birth cohorts. For the ease of interpretation, the results are displayed in graphical form.

Figures 1-4 illustrate the aforementioned interaction effects. Specifically, Figure 1 shows the relative risks of first and second births for 4 main birth cohorts (i.e., born in 1980-1990, 1970-1979, 1960-1969 and prior to 1960) across 2 economic strata defined for the sake of simplicity as "the poor" or those with falling into the lowest quintile of wealth index and the rest (i.e. the wealthiest 80%). Despite the fact that, as evidenced in Tables 2 and 3, wealth index does not exert an influence on the timing of first and second births for all women, its effect varies significantly by birth cohort. Women living in the poorest 20% of households tend to delay their low-parity births among cohorts of the 1970s and 1960s, while the opposite is true for cohorts of the 1980s and 1950s. Contrary to the economic crisis hypothesis, the youngest cohorts of Moldovan women would not delay their births in response to the economic pressures. Relatively better-off women are likely to have longer birth intervals among the youngest and the oldest cohorts. By implication, the relative risks of first and second births are lower among the poor women born in the 1960s and 1970s. Consequently, the most recent fertility decline in Moldova is not driven by relative poverty, especially among the youngest cohort of Moldovan women, who, as our descriptive results confirm, are the forerunners in the postponement of fertility.

[Insert Figure 1 about here]

[Insert Figure 2 about here]

The predicted relative risks of the transition to first and second pregnancies across 4 cohorts of married women with different educational levels are shown in Figures 2 and 3, respectfully. The most notable feature on the graph is the steep decline of first birth risks among the youngest cohort with complete secondary and, especially, with university education. Observe that the lines corresponding to different education levels in Figure 2 are more or less parallel and close to each other for the cohorts born in the 1970s and older. It should be noted that the postponement of second conception attributed to higher education among is less pronounced, as lines for women with university and, especially, secondary education exhibit an increasingly negative angle from older to younger cohorts (see Figure 3). This confirms that the postponement of first and second births is more common among the youngest cohort with higher educational levels, a result confirming the second demographic theory's prediction.

[Insert Figure 3 about here]

Figure 4 shows interactions of birth cohort and gender equity indicators. It is clearly evident that differences in first and second birth risks between those who make most of their household decisions by themselves and the rest of women were more important for the cohorts born in the 1970s and 1980s than for the two older cohorts. The additional t-test results (not shown) confirm that the risk of first and second conception for women who reported to be the primary decision-makers in their families was significantly lower than for the rest of women among the cohorts born in the 1970s and 1980s.

[Insert Figure 4 about here]

DISCUSSION

This paper investigated the effect of gender equity, education and wealth on the timing of childbearing among Moldovan women. The results obtained using the data drawn from the 2005 Moldova Demographic and Health Survey clearly indicated that gender equity has a statistically significant and strong delaying effect on low-order childbearing. The effect remained robust in the presence of a number of controls. In accordance with second demographic transition theory, a negative association between fertility and education was also observed. We found, however, that the effect of wealth was inconsistent. Only among the cohorts born in the 1960s and 1970s, the poorest segment of Moldovan women tends to delay their first and second births. This is in contrast with earlier studies of the Soviet economy (e.g., Gregory and Stuart, 1994) that observed a relative prosperity in the Soviet Union during these decades. Hence, this finding casts doubt on the economic crisis hypothesis (e.g. Adler, 1997; Darsky, 1993; Eberstadt, 1994; Stloukal, 1997; Witte and Wagner, 1995), linking cohort fertility to macroeconomic trends and suggesting negative relationship between socioeconomic status and fertility.

Our main conclusion is that the effects of gender equity and educational attainment on the chances of having first and second births among Moldovan women are both negative and, more importantly, are independent from each other. Our results confirm that university educated women as well as women who are independent in their everyday decisions and exercise greater control over their earnings are significantly likely to delay first and second births. In all likelihood, educational attainment and gender equity tap into two different dimensions of fertility decline. According to New Home Economics (Becker, 1975; Mincer, 1974), the more educated women tend to focus on their career, while the more independent

women are likely to prefer to abide by the laws of consumerism. In both cases, these women are prone to invest in their own careers or consumer goods than in children.

As for the question of whether our findings support gender equity theory, we have a negative answer. Although we did find strong association between family-focused women autonomy and fertility, this association is negative. The more independent and self-sufficient Moldovan women are in their decision-making, the more likely they are to delay childbearing. To epitomize the discussion about the future of fertility decline in Moldova, we must admit that Moldovan women do not differ in their childbearing behavior from women in Western European (and especially Scandinavian) countries that became the exemplars of the second demographic transition theory. Hence, according to our findings, if we consider further promoting gender equity in family-oriented institutions in Moldova, this investment is very likely to produce the same result as arguably everywhere else—a further fertility decline.

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Table 1. *Descriptive Statistics of Study Variables (N=4,565)*[a]

Dependent Variables	**Weighted Mean**	**St. Deviation**
Timing of First Birth [b]	14.35	7.68
Timing of Second Birth [c]	53.36	32.17
Independent Variables		
Year of Birth	**Weighted Percentage**	
1980-1990	13.45	
1970-1979	32.71	
1960-1969	33.60	
prior to 1960	20.24	
Place of Residence		
Rural	60.56	
Urban	39.44	
Female Decision-Making Autonomy		
Self Only	39.03	
Jointly with Husband	57.23	
Husband Only	2.76	
Someone Else Only	0.98	
Educational Attainment		
Incomplete Primary	0.22	
Primary	0.54	
Incomplete Secondary	53.76	
Complete Secondary	26.77	
University	18.71	
Wealth		
Poorest	17.33	
Poorer	17.16	
Middle	21.54	
Richer	21.87	
Richest	22.10	

[a] Includes currently married women only.
[b] Timing of first conception in months since the beginning of marriage.
[c] Timing of second conception in months since the first birth.

Table 2. *Hazard Coefficients and Relative Risks of the Transition to First Pregnancy among Married Women in Moldova, 2005*

Effects	**b**	**exp(b)**	**p**	**b**	**exp(b)**	**p**	**b**	**exp(b)**	**p**
Year of Birth									
1980-1990	0.00	1.000		0.00	1.000		0.00	1.000	
1970-1979	0.16	1.013		0.02	1.003		0.03	1.004	
1960-1969	0.88	1.133	**	0.83	1.106	*	0.16	1.113	*
prior to 1960	1.51	1.224	***	1.11	1.153	**	0.51	1.106	*
Place of residence									
Urban	0.00	1.000		0.00	1.000		0.00	1.000	
Rural	1.22	0.117	**	0.86	1.039		0.90	1.046	
Female Decision-Making Autonomy									
Self Only	-1.92	0.837	***	-0.88	0.803	*	-0.92	0.929	**
Else	0.00	1.000		0.00	1.000		0.00	1.000	
Educational Attainment									
Incomplete Secondary				0.00	1.000		0.00	1.000	
Complete Secondary				-0.34	0.967		-0.49	0.920	*
University				-0.86	0.831	***	-0.82	0.839	**
Wealth									
Poorest 20%							0.27	1.014	
Other							0.00	1.000	
Model fit									
-2 Log Likelihood		89,253			89,253			89,253	
Chi-square Change		510.83			844.31			102.35	
Degrees of Freedom		5			7			8	

*p<0.05; **p<0.01; ***p<0.001.

Table 3. *Hazard Coefficients and Relative Risks of the Transition to Second Pregnancy among Married Women in Moldova, 2005*

Effects	**b**	**exp(b)**	**p**	**b**	**exp(b)**	**p**	**b**	**exp(b)**	**p**
Year of Birth									
1980-1990	0.00	1.000		0.00	1.000		0.00	1.000	
1970-1979	0.25	1.044		0.14	1.029		0.03	1.008	
1960-1969	1.91	1.256	***	1.83	1.238	**	1.03	1.098	*
prior to 1960	2.08	1.303	***	1.02	1.120	*	1.14	1.116	*
Place of residence									
Urban	0.00	1.000		0.00	1.000		0.00	1.000	
Rural	1.39	1.182	***	1.22	1.152	***	1.12	1.095	**
Female Decision-Making Autonomy									
Self Only (%)	-1.73	0.716	***	-1.40	0.803	***	-1.08	0.877	**
Else (%)	0.00	1.000		0.00	1.000		0.00	1.000	
Educational Attainment									
Incomplete Secondary				0.00	1.000		0.00	1.000	
Complete Secondary				-0.33	0.947		-0.38	0.915	
University				-0.78	0.831	**	-0.91	0.863	***
Wealth									
Poorest 20%							0.31	1.025	
Other							0.00	1.000	
Model fit									
-2 Log Likelihood		91,744			89,253			89,253	
Chi-square Change		871.66			368.97			118.93	
Degrees of Freedom		5			7			8	

*p<0.05; **p<0.01; ***p<0.001.

FIGURE 1. RELATIVE RISKS OF THE TRANSITION TO FIRST AND SECOND PREGNANCY AMONG MARRIED WOMEN IN MOLDOVA (INTERACTION OF WEALTH AND DECADE OF BIRTH).

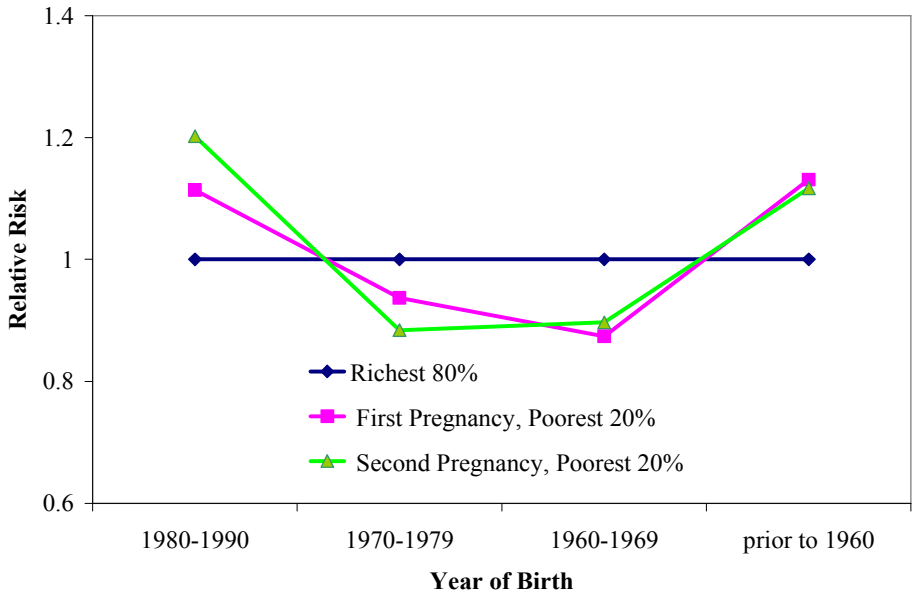

FIGURE 2. RELATIVE RISKS OF THE TRANSITION TO FIRST PREGNANCY AMONG MARRIED WOMEN IN MOLDOVA (INTERACTION OF EDUCATIONAL ATTAINMENT AND DECADE OF BIRTH).

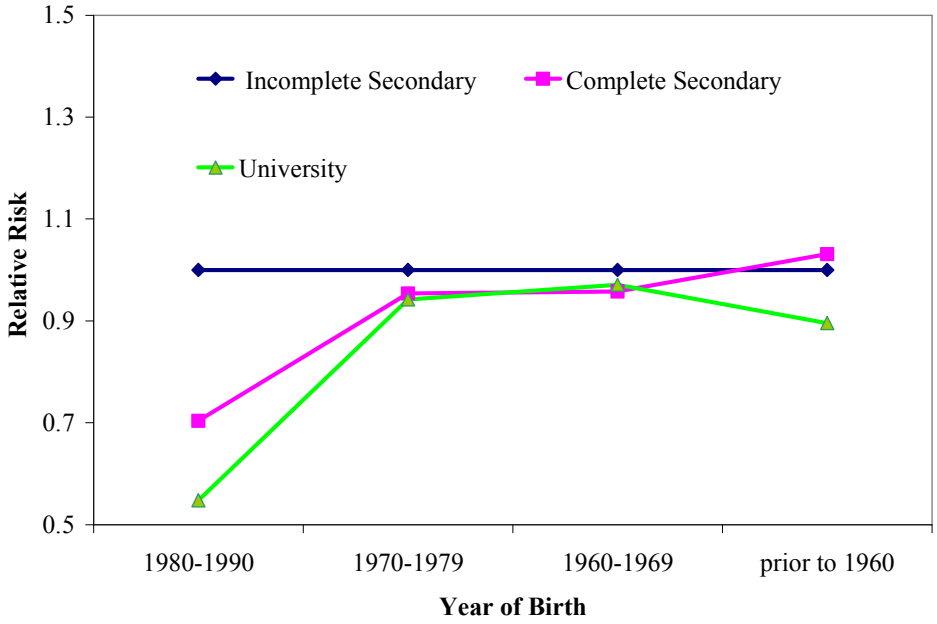

FIGURE 3. RELATIVE RISKS OF THE TRANSITION TO SECOND PREGNANCY AMONG MARRIED WOMEN IN MOLDOVA (INTERACTION OF EDUCATIONAL ATTAINMENT AND DECADE OF BIRTH).

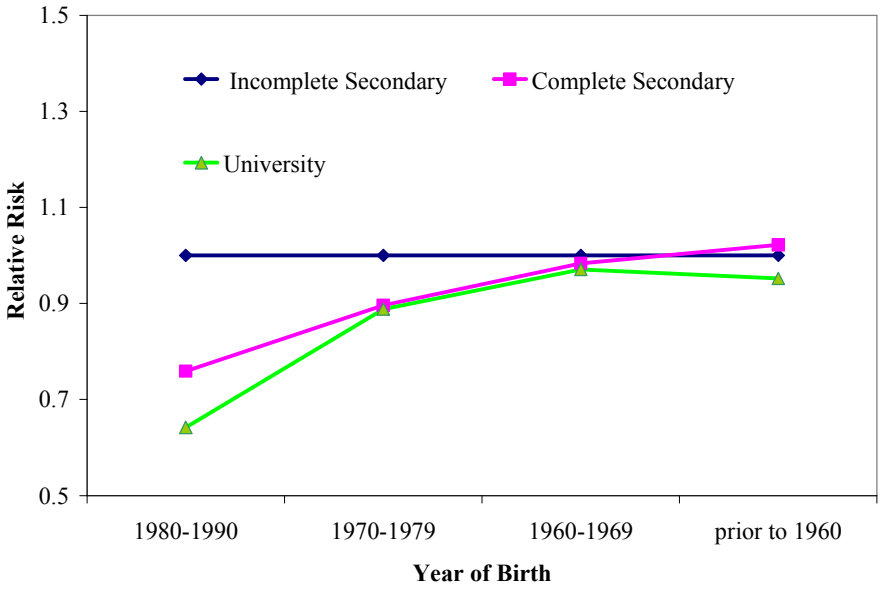

FIGURE 4. RELATIVE RISKS OF THE TRANSITION TO FIRST AND SECOND PREGNANCY AMONG MARRIED WOMEN IN MOLDOVA (INTERACTION OF FEMALE DECISION-MAKING AUTONOMY AND DECADE OF BIRTH).