

Should We Marry or Should We Wait? Interrelation between First Pregnancy and Decision Concerning Marriage

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EXTRACT FROM THE PAPER

Introduction

It is assumed that in the traditional family formation pattern conception and birth of the child should follow marriage. This results in quite a simplistic perspective that in historical societies (before and during first demographic transition) marriage has been a prerequisite for reproduction. This picture seems to contrast sharply with evidence showing that sexual intercourse before and outside of marriage resulting in out-of-wedlock births has been widespread across various geographic locations and time (Laslett, Oosterveen, and Smith, 1980). This also confronts with normative pressure on chastity as a prerequisite for successful marriage. Regarding the fact that in the history bride has been a synonym of virginity many of them were pregnant during the marriage. This has been reflected in the art where in many paintings rooster or broken egg shells were in close proximity of the marrying couple. These attributes symbolized the fact that bride has not been a virgin or were symbolizing directly bridal pregnancy (Friedman, 2002; Schama, 1988). This evidence suggests that although out-of-wedlock births were present even in societies before and during first demographic transition, the overall incidence rate has been quite low due to strong normative pressure which tended to suppress sexual activity and thus procreation outside conjugal couple. This pressure resulted not only in low incidence of extramarital births but presumably in high incidence of bridal pregnancies and high propensity to legitimate births which were conceived out-of-wedlock. The phenomenon of bridal pregnancies and strong normative pressure has been quite widespread in the culture of the West. This is for instance manifested in the phrase “shotgun wedding” which describes circumstances where man who caused the pregnancy has been forced to marriage by woman’s relatives.

Second demographic transition and medical advances in techniques of birth control changed the attitude towards marriage which no longer pertains as a prerequisite for procreation. In the course of the second demographic transition norms and attitudes towards traditional forms of family formation has changed drastically (Lesthaeghe, 1995; Van de Kaa, 1987). This includes interrelation between procreation and family formation process. Lesthaeghe points out a temporal increase in “shotgun weddings” at the initial stage of the

second demographic transition which resulted in increased premarital sexual activity (Lesthaeghe, 1995). The later phases of the second demographic transition are marked by spread of premarital cohabitation, procreation in consensual unions, transformation of consensual unions from courtship to “paperless marriages” and finally an increase in extramarital birth rates. These changes were accompanied and enhanced by growing access and popularity of efficient forms of contraception which not only detached sexual activity from procreation but also allowed women and couples to plan their lives with respect to other domains such as professional career and education. The changes in the sphere of norms and values related to the process of family formation and childbearing should at least diminish both external (via friends and relatives) as well as internalized normative pressure on couples to marry as soon as they realize that the baby is on the way. However, in many countries we still observe quite high rates of bridal pregnancies and so-called “shotgun weddings”. It is interesting why marital conformism and pursue to legitimization of birth is still quite widespread in the absence or diminished importance of social stigma concerning out-of-wedlock births, single motherhood or consensual unions. This seems to be particularly relevant in the countries where traditional model of family formation characterized by low proportion of extramarital births and consensual unions is still predominant. In such countries we may think about the possible ways of solving the dilemma whether postpone marriage (or not to marry at all) after the delivery or marry during the pregnancy. In order to set a proper context for the research firstly we have to refer to the problem of marital (non) conformism as resulting from normative pressure and secondly to the role of institutional settings which might affect advantages and disadvantages of marriage with respect to non-marital childbearing. Last but not least, bridal pregnancies might affect the aggregated level of measures of incidence of extramarital births and cohabitation. Since a share of couples tend to convert to marriage as a response to pregnancy, prevalence of such behavior might give us a hypothetical overview on what would happen if they do not decide to marry and enter the legal union some time after the delivery. This slight change in the decision making process might greatly affect the overall pattern of family formation in a given country. Therefore the decision whether to marry or not while woman is pregnant might be to large extend responsible for change in the aggregated level of extramarital birth rates.

Literature overview

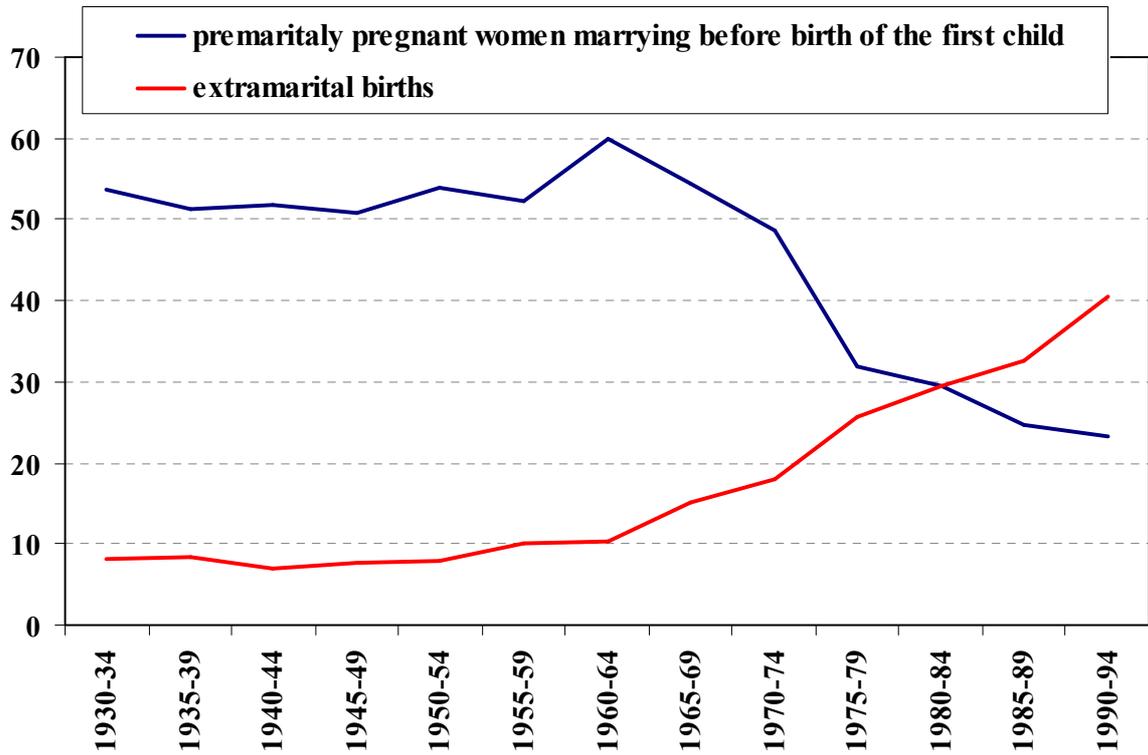
Interest of the researcher in the topic of interrelation between pregnancy and union formation process could be traced back to historical studies which use parish register data (Hair, 1966; Hair, 1970). The historical evidence shows that depending on the period and

studied parish the percentage of pregnant brides could vary substantially. The numbers fluctuate between 13% (14th century England) to 34% in mid 17th century to even 69% in some cases (Hair, 1970). These high figures should not be a surprise because absence of effective contraception and proliferation of premarital sex should result in high proportion of pregnant women trying to legitimate their offspring. Moreover in historical context we expect strong social and normative pressure on the couple to marry in order to avoid social stigma of bastardy.

These historical trends in bridal pregnancies seem to overlap with trends in the 20th century. According to longitudinal data on premarital conception and premarital childbearing collected for United States in the first half of the 20th century around 50 to 60 percent of females were pregnant during wedding (Bachu, 1999). According to the estimates from the registration of births these high values were present up to the end of seventies. On average more than half of the women were delivering their children who were conceived before marriage. From 1975 there is a significant downward trend in the proportion of bridal pregnancies to the level of 21% in 1994. As presented on the Figure 1, this downward trend coincides with significant increase in proportion of non-marital births:

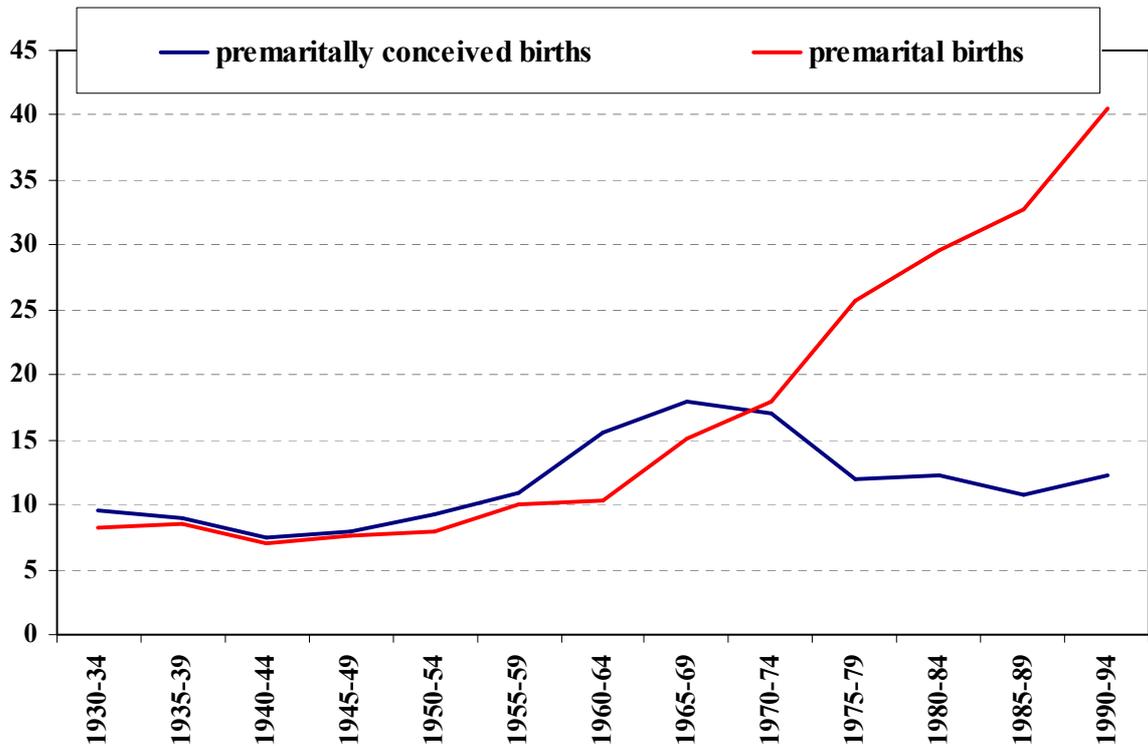
These findings were confirmed by other researchers who also observed erosion of traditional shotgun wedding as a way of entering marriage (Akerlof, Yellen, and Katz, 1996). This very important change in reproductive behavior stands in clear relevance to the theory of second demographic transition which underlines diminishing impact of social norms on family and marriage formation. In this case we may suppose that lower normative pressure influenced individual decisions concerning abandonment of the legitimization of children conceived premaritally in the favor of extramarital birth. Reduction in likelihood of marriage as a response to pregnancy is mostly argued to be related to change in values, economic settings and access to effective contraception. These changes are associated with increase in share of non-marital births and consensual unions (Perelli-Harris et al., 2009). As noted by many researchers it is mostly due to decoupling of marriage and fertility. Similar pattern could be noticed at Figure 5. Comparative analyses has shown that the response of couple to conception might differ from country to country (Perelli-Harris et al., 2009). In some countries pregnant women are more likely to legalize union and in some countries (for instance UK) continuation of cohabitation is more likely solution.

Figure 1. Percentage of premaritally pregnant women marrying before birth of the first child compared to percentage of extramarital births, US 1930-1994



Source: (Bachu, 1999)

Figure 2. Percentage of premaritally conceived births compared to percentage of extramarital births, US 1930-1994



Source: (Bachu, 1999)

In some countries like Italy, Poland or Spain despite recent increase in premarital cohabitation and non marital childbearing we still find strong and significant effect of pregnancy on decision concerning shotgun wedding (Baizan, Aassve, and Billari, 2003; Jan M. Hoem and Gabrielli, 2010; Matysiak, 2009; Mills and Trovato, 2000; Mills and Trovato, 2001). In some countries like for instance Japan there is even an increasing occurrence of shotgun marriages in recent years (Raymo and Iwasawa, 2008).

Another branch of research related to bridal pregnancies is associated with the analysis of the relationship outcome. It is claimed that shotgun marriages as unions which are “event-driven” are short-lived and frequently conflict-ridden (Knab and Harknett, 2006; Knab and Harknett, 2007). Unions in which couple decide to marry just for the benefit of their children have been shown to have lower relationship quality and higher conflict than unions which are “relationship-driven” (Surra et al., 1987; Surra and Hughes, 1997)

Some researchers stress the importance of individual decision making process with respect to union formation, childbearing and entering marriage. This is related to the issue whether pregnancy was intended or unintended and its’ relation to individual perception of marriage or cohabitation as preferred setting for childbearing (Musick, 2007). In demographic past white high pre-marital pregnancies were not intended which along with strong normative pressure led to high incidence of shotgun weddings. Nowadays effective contraception and weaker normative pressure leaves couples more space for individual decision whether to wait with marriage after births of the child or to allow the child to be born in the marriage. Cohabiting couples might be less tended to plan their reproduction than married couples since cohabitation might be perceived as a “trial period” and still marriage might be preferred setting for childbearing. These considerations were accurately captured in qualitative study of union formation intentions in Poland (Mynarska and Bernardi, 2007). In this study authors focus on the meaning which young generation of Poles attribute to marriage and cohabitation. The results might provide an insight into low levels of cohabitation and extramarital childbearing in Poland and into the future of union formation and childbearing in Poland. On the basis of the analysis of qualitative interviews researchers claim that young Poles perceive cohabitation as a natural step towards marriage and marriage itself is perceived as a form of union with higher commitment. Respondents do not regard cohabitation as an alternative towards marriage, as mentioned it is rather perceived as an intermediate step which turns into marriage as a result of increasing commitment. It is also noteworthy that out-of-wedlock births are perceived as deviant, problematic and surrounded with strong normative pressure. As respondents claim the social and normative pressure is not only related to external pressure

form family, friends and neighbors but also from the side of Catholic Church or institutions which unable father to pick up children from the school since he is not a “real father” (Mynarska and Bernardi, 2007): 543. Respondents also emphasize that giving birth out-of-wedlock is not something normal and that children should be born within marriages. This evidence might partially support our hypothesis that traditional countries with strong normative pressure on legitimization of premarital pregnancies should have higher incidence rate of shotgun weddings along with low incidence rate of out-of-wedlock births and premarital cohabitations and Poland for sure constitutes such a case.

Last but not least, it has to be mentioned that analyses of interrelation between cohabitation, marriage and pregnancy led to methodological advances since analysis of these processes involve modeling techniques of simultaneous processes. Application of simultaneous equations models in demography from the very beginning has been related to investigation of interrelation between union formation and childbearing (Lillard, 1993). This approach was based on assumption that hazard rate of one process is dependent on the hazard rate of another process. Further developments of this approach were aimed at capturing the essence of interrelated process of entering union and childbearing that is the causal relations between studied events (Blossfeld et al., 1999; Blossfeld and Rower, 1995). These studies were specifically aimed at the analysis of first pregnancy and childbirth on entering marriage among consensual unions (Blossfeld et al., 1999; Blossfeld and Mills, 2001). Methods developed there allowed disentangling causality problems associated with study of interrelated process. We address these issues in the next section of the paper.

Methodological issues

One of the main methodological issues related to the analysis of bridal pregnancies is associated with the causality between conception and individual choice concerning legalization of childbirth via marriage or remaining in cohabitation (Blossfeld, 1993; Blossfeld et al., 1999; Blossfeld and Mills, 2001). These issues were addressed with respect to following four main aspects.

First main issue is related to causality between pregnancy and decision concerning entering marriage. In theoretical model it is assumed that couple facing the information about pregnancy decides whether to remain in cohabitation or to legalize union before birth of the child. However we have to be aware of the fact that direction of causality does not have to follow this straightforward path. We may think about couple who has planned the wedding in advance and start their efforts to conceive. In this case marriage is not caused by pregnancy

but rather otherwise, pregnancy is caused by marriage. In case of the analysis of the shotgun wedding we are of course interested in the first path (that is marriage as a consequence of pregnancy) since in this case we can use the normative approach in order to explain interrelation between these two events. Therefore, it is necessary to carefully analyze length of the interval between date of marriage and birth of the child in case of pregnancies conceived premaritally. As suggested by Blossfeld and colleagues the effect of fertility on entry into marriage must be strongly time-dependent: “the rate is low as long as women are not pregnant then starts to rise some time shortly after conception, increases during pregnancy to maximum and finally drops after few months after birth has taken place” (Blossfeld et al., 1999): 234. Therefore, if we include the pregnancy variable into the model without taking into account different stages of pregnancy, “the average tendency to marry before the child is born could equal the aggregate average tendency to marry after the child is born, and therefore make the estimated coefficient of the time-dependent covariate ‘childbirth’ not significantly different from zero” (Blossfeld et al., 1999): 234. Thus there is a need for careful implementation in the model precise measurement of the interval between conception, birth and marriage (preferably in months) in order to adequately capture changes in the hazard rate. This also shows that the effect of first pregnancy on first marriage is highly dynamic over time i.e. is strongly dependent on the progress of pregnancy and moreover on detection of pregnancy ((Blossfeld and Mills, 2001): Figure 2). This issue relates us redirect us from measurement issues to the causality problem. The problem of causality might be related to the lag between cause and effect that is detection of conception and decision concerning marriage. In the case of couples deciding to marry as a response to pregnancy there is some time needed in order to detect pregnancy. Therefore hazard as the function of the time before and after the pregnancy peaks around 4th month of pregnancy (compare Figure 2 in (Blossfeld and Mills, 2001)). This finding overlaps with traditional perception of the optimal time for getting married since pregnancy is not clearly visible.

Indeed it is difficult to account for the causal relationship between pregnancy and marriage not only due to problems with potential influence of norms and values on individual behavior. It is also difficult due to problems with above mentioned planning behavior of couples. Some couples might have been already planned marriage and simultaneously start their efforts to conceive a child. Therefore only method would be to gather information in a retrospective survey whether the pregnancy was wanted or unwanted. By doing this we would be able to select those pregnancies which resulted in contraceptive failure and couples were

presumably exposed on normative (external or internal) pressure to legitimize birth of the child.

Data used in the analysis

Analyses presented in this paper are based on two data sources. First database comes from the Fertility Survey carried out during the National Census 2002 and the second one is based on the registration of births for the period between 1985 and 2009.

The database from Fertility Survey (FS 2002) contains information on fertility and nuptiality histories of 265 thousand of women born between 1896-1986. The FS 2002 was conducted during the National Census in 2002. In total 280 thousands of women were surveyed. However, due to lack of response or data incompleteness the actual size of database yields 265 thousands of individuals. In order to improve quality of data CSO has weighted records in the database with respect to age and residence of surveyed women. These data offer a unique opportunity for measuring reproductive outcome of women over a very long period of time. To our knowledge, this is the only existing database in Poland allowing reconstruction of reproductive histories of cohorts born within the space of more than 50 years.

The database has also its shortcomings, however. First, detailed demographic analyses are not possible with these data for women from the oldest and youngest cohorts. This is due to two main reasons. For the oldest cohorts we face selection problem. The number of females in the oldest cohorts is not sufficient to conduct valid analysis of demographic behavior. In the case of the youngest cohorts the number of demographic events is very low which makes the analysis impossible. Due to mentioned reasons, the scope of the analysis has been restricted to cohorts born between 1940 and 1979.

The second shortcoming of the FS 2002 data is due to the fact that the educational level of respondents has been captured at the moment of the census and gives no information on the date the highest educational level was achieved. From the analytical point of view it is always advisable to use education level at the moment of demographic event. Therefore we have to be aware of the fact that education level reported in the NSP2002 could be only treated as a proxy variable. We may assume that it might differentiate cohorts with respect to their reproductive behavior.

Although the NSP 2002 Fertility Database covers a large sample of Polish women the question of representativeness cannot be neglected. Since we are interested in cohort fertility it might be important to answer the question of how accurately the data reflect reproductive

trends in population. The analysis of data quality from FS 2002 proves that this database provide good approximation of fertility trends in Polish population (Tymicki, forthcoming).

The second source of data is the registration of births obtained from the CSO. These databases cover the period between 1985 and 2009. File for each calendar year contain all the births registered in a calendar year with an exact child's birth date. Additionally there is information concerning: the mother's birth date, mother's residence (rural, urban), newborn's birth weight, viability of birth, parity, mother's level of education, marital status, date of marriage, date of previous childbirth and information whether child was born inside or outside marriage. In terms of demographic measures, data form registration of births provides the "numerator" whereas as the denominator we use structure of females by age and residence for each calendar year.

References

- Akerlof, George A., Janet L. Yellen, and Michael L. Katz. (1996). "An Analysis of Out-of-Wedlock Childbearing in the United States ." *The Quarterly Journal of Economics* 111(2):277-317.
- Bachu, Amara. (1999). "Trends in Premarital Childbearing 1930 to 1994." *Current Population Reports: US CENSUS BUREAU* P23-197
- Baizan, Pau, Arnstein Aassve, and Francesco C. Billari. (2003). "Cohabitation, Marriage, and First Birth: The Interrelationship of Family Formation Events in Spain." *European Journal of Population* 19:147–169.
- Blossfeld, H.-P. M. D. & R. G. (1993). " Patterns of Change in Family Formation in the Federal Republic of Germany and the Netherlands: Some Consequences for Solidarity Between Generations." In: H. A. Becker and P. L. J. Hermkens, (eds.) *Solidarity of Generations. Demographic, Economic and Social Change, and Its Consequences*. Amsterdam: Thesis: pp. 175–196.
- Blossfeld, Hans-Peter, Erik Klijzing, Katharina Pohl, and Rohwer Götz. (1999). "Why Do Cohabiting Couples Marry? An Example of a Causal Event History Approach to Interdependent Systems." *Quality & Quantity* 33:229-242.
- Blossfeld, Hans-Peter and Melinda Mills. (2001). "A Causal Approach to Interrelated Family Events: A Cross-National Comparison of Cohabitation, Nonmarital Conception, and Marriage ." *Canadian Studies in Population* 28(2):409-437 .
- Blossfeld, Hans-Peter and Gotz Rower. (1995). *Techniques of Event History Modeling. New Approaches to Causal Analysis*. New Jersey: Lawrence Erlbaum Associates.

- Friedman, Mira. (2002). "On Diderot's Art Criticism." *Studies in History of Art* 8:111-146.
- Hair, P. E. H. (1966). "Bridal Pregnancy in Rural England in Earlier Centuries." *Population Studies* 20:233-243.
- Hair, P. E. H. (1970). "Bridal Pregnancy in Earlier Rural England Further Examined." *Population Studies* 24(1):59-70.
- Jan M. Hoem and Giuseppe Gabrielli. (2010). "Italy's Non-Negligible Cohabital Unions." *European Journal of Population* 26:33–46.
- Knab, J. and K. Harknett. (2006). "'Shotgun' Marriages and Relationship Outcomes." Paper Presented at the Annual Meeting of the American Sociological Association, Montreal, QC.
- Knab, J. and K. Harknett. (2007). "Revisiting Premarital Conception and the Risk of Divorce." Unpublished Manuscript
- Laslett, Peter, Karla Oosterveen, and Richard M. Smith. (1980). *Bastardy and Its Comparative History : Studies in the History of Illegitimacy and Marital Nonconformism in Britain, France, Germany, Sweden, the United States, Jamaica, and Japan*. Harvard: Harvard University Press.
- Lesthaeghe, Ron. (1995). "The Second Demographic Transition in Western Countries: An Interpretation." In: Karen Oppenheimer Mason and An-Magrit Jensen, (eds.) *Gender and Family Change in Industrialized Countries*. Oxford: Oxford University Press.
- Lillard, Lee A. (1993). "Simultaneous Equations. Marriage Duration and Fertility." *Journal of Econometrics* 56
- Matysiak, Anna. (2009). "Is Poland Really 'Immune' to the Spread of Cohabitation?" *Demographic Research* 21(8):215-234.
- Mills, Melinda and Frank Trovato. (2000). "A Comparative Analysis of the Effect of Pregnancy in Cohabiting Unions on Formal Marriage in Canada, The Netherlands, and Latvia: A Causal Event History Approach to Interdependent Processes." Paper Prepared for FFS Flagship Conference Partnership and Fertility – A Revolution?
- Mills, Melinda and Frank Trovato. (2001). "The Effect of Pregnancy in Cohabiting Unions on Marriage in Canada, the Netherlands, and Latvia." *Statistical Journal of the United Nations* 18:103–118.
- Musick, Kelly. (2007). "Cohabitation, Nonmarital Childbearing, and the Marriage Process." *Demographic Research* 16 (9):249-286.
- Mynarska, Monika and Laura Bernardi. (2007). "Meanings and Attitudes Attached to

- Cohabitation in Poland: Qualitative Analyses of the Slow Diffusion of Cohabitation Among the Young Generation." *Demographic Research* 16(17):519-554.
- Perelli-Harris, Brienna, Michaela Kreyenfeld, Wendy Sigle-Rushton, Trude Lappegard, Paola Di Giulio, Aiva Jasilioniene, Keizer Renske, Caroline Berghammer, and Katja Köppen. (2009). "Examining Nonmarital Childbearing in Europe: How Does Union Context Differ Across Countries? " MPIDR Working Paper WP-2009-021
- Raymo, James M. and Miho Iwasawa. (2008). "Bridal Pregnancy and Spouse Pairing Patterns in Japan." *Journal of Marriage and Family* 70:847–860.
- Schama, Simon. (1988). *The Embarrassment of Riches: An Interpretation of Dutch Culture in the Golden Age*. Los Angeles: University of California Press.
- Surra, C. A., M. Chandler, L. Asmussen, and J. Wareham. (1987). " Effects of Premarital Pregnancy on the Development of Interdependence in Relationships." *Journal of Social and Clinical Psychology* 5(1):123-139.
- Surra, C. A. and D. K. Hughes. (1997). "Commitment Processes in Accounts of the Development of Premarital Relationships." *Journal of Marriage and the Family* 59(1):5-21.
- Tymicki, Krzysztof. (forthcoming). "Validation of Data Quality From Polish Fertility Survey 2002 With Use of Cohort Fertility Rates." *Studia Demograficzne*
- Van de Kaa, D J. (1987). "Europe's Second Demographic Transition ." *Population Bulletin*. Population Reference Bureau. 42(1)