

## STATYSTYKA W PRAKTYCE

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### Decomposition of first births in Poland, according to timing of marriage and conception

**Summary.** *Standard demographic analyses focus on changes in the share of marital and extra-marital births in the total number of births. The theory of the second demographic transition predicts that the increase in the share of extra-marital births is caused by a decrease in bridal pregnancies which were conceived premaritally, but born within marriage. The objective of the article is to analyse this issue through decomposition of data from the registration of births (1985—2016) provided by Statistics Poland into marital and extra-marital births as well as bridal pregnancies. In the analysed period, the results of the analyses show a constant decline in the share of bridal pregnancies, accompanied by a simultaneous increase in the share of extra-marital births and a slight increase in the share of marital births.*

**Keywords:** bridal pregnancies, extra-marital births, cohabitation, marriage, union formation, shotgun weddings.

**JEL:** J11, P23

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In the traditional family formation pattern it is assumed that conception and birth of a child follow marriage. This leads to a quite simplistic view that, in the past societies, marriage was perceived as a prerequisite for reproduction. This picture however, seems to contrast sharply with evidence showing that sexual intercourse, before and outside marriage resulting in extra-marital births, was widespread across time and various geographical locations (Laslett, Oosterveen

& Smith, 1980). Therefore, extra-marital conceptions and births were present even in societies where the first demographic transition had not yet occurred or was not complete. However, the incidence of that phenomenon was quite low, due to a strong normative pressure which forced individuals to legitimise an unborn child during pregnancy through marriage. Thus so-called "bridal pregnancies" were quite widespread in the Western culture.

Changes in norms and values and medical progress in birth control techniques influenced the attitude towards marriage, which is no longer a prerequisite for procreation (Lesthaeghe, 1995; Van de Kaa, 1987). Lesthaeghe (1995) points out that the temporal increase in "shotgun weddings", which has occurred at the initial stage of the second demographic transition, resulted from an increase in premarital sexual activity. Later phases of the second demographic transition were marked by the spread of premarital cohabitation and procreation in consensual unions, and finally by an increase in extra-marital birth rates. These changes were accompanied and enhanced by the growing access and popularity of effective 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. Moreover, changes in the sphere of norms and values, related to family formation and childbearing, may diminish the external and internal normative pressures on couples to marry as soon as they realise that they expect a child.

Taking into account the considerations above, the aim of this article is to present the decomposition of first births in Poland, in the years 1985—2016, according to the interrelation between marriage formation and conception. The proposed research approach goes beyond the standard analysis of marital and extra-marital childbearing, by adding a third type of birth, i.e. children conceived premaritally but delivered in marriage. Analysis of changes in the share of first births resulting from a bridal pregnancy seems to be an important issue for at least two reasons. Firstly, as mentioned above, a decline in the share of bridal pregnancies is an important component of behavioural changes related to family formation and childbearing, attributed to the second demographic transition. Secondly, it reveals the strength of "marital conformism" resulting from normative pressures and social stigma towards extra-marital births, single motherhood and consensual unions.

This seems to be particularly relevant in countries where the family formation pattern is characterised by a low proportion of extra-marital births and consensual unions are still predominant. In comparison with other European countries, Poland could be described as a country with a moderate proportion of extra-marital births. According to the Eurostat database, in 2016 around 25% of all births in Poland were delivered extra-maritally<sup>1</sup>. A lower percentage of extra-

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<sup>1</sup> <http://ec.europa.eu/eurostat/data/database>.

-marital births could be found only in Switzerland (24%), Croatia (19%), Greece (9%) or Turkey (3%). The rate observed in Poland is significantly lower than those observed in such countries as France (58%), Bulgaria (58%), Norway (55%) or the Czech Republic (47,8%). It is worth noticing that the share of extra-marital births has been gradually increasing in Poland since 1985, when it reached level of 4,7%. Therefore, by analysing the segment of bridal pregnancies we can contribute to a better understanding of potential changes in the share of both extra-marital and marital births. Firstly, the decrease in the occurrence of bridal pregnancies might fuel an increase in the share of extra-marital births, since "marital conformism" no longer affects individual decisions concerning marriage concluded due to pregnancy. Secondly, couples might delay the decision regarding childbearing and favour earlier entry into marriage in order to stabilise the union.

### LITERATURE OVERVIEW

The interest of researchers in the interrelation between pregnancy and union formation process can be traced back to some historical studies which use parish register data (Hair, 1966, 1970). Historical evidence shows that the percentage of pregnant brides varied substantially depending on the period and studied parish. The numbers in England range from 13% in the 14<sup>th</sup> century to 34% in the mid-17<sup>th</sup> century, in some cases reaching even 69% (Hair, 1970). These elevated figures should not be surprising, as the absence of effective contraception and the proliferation of premarital sex could result in a high percentage of pregnant women trying to legitimise their offspring. Moreover, in a historical context we expect that couples were under strong social and normative pressure to marry, in order to avoid the social stigma of illegitimacy. In Poland, Kuklo (2009, pp. 385—389) provides insight into historical data on timing of marriage and conception.

Historical trends in the incidence of bridal pregnancies seem to overlap with those observed in the 20<sup>th</sup> century. Based on longitudinal data on premarital conception and childbearing collected for the United States in the first half of the 20<sup>th</sup> century, around 50% to 60% of females were pregnant at the time of their wedding (Bachu, 1999). According to the estimates from registration of births, these high values were present up to the end of the 1970s. On average more than half of women gave birth to children conceived before marriage. Since 1975, a significant downward trend in the proportion of bridal pregnancies has continued, reaching the level of 21% in 1994. Analysis of Polish data for the post-World War II period brings similar findings (Kałuża, 2008).

These conclusions were confirmed by other researchers who also observed an erosion of so-called "shotgun weddings" as a reason for entering marriage

(Akerlof, Janet & Michael, 1996; Szukalski, 2013, pp. 65—69). This very important change in a family formation patterns is clearly relevant to the theory of the second demographic transition, which demonstrates the decreasing impact of social norms on family and marriage formation. In this case, it can be assumed that the disappearing normative pressures resulted in the abandonment of the legitimisation of children conceived outside marriage in favour of extra-marital birth. It is argued, that the decrease in the likelihood of marriage concluded due to pregnancy, has been related to changes in values, economic settings and access to effective contraception. These changes are associated with an increase in the share of non-marital births and consensual unions (Perelli-Harris et al., 2009). Comparative analyses have shown that the attitude of a couple to conception might differ from country to country (Perelli-Harris et al., 2009). In some countries, pregnant women are more likely to legalise their union (e.g. Italy or Russia) and in others (e.g. the UK) a continuation of cohabitation is a more likely solution. In some countries such as Italy, Poland or Spain, despite a recent increase in premarital cohabitation and non-marital childbearing, a strong and significant effect of pregnancy on the decision to marry is still present (Baizan, Aassve & Billari, 2003; Hoem & Gabrielli, 2010; Matysiak, 2009; Mills & Trovato, 2000, 2001). In other countries, such as Japan, an increasing occurrence of shotgun marriages has even increased in recent years (Raymo & Iwasawa, 2008).

Another area of research, related to bridal pregnancies, focuses on the relationship outcome. It is claimed that "shotgun marriages", as unions which are "event-driven", are short-lived and frequently conflict-ridden (Knab & Harknett, 2006, 2007). It was shown that unions in which the couple decides to marry solely for the benefit of their children have a lower quality of relationship and higher conflict levels than unions which are "relationship-driven" (Surra, Chandler, Asmussen & Wareham, 1987; Surra & Hughes, 1997).

Some researchers stress the importance of the individual decision-making process with respect to union formation and childbearing. This is related to the questions whether the pregnancy was intended or unintended and whether a person perceives marriage or cohabitation as a preferred setting for childbearing (Musick, 2007). In the past, high incidence of unintended premarital pregnancies accompanied by strong normative pressures, led to a high proportion of shotgun weddings. Nowadays, effective contraception and weaker normative pressures allow couples to make individual decisions, whether to wait with getting married until after childbirth or to legitimise the conceived child through marriage.

Cohabiting couples may have a lower propensity to make plans concerning reproduction than married couples since cohabitation may be perceived as a "trial period" and marriage may still be the preferred option for childbearing. These considerations were accurately captured in a qualitative study of union

formation intentions in Poland (Mynarska & Bernardi, 2007). In this study, the authors focus on the meanings attributed by young Poles to marriage and cohabitation. The results provide an insight into the low levels of cohabitation and extra-marital childbearing, as well as, the future of union formation and childbearing in Poland. Using information from qualitative interviews, the researchers claim that young Poles perceive cohabitation as a natural step towards marriage and that marriage itself is perceived as a form of union involving higher commitment levels. Respondents do not regard cohabitation as an alternative to marriage, as mentioned above, it is perceived rather as an intermediate stage, which is transformed into marriage as a result of increasing commitment. It is also noteworthy that extra-marital births are perceived as deviant, problematic and face strong normative pressures. According to respondents, social and normative pressures are not only related to the external pressure exerted by friends, family and neighbours, but also by the Catholic Church and public institutions, which for instance prevent the father from collecting his children from school as he is not perceived as a "real father" (Mynarska & Bernardi, 2007, p. 543). Respondents also emphasized that extra-marital births is abnormal and that children should be born within marriages (Matysiak & Mynarska, 2014; Baranowska-Rataj, 2014b).

This evidence might partially support the observation that traditional countries with strong normative pressures on legitimisation of premarital pregnancies will have a higher incidence rate of shotgun weddings along with a low incidence rate of extra-marital births and premarital cohabitation. Poland undoubtedly is an example of a country with low rates of extra-marital births and cohabitation, while marriage is the predominant form of family formation. This is reflected both by the relatively low share of extra-marital births in the total number of births and by the low incidence rates of non-marital cohabitation (Kotowska, Jóźwiak, Matysiak & Baranowska, 2008). As reported by Matysiak (2009), the level of cohabitation in Poland, measured by cross-sectional rates, is one of the lowest among European countries, ranging between 1.4% in 1988 and 2.2% in 2002. However, the cross-sectional measures underestimate the scale of the phenomenon and a more accurate measurement could be achieved by analysing longitudinal data on union formation provided by retrospective surveys. Cross-sectional data provide an indicator of couples currently living in cohabitation but do not provide any information about the rate of permanently cohabiting couples. In the same study, using longitudinal data from the Employment, Family and Education Survey (EFES), Matysiak (2009) reports that the rate of currently cohabiting couples amounts to 6% and that the rate of permanently cohabiting couples is 18% (among females aged 25–40, who entered cohabitation as the first union). As noted by the author, the indicator of permanent cohabitation constitutes the average incidence rate for the period 1985–2006. The analysis also shows an increasing proportion of cohabitation as the first choice of union for-

mation in Poland. However, the same analysis shows that pregnancy significantly increases chances of converting cohabitation into marriage. As the author concludes, the results show that cohabitation still does not function as a family arrangement in Poland as well as that childbearing is strongly related to marriage and the traditional model of family formation. This finding supports our observation that dynamics of union formation in Poland are, to a great extent, related to interactions between pregnancy and family formation, where presumably pregnancy is a trigger factor in the transition between cohabitation and marriage.

### METHODOLOGICAL ISSUES

The main methodological issues in the studies of bridal pregnancies, are related to the measurement and causality between pregnancy and the decision concerning marriage. In the theoretical model it is assumed that a couple upon learning about the pregnancy, decides whether to remain in cohabitation or to legalise their union before the birth of the child. However, one has to be aware of the fact that the direction of causality does not have to follow this straightforward path. A case in point is the couple who planned their wedding in advance and started their efforts to conceive. In this case, marriage is not caused by pregnancy but rather pregnancy is caused by marriage. When analysing the shotgun wedding, we are of course interested in the first path (i.e. marriage as a consequence of pregnancy) since in this case the normative approach can be used in order to explain the interrelation between these two events. Therefore, in the case of premarital pregnancies, it is necessary to carefully analyse the length of the interval between the dates of marriage and birth of the child.

As suggested by Blossfeld and colleagues (1999, p. 234), 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 a few months after birth*. This also shows that the effect of the first pregnancy on the first marriage is highly dynamic over time i.e. is strongly dependent on the progress of pregnancy and, moreover, on detection of pregnancy (Blossfeld & Mills, 2001, fig. 2). This takes us from the measurement issues to the causality problem, which is related to the lag between cause and effect: i.e. the detection of conception and the decision concerning marriage. Therefore a hazard, as the function of the time before and after the pregnancy, peaks around the fourth month of pregnancy (compare fig. 2 in Blossfeld & Mills, 2001). This finding is consistent with the traditional perception of the optimal time for getting married when the pregnancy is not clearly visible.

Difficulties in assessing the causal relationship between pregnancy and marriage are indeed not only due to problems with potential influence of norms and values on individual behaviour. They also arise from problems with the above-mentioned behaviour of couples related to sequence of life events. For instance, some couples might already have planned marriage and simultaneously started their efforts to conceive a child. Therefore, the only way would be to gather information on whether the pregnancy was wanted or unwanted in a retrospective survey. By doing so, we would be able to identify the pregnancies that resulted from a contraceptive failure, where couples were presumably exposed to normative (external or internal) pressures to legitimise the birth of the child.

### RESEARCH OBJECTIVES, DATA AND METHODS

The main objective of the study is a detailed description of bridal pregnancies in Poland. For this purpose, first births were decomposed into three categories with respect to the relationship between conception and marriage:

- births conceived and delivered outside marriage (extra-marital birth);
- births conceived outside marriage and delivered within the marriage (bridal pregnancy/shotgun wedding): the difference between the date of birth and date of marriage is positive and the interval shorter than 9 months (conception before marriage but birth of the child after marriage, a bride is pregnant at the time of the wedding);
- births conceived and delivered within the marriage (marital birth): the difference between date of birth and date of marriage is positive. The interval is equal to or longer than 9 months (child conceived after the marriage).

The above mentioned categories are created by subtracting the date of birth of the first child from the date of the first marriage. By doing so, it is possible to define a variable describing an interval between these two events and consecutively split first births into three categories.

It has to be noted that in most demographic analyses bridal pregnancies are treated as marital births. Thus, analyses based on only two categories of births are mostly observed. However, as noted above, introduction of the third category (bridal pregnancy) is important with respect to potential changes in the rates of extra-marital births and union formation patterns. It should also be noted that in the case of extra-marital births, most data sources do not allow to establish whether a couple got married after delivery, neither it is possible to determine the interval between delivery and marriage<sup>2</sup>.

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<sup>2</sup> Registration data do not provide for the establishment whether a couple got married after delivery, neither it is possible to determine whether woman was married to biological father of the child.

This analysis is based on the birth registration data from Statistics Poland, for the years between 1985 and 2016. Data were provided directly by Department of Demographic Research in a form of individual level files in ASCII format. The time range covered is limited by the availability of individual level data, as well as, limitations regarding the information relating to the date of marriage. The first accessible individual level data file, provided by Statistics Poland, is dated back to 1985 and the latest one to 2016. However, there is a discontinuity in the data, due to the incomplete information on the date of marriage for the year 2015 due to some legal obstacles related to data confidentiality. The lack of this information made it impossible to split first births into the three aforementioned categories. Although information about the number of extra-marital births in 2015 does appear in the Demographic Yearbook of Poland 2016 (GUS, 2016), it is based on estimation rather than factual information. In order to overcome this problem, an approximation based on arithmetic average based on values for 2014 and 2016 used for the year 2015 was applied for the purpose of this analysis. Another shortcoming with respect to data availability is related to the lack of information on the type of mothers' residence (rural/urban) for the years 2013 and 2014, as this data were absent in the individual level files provided by Statistics Poland.

The obtained files for each calendar year contain information on all births registered in that calendar year, including the children's exact birth dates. Additionally, information is provided on: the mother's birth date, mother's place of residence (rural, urban), birth weight, viability of birth, parity, mother's level of education, marital status, date of marriage, date of previous childbirth and information whether the child was born inside or outside marriage. The data were analysed and the first births were decomposed into three predefined types, furthermore the distribution of intervals between the birth of the child and marriage as well as conception and marriage were identified. Information on the level of education attainment of mothers was used in order to assess the basic differences in the observed childbearing patterns.

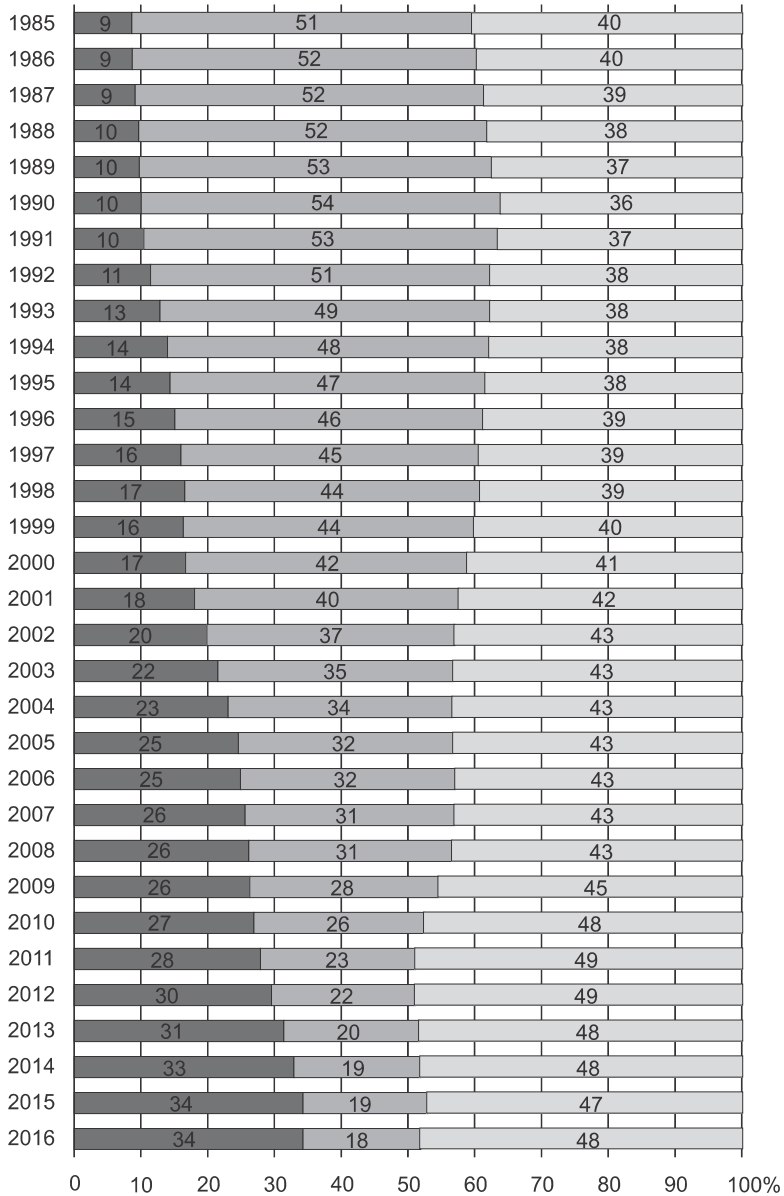
The first research goal of the study aims at the decomposition of the first births into three aforementioned types as well as at presenting their dynamics over the analysed period. Secondly, the three types of the first births are analysed with respect to the mother's level of education. Thirdly, with the use of information on the date of marriage and birth of the first child, information on the month of pregnancy during wedding is reconstructed for those mothers who decided to legitimise extra-marital conception.

## RESULTS

Using the above-defined criteria for the three types of births the results of the performed decomposition are presented in fig. 1.



**FIG. 1. DECOMPOSITION OF THE FIRST BIRTHS IN POLAND WITH RESPECT TO THEIR SELECTED TYPES**



conceived and delivered maritally
  extra-marital  
 conceived premaritally, born within marriages (bridal pregnancy/shotgun wedding)

Note. Value for 2015 based on arithmetic average of values for 2014 and 2016.  
 Source: own calculations based on Statistics Poland data.

Firstly, in the analysed period in Poland, a significant increase in the percentage of extra-marital births in the total share of first births is observed. In 1985, extra-marital births accounted for only 8.7% of the total number of first births, with a slightly higher percentage in urban areas (9.5%) and slightly lower in rural areas (7.5%)<sup>3</sup>. However, in 2016 extra-marital births constituted almost 34% of the total number of the first births (almost 36% in urban areas and 32% in rural areas). At the same time, the rural-urban differences in the share of extra-marital births decreased slightly between 1985 and 2016, revealing a growing convergence between urban and rural patterns of childbearing.

At the beginning of the analysed period, a high propensity to legitimise non-marital conceptions could be a reason for the relatively low percentage of extra-marital births and the high percentage of marital births. Figure 1 shows that in Poland over the period 1985—2016, bridal pregnancies represented an important, although decreasing, share of marital births. In 1985, bridal pregnancies constituted over 51% of total first births (47% in urban areas and almost 57% in rural areas). However, in 2016, bridal pregnancies accounted for only around 18% of the total number of the first births (15.5% in urban areas and 20.9% in rural areas). At the same time, only a slight change is observed in the proportion of marital conceptions. In 1985, 40% of the first births were conceived within marriage compared to 48% in 2016 (48.7% in urban areas and 47.2% in rural areas). These figures overlap with the results obtained by Baranowska-Rataj (2014a) in her decomposition of the contribution of non-marital conceptions to extra-marital births and to marital births with the use of the same databases.

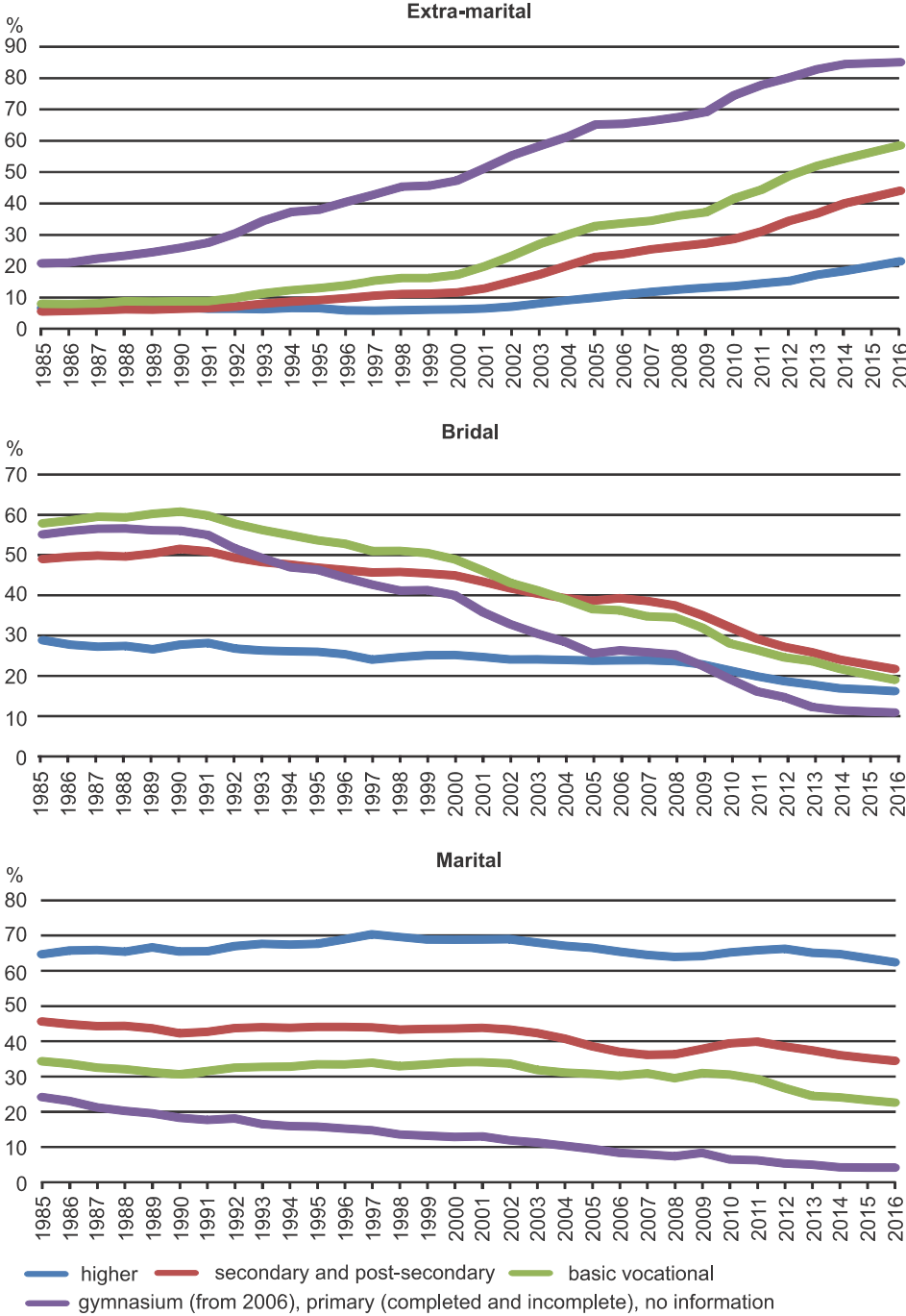
Since birth registration databases also contain information on the level of education of mothers, it was possible to calculate the shares of each birth type in respective educational groups (fig. 2). In 1985, for instance, among women with higher education only around 7% of firstborn children were extra-marital, 65% were conceived and born within marriage and 28% were a result of a bridal pregnancy. In 2016, the same figures yielded 22%, 62% and 16%, respectively. Therefore, a consistency can be noticed among highly educated mothers characterised by an almost identical percentage of marital conceptions and deliveries throughout the whole analysed period (bottom panel of fig. 2).

The opposite pattern can be noticed among women with the lowest level of education. At the beginning of the analysed period among mothers with the lowest educational attainment around 21% of all firstborn children were born as extra-marital, 55% as a result of bridal pregnancy and around 24% were conceived and delivered within marriage. In 2016, among women with the lowest level of education around 85% of firstborn children were extra-marital, only around 4% were marital and 11% were result of a bridal pregnancy.

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<sup>3</sup> Calculations were also made for rural and urban areas, however, due to space limitations graphs were not included into the paper.

**FIG. 2. FIRST BIRTHS BY TYPE AND EDUCATION OF MOTHERS**



Note. As in the fig. 1.  
 Source: as in the fig. 1.

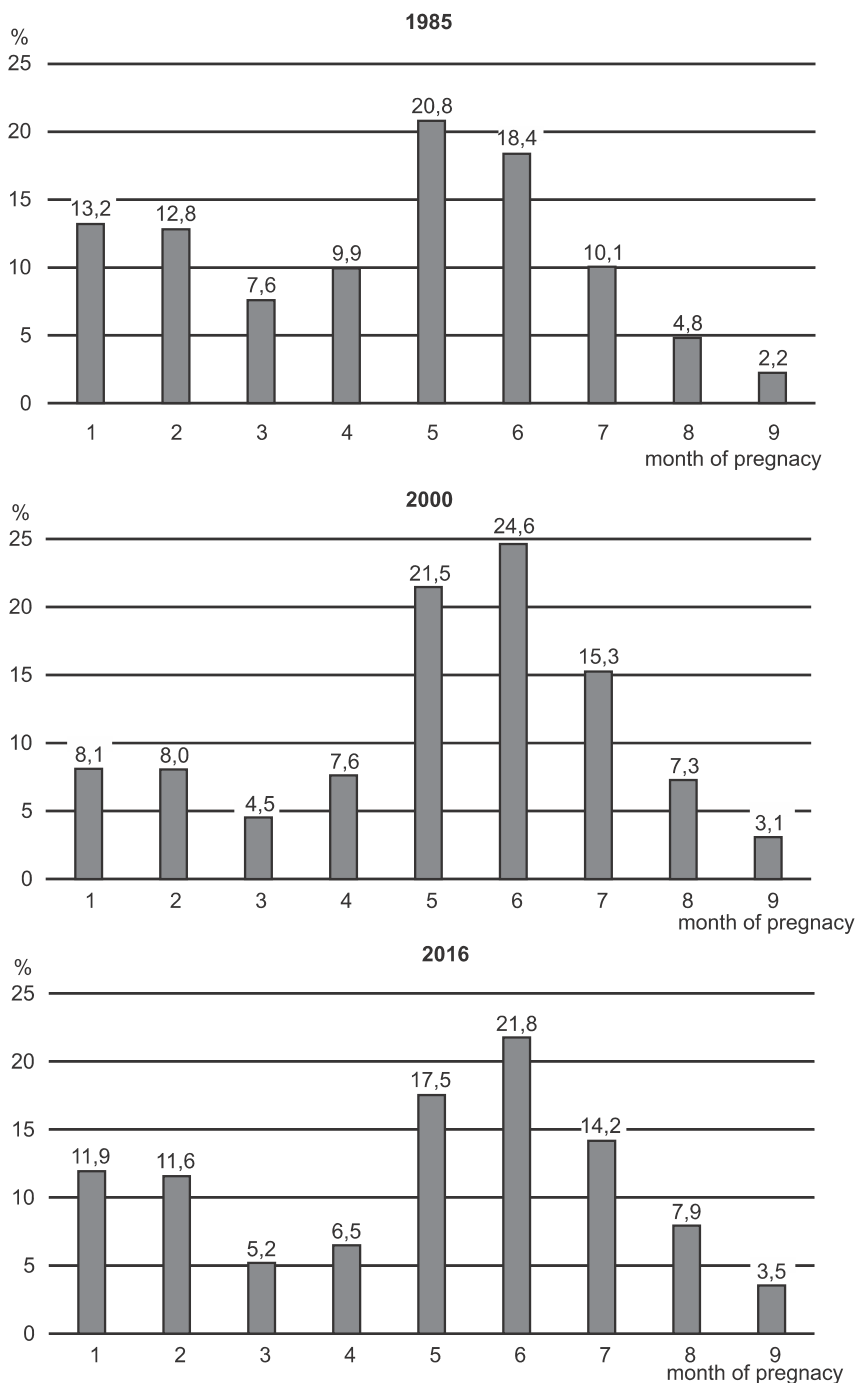
A major drop in bridal pregnancies can be noticed for all educational levels, with the exception of women with higher education. It seems that among highly educated women there has been only a minor substitution of bridal pregnancies by the increase in extra-marital births, with a fairly constant share of marital conceptions and deliveries. Thus, the major drop in bridal pregnancies may be attributed to all women except for those with higher level of education. Consequently a quite steep increase in the share of extra-marital births can be observed among those women.

However, it has to be noticed that the observed rates concerning the education of mothers are highly driven by the overall changes in the educational structure of Polish women. These changes are quite apparent if all the first births are split by maternal level of education. In 1985, only around 7% of the first births were delivered by mothers with higher education, almost 48% by women with secondary and post-secondary education, 30% by women with basic vocational and only around 15% by women with the lowest level of education. However, in 2016, around 55% of all the first births were delivered by women with a higher level of education, 31% by women with secondary education, 7% by women with basic vocational and only around 7% by women with the lowest level of education.

As mentioned earlier, the theory of the second demographic transition predicts that bridal pregnancies will decrease significantly, ultimately being replaced by a choice between marital conception and extra-marital childbearing. However, some bridal pregnancies will still occur, primarily as a result of the reverse relation between cause and effect. As proposed by some authors (Blossfeld, Manting & Rohwer, 1993; Blossfeld, Klijzing, Pohl & Rohwer, 1999; Blossfeld & Mills, 2001) a careful analysis of the intervals between marriage and conception proves that causality might run in a reverse direction, where the couple first decides to marry and the decision concerning efforts to conceive comes second. In order to account for this effect, intervals between marriage and conception were calculated and included on fig. 3.

The results show that a majority of brides enter marriage between month 3 and 6 of pregnancy, irrespective of the calendar year analysed. Other analyses (Blossfeld, 1993; Blossfeld et al., 1999; Blossfeld & Mills, 2001) argue that such a distribution is quite typical for bridal pregnancies and reflects a reverse causality between conception and marriage. It is assumed that marriages contracted between the 3<sup>rd</sup> and the 6<sup>th</sup> month of pregnancy or later might be caused by conception. For marriages contracted between months 0 and 2 of pregnancy, there is most likely to be no causal relationship between these two events, mostly due to the above-described issue of lag between cause and effect. Moreover, it can be argued that those marriages might have been planned in advance.

**FIG. 3. FIRST BIRTHS CONCEIVED PREMATURALLY BY MONTH OF PREGNANCY AT THE WEDDING DAY IN POLAND**



Source: as in the fig. 1.

## DISCUSSION

The simultaneous increase in the percentage of marital conceptions and extra-marital births, along with the decrease in the rate of bridal pregnancies observed in Poland between 1985 and 2016, represents a typical case of change in the union formation pattern with respect to the birth of the first child, in countries undergoing fertility decline and recession of normative pressure on legitimisation of children conceived outside marriage. This process has been strongly affected by the growing economic independence of couples and individuals, along with the weakening of social norms and growing acceptance for extra-marital childbearing. Results presented in fig. 1 convincingly prove that contemporary couples more often choose to deliver their child outside marriage than to follow the path of "marital conformism" and enter marriage during pregnancy. Therefore, most of the decline in the percentage of bridal pregnancies might be attributed to a rising share of children born outside marriage and only to a small extent to a rise in marital conceptions.

Some researches bring evidence that a slight increase in the share of marital conceptions and deliveries might be related to the fertility postponement and change in timing of union formation with respect to childbearing. Using qualitative data Mynarska and Bernardi (2007) show that couples in Poland still prefer marriage rather than consensual unions, which has, at least, two consequences. Firstly, childless couples decide to enter marriage as a sign of their commitment, even though they still aim at the postponement of childbearing. Secondly, couples with extra-marital children declare that they want to enter marriage anyway, just shifting the decision concerning the wedding date to after the birth of a child. These findings seem to confirm the observed increasing trend in marital conceptions and deliveries, as a result of fertility postponement and an attempt to stabilise the union through marriage. Second observation overlaps with the findings presented in the analysis by Matysiak (2009) showing that cross-sectional measures of extra-marital childbearing do not consider couples converting their union into marriage after birth of an extra-marital child (Matysiak & Mynarska, 2014).

The analysis of the interval between conception and marriage revealed that on average 40% of marriages, over the analysed period, were contracted while the bride was in the 4<sup>th</sup> or 5<sup>th</sup> month of pregnancy. The concentration of marriages in this interval might be related to a causal relation between conception and marriage (Blossfeld & Mills, 2001). This observation reveals that there is still some space for additional extra-marital births resulting from a change in individual decisions concerning marriage. On the other hand, around 20% of marriages are contracted while the bride is in the 1<sup>st</sup> or 2<sup>nd</sup> month of pregnancy. In this case a causal relation between conception and marriage cannot exist because of the lag between cause and effect. A reverse causality is rather expected: that conception resulted from a marriage that had already been planned.

Presented results with respect to type of the first birth and maternal level of education are largely affected by overall changes in the educational structure of Polish women. As analysed by Brzozowska (2015) rapid educational expansion in Eastern European countries after 1989 has led to dramatic changes in relation to the level of education for females. The attainment of higher levels of education among females in Eastern Europe had a profound effect on the reproductive behaviour, mostly resulting in a significant postponement as well as decline in the number of children. These structural changes are reflected in the presented analyses. In 2016, around 86% of all first births were delivered by mothers with at least secondary level of education compared to around 55% in 1985. Although the educational expansion has led to a quite uniform distribution of women with respect to the level of education, there are still quite significant differences in childbearing patterns across educational groups. While among women with lower levels of education extra-marital childbearing seems to be a predominant form of childbearing, women with a higher level of education quite consistently choose marital childbearing as the preferred way of becoming a mother.

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### **Dekompozycja pierwszych urodzeń w Polsce ze względu na relację między zawarciem związku małżeńskiego a poczęciem dziecka**

**Streszczenie.** *Standardowe analizy demograficzne koncentrują się na zmianach udziału urodzeń małżeńskich i pozamałżeńskich w ogóle urodzeń. Teoria drugiego przejścia demograficznego zakłada, że wzrost udziału urodzeń pozamałżeńskich wynika głównie ze spadku liczby urodzeń, które zostały poczęte pozamałżeńsko, a urodzone w małżeństwie. Artykuł ma na celu przeanalizowanie tego zagadnienia na podstawie dekompozycji danych GUS dotyczących rejestracji urodzeń w latach 1985—2016 na: urodzenia małżeńskie, pozamałżeńskie oraz poczęte pozamałżeńsko, a rozwiązane w małżeństwie. Wyniki badania wyraźnie pokazują stały spadek ostatniego typu urodzeń w obserwowanym okresie, przy znaczącym wzroście urodzeń pozamałżeńskich oraz nieznacznym — urodzeń małżeńskich.*

**Słowa kluczowe:** urodzenia poczęte pozamałżeńsko, urodzenia pozamałżeńskie, konkubinaty, małżeństwo, tworzenie związku, ślub pod przymusem.